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EXECUTIVE SUMMARY

The Old Town Hall in the heart of Salem was constructed in 1816 as the Market House and Town Hall, with the basement and first floor occupied by vendors and the second floor used for municipal offices and town meetings. Salem became a city in 1836 and built a City Hall two years later. The Old Town Hall has survived over two centuries, and its preservation and modification has resulted in the city's use of this landmark as a community center for arts and culture. The current project intends to revitalize the building into a year-round facility for greatly improving its support of myriad ongoing community uses.

Recent studies have included historic reports, engineering assessments, and accessibility compliance reviews. In December 2021, Mills Whitaker Architects was selected to develop appropriate plans for a comprehensive renovation of this significant facility. The following tasks have been accomplished during the initial phase of this work:

- Prepared measured floor plans, ceiling plans, and drawings of significant details.
- Reviewed prior studies and reports including the historic chronology of changes.
- Observed existing conditions of the interior and exterior of the building.
- Reviewed sustainability goals for an energy-efficient, healthy year-round facility.
- Performed a hydrant flow test to determine water capacity for fire suppression.
- Performed video survey of underground sanitary piping to review sewer conditions.
- Determined programmatic requirements for enhancing uses within the facility.
- Performed acoustical analysis of existing conditions and incorporated improvements.
- Sought and received key approvals from local commissions and state boards.
- Prepared design development plans and specs to address facility improvements.
- Prepared construction cost estimates and developed an overall project budget.
- Documented conditions and recommendations in this Design Development report.

This initial design contract included architectural services and multiple engineering disciplines to develop design documents for public input, preliminary permit approvals, and estimated costs. These initial services concluded in October 2022, after which time funding appropriations are being sought for continuing the work into preparation of construction documents, public bidding, and construction. If funding is forthcoming, the renovation project will proceed toward completion prior to celebration of the 400-year anniversary of the founding of Salem in May 2026.

This Design Development report is intended to summarize the work thus far and outline for the next steps in the project. Meetings have been held with local authorities and stakeholders during this work, including Department of Planning and Community Development, Commission on Disabilities, Building Department, Historical Commission, and the Salem Redevelopment Authority. Input has also been received from a public forum with the community at large. Approvals have been received from state boards that include the Massachusetts Historical Commission, Architectural Access Board and Plumbing Board. The project promises to renovate this significant community resource through improvements to energy efficiency, handicap accessibility, preservation of historic integrity, and enhancement of the myriad cultural uses that this building embraces and supports.

This project has been conceived, orchestrated, and overseen by the following primary participants:

- Julie Barry, Senior Arts Planner / Department of Planning & Community Development
- Melissa Martinez, Owner's Project Manager / Anser Advisory LLC
- Don Mills, Project Architect / Mills Whitaker Architects LLC

In addition to the various committees, departments, and public forums in Salem as noted on the previous page, the following design professionals have served as consultants to the Architect:

- Anthony Donato, PE / Hancock Associates / Surveying & Civil Engineering
- John Wathne, PE / Structures North Consulting Engineers / Structural
- Semoon Oh, PE / VAV International / Fire Suppression, Plumbing, HVAC Engineering
- Eric Johnson, PE / Johnson Engineering & Design / Electrical Engineering
- Derek Barnwell, Principal / Available Light / Lighting Design Consultant
- Benjamin Markham, Principal / Acentech / Acoustical Consultant
- Brian Masiello, Principal / Acentech / Audiovisual Consultant
- Chris Schaffner, Principal / The Green Engineer / Sustainability Consultant
- Ammar Dieb, Principal / Universal Environmental Consultants / Hazardous Materials
- Delwyn Williamson, Director of Cost Estimating / CHA Consulting / Cost Estimator

As described in this report, the renovation project intends to make significant improvements to the historic facility for its successful continuing use as a community center for arts and culture. To achieve this goal, the building requires extensive improvements to building systems, accessibility, and overall functionality. The estimated construction cost of this renovation is \$8.3 million, and its overall project cost is approximately \$10.7 million. The work has been conceived as a single phase to be completed in early 2026. If the work were implemented in phases, the overall project cost would increase to \$17.2 million due to escalation and facility disruption related to managing multiple projects over time.

The renovation work required has been conceived as an integrated project due to overlapping needs for structural, acoustical, life safety, and functionality upgrades that are required for this historic facility. The project cost estimates have been apportioned into three categories to define the impact of each primary area of renovation needed as follows:

- Accessibility Improvements: 10% of project cost
- Exterior Preservation: 6% of project cost
- Interior Renovations: 84% of project cost (70% building systems + 14% use upgrades)

Building system improvements include energy efficiency upgrades for year-round comfort and the provision of life safety improvements to egress, fire alarms, and adding an automatic sprinkler system. Functionality improvements (use upgrades) include acoustical treatments to allow for simultaneous events on separate floor levels and the provision of audiovisual systems to enhance the various events occurring in the building. All in all, the intent of the renovation is to improve the facility significantly for its continuing viable use as a community arts and culture venue in this iconic historic structure.

PROJECT DESCRIPTION

SITE CONDITIONS

The original site of the Old Town Hall was an active market area as evidenced by historic photos taken from the south at Front Street and from the north at Essex Street. The current configuration of the site as a brick-paved pedestrian way was constructed between 1972 and 1973. Even now the "market" functions in this site are ongoing with active weekly events that continue this historic use. The building and immediate area was under serious consideration for demolition to construct a public parking facility prior to its renovation for adaptive reuse in 1933, thanks to depression era funding from the Public Works Administration, precursor of the federal Works Projects Administration.

The footprint of the Old Town Hall is 40' wide by 100' long, surrounded on all four sides by a five-foot wide granite-curbed brick walkway and brick pedestrian ways of the former streets. The geometric beauty of the site is elegant and yet provides no suitable outdoor space for modern HVAC equipment that would allow for cooling to be added to the building. Consequently, a ground source heat pump system (GSHP) is proposed that will not require any visible outdoor mechanical equipment since, instead, it will incorporate drilled and grouted boreholes around the perimeter of the building with underground piping, resulting in the only visible feature being one manhole cover flush with adjacent paving to mark a test borehole that will be installed to verify design criteria prior to construction.

The prominent south side of the building served as its original entrance façade until the 1933 renovation when the north side became the primary public entrance. The north entrance is the accessible entrance although it does not conform fully with current regulations. The south side has three separate monumental granite stairs leading to three pairs of doors. Historically, the central pair provided entrance to the first floor only while the outer two pairs led to interior stairs serving the second floor town hall. Prior to 1933, two basement entrances were located between these three sets of stairs, but they were removed when the market stalls were eliminated from the basement.

Key improvements to the site as part of the proposed renovation include the following items:

- Improve north entrance for conformance with current accessibility regulations.
- Provide a secondary accessible entrance to the basement via the southeast corner.
- Retain and preserve the three south exterior stairs and repair original iron railings.
- Provide replacement utilities for water, sewer, and electrical services as needed.
- Provide new fire suppression water service for an automatic sprinkler system.
- Provide an underground piping network to drilled and grouted boreholes for GSHP.

Existing and proposed site plans are included in Design Development drawings submitted separately from this report (see Appendix A for link), along with a recently completed property survey identifying all known utilities, site features, property lines, and topography. Refer to Appendix B (pp. B.01 – B.09) for captioned photos of existing site conditions.

EXTERIOR ENVELOPE

The exterior walls of the Old Town Hall are load-bearing brick resting on coursed granite foundation stones punctuated by eleven bays of windows on the east and west facades and five bays on the north and south. The brick had originally been painted, a common treatment during the 19th century, and the paint was removed by sandblasting as part of the 1933 renovation. This process of removal was common at the time, and unfortunately served to remove the outer harder surface of the brick. Most of the brick is in good condition even in its somewhat fragile state. A survey of the exterior was performed by the architect and structural engineer via an aerial lift to determine preservation needs. Selective repointing of brick and other masonry repairs are noted in the design documents.

Window sills at the first floor are sloped mortar on top of the brick while second floor sills are painted brownstone. The mortared sills will be renewed as part of the work, and selective deteriorated brownstone sills will be replaced as needed. The raking cornices of the gable ends were built with custom shaped bricks topped with wood crowns, and this portion of the exterior masonry is still painted. The horizontal cornices at each gable end are also painted custom shaped bricks capped with copper flashing. The flashings will be replaced as part of the work. The eaves on the east and west sides are painted wood instead of painted masonry and are in good condition. The painted wood windows were recently restored such that lower sashes are smoothly operable, and upper sashes are fixed in place. The windows are single-glazed and there are no storm windows on the building.

The roof is pitched and covered in slate shingles that likely date from the 1933 renovation. Some slates have been replaced and some need replacement, but the slate quality is sufficient for many more years of service. The roof eaves at the east and west have two versions of a snow rail guard system, one of which is a newer three-rail system and the older is a two-rail guard. Copper gutters with copper leader heads and downspouts appear to be recent replacements in good condition.

Two simple rectangular brick chimneys are located near the south façade to each side of the ridge. These were enlarged during the 1933 renovation. They no longer serve the boilers in the building since the current heating system consists of a pair of high efficiency condensing boilers that vent through a pair of openings near the southeast corner of the basement. The chimneys are currently used for toilet exhaust from the basement and for elevator hoistway venting. The two fireplaces at the second floor connect to the flues but those fireplaces are not in use. A 1933 ventilating cupola located at the ridge is octagonal in plan and has a bell-shaped copper clad roof with finial and mast.

Highlights of the project's exterior building envelope preservation include the following items:

- Masonry restoration for appropriate repointing and repairs to the extent needed.
- Repainting of previously painted wood, cornices, cupola, windows, doors, and rails.
- Installation of operable exterior storm windows for improved energy efficiency.
- Maintenance of slate roof, upgrading of snow guards, and option for de-icing eaves.

Existing and proposed exterior elevations are included in Design Development drawings submitted separately (see Appendix A). For existing conditions, see Appendix B for captioned photographs of the exterior (pp. B.01 – B.09), and for photographs taken during the aerial lift survey (pp. B.38 – B.49).

BASEMENT LEVEL

The basement level of the Old Town Hall was originally part of the building's "Market House" use that was phased out by the 1933 renovation. Prior to that time, there were two basement entrances at the Front Street façade via outdoor steps between the surviving three sets of stairs leading up from Derby Square. The brickwork infill at those former entrances do not match original bricks on the façade. Basement entrances and steps were added in 1933 at the east and west facades via steep stairwells that protrude into the perimeter sidewalks. Brickwork below first floor sills at the east and west facades do not match original bricks, and historic photos illustrate that some of the basement shops had side doors for direct access from Derby Square. There are no visible surviving windows into the basement. Exposed first floor joists in the basement indicate former framed openings between floors, presumably for merchants that had rented shop bays on both levels.

The current layout of the Basement is relatively unchanged since the 1933 renovation when the boiler room was added (built in concrete at four bays in the south end), along with public restrooms and the records vault with safe door. Current uses include storage for city documents, building supplies, and theater company costumes and props. Only the restrooms, south stair, and elevator are open to the public and there is no public access through the basement to the north stair.

A central row of brick piers topped by a timber beam forms the original structure north of the area that was reconstructed in concrete at the boiler room. The brick piers are deteriorated in some locations and headroom below the central beam is only 75". This central north/south row of supports is not located below the columns on the first floor, so the colonnade columns bear upon east/west spanning timber transfer beams. This structural configuration has resulted in severe limitations of the occupant load for the upper floors, restricting the capacity of the building's use significantly.

Key improvements to the basement as part of the proposed renovation include the following items:

- Reconfigure support structure of the first floor with two rows of columns vertically aligned with the colonnade to allow for increasing overall simultaneous occupancy of the building from its current limit of 250 to a proposed limit of 800 occupants.
- Remove the low headroom central beam and flush frame replacement beams above columns. Lower basement slab by 7" where structural changes are made.
- Remove the perimeter circa 1933 concrete block interior finish that conceals the original rubble stone foundation. Repoint stonework and insulate the exterior walls.
- Provide an accessible entrance via exterior ramp and stairs to the existing east basement door, allowing for a wheelchair route to the elevator that avoids having to pass through the colonnade at the first floor from the existing north entrance.
- Renovate restrooms to allow for full-privacy toilet stalls, infant and adult changing tables, updated water-efficient fixtures, and increased fixture count for occupancy.
- Provide a multi-use classroom with art sink and catering pantry for event support.

Existing and proposed basement plans are included in Appendix A and much more detailed versions (including existing and proposed ceiling plans) are in the Design Development drawings submitted separately. Refer to Appendix B (pp. B.10 - B.19) for captioned photos of the existing basement.

FIRST FLOOR LEVEL

The first floor was originally a series of market stalls that were rented out by local retailers. Several stalls had exterior doors in the current window openings and, based on floor framing observations from the basement below, some had connecting vertical access to a basement portion of their space below. The current layout of this floor is the result of changes over time as the market house uses left, after which it was used for municipal offices for several decades, followed by its current open layout for gallery space and informal gatherings. An office in the northwest corner is still intact from the municipal use era (formerly the chamber of commerce) and is currently used by the theater group. A circa 1933 vault at the north end of the Colonnade aligns with its matching vault in the basement.

The entrance to this floor shifted in 1933 from the central pair of doors and monumental stairs at the south façade to the north entrance at grade on the Essex Street side, causing the "Front Street" façade to become the "back" of the building. A new stair was added between all three floors at the northeast corner of the building in 1933, adjacent to the exterior wall and interior vaults. This stair placement re-oriented the primary route from the main entrance to the Great Hall above, which had formerly been from the pair of flanking south entrances to a central doorway at the back of the Great Hall. The revised route brings one up to Great Hall at the front corner of the space adjacent to the stage, greatly reducing the originally intended majestic approach from the south and its commanding view of the window array and stage at the north wall when facing Essex Street.

The open layout of the first floor as defined by the central Colonnade lends itself well to a variety of art exhibits, craft fairs, artisan stalls, intimate gatherings, small weddings, and standing room only events. It works well as extended lobby space for events in the Great Hall, but in its current condition it cannot be used simultaneously with a separate event in the Great Hall due to extremely high sound transmission between the two floor levels. A critical part of the renovation project will be to allow for acoustic separation between floor levels to support holding simultaneous events.

Proposed modifications to improve the functionality of the first floor in the renovation include:

- Improve the north entrance for full compliance with current accessibility standards so that wheelchair access is greatly improved, and the facility is more welcoming.
- Add a partition at the north end of the Colonnade to separate the stairs from gallery space (similar to separation at south end) to limit disruption of events at this level.
- Enhance the acoustics of the Colonnade by reducing noise transfer from this room up to the Great Hall and down to the multi-use Classroom in the basement level.
- Reduce the reverberation rate in the Colonnade to improve acoustics for speech clarity and comprehension of audiovisual presentations by reducing noise levels.
- Improve flexibility of lighting for exhibits while maintaining existing characteristics of the space. As in the rest of the facility, provide energy efficient heating and cooling.

Existing and proposed first floor plans are included in Appendix A and more detailed versions (including existing and proposed ceiling plans) are in the Design Development drawings submitted separately. Refer to Appendix B (pp. B.20 – B.26) for captioned photos of existing conditions.

SECOND FLOOR LEVEL

The second floor was originally constructed as the Town Hall when the floors below were used as the Market House. This level has retained its original character, consisting of a 37' wide by 71.5' long Great Hall with a ceiling height of 17'-8". A small stage is located at the north end. The 1933 renovation of the building reconstructed the stage and added a second stair in the northeast corner of the room. Tiered seating platforms along the east and west walls provide a perimeter raised platform for a single row of wooden folding chairs.

The Great Hall is an open assembly area well suited to its uses for a wide variety of performances, weddings, banquets, and other functions. The acoustics in the space are exceptional for small acoustical ensembles but are far too reverberant for amplified music or speech events. The walls and ceiling surfaces are cement-based plaster on wire lath dating from the 1933 renovation. The renovation will reduce the acoustical resonance of the room so that it balances the needs of all its uses instead of favoring those that thrive with long reverberation times. To maintain the simple elegance of the space, no variable acoustic strategies are recommended since those require modifications that cannot be easily concealed in such a pure geometric and unadorned space.

A pair of original town offices of 246 square feet each for the Selectmen and Town Clerk are located in the south end of the floor. Each office has a fireplace with mantle that was retained during the 1933 renovation when the pair of chimneys were both enlarged. The southeast office serves primarily as green room support space for the range of events in Great Hall. The southeast corner has a singleuser, gender-neutral, accessible restroom. The southwest office houses some event fixtures and provides an accessible route from the three-story elevator in the southwest corner.

The south stair serving this floor, which dates from 1816, descends toward the south wall to a landing and originally continued to the east and west to the two outer pairs of doors leading to Derby Square. The west stair was removed when the three-story elevator was constructed, presumably in 1997.

Proposed renovations to the second floor to preserve the space and improve functionality include:

- Provide an inclined wheelchair lift for handicap access to the stage. Modify door thresholds and stair handrails for accessibility compliance (throughout the building).
- Provide acoustical attenuation at the flat ceiling of Great Hall by placing stretched white fabric over concealed fiberglass board over the existing plaster to absorb sound while preserving room appearance. (Similar treatments will be done at the first floor Colonnade and basement Classroom ceilings.)
- Provide integrated audiovisual systems including a concealed projector, projection screen, speaker system, microphones, and multiple jacks for flexible system use.
- Repair and rewire all chandeliers; provide discreet wall-mounted theatrical lights; provide concealed lighting above the perimeter crown moulding to uplight ceiling.

Existing and proposed second floor plans are included in Appendix A and more detailed versions (including existing and proposed ceiling plans) are in the Design Development drawings submitted separately. Refer to Appendix B (pp. B.27 – B.33) for captioned photos of existing conditions.

ATTIC LEVEL

The attic is an open, unoccupied space below the gable-end slate roof with a series of timber trusses, a pair of brick chimneys, a ventilating cupola, a glass skylight hatch to the roof, and a wooden walkway traversing from north to south and running parallel to the end walls beside the semi-circular arched lunette windows. A hinged attic hatch is located above the south hallway, operated by a pull string in the office closet to the east of the central hallway. Access to the hatch requires use of a 24-foot extension ladder set up in the hallway. Loose fill fiberglass insulation has been placed above the plaster ceiling of the second floor between the wood ceiling joists.

The three-stop passenger elevator hoistway penetrates the second floor ceiling into the attic between the south wall and the west chimney. The shaft passively vents into one of the abandoned flues in the chimney.

The ventilating cupola was added in 1933, along with galvanized ductwork into two shafts at the back of Great Hall. Grilles at the bottom of the shafts on each side of the Great Hall doors provided natural ventilation of the Hall, but those grilles are currently blocked up with insulation board.

Proposed modifications to the attic include seismic, energy, and building system improvements:

- Increase depth of loose fill insulation from 8" to a total of 16" thick at attic floor.
- Provide closet addition to second floor restroom above south stair for installation of a permanent fixed-in-place attic access ladder.
- Suspend HVAC units and energy-recovery ventilating unit (ERV) from attic structure.
- Reconfigure ductwork to ventilating cupola for the supply and return ERV ductwork that will provide fresh air and exhaust to and from the basement level.
- Reconfigure Great Hall ventilation shafts for return air to new HVAC system.
- Provide motorized damper for energy improvement of elevator venting system.
- Reinforce joints in timber trusses with bolted steel plate custom connectors.
- Seismically brace trusses with tension cables at each bay per structural drawings.
- Provide seismic clips from wood framing to masonry walls (attic, 1st & 2nd floors).
- Provide automatic sprinkler system (throughout building) with wet system serving the second floor through the ceiling (with piping buried in the insulation) and dry system serving the attic (with air compressor in basement mechanical room).

Existing and proposed attic plans are included in Appendix A and more detailed versions are in the Design Development drawings submitted separately. Refer to Appendix B (pp. B.34 – B.37) for captioned photos of existing conditions.

BUILDING SYSTEM IMPROVEMENTS

A significant percentage of the project cost, almost 70%, is related to building system improvements to mechanical and electrical systems, utility system upgrades, and structural repairs. The balance of other work is 10% for accessibility improvements and 20% for use and functionality upgrades.

While Design Development documents submitted separately (plans, specs, & narratives) describe the work related to building systems, a summary of the scope includes the following:

- CIVIL WORK: replace sanitary sewer system, domestic water supply, electrical supply.
- STRUCTURAL: exterior masonry repairs and seismic reinforcement of the structure.
- FIRE SUPPRESSION: provide an automatic sprinkler system throughout the building.
- PLUMBING: replace plumbing system and increase number of fixtures for occupancy.
- HVAC: replace gas-fired boilers (no cooling) with efficient ground source heat pump system for heating, cooling, and ventilation; include sound attenuators for acoustics.
- ELECTRICAL: replace wiring, panels, outlets, devices, & switches; restore historic lighting fixtures; provide appropriate replacement fixtures with controls & dimming.
- SUSTAINABILITY: energy analysis and efficiency improvements were reviewed and a strategy for meeting Salem's sustainability goals was established.

The role of building system improvements is critical to protecting life safety, meeting current code compliance, and conforming to Salem's critical sustainability goals.

CODE ISSUES RELATED TO RENOVATIONS

Construction work at the Old Town Hall is regulated by the Massachusetts State Building Code (780 CMR) and the Massachusetts Architectural Access Board Regulations (521 CMR), among others. The building is a "historic building" per the building code. Building code issues in the current iteration of the state code, 780 CMR 9th Edition, refer to revisions of the International Existing Building Code, 2015 version (IEBC). Chapter 12 – Historic Structures, in the 2015 IEBC, provides the platform from which to begin the interpretation process for any repairs or alterations.

The current building code, in most instances, is very responsive to the challenges and issues related to work in historic buildings, especially when the intent of the work is to continue the existing use as opposed to a change in occupancy. For the Old Town Hall, renovation work will fall into what the code defines as "LEVEL II" work since it involves reconfiguring some spaces (less than 50%) and providing new equipment. The calculated percentage of reconfigured space for this renovation is 23.6%, well below the 50% upper limit for Level II work. Refer to Drawing A-02 in the separately submitted design development set of the drawings for graphic illustration of this information.

During the construction documentation phase, detailed code analysis and a code narrative will be prepared for review with the local building commissioner to achieve concurrence on the design approach and compliance with life safety considerations. As part of initial design services, a preliminary meeting was held with the building department to review overall features of the work and be certain that the direction of code interpretation was proceeding in a mutually acceptable way.

The Massachusetts Architectural Access Board Regulations (521 CMR) determine compliance with accessibility requirements based on thresholds of expenditure on permitted work over a three-year period as compared to the "full and fair cash value" of the building. The value of the building, not including land, is based upon the current assessed value as established by the municipality and as adjusted by the assessment ratio of equalized value determined by the Department of Revenue. The Massachusetts DOR 2020 equalization value for Salem is 0.94 for commercial properties. The assessed value of the Old Town Hall (building only) is \$2,393,300 as published in the City of Salem's online assessment information (See Appendix F, page F.69). When applying the equalization ratio, the adjusted building value is \$2,546,064 (assessed value / 0.94 assessment ratio). The thresholds of expenditure within a three-year period and its resultant regulatory compliance levels related to accessibility (521 CMR) are as follows:

- If the cost of permitted work is less than 30% of the building's value and less than \$100,000, then only the work being performed needs to comply with 521 CMR.
- If the cost of the work is less than 30% of the building's value and \$100,000 or more, then the work being performed needs to comply and an accessible public entrance, toilet room and drinking fountain must be provided. Also, if the facility provides public telephones, an accessible telephone must be provided. However, if the work costs \$500,000 or less (and costs less than 30% of the building's value), then certain repairs are exempt from triggering the \$100,000 threshold (roof repairs, masonry work, windows, mechanical, plumbing, electrical, site utilities & landscaping).
- If the cost of the work, including exempted work, amounts to 30% or more of the building's value, then the whole building must be brought into full compliance with the current version of 521 CMR.

The 30% threshold for the Old Town Hall is triggered by permitted work costing \$763,819 or more within a three-year period, based on current information (\$2,546,064 x 0.3). The requirements related to accessibility in Massachusetts dovetails with construction permits to provide a regulatory vehicle for upgrading facilities appropriately for use by the disabled based on incorporating changes in projects of certain magnitudes. The regulatory climate in this state, however, does not alleviate the Owner of a building from compliance with the Americans with Disabilities Act (ADA). ADA regulations, administered by the US Department of Justice, require that architectural and communication barriers in existing buildings be removed in public areas when their removal is "readily achievable." The ADA was partially modeled after the pioneering work of accessibility code development that was done in Massachusetts.

The existing Old Town Hall provides several accommodations for the disabled, but several of these features are not quite in full compliance with current regulations. For example, the main entrance on the north side does not provide adequate maneuvering clearance at the landing outside of the doors, and the cross slope of the landing exceeds the maximum slope limitations. Also, the current regulations state that all public entrances must be accessible, and the historic entrances at the south are not accessible. Similarly, stage areas need to be accessible and the second floor stage is not. A

variance process is available to mitigate some of these issues of compliance, provided that the applicant can demonstrate that the cost of compliance is excessive as compared to the benefit gained for the disabled. The variance process is especially important for the preservation of historic buildings, the most prominent item of note for the Old Town Hall being the south façade doors and monumental granite steps facing Derby Square due to their historic significance.

As part of the initial design services, variances were requested and received from the Massachusetts Architectural Access Board in support of this project. The Massachusetts Historical Commission also endorsed the proposed approaches to accessibility while preserving historic character. Prior to submission of the application, local reviews with stakeholders and authorities were held. The variance application, presentation and decision are included in Appendix C beginning on page C-51.

Other code issues relate to the facility's egress capacity, occupant loads, life safety systems and toilet fixture counts. Due to structural limitations based on load transfer paths to the basement level, the occupancy count is currently limited to a maximum of 150 persons at each of the first and second floors, but a simultaneous occupancy of no more than 250 persons in the building. Also, the toilet fixture count in the building has a limiting capacity on the number of occupants that can use the facility at any one time. In the proposed project, the maximum occupant load will be increased from 250 persons to 800 persons, subject to building commissioner approval, by improving the structural load transfer to basement columns and increasing the toilet fixture counts in renovated restrooms.

An analysis of egress calculations and occupancy loads based on the Use Group (A-3 Assembly) is illustrated in the Design Development drawings issued separately from this report (See A-01). The analysis includes descriptions of egress paths, egress widths, and proposed occupancy loads for all portions of the building. During the construction documents phase, a building code narrative and structural analysis will be submitted to accompany the egress drawings for review by the Salem Building Commissioner prior to release of the final plans and specifications for construction.

INTEGRATED INTERIOR MODIFICATIONS

The main goal of the renovation is to create a safe, comfortable, accessible, year-round environment where simultaneous activities can be hosted in the facility to support community arts and culture. To achieve this involves extensive construction activities that must be executed as a single integrated renovation. Key elements of the recommended work are summarized in the following primary categories: structural upgrades, restroom capacity, sprinkler system, HVAC upgrades, and acoustical improvements. Each of these work categories affects the others and doing any of them individually would be expensive and would not result in comprehensive facility improvements.

<u>STRUCTURAL UPGRADES</u>: In order to increase the occupant load capacity of the building from 250 to 800 persons, new basement columns need to be provided below the first floor columns, and existing brick piers need to be removed. This work triggers demolition of existing storage rooms and restrooms in the basement, along with removal of the basement slab for the provision of footings to support the new columns. So, a significant reconfiguration of the basement is triggered by the work involved in increasing the structural load capacity of the building in support of renovation goals.

<u>RESTROOM CAPACITY</u>: To serve an increased number of occupants, the restrooms in the basement need to be expanded. This work involves replacement of existing fixtures, piping, toilet partitions, and underground piping systems. Since the basement slab will need to be removed for the structural work, the restroom expansion fits in well with the structural portion of the project while also serving to provide updated facilities that will include an adequate number of fixtures for the occupants.

<u>SPRINKLER SYSTEM</u>: Installing an automatic sprinkler system is triggered by the scope of the renovation project and will provide a much greater level of life safety to the occupants and protection of the building. To provide an automatic fire suppression system, a new dedicated water supply will be brought to the building and piping to sprinkler heads will be installed throughout the facility. To avoid exposed piping, ceilings in the basement and first floor must be removed so that piping can be placed above finished ceiling surfaces. Ceiling removal and replacement work will also be needed for structural changes, HVAC upgrades, and acoustics, so this work dovetails with those other activities.

<u>HVAC UPGRADES</u>: The existing heating system does not provide any cooling, and cooling is required for Old Town Hall to be a viable year-round facility. A ground source heat pump system (GSHP) will be installed so that HVAC can be incorporated without the need for any visible outdoor equipment since there is no area in Derby Square for outdoor equipment. Piping for a closed loop system will be installed below the basement slab and below grade to a series of deep boreholes, and distribution equipment in the building will be incorporated with fan coil units, ducts, and sound attenuation devices to limit air noise. All piping, ducts, and units will be concealed as part of the renovation. So this work coordinates with slab removals for structural improvements and ceiling work for the sprinklers and for acoustical improvements.

<u>ACOUSTICAL IMPROVEMENTS</u>: There are several acoustical concerns in the existing building that must be successfully addressed, including a reduction of noise transfer between floors and improvements to acoustical characteristics in each assembly area. A goal of the project is to enable simultaneous events to occur on each floor level, and the current construction of the floors and ceilings does very little to restrict sound transmission from one floor to the other. To make this type of improvement, the existing basement and first floor ceilings must be removed and upgraded with insulation in the floor joist cavities and suspended ceilings with multiple layers of drywall mounted to sound isolation hangers to greatly reduce noise transmission between areas. This type of treatment will respect the character of the building while greatly enhancing noise separation between floors.

Another needed acoustical improvement is to reduce reverberation time in meeting areas to acceptable levels for a variety of uses. In the Great Hall, the reverberation time is extensive and only suits certain types of unamplified music while events requiring speech clarity (meetings, lectures, plays) or amplified sound (bands, movies, etc.) are nearly undiscernible. This will be addressed by providing special ceilings of stretched fabric over concealed fiberglass boards to absorb sound while maintaining the appearance of painted plaster. This treatment will be done in the basement Classroom, first floor Colonnade and second floor Great Hall to make these spaces more flexible for all their varied uses. Since ceiling work is already required for structural, sprinklers, and HVAC improvements, these acoustical improvements are best done in concert with these other activities.

<u>INTEGRATED SYSTEMS</u>: As noted above, these primary project components of structure, restrooms, sprinklers, HVAC, and acoustics are all required for a successful renovation and can only be done in a coordinated effort as a single integrated project.

PROJECT APPROVALS

During the initial design phase of this project, reviews were held with local and state authorities to solicit feedback and seek input for the project's scope and approach. Meetings were held with Salem's Department of Planning and Community Development, the Commission on Disabilities, Historical Commission, Building Department, and the Salem Redevelopment Authority including their Design Review Board. Input was also received from a public forum with the community at large.

Key approvals in support of this project included the following:

- Salem Redevelopment Authority (SRA): Conceptual approval has been received from the Salem Redevelopment Authority, and they will need to review details at the next phase of design and prior to completion of construction documents. The review process included submissions initially reviewed by the Design Review Board of the SRA, then followed by review and approval by the full SRA Board. Since the building is not in a local historic district, the SRA has review authority over all exterior changes. Prior to submitting the project to the SRA, we reviewed proposed elements with the Salem Historical Commission and the Salem Commission on Disabilities for input and to seek their support before the SRA.
- Massachusetts Historical Commission (MHC): Due to the past receipt of preservation funds from MHC, there is a Preservation Restriction on record that is filed with the deed in perpetuity. As a result, MHC has review authority over all work (exterior and interior) for assurance that any projects preserve the historic integrity of the facility. MHC reviewed this project on its merits, specifically for compliance with historic restrictions relative to accessibility code compliance requirements. MHC approved the project and issued a letter of support to the Architectural Access Board.
- Massachusetts Architectural Access Board (MAAB): Several variances for the preservation of historic resources while complying with current accessibility regulations were submitted for review and were approved by the MAAB. The most critical of these was preservation of the south façade monumental entrance stairs.
- Massachusetts Plumbing Board: A variance for plumbing fixtures was reviewed and approved as amended by the state's Plumbing Board. The initial request of having all gender-neutral restrooms, including multi-fixture restrooms, was denied. They did approve the installation of five male, five female, and two gender-neutral restrooms, and that approach preserves future re-naming of the restrooms if the code changes.

Details of the documentation for these submissions and approvals are included for reference in Appendix C of this report.

PROJECT BUDGET

Upon completion of the Design Development drawings, outline specifications, and narratives, professional cost estimating was done. The estimated cost of construction (ECC) was prepared by CHA, the Cost Estimator, and related project costs to develop an overall budget were prepared by Anser Advisory, the Owner's Project Manager. The detailed results of the estimate and project budget analysis are included in Appendix D of this report. A summary of that info is as follows:

ESTIMATED COST OF CONSTRUCTION / ANTICIPATED OVERALL PROJECT BUDGET				
CSI DIVISION OF WORK for TRADE COSTS	Accessibility Improvements	Exterior Preservation	Interior Renovations	TOTALS
02 - EXISTING CONDITIONS: Demolition, HazMats, Earthwork	\$55,779	\$1,310	\$356,635	\$413,724
03 - CONCRETE: Basement Slab, Column Footings, Ramp Foundations	\$22,017	\$0	\$90,506	\$112,523
04 - MASONRY: Selective Repointing, Repairs & Replacement	\$57,939	\$162,177	\$36,101	\$256,217
05 - METALS: Exterior Railings, Interior Columns, Misc. Metals	\$46,653	\$17,251	\$353,900	\$417,804
06 - WOOD: Rough & Finish Carpentry, Millwork	\$36,400	\$8,250	\$244,716	\$289,366
07 - THERMAL & MOISTURE: Roofing, Insulation, Sealants	\$825	\$33,480	\$60,724	\$95,029
08 - OPENINGS: Doors, Windows, Hardware, Louvers & Vents	\$39,513	\$95,400	\$113,129	\$248,041
09 - FINISHES: Flooring, Walls, Ceilings, Painting, Acoustic Treatments	\$1,988	\$28,953	\$550,964	\$581,905
10 - SPECIALTIES: Fire Extinguishers, Signage, Restroom Accessories	\$14,810	\$0	\$49,250	\$64,060
11 - EQUIPMENT: Catering Kitchen Equipment & Appliances	\$0	\$0	\$75,000	\$75,000
12 - FURNISHINGS: Recessed Entrance Mats	\$0	\$0	\$7,469	\$7,469
14 - CONVEYING SYSTEMS: Inclined Lift + Elevator Upgrades	\$220,000	\$0	\$0	\$220,000
21 - FIRE SUPPRESSION: Automatic Sprinkler System (Wet & Dry)	\$0	\$0	\$107,887	\$107,887
22 - PLUMBING: Restrooms, Catering Pantry, Custodial, D.F.	\$0	\$0	\$300,643	\$300,643
23 - HVAC: Ground Source Heat Pump, Energy Recovery Ventilation	\$0	\$0	\$1,132,775	\$1,132,775
26 - ELECTRICAL: Power, Tel/Data, Lighting, Fire Alarm	\$29,186	\$0	\$1,033,421	\$1,062,607
31 - EARTHWORK: Mobilization & Erosion Prevention	\$12,500	\$12,500	\$58,000	\$83,000
32 - EXTERIOR IMPROVEMENTS: Accessible Walkway, Paving & Surfacing	\$0	\$0	\$101,123	\$101,123
33 - UTILITIES: Replace Sewer, Provide Sprinkler Supply, Water Service	\$16,297	\$0	\$33,598	\$49,895
ESTIMATED DIRECT TRADE COSTS SUBTOTAL	\$553,907	\$359,321	\$4,705,838	\$5,619,066
Design & Pricing Contingency on Subtrade Work				\$562,000
01 - GENERAL CONDITIONS & REQUIREMENTS				\$649,506
Contractor's Insurance, Bonds, and Fee				\$369,000
Escalation & Current Market Volatility				\$822,000
Recommended Alternates (A1.1, AV-1, AV-2, AV-3, AV-4, AV-5)				\$273,300
ESTIMATED COST OF CONSTRUCTION (at May 2024 bid opening)	10%	6%	84%	\$8,294,872

A/E Fees, OPM, Clerk-of-Works, & Related Expenses	\$1,232,500
Construction Testing, Monitoring, & Bldg. Commissioning	\$145,000
Builder's Risk Insur., Police/Fire Details, Utility Backcharge	\$35,385
FFE: Moving, Signage, Artist's Stipend for Fencing, Misc.	\$203,500
Owner's Contingency for Soft Costs	\$128,405
Owner's Construction Contingency	\$663,590
ANTICIPATED OVERALL PROJECT BUDGET	\$10,703,251

The estimated cost of construction (ECC) is \$8.3m and associated project costs are \$2.7m for a total anticipated project budget of \$10.7m. This budget is predicated on beginning the next phase of design services by June 2023 and starting construction by July 2024 (see "Next Steps & Schedule").

As conceived during design, this renovation should be implemented as one integrated project. The cost estimate is based upon completing the project in advance of the 2026 celebration of Salem's founding, and any extension of the schedule beyond that time will increase the cost due to pricing escalation. During estimating, construction costs where itemized into three project groupings: accessibility improvements (10%), exterior preservation (6%), and interior renovations (84%). These grouping are for information purposes only, not for describing three separate projects. Phasing the project by implementing these three categories of work separately would have a significant effect on the project budget and schedule as summarized below.

<u>ACCESSIBILITY IMPROVEMENTS</u>: This project component is about 10% of the estimated cost of construction (ECC), or just over \$1m of overall project cost if assigned proportionally within the budget. If this were Phase One instead of being part of the overall project, and if it met the current project schedule for completion in December 2025, the project cost for accessibility would increase by about 20% to approximately \$1.2m. This phase would incur a 15% premium added to the construction cost for mobilization, for working within an occupied building, for protection of existing conditions, and for demobilization. Increases in related costs would not be as significant (adds 5%) since some expenses, like a clerk-of-the-works, commissioning agent, vibration monitoring services, and similar items would not be required as part of a Phase One Accessibility Improvements project.

EXTERIOR PRESERVATION: This component is about 6% of the estimated cost of construction (ECC), or \$0.7m of overall project cost if assigned proportionally. If this were Phase Two, and if it were to be completed in December 2028 to allow time for funding allocations after Phase One, construction costs would increase by about 35% to account for general conditions (15% for mobilization and demobilization plus 20% for escalation). Soft costs for this phase would also add about 35% to the project cost, resulting in a probable project cost of \$1m for a Phase Two Exterior Preservation project.

If accessibility and exterior work were combined into a single first phase with completion by December 2025, we would anticipate a project budget of \$2.2m to accommodate site constraints, contingencies, and similar issues. Note however that these two project groupings would not include improvements to functionality and building system upgrades that are critical for the facility.

<u>INTERIOR RENOVATIONS</u>: This component is about 84% of the estimated cost of construction (ECC), or \$9m of overall project cost if assigned proportionally. If this were Phase Three, and if it were to be completed in December 2032 to allow time for funding allocations, construction costs would increase by about 65% to cover general conditions (+20%) and escalation (+45%). The bulk of soft costs for the overall project would still be required for this phase and those costs would also increase by about 45%. Consequently, the project cost for a Phase Three Interior Renovation would be about \$15m. (Note that borehole drilling, trenching, and piping in Derby Square, though exterior work, would be part of the interior project since they relate to replacement of the existing HVAC systems.)

<u>PHASING CONCERNS</u>: Dividing the three Project Groupings into phases would potentially increase the overall project cost from \$10.7m to \$17.2m, and it would extend the construction schedule well beyond the 400-year anniversary celebration milestone. The extent of disruption in Derby Square and in the Old Town Hall would also be increased since a single project would take about 18 months of construction over a continuous period, while performing three phases instead would intermittently disrupt the site and building for up to 30 months of construction over three projects in multiple years.

<u>BENEFITS OF SINGLE PROJECT</u>: Implementing the recommended improvements as a single project will incorporate all required renovation components at one time which will reduce overall costs, reduce disruptions to the use of Derby Square and Old Town Hall, and meet the schedule intentions of completing the upgrades prior to the 400-year anniversary celebration of the founding of Salem.

<u>NOTES ON ALTERNATES</u>: The construction estimate includes a series of alternates that were defined as possible additions or subtractions from the base project cost. Of these alternates, the project team determined to include six in the project budget and to defer or delete five from the budget as noted:

- A1.1 / De-icing system at eaves above basement accessible entrance \$9,900: <u>ACCEPT</u> since this system will protect the new accessible entrance from falling snow and ice.
- A1.2 / De-icing system at balance of eaves and downspouts \$66,900: <u>DEFER</u> since this could be an Add Alternate during bidding to protect the remaining sidewalks.
- E1 / Low voltage lighting control system \$42,300: <u>DELETE</u> since the building is not so complex that centralized lighting could not be designed using line voltage switching.
- E2 / Emergency lighting inverters \$23,500: <u>DELETE</u> since specified emergency lighting can be in wall or ceiling mounted concealed locations that reveal when needed.
- E3 / NM Romex cable branch circuitry (\$17,500): <u>DELETE</u> since re-wiring of the building should take a long-term approach and use metal clad wiring as the standard.
- E4 / Eliminate fire alarm radio master box and antenna (\$32,400): <u>DEFER</u> since this will be a fire department decision during review of construction documents.
- AV-1 / Great Hall video presentation system \$194,700: <u>ACCEPT</u> since this improves the use of the building significantly for all user groups.
- AV-2 / Great Hall production assistance \$25,000: <u>ACCEPT</u> since this improves the use of the building significantly for all user groups.
- AV-3 / Great Hall portable video conferencing \$14,500: <u>ACCEPT</u> since this improves the use of the building significantly for all user groups.
- AV-4 / Colonnade production enhancement \$12,400: <u>ACCEPT</u> since this improves the use of the building significantly for all user groups.
- AV-5 / Classroom AV systems + public area paging system \$16,800: <u>ACCEPT</u> since this improves the use of the building significantly for all user groups.

Pricing details of the Alternates are included in Appendix D beginning on page D.34.

PROCUREMENT METHOD

The Old Town Hall is municipally owned and operated and, as such, the procurement of construction is regulated by the Massachusetts General Laws Chapter 149. These regulations stipulate that a construction contract will be sought by following bidding procedures for a project estimated to cost between \$150,000 and \$10 million in construction dollars based on the estimate (\$8.3m ECC). Projects must be advertised in multiple venues and publications, listing a description of the work, category of general contractor sought, list of filed sub-bidders required, and the cost estimate. Bid documents are required to identify any of eighteen stipulated subtrades that may contain estimated work of \$25,000 or more, and the first step in the bidding process will be to receive filed sub-bids that are evaluated, tabulated, and distributed to all general bidders. The process is intended to foster open and fair competition and reduce the chances of awarding contracts based on favoritism. Wages are also regulated by the Massachusetts Prevailing Wage Law and the wage rates must be included in the bid documents when issued. If Federal Grants are provided as part of project funding, then wage rates established by the Davis Bacon Act will also be in effect, and in the case of conflicting rates, the higher rate will need to be applied to any tradesperson's wage category accordingly.

This project will be procured via a single stipulated sum contract that will be competitively bid in accordance with the Massachusetts General Laws. Only one General Contractor is anticipated, and the GC will manage all subcontractors, both filed-bid subs and non-filed-bid subs to cover all trades. The architect and specific engineers on the design team will submit construction control affidavits attesting that periodic observation of work progress will occur throughout the construction period.

A few specialty professionals will be involved as third-party representatives during construction:

- <u>Owner's Project Manager</u>: Ongoing assistance to the Owner with project management services related to reviewing documents, budgets, and processes.
- <u>Materials Testing Company</u>: Separate company to test concrete, steel, and wood connections after installation to confirm conformance with project specifications.
- <u>Vibration Monitoring Specialist</u>: Survey of surrounding buildings prior to construction and monitoring during drilling of HVAC boreholes to assess any settlement.
- <u>Building Commissioning Agent</u>: Independent review of HVAC systems during construction documents, submittals, construction, and upon completion to verify that all systems are performing as intended for the benefit of Owner and energy use.
- <u>Acoustical Monitoring & Testing</u>: During construction, compliance with local noise ordinances will need to be confirmed. Also as an option, interior testing for compliance with acoustical improvements and performance could be documented.

As noted in the previous section on the "Project Budget," if the project were to be implemented in phases instead of as a single project, the overall cost of the work would increase from \$10.7m overall to \$17.2m and the completion schedule would go well beyond the 400-year anniversary. Each phase of the project would also need to follow the public bidding rules and stipulated wage rates.

NEXT STEPS & SCHEDULE

The initial contract for architectural services was limited to the Design Development phase as a means of determining the project scope, schedule, and budget for the Old Town Hall renovation. The city reserved the right to extend the designer's contract into subsequent phases, which will include preparation of Construction Documents and assistance during Construction Administration through completion. Prior to authorizing subsequent phases, funding will need to be secured, and work is underway to apply for potential grants and seek municipal funding for the overall project costs.

Meanwhile, there are two items of preparatory work that will be undertaken with funding provided by a Community Development Block Grant. One will be to prepare a test borehole to review the logistics and costs of drilling, piping, and grouting for the ground source heat pump system, along with testing thermal conductivity expectations for the sake of gathering specific design criteria for HVAC heating and cooling loads. The second will be to perform a survey to trace specific elements of the existing electrical system to identify circuits and systems that will need to be maintained or eliminated when the project is underway, and this research will reduce guess work during bidding by uncovering potential unknowns to the extent feasible. These two items will be done prior to the start of the next design phase and in advance of the CDBG funding expenditure deadline of April 2023.

The schedule for construction documentation and construction administration will be dependent upon the receipt of sufficient funding to start the process. Assuming the completion deadline in advance of May 2026 for the 400-year anniversary celebration of the founding of Salem, an outline of key milestones and related activities is as follows:

Jun 2023 – Apr 2024: Construction Document Phase / prepare completed plans & specs, final SRA approval, submit code narratives to building dept., final estimate
Apr 2024 – May 2024: Bidding & Contractor Selection / public bidding filed sub-bids followed by general contractor bids, evaluate submissions prior to award
May 2024 – Jul 2024: Permitting, Submittals, Mobilization / execute contract, building permit, pre-construction conference, third-party contracts, submittals
Jul 2024 – Dec 2025: Construction to Substantial Completion / perimeter fencing, scaffolding, sitework (utilities & accessibility), exterior envelope, interior work
Jan 2026 – Mar 2026: Project Closeout / punch list, commissioning, record drawings, manuals, warranties, move-in, systems training

The itemized project budget (see Appendix D) includes line items for the construction document phase that could be authorized in advance of full appropriation for the project. Taking that step would be useful if necessary for maintaining the completion schedule but would only be advised if there is sufficient confidence in the subsequent appropriation of full funding at the appropriate time.

The Appendices in this Design Development report provide in-depth documentation of the process undertaken during this initial phase of design services in preparation of renovating this important historical facility for its ongoing role in supporting community culture and the arts. In addition to the Appendices, here is a link to the drawings and specs: <u>Design Development Documents 220831</u>

OLD TOWN HALL RENOVATIONS

32 Derby Square / Salem MA

DESIGN DEVELOPMENT PLANS & SPECS

Existing and proposed floor plans illustrate the "before" and "after" layouts of each of floor plan (Basement, First, & Second) in a simplified format. The basis of these plans is a set of measured drawings prepared by the Architect under the terms of the professional services agreement, with the proposed drawings indicating layouts to support the facility program and project approvals.

- A.01 EXISTING BASEMENT FLOOR PLAN
- A.02 PROPOSED BASEMENT FLOOR PLAN
- A.03 EXISTING FIRST FLOOR PLAN
- A.04 PROPOSED FIRST FLOOR PLAN
- A.05 EXISTING SECOND FLOOR PLAN
- A.06 PROPOSED SECOND FLOOR PLAN

More detailed information is contained in the Design Development documentation provided under separate cover during this phase of professional services and as itemized below. A link to review and/or download these documents is: <u>Design Development Documents 220831</u>

- 01: Old Town Hall Renovations / OUTLINE SPECS / 31 Aug 2022 / 9 pages
- 02: Old Town Hall Renovations / DRAWINGS / 31 Aug 2022 / 63 sheets
- 03: Photographs of Existing Conditions (54 pages)
- 04: Civil Engineering Narrative (4 pages)
- 05: Mechanical Systems Narrative (11 pages)
- 06: Electrical & Fire Alarm Systems Design Narrative (4 pages)
- 07: Lighting Conditions & Recommendations (7 pages)
- 08: Lighting Fixture Cost Budget (2 pages)
- 09: Audiovisual Systems Narrative & Budget (16 pages)
- 10: Hazardous Materials Testing Results & Budget (7 pages)













OLD TOWN HALL RENOVATIONS

32 Derby Square / Salem MA

PHOTOGRAPHS OF EXISTING CONDITIONS

- B.01 B.09 EXTERIOR
- B.10 B.19 BASEMENT LEVEL
- B.20 B.26 FIRST FLOOR
- B.27 B.33 SECOND FLOOR
- B.34 B.37 ATTIC
- B.38 B.49 AERIAL LIFT REVIEW
- B.50 B.54 INTERIOR EXPLORATORY
- B.55 B.58 ELEVATOR CONDITIONS

All photographs were taken by Don Mills of Mills Whitaker Architects LLC. Each photo is identified with a file name that starts with the date shown in six digits with the year, month, and day followed by the image number for reference. The photos were taken between August 5, 2021 (210805) during the RFQ phase of the designer selection process and July 14, 2022 (220714) on the day that the architect reviewed the elevator machine room and shaft with Jeff Halley of Halley Elevator.

APPENDIX B PHOTOGRAPHS OF EXISTING CONDITIONS Mills Whitaker Architects LLC

EXTERIOR

EXTERIOR

210805-IMG_9596.JPG



Essex Street Facade at North Elevation Now Serves as the Primary Entrance and Sole Accessible Entrance



View of North and West Facades Surrounded by Pedestrian Way; Sitework Improvements Circa 1972-73

EXTERIOR

EXTERIOR



View of East Facade with Adjacent Pedestrian Way



Northeast Corner of the Building; City Services Pickup Truck at Entrance

OLD TOWN HALL Renovations / Salem MA Design Development Report

EXTERIOR

210805-IMG_9569.JPG



North Entrance with Granite Stoop; Accessible Walkway from Northwest Corner to Door; Landing Cross Slope Exceeds Allowable Pitch; Outswing Door Impedes Maneuvering Clearance



210805-IMG_9597.JPG





Left Side of Granite Stoop at Primary Entrance on North Facade

EXTERIOR

210805-IMG_9570.JPG



Catch Basin in Brick Paving Adjacent to Granite Curb and North Facade; Settlement of Curb Misaligned with Adjacent

EXTERIOR



Right Side of Granite Stoop at Primary Entrance on North Facade; Terraced Cobbles at Edge of Accessible Walkway

OLD TOWN HALL Renovations / Salem MA Design Development Report

Mills Whitaker Architects LLC Page B.02





Granite Curb, Brick Pavers and Granite Stairs at South Facade of Old Town Hall

OLD TOWN HALL Renovations / Salem MA Design Development Report

Mills Whitaker Architects LLC Page B.04

210805-IMG_9616.JPG

210805-IMG_9609.JPG

EXTERIOR



View of South Facade and East Side of Building Looking North Toward Essex Street

EXTERIOR

EXTERIOR

210805-IMG_9584.JPG



Central Stairs at South Facade with Brick Infill at Former Basement Entries at Each Side of Central Stair





Granite Steps to Easterly Doors of South Facade Formerly Served Interior Stairway to Town Offices on Second Floor; Now Serves as Exit Only; Interior Stairs to Second Floor Still In Use

OLD TOWN HALL Renovations / Salem MA Design Development Report

Mills Whitaker Architects LLC Page B.05

EXTERIOR



Granite Steps to Westerly Doors of South Facade Formerly Served Interior Stairway to Town Offices on Second Floor; Now Serves as Exit Only; Interior Stairs Removed for Elevator Installation

<u>EXTERIOR</u>

210805-IMG_9608.JPG



Side View of Granite Stairs and Iron Railings; Missing + Bent Baluster Posts at First Tread, Railing Delaminated from Subrail at Low End

210805-IMG_9593.JPG

EXTERIOR



Basement Exit Door Well at East Facade; Guardrails with Handrail on Latch Side of Door

EXTERIOR





Cast Iron Boot to Copper Rain Leader at Southeast Corner; Granite Plinth at Basement Level with Brick Above

EXTERIOR



Basement Exit Door Well at West Facade; Missing Handrail on Hinge Side of Door

OLD TOWN HALL Renovations / Salem MA Design Development Report

EXTERIOR

210805-IMG_9573.JPG



Typical First Floor Window in Arched Brick Opening with Visual Evidence of Brick Repairs

EXTERIOR

EXTERIOR





Typical Brick Infill at Former Basement Window; Former Pipes Served Former Interior Fuel Oil Tanks





Basement Window Infill at East Facade with Exhaust Air Vents for Gas-Fired Condensing Boilers



Basement Window Infill at East Facade with Intake Air Vents for Gas-Fired Condensing Boilers

OLD TOWN HALL Renovations / Salem MA Design Development Report

EXTERIOR

210805-IMG_9594.JPG

EXTERIOR



OLD TOWN HALL Renovations / Salem MA Design Development Report

Mills Whitaker Architects LLC Page B.08
<u>EXTERIOR</u>

EXTERIOR

210805-IMG_9601.JPG



Void in Brick Pavers at NW Corner Sidewalk; Corner Curbing Set Flush to Sidewalk and Street to Serve Accessible Walkway Path to North Entry

EXTERIOR





Storm Drain Grate at Curb by NW Corner

210805-IMG_9604.JPG

EXTERIOR



"SELCo" Manhole Cover Presumably Contains Electrical Utility Connections (Salem Electric Company)



Cover to Water Supply Valve at West Side of Building Adjacent to Curb

BASEMENT LEVEL

210805-IMG_9544.JPG



Basement Stairs at NE Corner of Building; Wood Framed Risers, Treads & Stringers; Crawl Space Below Adjacent to Vault



Looking North to North End of Basement; Central Row of Brick Piers with N/S Timber Beam; Joists and Timber Transfer Beams Span E/W; Very Low Headroom at Beam (75")

BASEMENT LEVEL

210805-IMG_9545.JPG



NW Corner of Basement with Electrical Service, Meter and Panels



Typical Central Brick Pier Support

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BASEMENT LEVEL

210805-IMG_9552.JPG



City Vault Door at North End of Building

BASEMENT LEVEL

210805-IMG_9551.JPG



Area in NE Corner of Basement Between Vault (at left) and Exterior Walls (N+E); Crawl Space Below Stairs Via Hatch Door

210805-IMG_9550.JPG

BASEMENT LEVEL



Records Storage Room on West Side of Basement; Looking South from Room Entrance; City Records to be Relocated from Old Town Hall



Looking Northwest in Records Storage Room

OLD TOWN HALL Renovations / Salem MA Design Development Report

Mills Whitaker Architects LLC Page B.11

BASEMENT LEVEL

BASEMENT LEVEL

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Plywood Partition Separating Two Sides of Basement Storage Areas

BASEMENT LEVEL





Timber Transfer Beam at Left Spans to Central Pier and Supports Column at First Floor Above

BASEMENT LEVEL



Contemporary Concrete Block Masonry Added to Interior Surface of Stone Foundation Walls Circa 1933



Telephone Service Patch Panel on East Wall

210805-IMG_9556.JPG



Natural Gas Meter on West Exterior Wall Adjacent to Records Storage Room; Natural Gas Fuels Pair of Condensing Boilers

BASEMENT LEVEL

210805-IMG_9558.JPG



Potable Water Meter Adjacent to West Exterior Wall



BASEMENT LEVEL

210805-IMG_9522.JPG



Stairs to Basement in SE Corner of Building Leading Down from South Foyer Area



Sanitary Piping in Stair Hallway at East Wall; Air Vents for Condensing Boiler Overhead; Piping Serves Second Floor Single User Restroom

BASEMENT LEVEL

BASEMENT LEVEL



One of Two Side Exits from Transverse Hallway to East and West Door Wells at Exterior; Circa 1933 for Exterior Access to "Comfort Stations"



Looking South in Stair Hallway to SE Corner

210805-IMG_9526.JPG



Looking North in Women's Restroom; Three Water Closets + One Lavatory

BASEMENT LEVEL





Accessible Stall in Women's Room; Low Exhaust Vent; Quarry Tile Floor, Marble Walls & Toilet Partitions

BASEMENT LEVEL



Looking South at Entrance to Women's Restroom



Single Wall-Hung Lavatory in Women's Room

OLD TOWN HALL Renovations / Salem MA Design Development Report

Mills Whitaker Architects LLC Page B.15

BASEMENT LEVEL

210805-IMG_9531.JPG



Surface-Mounted Screw-In Fuse Box in Hallway

BASEMENT LEVEL

210805-IMG_9532.JPG



Exhaust Ductwork from Women's Room Chase Leads to Fan in Mechanical Room and Duct Discharges into Brick Chimney Flue to Roof

BASEMENT LEVEL



Elevator Landing Doors at Basement; Former Location of Stairway to Match Stairway in SE Corner of Building

BASEMENT LEVEL



Looking South to SW Corner of Building; Elevator at End of Hallway on Left

OLD TOWN HALL Renovations / Salem MA Design Development Report

BASEMENT LEVEL

210805-IMG_9540.JPG



Looking West into Storage Room Located Between Men's Room (at left) and Records Storage (at right)

BASEMENT LEVEL

210805-IMG_9539.JPG



Storage Area at East Side of Basement to North of Women's Room

BASEMENT LEVEL



Looking South from Storage Area to Mechanical Room Door Beyond



Electric Domestic Water Heater in Mechanical Room

OLD TOWN HALL Renovations / Salem MA Design Development Report

210805-IMG_9565.JPG



Pair of Gas-Fired Hydronic Condensing Boilers

BASEMENT LEVEL





NE Corner of Utility Room with Sunken Floor Area; Concrete Block Walls; Heating Piping Array Mounted on Plywood at North Wall

BASEMENT LEVEL



Steps Up to Elevator Machine Room Door Adjacent to Elevator Hoistway in Mechanical Room



PEX Supply & Return Piping Array for Heating Mounted on Plywood in Storage Area

OLD TOWN HALL Renovations / Salem MA Design Development Report

Mills Whitaker Architects LLC Page B.18

BASEMENT LEVEL

BASEMENT LEVEL

210805-IMG_9535.JPG



Three Lavatories in Men's Room at North Wall; Urinals at South Wall Reflected in Mirror

BASEMENT LEVEL

210805-IMG_9534.JPG



Two Water Closets in Men's Room; Quarry Tile Floor and Marble Toilet Partitions

BASEMENT LEVEL



Three Urinals at South Wall of Men's Room; Marble Surfacing on Walls



Concrete Basement Stairs to First Floor at South Foyer to Derby Square Exit





Wood-Capped Ledge at Base of Wall for Piping Chase

Heating Thermostat in Clear Tamper Proof Cover; Toggle Lighting Switches Recessed in Wall; Poorly Patched Wall Surface Above Switches

FIRST FLOOR

210805-IMG_9520.JPG



Looking North thru First Floor Colonnade; Columns Support Second Floor Framing Above and Bear Upon Timber Transfer Beams Below; Basement Support on Brick Piers in Center

<u>FIRST FLOOR</u>

210805-IMG_9463.JPG



Looking South Along East Wall of First Floor



FIRST FLOOR



Southeast Corner of First Floor Area





FIRST FLOOR

FIRST FLOOR

210805-IMG_9482.JPG



Typical Arched Window Casing Touches Ceiling and Interrupts Crown Moulding at Window Head; Integrated Pilaster Piping Chase in Exterior Wall





Lower Sash Open to Provide Ventilation; No Exterior Storms or Insect Screens; All Sash Glazed with Single Pane Clear Glass







Chain and Pulley for Lower Sash Operation; Exterior Block Below Upper Sash Fixes Sash in Place; All Windows Recently Restored and Operable

FIRST FLOOR



Intersection of Flooring at Colonnade (Top) and Former Market Stalls and Town Offices (Lower); Last Major Renovation in 1933





SECOND FLOOR

210805-IMG_9508.JPG



View to North Along West Wall of Great Hall

SECOND FLOOR

210805-IMG_9509.JPG



One of Six 8-Lamp Elegant Candelabra Chandeliers in the Great Hall Ceiling

SECOND FLOOR



One of Two Circa 1933 Ventilation Grilles at Each Side of Central Exit to South Foyer



Floor Fan at SW Corner of Great Hall Illustrates Current Lack of Cooling

Mills Whitaker Architects LLC Page B.28

SECOND FLOOR



SECOND FLOOR

SECOND FLOOR

210805-IMG_9503.JPG



Looking North in Former Selectmen's Office; Painted Wood 6-Panel Doors and Suspended 6-Lamp Chandelier

SECOND FLOOR





Single-User Restroom at SE Corner of Building Adjacent to Former Office

SECOND FLOOR



Recessed Electrical Panel in West Wall at SW Corner of Former Selectmen's Office



Lighting Controls at North Wall of Former Selectmen's Office; Battery Pack Above for Emergency Lighting System

OLD TOWN HALL Renovations / Salem MA Design Development Report

SECOND FLOOR

SECOND FLOOR

210805-IMG_9497.JPG



Looking North in Former Town Clerk's Office; Painted Wood 6-Panel Doors and Suspended 6-Lamp Chandelier





Interior View of Elevator Cab from Landing



Control Panel in Cab; Protection Pads in Cab

OLD TOWN HALL Renovations / Salem MA Design Development Report

Mills Whitaker Architects LLC Page B.31

SECOND FLOOR

210805-IMG_9498.JPG



Elevator in SW Corner of Building Adjacent to Former Town Clerk's Office; Originally a Private Lavatory Adjacent to Stairs Below

SECOND FLOOR















AERIAL LIFT REVIEW

220119-IMG_0614.JPG



Detail of Rake at South Gable; Peeling Paint at Wood Crown Below Roof Slates; Painted Masonry Fascia, Modillions & Bed Moulding

AERIAL LIFT REVIEW

220119-IMG_0615.JPG



Cast Stone Replacement Sill at South Attic Window; Open Butt Joint in Painted Sill Allows Water Infiltration; Painted Wood Sill and Window in Good Condition

220119-IMG_0617.JPG

AERIAL LIFT REVIEW



Open Head Joint Between Wood Brick Moulding and Brick Archway at South Facade Attic Window



Remnant Iron Pintel Hinge at Jamb of South Facade Second Floor Window Evidence of Former Shutter; Portion of Missing Brick Mould Suggests Former Awning

OLD TOWN HALL Renovations / Salem MA Design Development Report

Mills Whitaker Architects LLC Page B.39

AERIAL LIFT REVIEW







AERIAL LIFT REVIEW

220119-IMG_0630.JPG



Looking North Along Eave from Southeast Corner

AERIAL LIFT REVIEW





Detail of Suspended Half Round Copper Gutter at East Eave; Replacement Snow Guard at Left

AERIAL LIFT REVIEW



Detail of Eastern Eave Below Gutter; Bed Moulding, Modillions, Fascia & Crown are Painted Wood at Eaves vs. Painted Masonry at Gable Ends



One of Several Intermittently Spaced Electrical Device; Appears to be Lamp Socket for Screwed-In Light Bulb; Installed Under Wood Soffits at East/West Facades; Installed on Face of Masonry Cornices at Gable Ends








AERIAL LIFT REVIEW

AERIAL LIFT REVIEW

220119-IMG_0646.JPG



Transition from Older 2-Rail Snow Guard to Newer 3-Rail Snow Guard at Northeast Portion of Roof; Newer Guards Located at NE, NW and SE Eaves

AERIAL LIFT REVIEW





Northeast Corner of Upper Facade; Flemish Bond Brickwork; Copper Gutter & Downspout; 3-Rail Snow Guard with Ice Flags

AERIAL LIFT REVIEW



West Facade Looking South Toward Front Street



Detail at Eave of West Facade; Newer Copper at Downspout Elbows; Intersection of 3-Rail and 2-Rail Snow Guards; Overhangs at East/West Eaves are Painted Wood

OLD TOWN HALL Renovations / Salem MA Design Development Report









INTERIOR EXPLORATORY

220128-IMG_0756.JPG



Portion of Ceiling Removed Adjacent to West Wall at First Floor Colonnade to Review Framing Conditions at Masonry

INTERIOR EXPLORATORY

220128-IMG_0755.JPG



Portion of Ceiling Removed at First Floor Adjacent to North/South Beam of Colonnade

INTERIOR EXPLORATORY



Ceiling Exploration in Process at First Floor

INTERIOR EXPLORATORY



Finished Ceiling is Veneer Plaster on Furring Channels; Concealed Ceiling is Cement Plaster on Wire Lath

OLD TOWN HALL Renovations / Salem MA Design Development Report

INTERIOR EXPLORATORY

220128-IMG_0764.JPG



Portion of First Floor Ceiling Over Wire Lath Currently Concealed by Drywall on Furring

INTERIOR EXPLORATORY

220128-IMG_0765.JPG



Adhesive Daubs on Concealed Plaster Assumed to Have Formerly Held 12" x 12" Perforated Tiles; Adhesive to be Tested for Asbestos

INTERIOR EXPLORATORY



Resilient Metal Furring Channel Attached to Concealed Cement Plaster on Wire Lath Circa 1933; Contemporary Veneer Plaster Ceiling 1970s

INTERIOR EXPLORATORY

220128-IMG_0768.JPG



Two Layers of Suspended Ceiling Below Wood Joist Framing of Great Hall Above; Suspended Wood Framing Circa 1933

OLD TOWN HALL Renovations / Salem MA Design Development Report

INTERIOR EXPLORATORY

220118-IMG_0603.JPG



Original Wood Subfloor at Second Floor Below Great Hall Stage

INTERIOR EXPLORATORY



1933 Reframed Stage Lumber with Bore Hole for Posts in Stage Surface Above

INTERIOR EXPLORATORY

220118-IMG_0600.JPG



Galvanized Sheet Metal Enclosure Contains Abandoned Heating Radiator Below Stage; Exposed Brick at North Wall

INTERIOR EXPLORATORY

220118-IMG_0596.JPG



Pole Receptor in Sill of Stage Framing Aligns with Hole in Beam and Floor Above; Pole Used to Set Proscenium for Theater

OLD TOWN HALL Renovations / Salem MA Design Development Report



ELEVATOR CONDITIONS

220714-IMG_1703.JPG



View of Rear Cantilever Frame from Hoistway

ELEVATOR CONDITIONS

220714-IMG_1704.JPG



Concrete Block Hoistway Infill of South Facade Window

ELEVATOR CONDITIONS



View of Holeless Hydraulic from Top of Elevator Cab





Elevator Pit Below Cab with Chimney at Left Side

OLD TOWN HALL Renovations / Salem MA Design Development Report

ELEVATOR CONDITIONS

ELEVATOR CONDITIONS

220714-IMG_1706.JPG



Chimney at Left Side of Hoistway Showing Terracotta Flue Liner Exposed

ELEVATOR CONDITIONS

220714-IMG_1705.JPG



Upper Portion of Exposed Chimney and Flue Liner; Ceiling of Hoistway Projects Into Attic Space; Steel Strap Reinforces Masonry for Flue Vent

ELEVATOR CONDITIONS





Vent Opening at Top of Hoistway into Terracotta Flue Liner; Chimney Opening Reinforced with Steel Strap

OLD TOWN HALL Renovations / Salem MA Design Development Report

ELEVATOR CONDITIONS

220714-IMG_1697.JPG



Elevator Machine at Back Side of Hoistway Accessed via Mechanical Room

ELEVATOR CONDITIONS

220714-IMG_1696.JPG



Elevator Controller in Machine Room

ELEVATOR CONDITIONS



Hydraulic Fluid Leaking from Valve at Elevator Machine

ELEVATOR CONDITIONS



Machine Room Partition Intersection to Concrete Basement Stairs from First Floor Foyer

OLD TOWN HALL Renovations / Salem MA Design Development Report

OLD TOWN HALL RENOVATIONS

32 Derby Square / Salem MA

PROJECT APPROVALS

C.01 TIMELINE FOR VARIOUS PROJECT APPROVALS

Outline of Dates for Approvals by the: Massachusetts Plumbing Board (Variance) Salem Redevelopment Authority (Exterior) Massachusetts Architectural Access Board (Variances)

C.02 PLUMBING BOARD VARIANCE REQUEST SUMMARY

Variance Application of March 22, 2022 (10 pp) Email Notification to Salem Board of Health (1 p) Agenda Notification for Public Hearing on April 6, 2022 (3 pp) Notes from Plumbing Variance Hearing 22-PV-250 (1 p)

C.17 SALEM REDEVELOPMENT AUTHORITY APPROVAL

SRA Agenda Notification for Public Hearing on June 8, 2022 (2 pp)
Design Review Board Recommendation to SRA from May 25 Meeting (1 p)
Presentation Slides from SRA Public Hearing of June 8 (30 pp)
SRA Approval Decision with Conditions Noted from June 8 Hearing (1 p)

C.51 MASSACHUSETTS ARCHITECTURAL ACCESS BOARD APPROVAL (MAAB)

Application for Variances from 521 CMR on June 10, 2022 (9 pp)
ADA Consultation Form Submittal to Mass. Historic Commission (MHC)
June 10, 2022 Letter from Architect to MHC Executive Director (2 pp)
The Americans with Disabilities Act Consultation Process Form (2 pp)
July 29, 20922 Letter from MHC Director to MAAB Director (1 p)
June 27, 2022 "Notice of Action" on Variance Application by MAAB (1 p)
MAAB Variance Hearing Notification for August 8, 2022 (1 p)
Presentation Slides from MAAB Public Hearing of August 8 (64 pp)
Architectural Access Board Decision on V22-107 (7 pp)

APPENDIX C PROJECT APPROVALS Mills Whitaker Architects LLC

Salem OLD TOWN HALL Approvals Process Summary

Massachusetts Plumbing Board

22 Mar 2022: Submitted Variance Application to the Plumbing Board

06 Apr 2022: Variance Application Reviewed at Public Hearing Denied Multi-Fixture Gender-Neutral Restrooms in the Basement Required Men/Women Designations for Multi-Fixture Restrooms Allowed Toilet Counts for 5 Men + 5 Women + 2 Gender-Neutral (assigned to Women)

Salem Redevelopment Authority (SRA)

02 Mar 2022:	Informal Review of Project with Salem Historical Commission for comments/input	

- 23 Mar 2022: Initial Review of Project by Design Review Board of the Salem Redevelopment Authority
- 25 May 2022: Subsequent Review by Design Review Board of the Salem Redevelopment Authority
- 08 Jun 2022: Review & Approval of Exterior Work in Concept by the Salem Redevelopment Authority (Subsequent Review of Construction Details will be required during next design phase)

Massachusetts Architectural Access Board (MAAB)

15 Mar 2022:	Reviewed Project with Salem Commission on Disability	v for comments/input
		,

- 10 Jun 2022:Submitted Variance Application to Massachusetts Architectural Access Board
Submitted ADA Consultation Form to Massachusetts Historical Commission
- 21 Jun 2022: Reviewed MAAB variance application with Salem Commission on Disability
- 22 Jun 2022: Reviewed MAAB variance application with Salem Historical Commission
- 27 Jun 2022: MAAB reviewed variance application as an incoming case to review requests Accepted threshold modifications and requested variance hearing for other requests
- 29 Jul 2022: MHC Letter to MAAB noting "no adverse effect" and fully supporting variance requests Letter notes that MHC has project approval authority due to preservation restriction
- 08 Aug 2022: MAAB reviewed variance application at a public hearing with presentation by architect Approved all variance requests with minor conditions noted in the decision

Timeline for Various Project Approvals



Commonwealth of Massachusetts **Division of Professional Licensure** Board of State Board of Examiners of Plumbers and Gas Fitters

1000 Washington Street • Boston • Massachusetts • 02118-6100

VARIANCE FROM STATE PLUMBING CODE PRE-INSTALLATION

\$86.00 application fee payable to "Commonwealth of Massachusetts"

DO NOT USE THIS APPLICATION IF PLUMBING WORK HAS BEEN COMPLETED

PLEASE PRINT CLEARLY

(Section 1) APPLICANT INFORMATION:							
Applicant Name: Firm Donald W Mills, RA			iff applicable): ills White	aker Architects	LLC	^{Date:} 22 Mar 2022	
Title or Position with Firm (If applicable): Project Architect			Type of Worl New Constru	k: Iction: O	Renovatio	n: 🔘	
Street Address: PO BOX	750089		City/Town:	Arlington	state: M A	zıp Code: 02475	
Cell Phone: (617) 283-5377	Work Phone: (617) 876-3	7611	Email:	donmills@n	nillswhitake	r. com	

 I have included with this application <u>written documentation</u> that the local Board of Health has been petitioned regarding this variance request.* (Variance requests for City of Boston must include petition to Inspectional Services) 	INITIAL BELOV
Note: No Board of Health petition is required for buildings owned, used or leased by the State of Massachusetts.	DWM
I have included all necessary supporting documentation regarding this variance request.	INITIAL BELOV
	DWM
3. I have included a non-refundable check for \$86.00 payable to the Commonwealth of Massachusetts.	INITIAL BELOV
Note: No payment is required for buildings owned, used or leased by the State of Massachusetts.	DWM
A. The unusual or extraordinary significance or established hardship that warrants special terms or conditions is	INITIAL BELOV
clearly stated in (Section 5) on the second page of this application	DWM
5. Lunderstand that this variance request is for one instance at the location information stated in (Section 3) of this	INITIAL BELOV
application.	DWM
	INITIAL BELOV
6. I certify that the plumbing work relevant to the information stated in (Section 5) has not yet been performed.	DWM
	-0
"Additionally, any response by the Board of Health or Health Department must be provided, however, the Board may	waive this

C TEL: 617-727-9952

FAX: 617-727-6095

TTY/TDD: 617.727.2099

http://www.mass.gov/dpl/boards/pl

Variance Application to Plumbing Board

Julie Barry, Senior	Art Planner	Firm Nam Sa	e (if applicable): Iem Planning & Commu	nity Develo	opment Dept.
Street Address: 98 Washington Street		City/Town: Salem	State: MA	Zip Code: 01970	
Cell Phone: Work Phone: (617) 653-7774 (978) 745-9595		Email: jbarry@salem.com			
Section 3) LOCATION OF VARI	ANCE: (Please leave	blank if this i	nformation is the same as in Sectio	n (2))	
Name of <u>proposed</u> or <u>current oc</u>	<u>cupier</u> of the building	g:	City of Salem (for)	Arts & Cu	ilture)
Street Address:		City/Town:		Zip Code:	
32 Den	by Square		Salein	-	01370
ection 4) ADDITIONAL INFOR Plumber's Name (if available):	MATION:	nbing Firm Nan	ne (if available):	Work Ph	none:
Not Yet Determ	ined			0.000	
Vame of Plumbing Inspector: Thomas St.	Pierre (Acting	g)	Date Inspector was informed of th 17 M	is Variance Requi	est:
Plumbing Code Section(s) Releva	int to this Variance R 248	equest: CMR 10	10(18)(b)1 b and (i)1		
tas Plumbing Work Begun at the	Location of this Var	iance Request:	Yes: No: O D	ate Work Began:	
A design and the second second	The Cost of A	a standa	5 3 1 3 at 1		2. A
The City of Salem ad a variance for the Ok Old Town Hall renova and a single-user, ge restrooms for men ar diversity. The City of the provision of gend	lvocates for g d Town Hall re ation propose ender-neutral nd women sup Salem stress ler-specific pu	ender-neu enovation s gender restroom a oports the es non-dis ublic restro	atral restrooms in its publ related to 248 CMR 10.1 neutral multi-fixture restru- at the second floor. Relie City of Salem's emphasi scrimination on the basis boms in this significant his	ic buildings 0(18)(b)1.t coms in the of from requ s on inclus of gender storic facilit	and requests and (i)1. The basement uiring separate ion and identity and y would be a
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MILLS WHITAKER ARCHITECTS

APLINGTON MA MAWAIMINWHITAKOLGOM BRIDGTON MI

22 March 2022

Division of Professional Licensure Board of State Examiners of Plumbers and Gas Fitters 1000 Washington Street, Suite 710 Boston, MA 02118

Re: Old Town Hall / 32 Derby Square / Salem MA 01970 248 CMR Variance Request for Gender-Neutral Restrooms

Dear Plumbing Board,

The Old Town Hall in Salem was constructed in 1816 and renovated in 1933. It currently serves as a local hub for Arts and Culture and is the subject of a pending renovation that will improve building systems, expand restroom facilities, and upgrade accessibility compliance. The city requests a variance from the following two requirements of the MA plumbing code:

248 CMR 10.10(18)(b)1.b: Toilet facilities for each sex shall be provided in the amount specified in 248 CMR 10.10(18); *Table 1* for assembly.

The project proposes the installation of multi-fixture, gender-neutral restrooms in the basement as part of an expansion of facilities to meet proposed occupancy loads.

248 CMR 10.10(18)(i)1: In each establishment where people are employed, there shall be separate toilet facilities for male and female employees.

While no one is currently employed in the building, if anyone were to use any part of the facility as an office, the tailet fixtures available to them would be gender-neutral.

Current restroom facilities in the building consist of separate multi-fixture men's and women's rooms in the basement and a single-user gender-neutral restroom on the second floor. The second floor restroom will remain while the basement restrooms must be enlarged to meet a proposed increase in the occupant load for the building. The existing building has a maximum simultaneous occupancy load of 250 persons while the renovated facility proposes an updated occupant load of 800 persons, subject to final approval by the Salem Building Commissioner.

The facility is classified as an Assembly A-3 Use Group per 248 CMR, and fixture counts for water closets are proposed as an average of those for males (1/100) and females (1/50) with a blended rate of 1 water closet per 75 persons for a total of 12 water closets. Using the existing single-user restroom in the calculation, the project requires 11 water closets in the basement restrooms. Attributing the second floor to female occupants for toilet counts, the basement would require 7 toilets for women (400/75 = 8; less 1 on second floor = 7) and 4 toilets for men (400/100 = 4, of which 50% could be urinals).

In lieu of providing separate facilities for each sex in the basement, the city proposes to provide gender-neutral restrooms with 6 water closets in one room and 5 water closets in the other room to meet the total of 11 water closets on this floor level. The stalls will be individualized

P.O. Box 750089 Arlington MA 02475 617.876.7611 voice 617.876.6420 fax

Variance Application to Plumbing Board

Variance Request for Old Town Hall 32 Derby Square / Salem MA 01970 March 22, 2022 Page 2

and private while the lavatories will be common. In the larger of the two restrooms, two fullsized accessible stalls will be provided, one of which will include an adult-sized changing table and lavatory within the stall. Each restroom will include common lavatories and additional changing tables as illustrated in the attached floor plans. No urinals will be substituted for water closets so that any occupant can choose to use any private stall. A summary of the fixture counts relative to Table 1 and this variance request is as follows:

	Water Closets		Lava	tories
	Min. Req'd	Provided	Min. Reg'd	Provided
400	8	See Notes &	2	See Notes 8
FEMALES	(1 per 50)	Totals Below	(1 per 200)	Totals Below
	WC + Urinals (50/50)		Lavatories	
	Min. Reg'd	Provided	Min. Req'd	Provided
400	4	See Notes &	2	See Notes &
MALES	(1 per 100)	Totals Below	(1 per 200)	Totals Below
TOTAL	12	12	4	12
800	12	12	4	8
ALL-GENDER	(1 per 75)	(1 per 67)	(1 per 200)	(1 per 100)

NOTES:

Use Group & Fixture Count per Assembly A-3 "Hall" per 248 CMR 10.10(18) Table 1.
 Multi-fixture, gender-neutral variance from 248 CMR 10.10(18)(b)1.b and (i)1.
 Multi-fixture restrooms to have private water closet stalls and common lavatories.

Distribution of gender-neutral restroom facilities proposed as follows:

Basement West: 6 water closets (2 HC); 4 lavs (all HC); 2 HC changing tables (1 adult) Basement East: 5 water closets (1 HC); 3 lavs (all HC); 2 HC changing tables Second Floor: 1 HC water closet; 1 HC lav; 1 HC changing table

It is interesting to note that the existing basement restrooms reflect the nature of society when they were renovated in 1933. Prior to recent accessibility modifications in each restroom, the 1933 toilets had 4 water closets and 1 lavatory for women while a total of 3 water closets, 5 urinals and 3 lavatories were provided for men. Just as that configuration was a sign of the times reflecting the societal norms of who occupied public facilities, this variance application is a sign of the movement toward gender-neutral inclusive restrooms. The city considers that providing gender-specific restrooms in the Old Town Hall would be a hardship that opposes their ongoing effort of advocating for diversity and non-discrimination, so they respectfully submit this variance application to emphasize that ethos within this significant public facility.

Sincerely,

Donald W. Mills, RA

Attachments:

- Pre-Installation Variance Application (2 pages)
- Existing & Proposed Floor Plans (6 pages)
- Petition to Salem Board of Health (1 page)

Variance Application to Plumbing Board













Subject:	MA Plumbing Board Variance Request for Old Town Hall			
Date:	Tuesday, March 22, 2022 at 12:25:43 Eastern Daylight Time			
From:	Julie Barry			
To:	David Greenbaum			
CC:	Don Mills, 'Karen (REG'			
Attachmen	ts: image001.png, SOTH-220318-basement.pdf			

Good Afternoon David,

I am reaching out to you this morning regarding a variance application we (The City of Salem Planning Department & Mills Whitaker) will be submitting and presenting to the MA State Plumbing Board for the redesign of the Old Town Hall bathrooms as part of its larger renovation and restoration project.

As you may be aware, the City is working with Mills Whitaker Architects (MWA) on a much needed renovation of the Old Town Hall facility. Part of that renovation will involve expansion of the public restrooms in the basement to provide an increased number , more accessible, and safer restroom experience for users of the facility. In keeping with the city's effort to promote inclusion and diversity, we are proposing to provide gender-neutral restrooms with private toilet stalls and common lavatories. Allowing for gender neutral spaces will also enable us to replace gender specific urinals and install 11 new discrete and individual toilet stalls, 3 of which will be fully ADA accessible and one will offer an adult size changing table. Providing private toilet stalls will meet the intent of the code of separate facilities for each sex and having undesignated restrooms will meet the effort of the city for non-discrimination and affirmation of all persons. The project will also retain the existing single-user gender-neutral restroom on the second floor. We believe that this set up will better serve the constituents of this facility given the nature of its use.

As part of the design and permitting process, we are submitting a variance application today to the Plumbing Board to request relief from the provision of separate facilities for men and women. Attached here is a sketch of the current floor plan of the basement level restrooms and the preliminary drawings for this redesi gn for your review and reference. I am asking Don Mills with MWA, by way of this message to also forward all of our applications materials for our State Variance over to you so you can review those as well if you wish. I am also copying Karen Brann from the State, who was our contact at the State on the Artists' Row project variance request last year, on this message so she is aware of this notification.

We respectfully petition the Salem Board of Health to support this variance request. Please let me know if you have any questions or concerns. I would welcome the opportunity to talk with you about this proposed plan and explain our goals a bit more if that would be helpful.

Thank you for your time and consideration.

My Best,

Julie

Julie Barry Senior Planner, Arts & Culture City of Salem | Department of Planning & Community Development 98 Washington St., 2nd Floor | Salem, MA 01970 978-619-5685 ext. 42506 | jbarry@salem.com

Email Notification to Salem Board of Health



CHARLES D. BAKER

KARYN E. POLITO

MIKE KENNEALY SECRETARY OF HOUSING AND ECONOMIC DEVELOPMENT Commonwealth of Massachusetts Division of Occupational Licensure 1000 Washington Street, Suite 710 Boston, Massachusetts 02118 EDWARD A. PALLESCHI UNDERSECRETARY OF CONSUMER AFFAIRS AND BUSINESS REGULATION

LAYLA R. D'EMILIA COMMISSIONER, DIVISION OF OCCUPATIONAL LICENSURE

BOARD OF STATE EXAMINERS OF PLUMBERS AND GAS FITTERS

APRIL 6, 2022 BOARD MEETING

AGENDA

Board of State Examiners of Plumbers and Gas Fitters requires your presence at a remote Board meeting on Wednesday, April 6, 2022, starting at 9:00 a.m.

In accordance with the provisions of G.L. c. 30A § 20, notice is hereby given that the Board of State Examiners of Plumbers and Gas Fitters will convene a regular monthly meeting via telephone/video conference:

Microsoft Teams meeting

Join on your computer or mobile app <u>Click here to join the meeting</u> Or call in (audio only) <u>+1 857-327-9245.612083634#</u> United States, Boston Phone Conference ID: 612 083 634# <u>Find a local number | Reset PIN</u> <u>Learn More | Meeting options</u>

It is anticipated that the topics shown below will be discussed at the aforementioned meeting:

TELEPHONE: (617) 701-8600

FAX: (617) 701-8652

TTY/TDD: (617) 701-8645 ht

http://www.mass.gov/dpl

Agenda Notification for Public Hearing

Member and Staff Attendance

MEMBERS	APPOINTMENT	PRESENT	ABSENT
Mr. Joseph McNamee	Member, Master Gas Fitter		
Mr. Harold Knight	Member, Journeyman Plumber		
Mr. John Cruz	Member, LP Installer		
Mr. Bahig A. Kaldas, P. E.	Member, Plumbing Engineer		
Mr. Joseph V. Waskiewicz	Member, Master Plumber		
Mr. Wayne Thomas	Member Journeyman Gasfitter		
Ms. Ruth Alfasso	Member, Dept. of Public Health		
Ms. Sarah Badway	Public Member		
Mr. Dan Kilburn	Member, DOL Designee		
STAFF			
Mr. Charles Kilb	Board Legal Counsel		
Ms. Karen Brann	Board Executive Director		
Mr. Christopher Ryan	Board Code Consultant		
Mr. Taylor Roth	State Plumbing Investigator		
Mr. Scott Padden	State Plumbing Investigator		
Mr. Fredrick Lima	State Plumbing Investigator		
Mr. James O'Reilly	State Plumbing Investigator		

9:00 A.M. AGENDA REVIEW: By Chairman Joseph McNamee

APPROVAL OF PREVIOUS MEETING MINUTES

Board Meeting Minutes February 2, 2022 February 2, 2022 – Executive Session March 5, 2022 – PHCC Trade Show Minutes

Discussion

Clivas Multrum - Discussion of use of PVC in a previously approved/accepted product

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Agenda Notification for Public Hearing

22-PV-235 76 BURGESS AVENUE WESTWOOD - Post Variance

The Petitioner (Mark Shahood, Jr. from Mark Shahood Plumbing) is seeking a variance from 248 CMR, Section 10.08, to eliminate the vent in a sink that was installed on a dump trap years ago. The Petitioner's company was hired to put in a new master bathroom on a new addition to a house. While working on the project, the contractor asked the petitioner to move a sink in an existing bathroom. The sink was removed, drain and water pipes moved, and the existing sink was reinstalled. When the bathroom was remodeled in the past, a drum trap was used on the sink. This work was not done by the Petitioner. The above attic is not accessible. When the bathroom was renovated years ago the entire attic was filled with spray foam insulation. In order to install a vent on this sink a major renovation would need to be done including removing tile, sheetrock and plaster ceiling and all the spray foam insulation. In order to do the installation differently the entire bathroom would need to be completely gutted. The local Board of Health has been notified.

22-PV-236-CITY OF NEWBURYPORT 24 MERRIMAC STREET NEWBURYPORT

The Petitioner (Andrew Port for the City of Newburyport) is seeking a variance from 248 CMR 10.10 (18)(b)(1) for approval of a full gender neutral restroom space in a building that also contains a small visitor center. This facility would have 8 toilets inside individual full height stalls and 4 lavatories that are open and sharded in the room. There will be 2 separate family rooms each with 1 toilet and 1 lavatory. The local Board of Health has been notified

22-PV-249 BURGER KING 716 COUNTY STREET TAUNTON

The Petitioner (Alex Lerner from ADP Engineering and Architecture) is seeking a variance from 248 CMR 5.10 (17) and 10.12.9 for a gas valve that is electrically operated, not mechanically as required in 248 CMR 5.10 (17) and 10.12.9. The system will not work with a mechanical gas valve. The hood system has been Underwriters Laboratories (UL) listed and as a system meets the requirements of the code. The local Board of Health has been notified.

22-PV-250 CITY OF SALEM (FOR ARTS AND CULTURE) 32 DERBY SQUARE SALEM

The Petitioner (Donald Mills from Mills Whitaker Architects, LLC) is seeking a variance from 248 CMR 10.10 (18)(b)1.b and 10.10 (18) (b) (i)1, for the installation of multi-fixture, genderneutral restrooms in the basement of the Old Town Hall, as part of an expansion of facilities to meet proposed occupancy loads. The city proposes to provide gender-neutral restrooms with 6 water closest in one room and 5 water closets in the other room to meet the total of 11 water closets on this floor level. 10.10 (18) (b) (i)1 The local Board of Health has been notified.

22-PV-251 BOSTON CITY HALL AND PLAZA RENOVATION ONE CITY HALL SQUARE BOSTON

The Petitioner (Steven Engler from Sasaki Associates) is seeking a variance from 248 CMR 10.09 (1) (a) and (1) (b) 3.a, from requiring interceptor separators designed in accordance with 248 CMR 10.22 Figure 15, due to the use of a Department of Environmental Protection approved stormwater treatment system outside of the building. Boston Inspectional Services has been notified.

Agenda Notification for Public Hearing

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<u>Notes from Plumbing Variance Hearing 22-PV-250</u> Prepared by Mills Whitaker Architects LLC / 06 April 2022

The Board denied the request for gender-neutral multi-fixture toilet rooms in the basement. Prior to the final vote on the variance, the Architect proposed a revision to allow for a reduction in the number of toilets that would be required for gender-specific toilet rooms to preserve the layout and quantities as shown while designating one multi-fixture restroom in the basement for men (5 toilets, 3 lavs), one multi-fixture restroom in the basement for women (5 toilets, 3 lavs), and one gender-neutral restroom in the basement with an adult size changing table for equal access. The single-user gender-neutral restrooms in the basement and on the second floor would both be attributed to women for the sake of toilet fixture requirements. This modification reduced the number of toilets designated exclusively to women in the facility by one water closet as compared to occupant load while maintaining the provision of 12 water closets overall. The Board approved this revision.

Total Occupant Load of 800 persons / 50% of each gender 400 Men require 1 water closet per 100: 4 required / 5 provided 400 Women require 1 water closet per 50: 8 required / 7 provided (incl. 2 unisex)

The project design will still provide full height privacy partitions in the multi-fixture restrooms to preserve the option of converting them to gender-neutral in the future if the plumbing code changes to follow the emerging national trend.

The Design Development drawings reflect the variance decision as noted above.

Update for Design Development Report

The Architect and the City repeatedly sought a written record of the variance decision from the April 6 meeting. Due to staffing changes and administrative difficulties, no final records have yet been obtained. The Architect submitted two Public Records Requests for the minutes and for the decision and received copies of both drafts in late October 2022. The draft minutes and decision differed in content, and neither document accurately reflected what transpired at the hearing. The Architect was able to speak with Chris Ryan, code consultant for the Plumbing Board, who attended the hearing and agreed that the minutes have been corrected to reflect the discussion and those minutes will be voted on for ratification at the next Board Meeting on December 7, 2022. The variance decision letter will also be corrected, but neither of those documents were ready as of the publication date of this DD Report.

Notes from Plumbing Variance Hearing



SRA Agenda Notification for Public Hearing

- O Derby Square: Small Project Review Review of DRB Recommendation for the renovation and historic restoration of Old Town Hall.
- 28 Federal Street: Small Project Review Review of DRB Recommendation for the installation of ductless A/C units with associated conduit and consideration of SRA Pre-Approval for future installation of ductless A/C units.
- 43 Church Street: Small Project Review Construction of a one-story addition on the rear of the building to extend the restaurant's dining area. A portion of the proposed addition is located on land owned by the Salem Redevelopment Authority, continued from 5/11/22.
- 5. 73 Lafayette Street and 9 Peabody Street: Schematic Design Review Review of DRB Recommendation for the demolition of existing building at 73 Lafayette Street and construction of new, mixed-use structure with 35,000 square feet for the North Shore Health Center, pharmacy, and urgent care facility and for income-restricted senior housing residential units. Construction of a new mixed-use structure on 9 Peabody Street with income-restricted senior housing residential units, commercial and gallery space.
- 252 Bridge Street and 32-34 Federal Street: Final Design Review The Exchange Salem Part 1: Redevelopment
 of 252 Bridge Street, the 'Crescent Lot' into a six-story mixed use building with approximately 7,325 square feet of
 commercial space, up to 120 residential units that will be offered at varying levels of affordability, creation of
 public spaces, and site improvements.

New/Old Business

- 1. Redevelopment of the Historic Courthouses and the Crescent Lot: Update on Project Status
- 2. SRA By-Law Review: Project Update, Discussion, and Vote on By-Laws
- 3. Remote Participation Policy
- 4. SRA Financials

Approval of Minutes

- 1. April 13, 2022
- 2. May 11, 2022

Upcoming Meetings

- 1. DRB: June 22
- 2. SRA: July 13

Adjournment

Adjournment of Regular Meeting

Know your rights under the Open Meeting Law M.G.L. c. 39 §23B and City Ordinance Sections 2-028 through 2-2033.

Persons requiring auxiliary aids and services for effective communication such as sign language interpreter, an assistive listening device, or print material in digital format or a reasonable modification in programs, services, policies, or activities, may contact the City of Salem ADA Coordinator as soon as possible and no less than 2 business days before the meeting, program, or event.

SRA Agenda Notification for Public Hearing



Design Review Board Recommendation

Small Project Review - SRA-22-1

Address of Project: 0 DERBY SQUARE

Meeting Date: May 25, 2022

Members Present: Paul Durand, David Jaquith, Catherine Miller, Marc Perras, Helen Sides, J. Michael Sullivan Members Absent: Glenn Kennedy

Decision: To recommend approval of the project as presented and conditioned herein.

Referenced Plans and Documents:

- Existing Elevations, Existing Site Plan, Proposed Elevations, and Proposed Site Plan, prepared by Mills Whitaker Architects LLC, PO Box 750089, Arlington, MA 02475, dated May 6, 2022.

DRB Presentation, prepared by Mills Whitaker Architects LLC, PO Box 750089, Arlington, MA 02475, presented to the Board on May 25, 2022.

A series of existing conditions photographs submitted by Mills Whitaker Architects LLC, PO Box 750089, Arlington, MA 02475, submitted on March 10, 2022.

Conditions of Approval:

- <u>Consistency with Approved Design/Plans</u>: Should the applicant determine that the project may not be completed as presented and conditioned herein, he/she/they shall return to the DRB to review proposed modifications prior to making any changes in the field.

- <u>Ramp Safety</u>: The applicant may consider adding a gate to both sides of the proposed accessible ramp so that this access is closed when the building is not in use. This ramp may not deter all individuals from accessing the sub-grade area, but it will provide a visual cue that the area is not for recreation and it will provide a physical barrier from accidently stumbling down the ramp or the stairs.

<u>Design Details</u>: The applicant shall return for additional design review when finishes, materials, and the like are identified for the exterior elements and the proposed access ramp. The applicant should ensure that the proposed railings match existing ones and that the transition of the to-be-exposed foundation with the above-grade façade treatments at the ramp area is addressed with care.

Findings:

- The members found the proposed in-kind repairs to the building's exterior elements are consistent with design standards and requirements for historic buildings.

The proposed ramp and accompanying stairwell that creates a second means of egress into the building via its basement is the optimal design to preserve the overall look and character of the building and its place in Derby Square.

Design Review Board Recommendation to SRA

SRA-22-1
































SALEM REDEVELOPMENT AUTHORITY REVIEW

Exterior Work subject to "Small Project Review" by the Salem Redevelopment Authority includes:

Widen Walkway at Accessible North Entry by 18" Provide Low Infiltration Exterior Storm Windows Flush Manhole Cover for Test GSHP Borehole (al Preservation and Repairs to Ventilating Cupola Provide Accessible Ramp & Stairs to Basement Rehabilitate Exterior Lantern Lights at Facades Remove Five Abandoned Louvers & Infill Brick ♦ In-Kind Repairs to Exterior Masonry Materials for Accessible Entrance via NE & NW Corners Selective Repairs to Brick & Concrete Paving other boreholes subsurface and not visible) In-Kind Repairs to Copperwork at Cornices Entrance at East Elevation from SE Corner ♦ ♦ \diamond ♦ ♦ ♦ \diamond ♦ ♦

Presentation Slides to SRA at Public Hearing

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Salem Redevelopment Authority













MASSACHUSETTS ARCHITECTURAL ACCESS BOARD:

his project triggers the need for full compliance with require documentation to show that the cost of full compliance is excessive as compared to the benefit current regulations (521 CMR). Variance requests given to the potential loss of historic significance. gained for the disabled. Special consideration is

VARIANCE REQUEST & ALTERNATIVE ENTRANCE:

facade will be improved and be made fully accessible. Making the Front Street entrance(s) accessible at the Current regulations require all public entrances to be esources and is not recommended. An alternative accessible entrance into the basement is proposed accessible. The Essex Street entrance at the north south facade would permanently disrupt historic for minimal disruption and maximum benefit.

Presentation Slides to SRA at Public Hearing



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Decision

Small Project Review - SRA-22-1

Address of Project: 0 DERBY SQUARE

Meeting Date: June 8, 2022 Members Present: Grace Napolitano, Chair, David Guarino, Christine Madore, Cynthia Nina-Soto, Dean Rubin Members Absent; None Decision: To approve this project as designed and conditioned herein.

Referenced Plans and Documents:

Salem Redevelopment

Authority

- Existing Elevations, Existing Site Plan, Proposed Elevations, and Proposed Site Plan, prepared by Mills Whitaker Architects LLC, PO Box 750089, Arlington, MA 02475, dated May 6, 2022.

DRB Presentation, prepared by Mills Whitaker Architects LLC, PO Box 750089, Arlington, MA 02475, presented to the Board on May 25, 2022. A series of existing conditions photographs submitted by Mills Whitaker Architects LLC, PO Box 750089, Arlington, MA 02475, submitted on March 10, 2022.

Conditions of Approval:

- Validity of Approval: This approval is valid for two years from the date of the meeting. The approval shall no longer be valid if a substantial use and/or construction has not commenced except for good cause within this two-year period.

- Consistency with Approved Design/Plans: Should the applicant determine that the project may not be completed as presented and conditioned herein, he/she/they shall return to the SRA to review proposed modifications prior to making any changes in the field.

- <u>Vehicular Navigation at East Façade</u>: The applicant shall consult with the City of Salem Traffic and Parking Department to explore what, if any, safety measures need to be implemented to protect the integrity of the proposed ramp at the east façade. <u>Ramp Safety</u>: The applicant may consider adding a gate to both sides of the proposed accessible ramp so that this access is closed when the

<u>Ramp Safety</u>: The applicant may consider adding a gate to both sides of the proposed accessible ramp so that this access is closed when the building is not in use. This ramp may not deter all individuals from accessing the sub-grade area, but it will provide a visual cue that the area is not for recreation and it will provide a physical barrier from accidently stumbling down the ramp or the stairs.

Design Details: The applicant shall return for additional design review when finishes, materials, and the like are identified for the exterior elements and the proposed access ramp. The applicant should ensure that the proposed railings match existing ones and that the transition of the to-beexposed foundation with the above-grade façade treatments at the ramp area is addressed with care.

Findings:

- The SRA, a body duly established and responsible for overseeing all the duties as prescribed by M.G.L. 121B and in Salem's Downtown Renewal Plan, and having jurisdiction over proposed changes to the exterior facades of all buildings in the Downtown Renewal Area, finds that this project to restore and rehabilitate a significant historic structure is appropriate and consistent with the goals and standards in the Downtown Renewal Plan. Members support the proposed ramp and accompanying stairwell that creates a second means of accessible egress into the building via its basement and find that it is the optimal design to preserve the overall look and character of the building and its place in Derby Square.

Signature of the SRA: By the signature below, I certify that this recommendation accurately reflects the actions of the Salem Redevelopment Authority Board.

Tom Daniel, AICP, Executive Director

Date Signed: June 9, 2022

SRA-22-1

SRA Decision for Small Project Review



3.	The	completed	and	signed	Service	Notice.
•••		oomprotou		orginou	0011100	

- 4. A check or money order in the amount of \$50 dollars, made out to the Commonwealth of Massachusetts.
- ii. Please ensure that all documents included are no larger than 11" x 17".
- iii. Incomplete applications will be returned via regular mail to the applicant with an explanation as why it was unable to be docketed.

In accordance with M.G.L., c.22, § 13A, I hereby apply for modification of or substitution for the rules and regulations of the Architectural Access Board as they apply to the building/facility described below on the grounds that literal compliance with the Board's regulations is impracticable in my case.

State the name and address of the building/facility:

Old Town Hall 32 Derby Square (aka "0 Derby Square") Salem MA 01970

2. State the name and address of the <u>owner</u> of the building/facility:

City of Salem 93 Washington Street Salem MA 01970

E-mail: jbarry@salem.com

Telephone:

3. Describe the facility (i.e. number of floors, type of functions, use, etc.):

978-745-9595 ext. 42506

1816 historic brick building 40' by 100' on three floor levels of 4,000 GSF each: basement, first and second floors. Originally constructed as the Market House (basement &1st floors) and Town Hall (2nd floor). A major renovation of the facility was undertaken in 1933 when the market stalls were removed and the building was converted fully to municipal use. Over the last several decades, the Old Town Hall has been serving as a local hub for arts and culture. The first and second floors are used as gallery space and event space respectively, while the basement level will provide public restrooms, classroom space, catering pantry, storage areas, mechanical spaces and building support facilities. (see attached)

Page 2 of 9

Rev, 9/21

Application for Accessibility Variances from 521 CMR

	Per floor:
	a. Total square footage of tenant space (if applicable): Not Applicable
5.	What was the original year of construction for the building/facility:1816?
ô .	Check the nature of the work performed or to be performed:
	New Construction
	Reconstruction/Remodeling/Alteration Change of Use
7.	Briefly describe the extent and nature of the work performed or to be performed (use additional sheets if necessary):
im wo wit ca Ac	provements, fire suppression system, and in-kind exterior repairs. Basement ork includes replacing public restrooms, providing a multi-purpose classroom th accessible art sink, removing municipal document storage, and providing a tering pantry with accessible fixtures for event support. cessibility improvements include bringing the existing public entrance into full mpliance, providing a second accessible entrance to the basement level
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	Boston, MA 0	2125.				.,	
9.	Which section(s been triggered?	s) of the Board	's Jurisdiction	n (see Section	n 3 of the Board'	's Regulations) has	8
	2,6	3.2	3.3.1(a)	3.3.1(b)	3.3.2	1 3.4	
10.	List <u>all</u> building issue date and	permits that hat hat hat hat hat hat hat hat ha	ave been app e of the work	olied for with performed:	in the past 36 n	nonths, include t	he
	Permit # None	Date of	Issuance		<u>Value o</u>	of Work	_
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12	Has a certificate	of occupancy	/ been issuer	t for the facil	itv? OYes	ONg	
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Request #4	Types of Attachments for this Request:
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The original two municipal offices on the Second Flo appear to be well preserved and intact. Each office	bor adjacent to the Great Hall has a fireplace with brick hearth, dating from 1816. Each mantel the finished floor. It is our bible route or maneuvering figure 20c. In case our opinion is
painted wood surround and projecting wood mantel projects 7 3/4" from the wall at a height of 49" above opinion that these mantels are not part of an access clearance as defined by 521 CMR 20.6, 20.6.1 and inaccurate, we request a variance from 20.6 "protru mantels to remain intact. Modifying these mantels w and the cost of \$11,000 is excessive as compared to persons with disabilities.	ould result in loss of historic fabric o the benefit gained for those

A	equire more than 4 requests, please use the <i>Additional Request Sheet</i> and he <i>Large Variance Tally Sheet</i> , both of which are available on the "Forms and pplications" page of the Board's website (<u>http://www.mass.gov/aab</u>).
17. State the the indivi	name and address of the architectural or engineering firm, including the name of dual architect or engineer responsible for preparing drawings of the facility:
Mills Wh Donald V PO Box Arlington	taker Architects LLC V. Mills, RA 750089 MA 02475
E-mail:	donmills@millswhitaker.com
Telephone	617-283-5377
E-mail:	tstpierre@salem.com
-	tstpierre@salem.com
E-mail:	978-619-5640
Telephone:	
Telephone:	
I DECLARE UNDER THE PENALTY OF PERJURY THAT THE INFORMATION PROVIDED IN THIS APPLICATION AND SUPPORTING DOCUMENTATION IS TRUE AND CORRECT

Date: 6/10/22

Signature of owner or authorized agent (required)

PLEASE PRINT:

Donald W. Mills, RA

Name

Mills Whitaker Architects LLC

Organization (If Applicable) PO Box 750089

Address

Address 2 (optional) Arlington MA 02475

City/Town State Zip Code donmills@millswhitaker.com

E-mail 617-283-5377

Telephone

Page 8 of 9

Rev, 9/21

Application for Accessibility Variances from 521 CMR

SERVICE NOTICE

I, Donald W. Mills

(Name)

as______(Architect)

HEREBY CERTIFY UNDER THE PAINS AND PENALTIES OF PERJURY THAT I SERVED OR CAUSED TO BE SERVED, A COPY OF THIS VARIANCE APPLICATION ON THE FOLLOWING PERSON(S) IN THE FOLLOWING MANNER:

NAME A	AND ADDRESS OF PERSON OR AGENCY SERVED	METHOD OF SERVICE	DATE OF SERVICE
1 Building Department	Thomas St. Pierre, Building Comm. 98 Washington Street Salem MA 01970	electronic	6/10/22
2 Local Commission on Disability (If Applicable)	Lisa B. Cammarata, ADA Coordinator 98 Washington Street Salem MA 01970	electronic	6/10/22
3 Independent Living Center	Lisa Orgettas, Disability Resource Ctr 27 Congress Street, Suite 107 Salem MA 01970	electronic	6/10/22

10 June 2022

Signature

Date

Page 9 of 9

Rev, 9/21

Application for Accessibility Variances from 521 CMR

MILLS WHITAKER ARCHITECTS

ARLINGTON MA www.milliwhiteker.com BRIDGTOH ME

10 June 2022

Ms. Brona Simon, SHPO & Executive Director Massachusetts Historical Commission 220 Morrissey Boulevard Boston, MA 02125

RE: OLD TOWN HALL Renovations / 32 Derby Square (aka "O Derby Sq") / Salem MA Accessibility Variance to Massachusetts Architectural Access Board The Americans with Disabilities Act Consultation Process Form

Dear Ms. Simon,

Enclosed please find an ADA Consultation Form and the accompanying variance application to the Massachusetts Architectural Access Board for the Old Town Hall in Salem. This significant 1816 Federal style building was originally constructed as a mixed use "market house" and "town hall" in the heart of Salem. In 1933, it was renovated for municipal use as part of an extensive Public Works Administration funded project, saving it from probable demolition at that time. For the last several decades, the facility has served as a local hub for culture and the arts. The City of Salem's proposed preservation of this significant historic facility is in the early stages of design development and the project requires selected variances from current accessibility regulations 521 CMR.

Of particular importance for preservation of the character and integrity of this facility is preservation of its south façade. In 1816, this façade had a total of five entrances, three of which still survive to this day. The two missing entrances provided doors into the basement, each of which were located between stairs leading up to first floor entrances. The basement entrances were removed in 1933 when the market house use was removed from the building. The three first floor entrances and their respective granite stairs tell an important story about the original configuration and use of the facility. The larger central set of stairs and double doors originally led only to the first floor colonnade to serve its market stalls. The smaller sets of stairs and single doors at the southeast and southwest corners led to twin stairs to the town hall at the second floor. Since 1933, the north entrance has been the public entrance to the building and the south entrances have served primarily as exits.

Under current 521 CMR regulations, all public entrances must be accessible entrances. While the south entrances are primarily exits, we do not recommend designating them solely as exits since that would reduce flexibility of use and require permanent removal of all exterior operating hardware. Instead, we are requesting a variance and proposing an alternative accessible entrance into the basement that will allow for several functional improvements to the facility without modification of the south facade entrances.

P.O. Box 750089 Arlington MA 02475 617.876.7611 voice 617.876.6420 fax

ADA Consultation Process to Massachusetts Historical Commission

Old Town Hall in Salem ADA Consultation Form 10 June 2022 Page 2

The alternative to providing an accessible public entrance on the south façade is the result of working closely with local commissions and boards to appropriately address the overlapping concerns of preserving historical integrity and improving accessibility.

We understand that this project will require subsequent reviews by MHC prior to having full approval for implementation, notably due to its preservation restriction and the need for a Project Notification Form, so this submission is limited to a requested review for determination of no adverse effect related to the proposed accessibility solutions. We have been working with the Salem Redevelopment Authority's Design Review Board, Historical Commission, and Commission on Disabilities to prepare this variance application. Since this facility is not in a local historic district, project approval falls under the purview of the Salem Redevelopment Authority. We received SRA's approval this week and have enclosed their decision herein.

We will be meeting with the Salem Commission on Disabilities and Historical Commission on June 21 and 22 respectively to review the accessibility solutions. The content of this application will not be a surprise to them, but we have not reviewed this final iteration with those full commissions. We will provide you with a record of review comments from each of those meetings on June 23 for your records.

We certainly hope that MHC will be able to forward an opinion on the application prior to the MAAB's meeting of June 27 when it could be reviewed as an incoming case. Please contact me directly if you require any additional information or clarification.

Sincerely

Donald W. Mills, RA, LEED AP www.millswhitaker.com

Attachments:

Salem Redevelopment Authority Decision / 8 June 2022 (1 page) ADA Consultation Process Form / 9 June 2022 (2 pages) Application for a Variance / 10 June 2022 (9 pages) Attachment of Supplemental Materials / 10 June 2022 (56 pages)

Copies to:

William Joyce, Executive Director / Massachusetts Architectural Access Board Joshua Dorin, Preservation Planner / Massachusetts Historical Commission Patricia Kelleher, Executive Director / Salem Historical Commission Julie Barry, Sr. Arts & Culture Planner / Salem Planning & Community Development Service Notice Recipients (3 Agencies per page 9 Affidavit of Variance Application)

ADA Consultation Process to Massachusetts Historical Commission

Massaci The Americ	The Commonwealth of Mass William Francis Galvin, Secretary of the Consecutive Sector Sector Commission - State Histor	sachusetts Commonwealth oric Preservation Office
Name of Property:	Old Town Hall	initiation i rocciss rorm
Address of Property: Street:	32 Derby Square	
City:	Salem County: Essex State:	MA Zip: 01970
Located in registered histo Located in registered histo Listed in State Register of Eligible for listing (prepar Project Contact: Name: Don Mills / Mills Whi Street: PO Box 750089	Diric district (specify Old Town Hall (Nat'l) Historic Places e and submit MHC inventory form, attach taker Architects LLCCity:Daytime Telephone Number:	Date of Listing
State: <u>MA</u> Zip: 02475 Property Owner:		
State: <u>MA</u> Zip: 02475 Property Owner: Name: <u>City of Salem / Kimb</u>	erly Driscoll, Mayor	
State: MA Zip: 02475 Property Owner: Name: City of Salem / Kimb Street: 93 Washington Street	erly Driscoll, MayorCity:	Salem
State: MA Zip: 02475 Property Owner: Name: City of Salem / Kimb Street: 93 Washington Street State: MA Zip: 01970 Signature: WW	erly Driscoll, Mayor etCity: Daytime Telephone Number:	Salem 978-619-5600

Name:	Thomas St. Pierre / Inspectional Services Director						
Organization:	City of Salem Building Department						
Street:	93 Washington StreetCity:	Salem					
State: MA	Zip: Daytime Telephone Number:	978-619-5642					
Signature:	5 roms forthem						
Attach comme	ents to form.						
Consultatio	n with local historical commission						
Name:	Patricia Kelleher / Salem Preservation Planner						
Organization:	Salem Historical Commission						
Street:	98 Washington Street City:	Salem					
State: MA	Zip: 01970 Davtime Telephone Number:	978-619-5685					
Attach comm	ente ta farmi						
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The Commonwealth of Massachusetts

William Francis Galvin, Secretary of the Commonwealth Massachusetts Historical Commission

July 29, 2022 William Joyce

Executive Director Massachusetts Architectural Access Board 1000 Washington Street, Suite 710 Boston, MA 02118

RE: Salem Old Town Hall, 32 Derby Square, Salem, MA; MHC# RC.55561

Dear Mr. Joyce:

The Massachusetts Historical Commission (MHC) is in receipt of information from Mills Whitaker Architects regarding the project referenced above, received on June 10, 2022 and June 27, 2022. The staff of the MHC has reviewed the information submitted and has the following comments.

The City of Salem proposes to improve accessibility at Salem Old Town Hall at 32 Derby Square. This work includes bringing the main public entrance into full compliance, the construction of a fully accessible side entrance, and numerous improvements to interior accessibility.

Review of the MHC's Inventory of Historic and Archaeological Assets of the Commonwealth indicates that Salem Old Town Hall (SAL.2496) is listed in the National Register of Historic Places as a contributing element of the Old Town Hall Historic District (SAL.HV). Built in 1816, Salem Old Town Hall is a remarkably well-preserved example of Federal architecture. The interior and exterior of the building are mostly unaltered in design and materiality, greatly enhancing the architectural and historical significance of this building.

The MHC supports the City of Salem's proposed plan. If granted, MAAB variances would allow the project to reach a level of compliance without removal or alteration of historic features and significant changes to the historic interior and exterior. The MHC understands that the Salem Commission on Disabilities and Salem Historical Commission also support this project.

The MHC believes that if MAAB variances are not granted, modifications to the historic south elevation, exterior and interior stairs, and the Great Hall, would significantly compromise the integrity of the historic building. The exterior and interior of Salem Old Town Hall retain a significant amount of original materials and historic features.

The proposed project will have "no adverse effect" (950 CMR 71:07(2)(b)(2)) on Salem Old Town Hall. The MHC respectfully requests that the Massachusetts Architectural Access Board grant the variance requests.

The proposed project is also subject to review by MHC in accordance with the preservation restriction (M.G.L. Chapter 184, Sections 31-33) held by the MHC. The active preservation restriction agreement entitles the MHC review and approval authority prior to implementation of any major alterations to the property. Under the terms of the preservation restriction agreement, the MHC is agreeable to the scope of the proposed project.

Your consideration of this matter is greatly appreciated. Please do not hesitate to contact Joshua Dorin of my staff if you have any questions.

Sincerely,

Brona Simon State Historic Preservation Officer Executive Director Massachusetts Historical Commission

Don Mills, Mills Whitaker Architects xc: Salem Commission on Disabilities Salem Historical Commission Historie Salem

220 Morrissey Boulevard, Boston, Massachusetts 02125 (617) 727-8470 · Fax: (617) 727-5128 www.sec.state.ma.us/mhc

ADA Consultation Process to Massachusetts Historical Commission

CHARLES D. BAKER		BAKER			EDWARD A. PALLESCHI GRUBISECHET AM GEOGRASIANE AM AIKS AND RUSINESS LEGULATIO		
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MIKE KENNEALY Sected N.º GENEUGINE AND ECONOMIC DEVELOTMENT		EA LY Ising And Attent	Office of Public Safety and Inspections Architectural Access Board 1000 Washington St., Suite 710 Boston MA 02118 V:617-727-0660 www.mass.gov/aab Fax:617-979-5459			WILLIAM JOYCE EXECUTIONINECTOR ANOTHECTURE ACCESS BOARD	
			NOTICE OF	ACTION De	ocket Numb	oer V 22 107	
RE	: Old Town H	all, 32	Derby Square 🔍 Salem				
1)n June 10, 202 his application At that meeting	2 the Arc and all a , the Boa	hitectural Access Board rece tached documentation were d voted as follows:	eived an application sub e reviewed by the Boar	omitted by d on June 3	Donald W. Mills, RA 27, 2022 .	
1	Section			Result			
1	25,1& 24,3	SCHEDULE a hearing for this request. See attached Notice of Hearing.					
2	26.10	G RANTED as proposed for the three second floor doors indicated in the plans provided with Petitioner's application .					
3	27.3	SCHED	CHEDULE a hearing for this request. See attached Notice of Hearing.				
4	20.6.1	SCHED	JLE a hearing for this reques	t. See atrach ed Notice	of Hearing.		
ľ	PLEASE NOT	E: All doc met mus	umentation (written and vis the submitted to the AAB Q	wal) verifying that the ffice as soon as the rec	conditions	of the variance. is completed.	
0	Any person agg 30 days of rec ays, a request)	rieved hy eipt of th for an adj	the above decision may req is decision by filing the attac udicatory hearing is not rece the appeal process is th	uest an adjudicatary he hed request for an adju lived, the above decisia hrough Superior Court	aring befar plicatory he n becames	e the Board within earing. If after 30 a final decision and	
Da	nte: June 28, 20	22		Dawn	r warnel	le wit	
cc: Local Disability Commission Local Building Inspector Independent Living Center			ission or niter	Chairperson ARCHITECT	URAL ACCE	SS BOARD	

CHARLES D. BAKER GOVERNOR

KARYN E. POLITO LIEUTENANT GOVERNOR

MIKE KENNEALY SECRETARY OF HOUSING AND ECONOMIC DEVELOPMENT



Commonwealth of Massachusetts Division of Occupational Licensure Office of Public Safety and Inspections Architectural Access Board

1000 Washington St., Suite 710 Boston MA 02118 V: 617-727-0660 www.mass.gov/aab Fax: 617-979-5459

VARIANCE HEARING

EDWARD A. PALLESCHI UNDERSECRETARY OF CONSUMER AFFAIRS AND BUSINESS REGULATION

LAYLA R. D'EMILIA COMMISSIONER, DIVISION OF PROFESSIONAL LICENSURE

WILLIAM JOYCE EXECUTIVE DIRECTOR, ARCHITECTURAL ACCESS BOARD

Docket Number V 22 107

RE: Old Town Hall, 32 Derby Square, Salem

You are hereby notified that an informal adjudicatory hearing before the Architectural Access Board has been scheduled for you to appear on Monday, **August 8, 2022** at **11:00 AM** Remote meeting information will be sent out prior to the hearing date.

This hearing is upon an application for variance filed by: Donald W. Mills, RA for modification of or substitution of the following Rules and Regulations: See Application A copy of the request is available for public inspection during regular business hours.

You should be aware that the burden of proof is upon the applicant requesting a variance to prove that compliance is either: 1. technologically infeasible or; 2. the cost of compliance is excessive without substantial benefit to a person with a disability.

This hearing will be conducted in accordance with the procedures set forth in M.G.L., c. 30A, and 801 CMR 1.02, the Informal/Fair Hearings Rules. At the hearing, each party may be represented by counsel, may present evidence and may cross examine opposing witnesses.

<u>PLEASE NOTE:</u> Requests for the continuance of a hearing must be received no later than fourteen (14) days prior to the scheduled hearing date. Continuances are granted at the Board's discretion only.

ARCHITECTURAL ACCESS BOARD

Down Guarmeller WJ

Chairperson

Date: July 22, 2022

cc: Local Building Inspector Independent Living Center Local Disability Commission

Notification of Variance Hearing







PROPOSED WORK FOR FULL COMPLIANCE

- Improve Accessible North Entrance
- Upgrade Accessible Public Restrooms
 - Provide Wheelchair Access to Stage
 - **Provide Compliant Stair Handrails**
- Upgrade Interior Ramps and Slopes
- **Provide Assistive Listening Systems**
- Upgrade Signage, Controls & Alarms

PROPOSED VARIANCE REQUESTS ♦

- 25.1 + 24.3 Alternative to South Entrance
- 26.10 Taper Great Hall Threshold Transitions
 - 27.3 Retain Interior Stair Nosing Profiles
- 20.6 Retain Historic Fireplace Mantels



3 Massachusetts Architectural Access Board






















































MILLS WHITAKER ARCHITECTS

INTRODUCTION TO 521 CMR VARIANCE REQUESTS:

The project scope triggers need for full compliance with current regulations per 521 CMR 3.3.2 since the cost of the work will exceed 30% of the full and fair cash value of the building.

Variances are requested for the following items:
25.1 + 24.3 / Public Entrances – Alternative South Entrance at East Side into Basement via Ramp
26.10 / Threshold Modifications at Great Hall
27.3 / Stair Nosings – Retain Historic Conditions
20.6 / Protruding Objects – Fireplace Mantels

Presentation Slides from MAAB Variance Hearing

For each request, the applicant believes that full compliance is impracticable due to the excessive cost without substantial benefit to persons with disabilities and the permanent loss of historic fabric.





HISTORIC DESCRIPTION OF THE SOUTH FACADE:

The Old Town Hall was originally the "Market House" on the first floor and basement with the "Town Hall" on the upper level. In 1816, the outer sets of doors on the south facade led to stairs serving the upper Town Hall, the central doors led only to the first floor, and two former entrances led directly into the market stalls of the basement. Three separate sets of stairs tell the historic story of the building's entrances.

521 CMR 25.1 + 24.3 / VARIANCE REQUEST #1

Current regulations require all public entrances to be accessible entrances. Modifying the south facade for accessibility would disrupt historic resources, cost \$850,000, and not provide any substantial benefit to persons of all abilities since the main public entrance is at the north end of the building for all persons.



Presentation Slides from MAAB Variance Hearing

OLD TOWN HALL / SALEM MILLS WHITAKER ARCHITECTS	ch you are seeking relief: 25.1 + 24.3 Cost Estimates, Cost Estimates, Photographs, Test Drawings, Cother(s): Other(s):	u propose to be in compliance by:?	I detail why compliance with the Board's regulations are impracticable (as defined e subject of this request, and attach whatever documents are relevant to support it compliance is impracticable (attach additional pages if necessary, please identify th attachment is in support of):	In the attached, the south entrances are used as lefining as a record of the 1816 original building. Modifying the south defining as a record of the 1816 original building. Modifying the south issible entrances would result in permanent loss of historic fabric. The san alternative accessible entrance to the basement via the east serve the south facade and provide multiple functionality as compared trances (25.1). This proposed entrance provides a ramp with 44" clear to site constraints noted herein (24.3). The cost differential between asement entry and south entrances of \$450,000 is excessive without efit for persons with disabilities and with loss of historic integrity.
	Request #1 Section(s) for wh Are you seeking	If yes, when do y	Please describe 521 CMR 5) for th your argument th which request ea	The north entr exits. As note and character facade for acc project propos elevation to pr to the south er at the rails due the alternate b substantial be

























OLD TOWN HALL / SALEM MILLS WHITAKER ARCHITECTS	LL COMPLIANCE to 521 CMR 25.1 SOUTH ENTRANCES	VISION OF ACCESSIBLE RAMP TO ENTRANCES AT SOUTH FAÇADE	Selective Demolition, Shoring & Excavations for Ramp, Stairs & Landing	Concrete Foundations, Walls & Substrate for Ramp, Stairs & Landing	Granite at Sidewalls, Ramp, Landing, Treads and Risers	Extension of Southern Granite Curbing and Brick Paved Walkway Area	Guards & Dual Height Railings at Ramp; Replicate Railings at Stairs	Auto Door Operators, Repairs & Hardware Upgrades at South Entrances	Reshape Historic Granite Thresholds to Bevel Slope to 1:2 at 1/2" Lips	Subtotal	Gen'l Conditions, G.C.'s OH+P, Contingency, Escalation + A/E Fees	Estimated Project Cost for Full Compliance at South Entrances	Massachusetts Architectural Access Board 45
	COST of FU	25.1: PROV	\$19,800	\$70,200	\$411,000	\$44,400	\$78,600	\$39,600	\$8,400	\$672,000	\$178,000	\$850,000	
	Pre	sentatio	n Slide	es fron	ז MAA	B Vari	iance l	Hearin	g				

المصبا المصاد والمصاد والمصاد والمصاد والمصاد والمصاد والمحاد المحاد والمحاد	OLD TOWN HALL / SALEM MILLS WHITAKER ARCHITECTS	CMR 25.1 OPTION FOR SIDE ENTRANCE RAMP TO BASEMENT	SSIBLE ENTRANCE RAMP AT WEST FAÇADE OF BASEMENT	Selective Demolition, Shoring & Excavations for Ramp, Landing & Stairs	Concrete Foundations, Walls & Substrate for Ramp, Landing & Stairs	Granite Curbing, Sidewalls, Walkway, Landing & Stairs	Repairs, Repointing, and Underpinning at Exposed Foundation Wall	Guardrail and Railings at Curb, Ramp and Stairway	Modify Doorway & Threshold; Provide Auto Operator & Hardware	Site Modifications for Ramp (Paving, Catch Basin, Downpout, Drainage	Subtotal	Gen'l Conditions, G.C.'s OH+P, Contingency, Escalation + A/E Fees	Estimated Project Cost for Accessible Entrance to Basement	Massachusetts Architectural Access Board 46
COST of 521 COST of 521 COST of 521 COST of 521 S21,500 \$47,500 \$47,500 \$47,500 \$42,500 \$35,000 \$12,500 \$12,500 \$25,000 \$25,000 \$25,000 \$25,000 \$212,500 \$200,000 \$12,500 \$210,000 \$240,000 \$200,000		COST of 521	25.1: ACCE	\$21,500	\$47,500	\$95,000	\$36,000	\$42,500	\$12,500	\$35,000	\$290,000	\$110,000	\$400,000	

OLD TOWN HALL / SALEM MILLS WHITAKER ARCHITECTS	RENTIAL of FULL COMPLIANCE to 521 CMR 25.1	/IDE SECOND ACCESSIBLE ENTRANCE AT SOUTH END OF BUILDING	Cost to Provide Accessible South Entrances (Destroys Historic Integrity)	Cost of Alternative Accessible Entrance to Basement at East Facade	Estimated Project Cost for Full Compliance at South Entrances	entrance is the primary public entrance; south is primarily used as exits. accessible south facade entrances permanently destroys historic fabric. accessible basement entrance preserves integrity of the building envelope. accessible basement entrance preserves integrity as compared to south entrances. tentrance provides multiple functionality as compared to south entrances. I alternative entrance approved by the Salem Redevelopment Authority sed by the Salem Commission on Disabilities and Salem Historical Commission. I by the Massachusetts Historical Commission as appropriate and preferred.
	COST DIFFE	25.1: PROV	\$850,000	(\$400,000)	\$450,000	NOTES: 1) The north 2) Providing 3) Providing 4) Basement 5) Proposed and endor 6) Approved
	Pres	sentatio	n Slide	es fron	n MAAE	3 Variance Hearing

City of Salem proposes to improve accessibility at Salem Old Town Hall at 32 Derby Square. This work inclubile entrance into full compliance, the construction of a fully accessible side entrance, and numerous imp ssibility. The MHC's <i>Inventory of Historic and Archaeological Assets of the Commonwealth</i> indicates that Sale to the MHC's <i>Inventory of Historic and Archaeological Assets of the Commonwealth</i> indicates that Sale (TV), Built in 1816, Salem Old Town Hall is a remarkably well-preserved example of Federal architecture. Thy) Built in 1816, Salem Old Town Hall is a remarkably well-preserved example of Federal architecture for of the building are mostly unaltered in design and materiality, greatly enhancing the architectural and his is building. MHC supports the City of Salem's proposed plan. If granted, MAAB variances would allow the project to repliance without removal or alteration of historic features and Signiffeant changes to the historic interior and erstands that the Salem Commission no Disabilities and Salem Historical Commission also support this proje MHC believes that if MAAB variances are not granted, modifications to the historic south elevation, exterior the Great Hall, would significantly component the integrity of the historic building. The exterior and interio the Great Hall, would significant amount of original materials and historic features. MHC believes that if MAAB variances are not granted, modifications to the historic building. The exterior and interior tertain a significant amount of original materials and historic features. MHC believes that for MAB variances are not granted, modifications to the historic building. The exterior and the Great Hall, would significant amount of original materials and historic features. (3) held by the MHC. The active preservation restriction agreement entitles the MHC. The active preservation restriction agreement entation of any major the proposed project.	OLD TOWN HALL / SALEM MILLS WHITAKER ARCHITECTS City of Salem proposes to improve accessibility at Salem Old Town Hall at 32 Derby Square. This work includes bringing the nublic entrance into full compliance, the construction of a fully accessible side entrance, and numerous improvements to interior
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R ARCHITECTS	Types of Attachments for this Request: Floor/Site Plans, Cost Estimates, Photographs, Test Drawings, Other(s):	6	lations are impracticable (as defined in r documents are relevant to support ial pages if necessary, please identify	with 26.10, a variance is nd floor from three areas south existing transitions are 4" long Full compliance would require i significant disruption of the ne transitions with 1:10 sloping no lips to ease the transitions i transition areas. Full s and the cost of \$7,000 is ons with disabilities.
MILLS WHITAKE	st #2 n(s) for which you are seeking relief: 26.10 J seeking temporary relief	when do you propose to be in compliance by:	describe in detail why compliance with the Board's regul AR 5) for the subject of this request, and attach whatever gument that compliance is impracticable (attach addition equest each attachment is in support of):	most thresholds will be modified for compliance sted for 3/4" high flooring transitions at the secor Great Hall. As noted in the attached drawings, 4 /4" high with 3/8" abrupt lips at the lower ends. F ng transitions sloped 1:20 maximum, resulting in unding historic flooring. We propose to replace th olds to meet the adjacent floor levels flush with r reserve historic integrity by avoiding long sloping liance with 26.10 would disrupt historic resources sive as compared to the benefit gained for perso
	Reques Section Are you	If yes, v	Please 521 Clv your an	While reque of the and 3, 15" lo surrou thresh and pi compl exces





OLD TOWN HALL / SALEM MILLS WHITAKER ARCHITECTS	of FULL COMPLIANCE to 521 CMR 26.10 DOOR THRESHOLDS	INCL Remove Three Sets of 4" Long Transitions at Second Floor	2,000 Cut Back Floor Beyond Door Frame into Great Hall & Adjacent Spaces	\$750 Provide 15" Long x 3/4" High 1:20 Sloping Transitions at Second Floor	2,000 Infill Door Jambs and Taper Sides of Transitions to Second Floor	1,750 Subtotal	2,250 Gen'l Conditions, G.C.'s OH+P, Contingency + A/E Fees	7,000 Estimated Cost for Full Compliance of Door Thresholds		he Applicant's belief that the proposed solution protects historic resources.	compliance would create an extended area of transition beyond the wall plane. osed threshold slope similar to curb cut flare but with only 3/4" rise.	Massachusetts Architectural Access Board 52
	COS	797							NOTE	1) It is	2) Full 3) Pro	

ALL /	Types of Attachmen Floor/Site Plans, Photographs, 1	? regulations are impracticabl ever documents are releval litional pages if necessary, I	ials: granite, concrete, a ith straight risers and no variance for 25.1 is gran red-in-place risers with 2" ior wood stairs have tradi south second floor wood south second floor wood to these nosings w 40,000 is excessive as co	
OLD TOWN H MILLS WHITAK	Request #3 Section(s) for which you are seeking relief. 27.3 Are you seeking temporary relief Yes No	If yes, when do you propose to be in compliance by: Please describe in detail why compliance with the Board's re 521 CMR 5) for the subject of this request, and attach whate your argument that compliance is impracticable (attach addi which request each attachment is in support of):	This historic building has three types of stair materi The 1816 exterior granite steps are large stones wi and these are not part of an accessible route if the 1933 interior concrete stairs have well-crafted pour nosings that project 7/8" from the risers. The interi- nosing profiles with wood treads and scotias. The date from 1816 and the north stairs matched those funded by the Public Works Administration. Modific result in the loss of historic fabric and the cost of \$4 to the benefit gained for persons with disabilities.	7.3 / TYPICAL EXISTING STAIR NOSINGS





DST of FU DST of FU 7.3: PROV ee Note ee Note \$2,800 \$10,500 \$2,100 \$2,100 \$3,500	MILLS WHITAKER ARCHITECTS LCOMPLIANCE to 521 CMR 27.3 STAIR NOSINGS LCOMPLIANCE to 521 CMR 27.3 STAIR NOSINGS ISION OF COMPLIANT STAIR NOSING AT ALL INTERIOR STAIRWAYS Lack of Nosings at Historic Granite Stairs of South Facade Entrances Removal of Wood Scotias Below Treads at All Interior Stairways Fabricate Custom Wood Scotia Profile for 60-Degree Compliance Install & Finish Replacement Scotias Below Existing Wood Stair Treads Grind Lower Half of Concrete Tread Nosings to 60-Degree Slope Infill Void Below Lower Half of Reshaped Nosing to Riser Provide Rubber Treads & Risers on Concrete Stairs in Lieu of Refinishing
\$34,300	Subtotal
\$5,700	Gen'l Conditions, G.C.'s OH+P, Contingency + A/E Fees
\$40,000	Estimated Cost for Full Compliance of Stair Nosings

56

Massachusetts Architectural Access Board

/ SALEM CHITECTS	Attachments for this Request: 'Site Plans, V Cost Estimates, graphs, Test Drawings, r(s): ?	impracticable (as defined in s are relevant to support necessary, please identify	to the Great Hall ace with brick hearth, 1816. Each mantel d floor. It is our r maneuvering In case our opinion is s" to allow these n loss of historic fabric t gained for those	
OLD TOWN HALL MILLS WHITAKER AR	Request #4 Types of Types of Section(s) for which you are seeking relief: 20.6 Image: Types of Photo Pho	Please describe in detail why compliance with the Board's regulations are 521 CMR 5) for the subject of this request, and attach whatever documen your argument that compliance is impracticable (attach additional pages if which request each attachment is in support of):	The original two municipal offices on the Second Floor adjacen appear to be well preserved and intact. Each office has a firep painted wood surround and projecting wood mantel dating from projects 7 3/4" from the wall at a height of 49" above the finishe opinion that these mantels are not part of an accessible route c clearance as defined by 521 CMR 20.6, 20.6.1 and figure 20c. inaccurate, we request a variance from 20.6 "protruding object mantels to remain intact. Modifying these mantels would result and the cost of \$11,000 is excessive as compared to the benef persons with disabilities.	
	A & A	14 2 25 <u>5</u>		














COMMONWEALTH OF MASSACHUSETTS

SUFFOLK, ss.

In re

ARCHITECTURAL ACCESS BOARD Docket No. V22-107

Old Town Hall 32 Derby Square Salem

BOARD DECISION

Procedural History

This matter is before the Architectural Access Board ("AAB" or "Board") based on an Application for Variance, submitted on June 10, 2022, pursuant to 521 CMR 4.00, by Donald W. Mills, RA, authorized representative for the City of Salem (the "Petitioner"). The application sought variances from the requirements of the following sections of 521 CMR: (1) 20.6 (Protruding Objects); (2) 24.3 (Ramp Width); (3) 25.1 (Entrances); (4) 26.10.1 (Thresholds); and (5) 27.3 (Nosings).

Thereafter, on June 23, 2022, the Board received correspondence supporting the application from the Salem Commission on Disabilities and the Salem Historical Commission. The Board reviewed the application at its regularly scheduled meeting on June 27, 2022. At that time, it voted as follows: (1) to grant relief, as proposed, from the requirements of 521 CMR 26.10, finding that impracticability had been established; and (2) to schedule a hearing with respect to the request for relief from the requirements of 521 CMR 20.6.1, 24.3, 25.1 and 27.3. The written Notice of Action was issued on June 28, 2022.

The hearing was held on August 8, 2022, in accordance with G.L. c. 30A, §§ 10 and 11; 801 CMR 1.02 *et seq.*; and 521 CMR 4.00.¹ All interested parties were provided with an opportunity to testify and present evidence to the Board. Mr. Mills appeared on the Petitioner's behalf as did Julie Barry, the Petitioner's senior planner. The witnesses were sworn in by the Board Chair. The instant decision now memorializes the determinations made at that time.

Applicable Laws & Regulations

Pursuant to 521 CMR 3.3.2, "[i]f the work performed, including the exempted work, amounts to 30% or more of the *full and fair cash value* (see **521 CMR 5[]**) of the *building* the entire *building* is required to comply with 521 CMR."

Per 521 CMR 3.9, "[a]n historic building or facility that is listed or is eligible for listing in the National or State Register of Historic Places or is designated as historic under appropriate

Page 1 of 7

¹ Pursuant to An Act Relative to Extending Certain State of Emergency Accommodations, the hearing was held online via the Microsoft Teams platform.

state or local laws may be granted a *variance* by the *Board* to allow alternate accessibility. If a variance is requested on the basis of historical significance, then consultation with the Massachusetts Historical Commission is required in order to determine whether a building or facility is eligible for listing or listed in the National or State Register of Historic Places. The Massachusetts Historical Commission may request a copy of the proposed variance request and supporting documentation to substantiate the variance request and its effect on historic resources. A written statement from the Massachusetts Historical Commission is required with the application for variance."

With respect to 521 CMR 20.6 [Protruding Objects], "Objects shall not reduce the *clear* width of an *accessible route* or maneuvering *space* ... and must comply with **521 CMR 20.6.1**."

Per 521 CMR 20.6.1, "[o]bjects projecting from walls (for example, telephones) with their leading edges between 27 inches and 80 inches (27'' and 80'' = 686mm and 2032mm) above the finished floor shall protrude no more than four inches (4'' = 102mm) into walks, halls, corridors, passageways, or aisles and shall not have sharp or abrupt edges."

521 CMR 24.3 states that "[t]he minimum *clear* width of a *ramp* shall be 48 inches (48" = 1219mm), measured between the railings."

Per 521 CMR 25.1, "[a]II public *entrance(s)* of a *building* or tenancy in a *building* shall be *accessible*. Public *entrances* are any *entrances* that are not solely service *entrances*, loading *entrances*, or *entrances* restricted to employee use only."

Doorway thresholds are addressed in 521 CMR 26.10 which requires that "[t]hresholds shall not exceed $\frac{1}{2}$ inch ($\frac{1}{2}$ " = 13mm) in height and shall be beveled on both sides with a slope no greater than one-in-two (1:2) (50%)." 521 CMR 26.10.1.

521 CMR 27.3 requires that "[t]he undersides of nosings shall not be abrupt. The radius of curvature at the leading edge of the tread shall be no greater than ½ inch (½" = 13mm). Risers shall be sloped or the underside of the nosing shall have an angle not less than 60 degree from the horizontal. Nosings shall project no more than 1½ inches (1½" = 38mm). See Fig. 27b."

Exhibits

The following documentation was entered into evidence:

- Exhibit 1: Board Packet AAB 1-81, including the Application for Variance, all correspondence, photographs and plans submitted.
- Exhibit 2: PowerPoint presentation made at the hearing, admitted at that time (64 pages total), including narratives, updated plans, and photographs.

Factual Findings

The following findings of fact and conclusions of law are supported by substantial evidence, based on the credited testimony of the witnesses, documents admitted into evidence and AAB records. G.L. c. 30A, § 11(2), § 14(7).

Page 2 of 7

- The building was originally constructed in 1816 and includes three floors. Exhibit #1, AAB 13, 14, 15.
- 2) The facility's total area is 12,000 ft², with approximately 4,000 ft² per floor. AAB 13, 14, 15.
- 3) The building was converted to exclusive municipal use in 1933. AAB 13, 14, 21.
- The building is located in a registered historic district and is also listed in the state register of historic places. AAB 9, 14, 15.
- 5) The existing accessible entrance at the building's north façade includes the following: (a) a walkway from the curb with a 1:20 slope; (b) a cross slope at the landing in excess of 5.83%; (c) minimal maneuvering clearance; (d) door opening force greater than permitted; and (e) a granite threshold with a ¼" lip. AAB 40.
- 6) The north entrance is the primary public entrance; the south façade doors are primarily used as exits. AAB 68.
- The entrance at the south façade of the building includes three sets of granite stairs. AAB 17, 54, 55, 56.
- 8) The 1816 exterior granite steps have straight risers and no nosings. AAB 74.
- Existing transitions at the second-floor thresholds are 4" long and %" high, with 3/8" abrupt lips at the lower ends. AAB 69.
- The 1933 interior concrete stairs have poured-in-place risers with 2" high nosings that project 7/8". AAB 73, 74.
- The interior wood stairs have traditional nosing profiles with wood treads and scotias (i.e., moldings). AAB 73, 74.
- 12) Wood mantels at the brick fireplaces on the second-floor project 7%" from the wall at a height of 49" above the finished floor. AAB 77, 78.
- 13) The total anticipated construction costs are \$6,750,000. AAB 15, 16.
- 14) The building's assessed value is \$2,393,300. AAB 15, 16.

Discussion

The Board's jurisdiction is established pursuant to 521 CMR 3.3.2 which requires that, "[i]f the work performed, including the exempted work, amounts to 30% or more of the *full and fair cash value (see* **521 CMR 5**[]) of the *building* the entire *building* is required to comply with 521 CMR." The project is estimated to cost a total of \$6,750,000. The full and fair cash value of the building is \$2,393,300. Based on these factors, the total amount proposed to be spent is more than 30% (\$2,393,300 x 0.3 = \$717,990) of the full and fair cash value of the building; therefore, full compliance with all applicable sections of 521 CMR is required. The Petitioner concedes the Board's jurisdiction.

However, pursuant to 521 CMR 4.1, an "owner or an owner's representative or tenant who thinks that full compliance with 521 CMR is *impracticable* may apply to the *Board* for a *variance* from 521 CMR." Impracticability is defined to mean either that compliance with 521 CMR "would be technologically unfeasible" or that it would "result in excessive and unreasonable costs without any substantial benefit to persons with disabilities." 521 CMR 5.00.

Salem's Old Town Hall is a historic building, constructed in 1816. Originally, its basement and first floor served as the Market House, with Town Hall administrative uses on the second floor. In 1933, a major renovation removed the market stalls and the building was converted to full municipal use. In recent decades, the Old Town Hall has served the City of Salem as a local hub for

Page 3 of 7

arts and culture with the first floor being used as a gallery space and the second floor as event space. The basement provides public restrooms, classrooms, catering pantry, storage areas, mechanical spaces, and building support facilities.

The current project involves the preservation of the first and second floors as well as renovation of the basement. Work will include accessibility improvements, preservation of historic features, upgrading HVAC systems as well as fire suppression systems and lighting, increasing energy efficiency, and in-kind exterior repairs. Basement work includes replacing public restrooms, providing a multi-purpose classroom with accessible art sink, removing municipal document storage, and providing a catering pantry with accessible fixtures for event support.

Accessibility improvements will include bringing the existing public entrance into general compliance, providing a second accessible entrance to the basement level, improving accessibility of restrooms, providing wheelchair access to the stage, replacing wall-mounted handrails, making interior ramps accessible, providing assistive listening systems and signage, and upgrading existing controls and alarms for full compliance.

The Petitioner emphasizes that, of particular importance for preservation of the character and integrity of this facility, is preservation of its south façade. In 1816, this façade had a total of five entrances, three of which survive to this day. The two missing entrances provided doors into the basement, each of which was located between stairs leading up to the first-floor. The basement entrances were removed in 1933 when the Market House use was removed. The three first-floor entrances and their respective granite stairs tell an important story about the original configuration and use of the facility. The larger central set of stairs and double doors lead only to the first-floor colonnade to serve the market stalls. The smaller sets of stairs and single doors at the southeast and southwest corners lead to twin stairs up to the second-floor hall. Since 1933, the north entrance has been the public entrance to the building and the south entrances have served primarily as egress.

While the south entrances are primarily exits, the Petitioner does not want them designated solely as exits since that would reduce flexibility of use and require permanent removal of all exterior operating hardware. Instead, it requests a variance and proposes an alternative accessible entrance into the basement that will allow for several functional improvements to the facility without modification of the south façade entrances. The alternative to providing an accessible public entrance on the south façade is the result of working closely with local commissions and boards to address the overlapping concerns of preserving historic integrity and improved accessibility.

As noted above, the Board administratively granted the relief which Petitioner sought from the requirements of 521 CMR 26.10 (Request #2). Consequently, only those other requests for which the hearing was scheduled are addressed below. For each of those variances requested and discussed below, the Petitioner asserts impracticability on the basis of excessive cost without any substantial benefit to persons with disabilities as well as because of the otherwise permanent loss of historic fabric in the building.

<u>Request #1 – 521 CMR 24.3 and 25.1 (Alternate South Entrance at East Side into Basement</u> via Ramp)

Page 4 of 7

As noted above, the north entrance is the main public entrance, and the Petitioner will make that entrance fully accessible. The Petitioner limns that the south entrance into the Old Town Hall, which is inaccessible, is made up of three sets of granite stairs that are significant and character defining to the original 1816 construction of the building. As described above, the center stair leads to the colonnade on the first floor, while the two outer sets of stairs lead directly to the second floor.

Mr. Mills testified that full accessibility at the south entrance would require demolishing the three sets of stairs, constructing a new landing and new monumental stairs spanning the entire south face of the building, and constructing a ramp along the west facade of building. This path to compliance would negatively impact the character of the building. Around the building, there is a five-foot-wide walkway with a granite curb along the edge, which would be obstructed by the required ramp and this modification would also end the narrative told by the three independent sets of stairs. In addition to the loss of historic character, such fully accessible south entrance would cost an estimated \$850,000.

Instead, the Petitioner proposes an alternate accessible entrance into the basement along the east façade; the west façade would remain intact and the only change to the south façade would be a ramp in the southeast corner sloping down into an existing entrance, with a guard rail running along the eastern granite curb. The ramp would extend down 30 feet with stairs running up on the opposite side of the ramp. Due to the narrow nature of the five-foot-walkway around the building, the Petitioner seeks relief from 521 CMR 24.3 because the distance between the dual handrails of this proposed ramp is de minimis at only be 44 inches. The door into the basement will also be equipped with an auto-operator. The Petitioner maintains that this alternative proposal preserves the historic nature of the building, including utilizing a historic masonry entrance into the basement, and would cost an estimated \$400,000.

Currently, one entering the south entrance doors must traverse the colonnade, which may have an ongoing event taking place, but with the alternative accessible entrance this obstacle is avoided. Upon questioning by the Board, Mr. Mills explained that the building's elevator runs to the basement and is fully accessible at all levels. He also argued that the proposed alternative entrance will increase the useability of the building; for example, should the City of Salem want to keep the public restrooms open at hours when the building is closed, they would be accessible via this new entrance. Lastly, the Salem Redevelopment Authority has approved this proposal, which has also been endorsed by the Salem Commission on Disabilities and Salem Historic Commission.

In response to questioning, the witnesses noted that the south entrance is rarely used for ingress; however, people often exit via the south entrance, especially during high-traffic days, where there are flow-through events. Further testimony from Mr. Mills informed the Board that the stairs are often used by people to and enjoy a break from walking around the surrounding pedestrian area. Ms. Barry added that, during the aforementioned high traffic days, the doors of the south entrances are normally propped open, which deters pedestrians from sitting on the stairs and creating an obstruction.

The Board has now reviewed and considered the evidence, including the submitted documentation and the witnesses' testimony. It finds that the evidence is sufficiently detailed and substantial to warrant the requested relief, conditioned on the posting of direction signage. This is reflected in the order below.

Page 5 of 7

Request #3 - 521 CMR 27.3 (Stair Nosings - Retain Historic Conditions)

There are three types of materials making up various stairs in the facility: granite; concrete; and wood. As discussed above, outside on the south façade of the building are the granite stairs, original from 1816, with no sloping nosings. There are interior concrete stairs that were set when the building was originally renovated in 1933, leading from the basement to the first floor. Last, there are interior wood stairs with traditional nosings on the north stair at all three levels, circa 1933, and on the south stair at the second floor, circa 1816. The witnesses testified that they do not view these nosings as a hazard and changing them would damage the building's historic character. The nosings currently extend %", which is beyond the ½" maximum permitted in 521 CMR 27.3. The witnesses estimated the cost to bring these nosings into compliance at about \$40,000, not including the changes needed to the exterior granite stairs.

The Board has reviewed and considered the evidence, including the submitted documentation and the witnesses' testimony. Here, too, the Board finds sufficient evidence of impracticability to warrant the requested variance, conditioned on signage warning users about the nosings. The Petitioner's request related to the interior wood stair is likewise granted, as proposed. This is reflected in the order below.

Request #4 – 521 CMR 20.6 (Protruding Objects – Fireplace Mantels)

Mr. Mills testified that it is possible that these fireplaces are not a part of an accessible route and may not be subject to 521 CMR but, out of an abundance of caution, Petitioner submitted this request for variance. There are two municipal offices adjacent to the Great Hall on the second floor. Each room has a fireplace with a brick hearth and a projecting wood mantle, dating to 1816. Despite the intact preservation of each of these fireplaces, they are not functional. Each mantle projects $7\frac{3}{7}$ " from the wall at a height of 49" above the finished floor; this extends beyond the 4" allowed by 521 CMR 20.6.1. The Petitioner estimates the proposed cost to address this at about \$11,000.

The Board, being mindful of preservation concerns, suggested flipping the door swings that lead to these offices. Mr. Mills asserted that, were this to be done, there would be insufficient clearance on the pull side of the door. Further questioning by the Board revealed that the mantle protrusion was measured from the wall to the edge of the mantle. This prompted the Board to ask how far out the base of the mantle projects from the wall. Mr. Mills stated that the hearth, which is the mantle's base, itself protrudes from the wall, which lessens the length of the mantle's protrusion, potentially even making the mantle compliant.

The Board, having now considered Mr. Mills' detailed testimony as well as the submitted documentation, finds that the evidence is sufficiently substantial to warrant the requested variance, as proposed. This is reflected in the order below. Finally, the Board commends the Petitioner on its application, it being clear and robust. More particularly, Mr. Mills is commended on an excellent and detailed presentation at the hearing.

Conclusion and Order

In light of all of the foregoing, the Board votes as follows:

Page 6 of 7

- to GRANT a variance from the requirements of 521 CMR 25.1 and 24.3 (Request #1) on the CONDITIONS that the Petitioner: (1) post conspicuous directional signage for patrons at the property; and (2) post information regarding accessibility on its website.
- regarding Request #3, to GRANT: (a) regarding the basement to first floor 1933 concrete stair on the CONDITION that the Petitioner provide the staircase with nosing signage; and (b) regarding the 1933 north stair at all three levels and the 1816 south stair at the second floor, as proposed.
- to GRANT a variance from the requirements of 521 CMR 20.6 (Request #4), as proposed.
- these variances and findings apply only to and for the Petitioner herein and not to or for any subsequent owners, lessees, grantees, heirs or successors in interest. At its discretion, the Board may reopen and revisit this matter upon any change in ownership or any substantial changes to the use of the facility.

A true copy attest, dated: August 8, 2022

ARCHITECTURAL ACCESS BOARD By:

Dawn Guarriello, Chair

Raymond Glazier, Executive Office of Elder Affairs Designee (Not Present)

Patricia Mendez, Vice Chair

Elizabeth Myska, Member

Jeffrey Dougan, Massachusetts Office on Disability Designee

Ana Julian, Member (Not Present)

David Johnson, Member

A complete administrative record is on file at the office of the Architectural Access Board.

This constitutes an order of the Architectural Access Board. In accordance with G.L. c. 30A, §14 and G.L. c. 22, §13A, any person aggrieved by this decision may appeal to the Superior Court of the Commonwealth of Massachusetts within thirty (30) days of receipt of it.

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OLD TOWN HALL RENOVATIONS

32 Derby Square / Salem MA

PROJECT COST ESTIMATE

- D.01 Cost Summary of Construction & Project Budget
- D.02 Detail of Hard Costs (Construction) and Soft Costs (Services, Contingencies, Escalation)
- D.03 Information on Current Services, Subsequent Project, Known Revenue Sources, and Required Funding
- D.04 Design Development Cost Estimate

CSI DIVISION OF WORK for TRADE COSTS	Accessibility Improvements	Exterior Preservation	Interior Renovations	TOTALS
02 - EXISTING CONDITIONS: Demolition, HazMats, Earthwork	\$55,779	\$1,310	\$356,635	\$413,724
03 - CONCRETE: Basement Slab, Column Footings, Ramp Foundations	\$22,017	\$0	\$90,506	\$112,523
04 - MASONRY: Selective Repointing, Repairs & Replacement	\$57,939	\$162,177	\$36,101	\$256,217
05 - METALS: Exterior Railings, Interior Columns, Misc. Metals	\$46,653	\$17,251	\$353,900	\$417,804
06 - WOOD: Rough & Finish Carpentry, Millwork	\$36,400	\$8,250	\$244,716	\$289,366
07 · THERMAL & MOISTURE: Roofing, Insulation, Sealants	\$825	\$33,480	\$60,724	\$95,029
08 - OPENINGS: Doors, Windows, Hardware, Louvers & Vents	\$39,513	\$95,400	\$113,129	\$248,041
09 · FINISHES: Flooring, Walls, Ceilings, Painting, Acoustic Treatments	\$1,988	\$28,953	\$550,964	\$581,905
10 - SPECIALTIES: Fire Extinguishers, Signage, Restroom Accessories	\$14,810	\$0	\$49,250	\$64,060
11 · EQUIPMENT: Catering Kitchen Equipment & Appliances	\$0	\$0	\$75,000	\$75,000
12 - FURNISHINGS: Recessed Entrance Mats	\$0	\$0	\$7,469	\$7,469
14 - CONVEYING SYSTEMS: Inclined Lift + Elevator Upgrades	\$220,000	\$0	\$0	\$220,000
21 - FIRE SUPPRESSION: Automatic Sprinkler System (Wet & Dry)	\$0	\$0	\$107,887	\$107,887
22 - PLUMBING: Restrooms, Catering Pantry, Custodial, D.F.	\$0	\$0	\$300,643	\$300,643
23 - HVAC: Ground Source Heat Pump, Energy Recovery Ventilation	\$0	\$0	\$1,132,775	\$1,132,775
26 - ELECTRICAL: Power, Tel/Data, Lighting, Fire Alarm	\$29,186	\$0	\$1,033,421	\$1,062,607
31 - EARTHWORK: Mobilization & Erosion Prevention	\$12,500	\$12,500	\$58,000	\$83,000
32 - EXTERIOR IMPROVEMENTS: Accessible Walkway, Paving & Surfacing	\$0	\$0	\$101,123	\$101,123
33 - UTILITIES: Replace Sewer, Provide Sprinkler Supply, Water Service	\$16,297	\$0	\$33,598	\$49,895
ESTIMATED DIRECT TRADE COSTS SUBTOTAL	\$553,907	\$359,321	\$4,705,838	\$5,619,066
Design & Pricing Contingency on Subtrade Work	1	-		\$562,000
01 - GENERAL CONDITIONS & REQUIREMENTS				\$649,506
Contractor's Insurance, Bonds, and Fee	1		[\$369,000
Escalation & Current Market Volatility				\$822,000
Recommended Alternates (A1.1, AV-1, AV-2, AV-3, AV-4, AV-5)	1.000			\$273,300
ESTIMATED COST OF CONSTRUCTION (at May 2024 bid opening)	10%	6%	84%	\$8,294,872
A/E Fees, OPM, Clerk-of-Works, & Related Expenses				\$1,232,500
Construction Testing, Monitoring, & Bldg. Commissioning				\$145,000
Builder's Risk Insur., Police/Fire Details, Utility Backcharge	-			\$35,385
Owner's Contingency for Soft Costs	1		-	φ203,500 \$128,405
Owner's Construction Contingency	1			\$663,590
				£40 702 0E

Cost Summary of Construction & Project Budget

	SCOPE &	SERVICE	TO	TAL BUDGET	-
	PHASE	SERVICE	10	TAL BUDGET	ENCUMBER
-	Designer - Mills Whitaker	Architects (MWA)	\$	765,000	\$
	Estimating (Cl	HA via MWA @ 75% Completion of Documents)	\$	10,000	\$
	Construction	Documents	\$	370,000	\$
	Construction	Administration	\$	380,000	\$
	Reimbursibles	(Printing, etc.)	\$	5,000	\$
	Subconsultants	A 4 4	\$	50,000	\$
	Commissionin	g Agent	\$	50,000	\$
	OPM - Anser Advisory		\$	467,500	\$
	Project Mana	gement + Clerk of Works (Est. Fee Subject to Change)	\$	450,000	\$
	Estimating		\$	10,000	\$
	Reimbursibles	(Online Bidding Services, Ads, Printing)	\$	7,500	\$
	City of Salem		\$	7,500	\$
H	Police & Fire	Detail	\$	7,500	\$
õ	Permitting Fee	15	\$		\$
0	Utilities		\$	3,000	\$
E	Utility Backch	arge(s)	\$	3,000	\$
sc	Builder's Risk		\$	24,885	\$
=	Builder's Risk	Insurance	\$	24,885	\$
SE	Construction Testing & M	onitoring	\$	95,000	\$
A	PreConstruct	on Survey Services	\$	25,000	\$
đ	Vibration Mon	itoring Services	\$	25,000	\$
	Industrial Hyg	ienist (Included in Design Fee)	\$	-	\$
	Acoustical Mo	nitoring Exterior & Interior Testing Verification	\$	30,000	\$
	Construction	Vaterial Testing & Inspections	\$	15,000	\$
	Administrative		\$		\$
	Legal Fees		\$		\$
	FF&E		\$	203,500	\$
	Artist Stipend	(Construction Fencing Scrim)	\$	8,500	5
	Moving Servic	es	\$	40,000	5
	Signage		\$	5,000	\$
	Furniture, Fixt	ures & Equipment	3	150,000	\$
	Phase II Soft Cost Subtota	jency (8%)	S	1,744,790	\$
	Estimated Cost of Constru	ction with Recommended Alternates	\$	8,294,872	\$
	Direct Trade (Costs	\$	5,619,066	\$
10	Alternate No.	A1.1: Eave Ice Melt System Above Basement Ramp/Stairs	\$	9,900	\$
13	Alternate No.	AV-1: Great Hall Audiovisual System	\$	194,700	\$
S	Alternate No.	AV-2: Great Hall Production Assistance	\$	25,000	\$
U	Alternate No.	AV-3: Great Hall Portable Video Conferencing	\$	14,500	\$
B	Alternate No.	AV-4: Colonnade Production Enhancement	\$	12,400	\$
IA	Alternate No.	AV-5: Classroom AV System + Public Paging System	\$	16,800	\$
-	Design & Pric	ing Contingency (10%)	\$	562,000	\$
11	General Cond	itions (18 Months at \$36,084)	\$	649,506	\$
AS	Bonds & Insu	ance (1% and 1.25%)	\$	159,000	\$
H	Contractor's F	ee (3%)	\$	210,000	\$
-	Escalation & I	Market Volatility (11.41%)	\$	822,000	\$
	Owner's Construction Con	ntingency (8%)	\$	663,590	\$
-	Phase II Hard Cost Subtot	al	S	8,958,462	\$
	DI UT LL CUMPINI	PEOUIPED	2	10 702 251	S.

Details of Hard Costs (Construction) and Soft Costs (Services, Contingencies, Escalation)

		SCOPE &	SERVICE	TO	TAL BUDGET	ENCL	MBERED
T	-	Designer - Mills Whitaker	Architects (MWA)	\$	176,335	\$	176,33
	-	Basic Service	S	\$	100,000	\$	100,00
i	55	Supplementa	IServices	\$	26,290	\$	26,29
1	E SI	Additional Ser	rvices	\$	43,155	\$	43,1
1	D N	Reimbursible	Services	\$	6,890	\$	6,8
	- 2	OPM - Anser Advisory	apmont	\$	30,000	\$	30,0
1	Ne S	Exploratory Construction	gement	¢ ¢	48 000	¢ ¢	50,00
	H	Specifications	& Test Bore Hole	\$	40,000	\$	
. 1	a	Electrical Cor	ntractor Survey	\$	8.000	\$	
É		Phase I Soft Costs Subtot	al - FULLY FUNDED	\$	254,335	\$	206,33
2						1.1	
۶Г	0	Designer - Mills Whitaker	Architects (MWA)	\$	765,000	\$	-
31	ST	Subconsultants		\$	50,000	\$	
	Ö	City of Solom		\$	467,500	\$	
	F	Litilities		\$	7,500	\$	
έl	ď	Builder's Risk		Š	24 885	\$	
21	S	Construction Testing & M	onitoring	ŝ	95.000	\$	
51	H	Administrative		\$		\$	
Ē.	AS	FF&E		\$	203,500	\$	
	H	Owner's Soft Cost Contin	gency (8%)	\$	128,405	\$	
ł		Phase II Soft Cost Subtota	J.	\$	1,744,790	\$	
	A MESSING	Estimated Cost of Constru	uction with Recommended Alternates	\$	8,294,872	\$	
	1	Owner's Construction Co	ntingency (8%)	\$	003,590	\$	
h	*	Phase II Total - FUNDING	al CREOURED	5	10 703 251	\$	
E		Tildse II Toldi - Tolibilit	S ALGOMED		10,103,201	*	
_	1	PHASE I + PHASE II TOT	AL PROJECT COSTS (USES)	S	10,957,586	\$	*
						City A	Accounts
	~	Mass Cultural Council: Cultura	al Facilities Fund Grant (Granted, Funds Pending Tra	nsfer) \$	35,000.00	25W6	
	H	City of Salem FY22 CIP Funds (Allotted)	\$	100,000.00	CIP 305130	6-581004
	RIZ	City of Salem CDBG-CV		\$	50,000.00	CBDG-CV 2	0C23-5713
í.	운	City of salem FY22 Short-term	CIP Funds (Allocated, Use Ir only It needed)	\$	30,000.00	STCIP 2000	2220-5846CX
2	5	City of Salem CDBG-CV - for Fle	ctrical and Geothermal Surveys	Ф Ф	61 578 40	23/33-5/13 CRDC CV2	0023 5713
3L	4	Phase I Funding Subtotal		\$	277,078.40	CDDG-CV Z	0023-0713
2							
	NTIA						
2	OTE						
	A .	Phase II Funding Subtotal		\$		\$	
	-	TOTAL PROJECT FUNDS	S (SOURCES)	\$		\$	
		DELTA		\$	(10,680,508)		



Salem Old Town Hall Renovations

Design Development Cost Estimate

October 19, 2022



PROJECT SCOPE

Project Description

Renovations to this facility includes; upgrade accessibility, replacement of mechanical and electrical systems, new ground source energy source, upgrade acoustic separation, new audio-visual systems

Organization of Estimate for Funding purposes only

a. Accessibility Improvements including; improve north entrance, new accessible entrance to basement, upgrade door hardware, replace interior stair handrails, new interior signage, modify door thresholds

b. Exterior Preservation - beyond accessibility improvements and energy source sitework

c. Interior Renovations - balance of Project

Alternates

A1.1 New de-icing system at basement accessible entrance

- A1.2 New de-icing system at balance of eaves and downspouts
- E1 Low voltage lighting control system
- E2 Emergency lighting inverters
- E3 NM Romex cable branch circuitry

E4 Eliminate fire alarm radio master box and antenna

AV-1 Great Hall video presentation system

- AV-2 Great Hall production assistance
- AV-3 Great Hall portable video conferencing
- AV-4 Colonnade production enhancement

AV-5 Classroom public area paging system

Project Particulars

Design Development Drawings and Outline Specifications dated August 31, 2022 prepared by Mills Whitaker Architects Civil Engineering Narrative prepared by Hancock Associates

Mechanical/Plumbing/Fire Protection Systems Narrative dated September 1, 2022 prepared by VAV International Inc.

Electrical/Fire Alarm Systems Narrative dated August 31, 2022 prepared by Johnson Engineering and Design Inc.

Lighting Conditions and Recommendations prepared by Available Light

Lighting Budget dated July 26, 2022 prepared by Available Light

Audiovisual Systems Program Report dated July 11, 2022 prepared by Acentech

Hazardous Material Survey and Remediation Budget dated March 14, 2022 prepared by UEC

Photographs of Existing Conditions received from Mills Whitaker

Design Team clarifications and supplemental information during estimating production period.

Detailed quantity takeoffs where possible from design package documents.

CHA Companies, Inc. experience with similar projects of this nature.

Design intent and scope review discussions with Mills Whitaker Architects Design Team

Project Schedule

Anticipated start of construction - July 1, 2024

Construction total duration of 18 months for completion - December 31, 2025

Cost Estimate Information

Cost Estimate has been prepared by CHA Consulting, Inc.

Project Team Leader is; Delwyn Williamson ph: 617-939-9858, email: dwilliamson@chacompanies.com

MAIN SUMMARY

12,024 GSF

ELEMENT			TOTAL	COST/GSF
Old Town Hall				
Accessibility Improvements		12,024 GSF	\$553,907	\$46.07
Exterior Preservation		9,642 SF	\$359,321	\$37.27
Interior Renovations		12,024 GSF	\$4,705,838	\$391.37
Direct Trade Details SubTotal		_	\$5,619,066	\$467.32
Design and Pricing Contingency	10.00%	\$5,619,066	\$562,000	\$46.74
Direct Trade Cost Total			\$6,181,066	\$514.06
01 General Conditions And Requirements	18 MTH	\$36,084	\$649,506	\$54.02
General Liability Insurance	1.00%	\$8,021,572	\$81,000	\$6.74
Performance and Payment Bonds	1.25%	\$6,181,066	\$78,000	\$6.49
Fee	3.00%	\$6,989,572	\$210,000	\$17.47
Estimated Construction Cost Total		_	\$7,199,572	\$598.77
Escalation and Current Market Volatility				
Contingency from now to anticipated Start of Construction	11.41%	\$7,199,572	\$822,000	\$68.36
Estimated Construction Cost at Bid Opening		_	\$8,021,572	\$667.13

Design Development Cost Estimate

CHA

CLARIFICATIONS

Project Assumptions

Conventional Design/Bid/Build process

The project will be procured in accordance with the requirements of Massachusetts General Laws Chapter 149, including trade sub-bids

Our costs assume that there will be at least three subcontractors submitting unrestricted bids in each trade bid. The Total Estimated Construction Cost reflects the fair construction value of this project in a competitive bidding market and includes cost escalation to cover the construction duration.

Direct trade unit rates include prevailing wage labor rates and escalation to mid-point of construction duration. These unit rates continue to be updated during the design phase.

Construction during normal working hours.

Noise and vibration disturbances are anticipated and will be minimized or avoided during normal business hours. Lay-down/storage area, jobsite shed and trailers, and construction site entrance will be located adjacent to Project area. Temporary electrical and water site utility connections will be available. General Conditions value includes utility connections and consumption costs.

Subcontractor's markups are included in each unit rate. These markups cover field and home office overhead and subcontractor's profit.

Design and Pricing Contingency markup is an allowance for unforeseen design issues, design detail development and specification clarifications during the design period. This allowance typically reduces during the design period, to more accurately reflect the designed scope of work progress.

General Conditions covers supervision, general facilities to support Project, and site office overheads that are not attributable to the direct trade costs.

Project Requirements value covers staging and access, temporary protection, and cleaning.

Escalation allowance from now to anticipated Bid Date has been carried at a rate of 6½% per year in the Main Summary. This allowance is adjusted, and typically reduces during the design period, to more accurately reflect the current bidding climate.

Construction Cost Estimate Exclusions

Work beyond the boundary of the site.

Site or existing condition surveys and investigations.

Architectural/Engineering; Designer and other Professional fees, testing, printing, surveying.

Owner's administration; legal fees, advertising, permitting, Owner's insurance, administration, interest expense.

Owner's site representation and project administration.

Project costs; utility company back charges, construction of swing space and temporary facilities, program related phasing, relocation.

Owner furnished and installed products, computer networking, desks, chairs, furnishings, equipment, artwork, loose case goods and other similar items.

Builders' Risk Insurance.

LEED Certification and Commissioning process.

Third Party testing and commissioning.

Environmental permitting.

Building permit fees.

Police details and street/sidewalk permits.

CHA

DIRECT TRADE COST SUMMARY

12,024 GSF

ELEMENT	Filed Sub- Bids	ACCESSIBILITY IMPROVEMENTS	EXTERIOR PRESERVATION	INTERIOR RENOVATIONS	TOTAL	COST/GSF
01 General Conditions And Requirements		\$65,010	\$39,050	\$545,446	\$649,506	\$54.02
01 GENERAL CONDITIONS AND REQUIREMENTS		\$65,010	\$39,050	\$545,446	\$649,506	\$54.02
02 41 00 Selective Demolition		\$12,994	\$1,310	\$320,058	\$334,363	\$27.81
02 90 00 Hazardous Materials		\$0	\$0	\$27,500	\$27,500	\$2.29
31 00 00 Earthwork		\$42,785	\$0	\$9,076	\$51,861	\$4.31
02 EXISTING CONDITIONS		\$55,779	\$1,310	\$356,635	\$413,724	\$34.41
03 30 00 Cast-In-Place Concrete		\$22,017	\$0	\$90,506	\$112,523	\$9.36
03 CONCRETE		\$22,017	\$0	\$90,506	\$112,523	\$9.36
**04 01 40 Masonry Restoration	\$256,217	\$57,939	\$162,177	\$36,101	\$256,217	\$21.31
04 MASONRY		\$57,939	\$162,177	\$36,101	\$256,217	\$21.31
05 12 00 Structural Steel Framing		\$0	\$0	\$317,840	\$317,840	\$26.43
**05 50 00 Miscellaneous Metals	\$99,964	\$46,653	\$17,251	\$36,060	\$99,964	\$8.31
05 STEEL		\$46,653	\$17,251	\$353,900	\$417,804	\$34.75
06 10 00 Rough Carpentry		\$9,940	\$8,250	\$189,534	\$207,724	\$17.28
06 20 00 Finish Carpentry and Millwork		\$26,460	\$0	\$55,182	\$81,642	\$6.79
06 WOODS AND PLASTICS		\$36,400	\$8,250	\$244,716	\$289,366	\$24.07
07 10 00 Waterproofing and Sealants		\$0	\$0	\$17,652	\$17,652	\$1.47
07 20 00 Insulation		\$825	\$0	\$37,060	\$37,885	\$3.15
07 50 00 Roofing		\$0	\$33,480	\$0	\$33,480	\$2.78
07 90 00 Firestopping and Fireproofing		\$0	\$0	\$6,012	\$6,012	\$0.50
07 THERMAL AND MOISTURE PROTECTION		\$825	\$33,480	\$60,724	\$95,029	\$7.90
08 10 00 Doors, Frames and Hardware		\$39,513	\$0	\$113,129	\$152,641	\$12.69
08 50 00 Windows		\$0	\$95,400	\$0	\$95,400	\$7.93
08 OPENINGS		\$39,513	\$95,400	\$113,129	\$248,041	\$20.63

CHA Consulting, Inc.

12,024 GSF

DIRECT TRADE COST SUMMARY

ELEMENT	Filed Sub-	ACCESSIBILITY	EXTERIOR	INTERIOR	TOTAL	COST/GSF
	Bids	IMPROVEMENTS	PRESERVATION	RENOVATIONS		
09 29 00 Drywall Assemblies		50	\$0	\$153,972	\$153,972	\$12.81
09 30 00 Tile		50	\$0	\$996	\$996	\$0.08
09 64 00 Wood Flooring		\$1,500	\$0	\$81,448	\$82,948	\$6.90
09 65 00 Resilient Flooring		\$0	\$0	\$10,432	\$10,432	\$0.87
09 67 23 Resinous Flooring		\$0	\$0	\$43,263	\$43,263	\$3.60
09 68 16 Sheet Carpeting		\$488	\$0	\$0	\$488	\$0.04
09 80 00 Acoustic Treatment		\$0	\$0	\$178,954	\$178,954	\$14.88
**09 90 00 Painting	\$110,852	\$0	\$28,953	\$81,898	\$110,852	\$9.22
09 FINISHES		\$1,988	\$28,953	\$550,964	\$581,905	\$48.40
10 00 00 Specialties		\$14,810	\$0	\$49,250	\$64,060	\$5.33
10 SPECIALTIES		\$14,810	\$0	\$49,250	\$64,060	\$5.33
11 00 00 Equipment		50	\$0	\$75,000	\$75,000	\$6.24
11 EQUIPMENT		\$0	\$0	\$75,000	\$75,000	\$6.24
12 00 00 Furnishings		\$0	\$0	\$7,469	\$7,469	\$0.62
12 FURNISHINGS		50	\$0	\$7,469	\$7,469	\$0.62
**14 20 00 Hydraulic Elevator Modernization	\$220,000	\$220,000	\$0	\$0	\$220,000	\$18.30
14 CONVEYING SYSTEMS		\$220,000	\$0	50	\$220,000	\$18.30
**21 00 00 Fire Protection	\$107,887	\$0	\$0	\$107,887	\$107,887	\$8.97
**22 00 00 Plumbing	\$300,643	\$0	\$0	\$300,643	\$300,643	\$25.00
**23 00 00 Heating, Ventilation and Air-Conditionin	\$1,132,775	\$0	\$0	\$1,132,775	\$1,132,775	\$94.21
21-25 MECHANICAL		\$0	\$0	\$1,541,305	\$1,541,305	\$128.19
**26 00 00 Electrical	\$1,062,607	\$29,186	\$0	\$1,033,421	\$1,062,607	\$88.37
26-28 ELECTRICAL		\$29,186	\$0	\$1,033,421	\$1,062,607	\$88.37
31 00 00 Mobilization & Erosion		\$12,500	\$12,500	\$58,000	\$83,000	\$6.90
31 EARTHWORK		\$12,500	\$12,500	\$58,000	\$83,000	\$6.90
					CHA Cons	ulting, Inc.

DIRECT TRADE COST SUMMARY

12,024 GSF

ELEMENT	Filed Sub- Bids	ACCESSIBILITY IMPROVEMENTS	EXTERIOR PRESERVATION	INTERIOR RENOVATIONS	TOTAL	COST/GSF
32 10 00 Paving and Surfacing		\$0	\$0	\$101,123	\$101,123	\$8.41
32 EXTERIOR IMPROVEMENTS		\$0	\$0	\$101,123	\$101,123	\$8.41
33 10 00 Water		\$0	\$0	\$12,100	\$12,100	\$1.01
33 20 00 Sanitary Sewer		\$0	\$0	\$21,498	\$21,498	\$1.79
33 30 00 Storm Sewer		\$16,297	\$0	\$0	\$16,297	\$1.36
33 SITE UTILITIES		\$16,297	\$0	\$33,598	\$49,895	\$4.15
Direct Trade Details SubTotal	\$3,290,945	\$618,917	\$398,371	\$5,251,284	\$6,268,572	\$521.34

CHA Consulting, Inc.

12,024 GSF

DIRECT TRADE COST DETAILS

ELEMENT	QUANTITY	UNIT	UNIT RATE	ACCESSIBILITY	EXTERIOR	INTERIOR
			1	IMPROVEMENT	PRESERVATION	RENOVATIONS
7 01 GENERAL CONDITIONS AND REQUIREMENTS						
General Requirements for Trade Work	18 MTH		10 000 00			40.000
10 Construction sign	1	LS	\$3,500.00			\$3,500
Protection of all existing to remain conditions	950	HRS	\$75.00			\$71,280
Daily cleaning, dust control, ongoing cleaning	2,880	HRS	\$60.00			\$172,800
Small tools, equipment and supplies	72	WKS	\$500.00			\$36,000
14 Dumpsters	36	EA	\$750.00			\$27,000
 Field office, office supplies, office equipment 	72	WKS	\$650.00			\$46,800
General Conditions and Supervision	15 MTH					
18 Preconstruction, buy-outs and contracts	150	HRS	\$65.00			\$9.750
19 Submittals and approvals	150	HRS	\$75.00			\$11,250
20 On-site Supervision	720	HRS	\$85.00			\$61.20
Scheduling	300	HRS	\$100.00			\$30.00
22 Project Management, phasing, meetings	480	HRS	\$110.00			\$52.80
23 Registered Structural Engineer - for technical design support of shoring	1	15	\$40,000,00			\$40.00
24 Subcontractor Administration, ongoing	216	HRS	\$65.00			\$14.04
25 Close out Administration	216	HRS	\$65.00			\$14.040
26 Adjust Div 01 Budget Across Project Groupings				\$59,100	\$35,500	(\$94.60
27 Overheads	10%			\$5,910	\$3,550	\$49,58
01 General Conditions And Requirements Total				\$65,010	\$39,050	\$545,44
29				Activity of	ter training	
30						
31						
32 02 EXISTING CONDITIONS						
Beenhautorite-haddoorana.						
34 02 41 00 Selective Demolition						
35 Sidewalk on East facade	300	SF	\$7.50	\$2,250		
Areaway stair to basement	1	FLT	\$5,000.00	\$5,000		
37			+-,	+5,000		
Abandoned exterior louver	5	OPEN	\$250.00		\$1,250	
39	-		+====00		421200	
Temp shoring at basement post, demo brick pier	12	100	\$2,750.00			\$33.00
Remove 7" basement slab. Vault etr	2,280	SF	\$11.99			\$27,340
					CHA	Consulting Inc.

12,024 GSF

DIRECT TRADE COST DETAILS

	ELEMENT	QUANTITY	UNIT	UNIT RATE	ACCESSIBILITY	EXTERIOR	INTERIOR
			1	1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	IMPROVEMENT	PRESERVATION	RENOVATIONS
47							
43	Cut opening in concrete ceiling for ERU	2	OPEN	\$2,000.00			\$4,000
44	Cut opening in floor plate for ERU	6	OPEN	\$750.00			\$4,500
45							
46	Demolition crew, supporting laborers	2,626	MHR	\$75.00			\$196,927
47	Salvage items of historic significance, store in secure place	48	MHR	\$75.00			\$3,600
48	Remove interior CMU partition to expose concealed stone masonry foundati	1,303	SF	\$10.00	ČE 174		\$13,033
50	Salvage marble toilet partition for selective reuse	5	STALL	\$187.50	\$5,124		\$938
51	Selective demolition at minimal renovation areas	2.178	GSF	\$2.50			\$5,444
52	MEP systems, including Attic	16,032	GSF	\$1.00			\$16,032
53							
54	Cart demo materials, haul away, disposal				\$620	\$60	\$15,240
55	02 41 00 Selective Demolition Total				\$12,994	\$1,310	\$320,058
56							
57	03 90 00 Hasardous Materials						
59	Remove ashestos containing materials - hudget provided	1	BUD	\$22 500 00			\$22 500
50	Additional concealed asbestos-containing pipe insulation	1	AL	\$5.000.00			\$5,000
51	02 90 00 Hazardous Materials Total		14.2		\$0	\$0	\$27,500
62							
63							
64	31 00 00 Earthwork			1000	45.55		
65	Sheeting at new accessible entrance	300	SF	\$125.00	\$37,500		
66	Bulk earthwork to reduced basement level	31	CY	\$75.00	\$2,344		
5.0	Hand excavate sub-grade 11" for new bacement slab disposal	95	cv	\$20.00			\$7 605
69	4" crushed stone base for new interior ramp slab	61	CY	\$48.00	\$2,941		\$7,005
70	4" crushed stone base for new slab on grade at basement	31	CY	\$48.00			\$1,471
71	31 00 00 Earthwork Total				\$42,785	\$0	\$9,076
72							
73							
74							
75							
10							
						CHA	Consulting, Inc.
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	Design De	velonmon	Car	t Estimata			
	Design De	velopment	COS		•		

12,024 GSF

DIRECT TRADE COST DETAILS

ELEMENT	QUANTITY	UNIT	UNIT RATE	ACCESSIBILITY	EXTERIOR	INTERIOR
		1		IMPROVEMENT	PRESERVATION	RENOVATIONS
77 03 CONCRETE						
78						
⁷⁹ 03 30 00 Cast-In-Place Concrete				12.250		
80 Strip footing to retaining wall	47	LF	\$50.00	\$2,363		
Retaining wall at new accessible ramp	153	SF	\$50.00	\$7,671		
Exterior access ramp down to Basement	111	SF	\$27.16	\$3,007		
Exterior entrance landing	36	SF	\$25.87	\$931		
Exterior stair	33	LFR	\$75.00	\$2,477		
85 			400.00			
66 Interior ramp	171	SF	\$32.59	\$5,567		
87	12		63 F00 00			620.000
Spread footing; 4x4x18"	12	EA	\$2,500.00			\$30,000
Basement slab on grade; 5" thick, 8" thickening at perimeter, WWF mesh	2,280	SF	\$22.49			\$51,280
Stale at Mark Darma shart flight utilize		CIT.	C031 C0			the co
Stair at ween Room, short flight, x2loc	2	FLI	\$831.60			\$1,00
** Remove short night stair at Mech Room, Innii	1	LUC	\$1,000.00			\$1,000
Add riser/tread to North Stair after slab lowered	1	RISER	\$750.00			\$750
Fouriement and Cliffor CCUD unit		EA	C017 40			Cost.
Heurokeening and	200	EA	\$812.40			\$5.000
nousekeeping pads	200	Sr	\$25.00	632 017	60	\$5,000
03 SO OU Cast-In-Place Concrete Total				222,017	ŞU	590,500
20						
DA MASONRY						
107						
1104 01 40 Masonry Rectoration						
New granite veneer over grouted backing	132	SE	\$135.50	\$17 943		
66 Granite veneer to new retaining wall	153	SE	\$130.00	\$19 945		
Granite vali can to match 8" curb	47	IE	\$100.00	\$4 725		
Granite navers to entrance ramp and landing	147	SE	\$55.00	\$8.070		
Granite face to stair tread and riser	22	IER	\$200.00	\$6,606		
Relocate granite corner curb	1	100	\$650.00	\$650		
10		LOC	2030.00	0000		
11						
					CHA (Consulting, Inc.

12,024 GSF

DIRECT TRADE COST DETAILS

	ELEMENT	QUANTITY	UNIT	UNIT RATE	ACCESSIBILITY	EXTERIOR	INTERIOR
				1	IMPROVEMENT	PRESERVATION	RENOVATIONS
112	Exterior Elevations prepared by Structures North						
11	Replace failed brownstone sill	9	OPEN	\$750.00		\$6,750	
114	Replace mortar wash on window sill	23	OPEN	\$181.25		\$4,169	
115	Re-tooth, point and grout structural crack through wall, x5loc	22	LF	\$200,00		\$4,466	
116	arch window head, x1loc	6	LF	\$220.00		\$1,375	
11	Cut and point brick return	1	LF	\$90.00		\$90	
in	arch window head, x20loc	146	LF	\$99.00		\$14,501	
119	Repair stone spall or hole, x6loc	24	MHR	\$125.00		\$3,000	
	Spot- cut and point brickwork mortar joints - 10% allowance provided of	124	cr.	C40.25		¢1.000	
120	shaded gross area	124	SF	\$40.25		\$4,980	
121	Fully cut and point brickwork	1,110	SF	\$35.00		\$38,847	
122	chimney brick work above roof line, x2loc	268	SF	\$38.50		\$10,331	
123	pediment and cornice at gable end	93	LF	\$40.00		\$3,727	
124	Dismantle and reconstruct <12" thick brickwork, x7loc	53	SF	\$165.00		\$8,694	
125	Cut and point stonework mortar joints, x8loc	156	SF	\$65.00		\$10,112	
126	Dismantle and reconstruct stonework, x1loc	8	SF	\$201.50		\$1,632	
127	front entrance stairs	3	FLT	\$12,500.00		\$37,500	
128	Repair multiple holes in brickwork, x1loc	4	MHR	\$125.00		\$500	
129							
130	Retooth former louver opening w/seasoned brick	5	OPEN	\$1,500.50		\$7,503	
131	Restore masonry at utility service entrance penetration	8	OPEN	\$500.00		\$4,000	
137							
131	Install salvaged granite landing at North Entrance, grind and flame finish, add	1	LOC	\$3,842.25			\$3,842
	matching piece to doorway			61 500 00			60.000
145	Tooled granite bollard at North Entrance	2	EA	\$4,500.00			\$9,000
àÈ	P 01 partition furring: clean interior surface of exposed masonry wall	1 321	SE	\$5.00			\$6.607
131	Fut and point etristone becement wall exposed after slah removal	133	IE	\$37.50			\$4 972
134	Patch maconry flues in basement	15	MHR	\$125.00			\$2,000
139	Patch interior masonry nonetration after damo services	24	MHR	\$125.00			\$3,000
140	Pater interior masonry penetration arter defilo services	24	MULT	\$12.5.00			53,000
141	Grind lin for 1/2 slope at North Entry granite, det 3 1/A-07	1	100	\$1,000,00			\$1.000
147	6" granite border to recessed entry mat	2	100	\$7,840,16			\$5,680
1.62	104 01 40 Masonry Restoration Total	-	LUC	\$2,540.10	\$57 920	\$157 177	\$36 101
100	of or the massific nestoration rotal				501,232	2196,111	\$55,101

CHA Consulting, Inc.

12,024 GSF

DIRECT TRADE COST DETAILS

		1000	and the second second			
	and the second second	1	1	IMPROVEMENT	PRESERVATION	RENOVATIONS
S STEEL						
	2. S.					
5 12 00 Structural Steel Framing						
asement column; HSS8x8	12	LOC	\$1,900.00			\$22,800
asement ceiling beam, x2loc; W8x8, span N-S, install in short lengths, acces	5 140	ir	6380.30			620 AM
hru etr masonry opening, rigging and handling	140	LF	\$260.29			229,240
" gusset plate as attic truss reinforcement, pre-welded threaded studs	100	EA	\$650.00			\$65,000
" wire rope or %" tension rod ea side of truss, end hardware and clevises	100	EA	\$900.00			\$90,000
" wire rope guy as seismic upgrade to truss, clevis and gusseted to truss	34	FA	\$1,950,00			\$66.30
hord/masonry wall		-	+1,000,00			
			10.000			10.11
inistrut to suspend HVAC unit from attic truss panel points	4	EA	\$3,000.00			\$12,00
eismic clip at timber beam end to masonry walls	40	EA	\$375.00			\$15,00
eismic clip at truss chord end to masonry walls	20	EA	\$375.00		1	\$7,50
5 12 00 Structural Steel Framing Total				\$0	\$0	\$317,84
*05 50 00 Miscellaneous Metals						
xterior pipe handrail at accessible entrance; 1.25" inside dia, dual height	88	LF	\$150.00	\$13,251		
ontinuous, color galv						
xterior pipe guardrail at accessible entrance	56	LF	\$600.00	\$33,402		
					1000	
teel handrail to granite bollard at North Entrance	2	EA	\$250.31		\$501	
epair historic metal handrail at monumental granite stairs	6	FLI	\$750.00		\$4,500	
epiicate missing baluster to match etr	1	EA	\$250.00		\$250	
epair historic metal guardrail at west façade basement entrance	1	LOC	\$1,500.00		\$1,500	
eplicate missing handrail to match east basement entrance	1	FLI	\$500.63		\$501	
Antol Indian to attin		TIT	63 500 00			62.50
And if while for a tric	1	FLI	\$3,500.00			\$3,50
toony actic natch platform, relocate guardran	1	LUC	\$2,500.00			\$2,50
Airs matals to ovtarios anvelopa		10	¢10.000.00		\$10,000	
Aiss metals to exterior envelope	12 024	GSE	\$10,000.00		510,000	\$20.05
105 50 00 Miscellappour Metals Total	12,024	USF	\$2.50	\$46 653	\$17 351	\$36,06
of an on interesting there is interesting				240,033	211,251	\$30,00

12,024 GSF

DIRECT TRADE COST DETAILS

ELEMENT	QUANTITY	UNIT	UNIT RATE	ACCESSIBILITY	EXTERIOR	INTERIOR
		1	1	IMPROVEMENT	PRESERVATION	RENOVATIONS
06 WOODS AND PLASTICS						
0 06 10 00 Rough Carpentry						
Temp shoring	16	LOC	\$1,500,00			\$24,00
2 Cut etr girt at midspan, install (2) hanger brackets and attach to new steel bea	16	LOC	\$1,050.00			\$16,80
Cut etr girt at midspan, install (2) hanger brackets and attach to new steel beau	16	LOC	\$1,050.00			\$16,80
Replace basement ceiling joists, dwg \$1.8			\$61,789			
Temp shoring	7	LOC	\$6,000.00			\$42,00
Remove ceiling joist in Basement, replace w/new 2x14 LVL	30	EA	\$580.16			\$17,40
Remove ceiling joist in Basement vault, replace w/new 2x14 LVL	5	EA	\$476.84			\$2,38
Reframe ERU opening; 12" LVL header, trimmer sisters at cut joists	6	LOC	\$517.56			\$3,10
New attic platform at Second Floor; 2x10 joists @16"oc, assume sheathing	18	SF	\$31.60			\$58
Reframe attic hatch opening; 12" LVL header, trimmer sisters at cut joists	2	LOC	\$1,053.50			\$2,10
New stage stairway			\$9.940			
Sister and rehang joists of Second Floor framing	147	GSF	\$30.00	\$4,403		
(2) 2x10 ledger, masonry anchor @24"oc	17	LF	\$42.50	\$735		
2x8 joists @16"oc, assume sheathing	68	SF	\$20.00	\$1,353		
4x4 post	5	EA	\$450.00	\$2,250		
Stair on 2x10 stringers @24"oc	34	LFR	\$35.00	\$1,199		
1 00.001 status servide of an an alread about boths boths data success and			6000 BB			636.03
8 PSL sisters ea side of truss chord, thru bolts, bolted to gusset studs	40	EA	\$900.98			\$36,03
b wide ripped LVL boxing 4x4 strut, lag screws, boited to gusset studs	50	EA	\$388.45			\$19,42
Rough carpentry/wood blocking at window openings	1,650	LF	\$5.00		\$8,250	
Rough carpentry/wood blocking at openings	500	LF	\$5.75			\$2,87
Rough carpentry/wood blocking associated with interior fit-out	12,024	GSF	\$0.50			\$6,01
06 10 00 Rough Carpentry Total				\$9,940	\$8,250	\$189,53
0						
2						
				CHA	Consulting, Inc.	

12,024 GSF

DIRECT TRADE COST DETAILS

ELEMENT	QUANTITY	UNIT	UNIT RATE	ACCESSIBILITY	EXTERIOR	INTERIOR
			1	IMPROVEMENT	PRESERVATION	RENOVATIONS
06 20 00 Finish Carpentry and Millwork						
Red Oak handrail at interior stairway; 1.5" dia,	4	FLT	\$8,538.75	\$25,616		\$8,539
Red Oak handrail at interior ramp; 1.5" dia,	19	LF	\$45.00	\$844		
Reinstall/replicate wood cap at floor ledge as mech/elec chase	52	LF	\$75.00			\$3,907
PTD WD (3) piece mech chase at seating tier	105	LF	\$92.50			\$9,727
PTD WD wall base	605	LF	\$12.50			\$7,563
PTD WD wall base at stair	182	LF	\$14.38			\$2,609
PTD WD chair rail	119	LF	\$15.00			\$1,778
PTD WD trim to match etr at HVAC soffit box	59	LF	\$20.00			\$1,174
PTD WD crown molding at Colonnade central bay	136	LF	\$15.00			\$2,043
FRP wall protection at Electric x96" high	135	SF	\$13.25			\$1,784
						1.0
Install salvaged marble partition at restroom sink alcove	2	PANEL	\$1,000.00			\$2,000
			A det provincial			
Catering Pantry; sink countertop, base and upper cabinets	20	LF	\$550.00			\$11,226
Classroom: sink countertop, base cabinet	7	LE	\$415.00			\$2.834
2 06 20 00 Finish Carpentry and Millwork Total				\$26,460	\$0	\$55,182
				12001000		de steres
07 THERMAL AND MOISTURE PROTECTION						
07 10 00 Waterproofing and Sealants						
Vapor barrier at new slab on grade	2,280	SE	\$1.15			\$2 622
a subor burner of new slab on groue	-,	2.				42,022
Caulking and sealants associated with interior fit-out	12 024	GSE	\$1.25			\$15.030
07 10 00 Wateromoting and Sealants Total	12,024	001	92.20	ŚD	\$0	\$17,652
and a second and a second a se						441,000
07 20 00 Insulation						
4" rigid insulation under new accessible entrance slabe	147	SE	\$5.62	6275		
2" rigid insulation under new clab on grade	7 780	SE	\$3.00	2023		\$6.920
z ngia mananana anazi new sian on grade	2,200	31	55.00			20,033

12,024 GSF

DIRECT TRADE COST DETAILS

ELEMENT	QUANTITY	UNIT	UNIT RATE	ACCESSIBILITY	EXTERIOR	INTERIOR
				IMPROVEMENT	PRESERVATION	RENOVATIONS
8						
 P.01 partition furring; 3.5" thick fire-resistant spray closed foam insul 	1,321	SF	\$6.34			\$8,383
6" sound attenuation fire blanket, friction fitted above ceiling sound isolation assembly	888	SF	\$5.41			\$4,804
2 Add 8" loose fill to attic insulation over Great Hall	2,834	SF	\$6.01			\$17,034
3 07 20 00 Insulation Total				\$825	\$0	\$37,060
4						
5						
6 07 50 00 Roofing						
7 Relocate lower portion of rain leader, reconnect to underground piping	1	LOC	\$800.00		\$800	
8						
Replacement 20oz copper flashing at masonry cornice ledge at gable end	82	LF	\$240.00		\$19,680	
Replacement stainless steel 3-rail snow guard assembly	200	LF	\$65.00		\$13,000	
4 07 50 00 Roofing Total				\$0	\$33,480	Ş
a 07.00.00 Electronics and Electronics						
Through Generative Generating Size motifies initia	12.024	cer	60.50			CC 01
O7 90 00 Einsteaming and Einsteaming Tatal	12,024	GSF	50.50	¢n.	ćn.	\$6,01
o of so oo mestopping and meprooning rotat				20	20	30,01
9						
0 08 OPENINGS	6					
1						
2 08 10 00 Doors, Frames and Hardware						
Auto operator w/ int./ext. actuators at etr Door 0.17	1	SET	\$3,500.00	\$3,500		
4						
PTD WD door, HM door frame, hardware set	20	LEAF				
6 Door 2FP 36x80x1.75	14	LEAF	\$2,660.00			\$37,240
7 Door SC-AT 36x84x1.75, Label C	2	LEAF	\$2,410.00			\$4,820
Door SC-AT PR 72x96x1.75, Label C	2	PRS	\$4,820.00			\$9,640
ig						
Casing to new door frame	18	OPEN	\$1,190.00			\$21,420
1						
						and a second second

12,024 GSF

DIRECT TRADE COST DETAILS

	ELEMENT	QUANTITY	UNIT	UNIT RATE	ACCESSIBILITY	EXTERIOR	INTERIOR
			1	1	IMPROVEMENT	PRESERVATION	RENOVATIONS
52	Glazed sidelight at Classroom 007, x2loc	126	SF	\$120.00			\$15,146
83							
28.4	EX WD door, WD door frame	30	LEAF				
785	Door EX-preserved vault	2	LEAF				etr
286	Door EX-elevator machine	1	LEAF				etr
28,7	Door EX-15LT 36x83x1.75, EX-WD frame	1	LEAF				etr
288	Door EX-18LT PR 70x83x1.75, EX-WD frame, EX PR-8LT transom	1	PRS				etr
289	Door EX-3FP PR 52x94x1.75, EX-WD frame	2	PRS				etr
290	Door EX-6FP 44x96x1.625, EX-WD frame	5	LEAF				etr
291	Door EX-6FP PR 75x95x1.75, EX-WD frame	4	PRS				etr
292	Door EX-6RP 36x79x1.75, EX-WD frame	6	LEAF				etr
293	Door SLP - replace hinged panel	1	OPEN				etr
294	New accessible door hardware	23	OPEN	\$800.00	\$18,400		
795	New egress hardware	9	OPEN	\$600.00			\$5,400
296	New magnetic hold-open device	4	OPEN	\$700.00			\$2,800
297	Auto operator w/ int./ext. actuators	5	SET	\$3,500.00	\$17,500		
298	and the second						
299	Flip hinge side on EX-6RP door	2	OPEN	\$112.50	\$113		\$113
300	Replace hinged panel on EX-SLR	1	OPEN	\$2,000.00			\$2,000
301	Repair historic EX-xFP	10	LEAF	\$1,200.00			\$12,000
302	and the second se						1.1.1.
303	Access door and frame	6	OPEN	\$425.00			\$2,550
304	08 10 00 Doors, Frames and Hardware Total				\$39,513	\$0	\$113,129
305							
306							
307	08 50 00 Windows						
308	Aluminum exterior two-track storm window						
309	Window W10 40x61, 40x20 transom	28	OPEN	\$1,200.00		\$33,600	
310	Window W11 fan light over doors	4	OPEN	\$300.00		\$1,200	
311	Window W20 44x110, upper sash arched	30	OPEN	\$1,800.00		\$54,000	
312	Window W21 44x110, 15x79 pair of sidelights	2	OPEN	\$2,100.00		\$4,200	
31.3	Window W30 96x40	2	OPEN	\$1,200.00		\$2,400	
314	08 50 00 Windows Total				\$0	\$95,400	\$0
315						*35×035	
31.6							

CHA Consulting, Inc.

12,024 GSF

DIRECT TRADE COST DETAILS

	ELEMENT	QUANTITY	UNIT	UNIT RATE	ACCESSIBILITY	EXTERIOR	INTERIOR
		1000	1	1	IMPROVEMENT	PRESERVATION	RENOVATIONS
317	09 FINISHES	D					
318							
319	09 29 00 Drywall Assemblies						
320	P.01 partition furring; 3 %" mtl stud, %" GWB	1,321	SF	\$9.55			\$12,619
371	P.02 partition; infill former door opening, 1hr rating	3	LOC	\$853.75			\$2,561
372	P.03 partition; 3%" mtl stud, 2x %" GWB, 2.5" SAB	1,264	SF	\$17.15			\$21,678
32.3	P.04 partition; 3%" mtl stud, 2x %" GWB	1,446	SF	\$14.52			\$21,000
324	P.05 partition; 2x 21/2" mtl stud, 2x 1/2" GWB, 6" batt insul	88	SF	\$23.19			\$2,052
325	P.06 partition; 3%" mtl stud, 4x %" GWB, 2.5" batt insul, 2hr rating	91	SF	\$27.39			\$2,491
326	P.07 non-rated shaftwall	79	SF	\$20.00			\$1,572
327	P.09 partition furring	92	SF	\$20.00			\$1,836
37.0	P.10 partition; 3%" mtl stud, 2x %" GWB, %" FR plywood, 2.5" batt insul, 1hr rating	103	SF	\$22.45			\$2,313
329	P.11 partition; 3%" mtl stud, 2x %" GWB, 2.5" batt insul, 1hr rating	1,157	SF	\$17.45			\$20,197
81	P.08 veneer plaster assembly at faux pilaster	10	LOC	\$505.34			\$5,053
181	PTD GYP ceiling at basement level	884	SF	\$10.00			\$8.838
13.0	PTD GYP ceiling at upper levels	577	SE	\$11.50			\$6.631
335	PTD GYP ceiling at restroom	595	SE	\$10.75			\$6 395
336	Rated ceiling and soffit at Mech Room and Trash	390	SE	\$20.00			\$7.793
337	HVAC soffit hov at Colonnade	250	SE	\$35.00			\$8 742
-							***, · · ·
270	SI concealed gyp sound isolation assembly at Classroom	565	SE	\$25.00			\$14.120
340	SI concealed gyp sound isolation assembly at Mech Room	373	SE	\$25.00			\$8.080
341	09 29 00 Drywall Assemblies Total		0.	925100	\$0	\$0	\$153,972
307	as as as an international total						*********
343							
344	09 30 00 Tile						
ZAS	CT 1" black & white massic hevagonal flooring at WC 205	40	CE.	\$75.00			C006
246	OR 20 00 Tile Tetal	40	SF	\$25.00	co.	60	\$996
347	09 SO OO THE TOTAL				30	50	3330.
246							
240							
350							
330							
						CHA	Consulting, Inc.

12,024 GSF

DIRECT TRADE COST DETAILS

ELEMENT	QUANTITY	UNIT	UNIT RATE	ACCESSIBILITY	EXTERIOR	INTERIOR
				IMPROVEMENT	PRESERVATION	RENOVATIONS
351 09 64 00 Wood Flooring						
352 New 2.25" x 0.75" T/G Oak to match etr	667	SF	\$17.25			\$11,497
Replacement 2.25" x 0.75" T/G Oak flooring at Great Hall - 2% allowance	17	SE	\$75.70			\$1 205
provided		51	923.70			\$1,200
354 New 3/4" high Oak floor threshold with bevels both edges, det 1.1/A-07	2	LOC	\$300.00	\$600		
355 New 7½" long Oak floor threshold with 1:10 sloped top, det 2.1/A-07	3	LOC	\$300.00	\$900		
356 Restore subfloor, oak flooring at seating tier	105	LF	\$106.25			\$11,173
357 Patch flooring at former grille	667	SF	\$17.25			\$11,497
358 WD at North Stair treads	2	OPEN	\$500.00			\$1,000
359 REF OAK repair and refinish wood flooring	5,954	SF	\$7.57			\$45,075
360 09 64 00 Wood Flooring Total				\$1,500	\$0	\$81,448
361						
362						
363 09 65 00 Resilient Flooring						
364 ATHLETIC at Classroom	565	SF	\$15.00			\$8,472
365 RT at South Stair treads	114	SF	\$17.25			\$1,960
366 09 65 00 Resilient Flooring Total				\$0	\$0	\$10,432
367						
368						
369 09 67 23 Resinous Flooring						
370 RESIN at basement level, integrated paint chips, integral wall base	2,038	SF	\$20.00			\$40,764
371 RESIN at stair landings	109	SF	\$23.00			\$2,499
372 09 67 23 Resinous Flooring Total				\$0	\$0	\$43,263
373						
374						
375 09 68 16 Sheet Carpeting						
376 Carpet at Elevator Lobby and South Stair Landing	80	SF	\$6.11	\$488		
377 09 68 16 Sheet Carpeting Total				\$488	\$0	SC
378						
379						
380 09 80 00 Acoustic Treatment						
381 SF1 stretched fabric on 1" insul board at Classroom ceiling	565	SF	\$30.00			\$16,944
382 SF2 stretched fabric on 2" insul board ceiling at Colonnade and Great Hall	4,379	SF	\$37.00			\$162,010
303 09 80 00 Acoustic Treatment Total				\$0	\$0	\$178,954
384						
					CHA C	Consulting, Inc.

12,024 GSF

DIRECT TRADE COST DETAILS

ELEMENT	QUANTITY	UNIT	UNIT RATE	ACCESSIBILITY	EXTERIOR	INTERIOR
	1 1 1 1 1	1	1	IMPROVEMENT	PRESERVATION	RENOVATIONS
385						
386 ** 09 90 00 Painting						
387 Prep, prime and paint exterior woodwork, openings, cupola	1	LS	\$20,000.00		\$20,000	
Prep, prime and paint exterior railings	72	MHR	\$124.35		\$8,953	
289						
390 CONC sealed concrete	512	SF	\$2.63			\$1,346
PTD EX CONC at etr Vault	1	RMS	\$650.00			\$650
392						
393 PTD GYP partitions	9,792	SF	\$0.95			\$9,303
394 PTD GYP ceilings and soffits	2,945	SF	\$1.05			\$3,077
395						
PTD WD door and frame	20	LEAF	\$125.00			\$2,500
907 PTD EX-WD door and frame, prep, prime and paint	30	LEAF	\$200.00			\$6,000
Prep and repaint wood window	66	OPEN	\$350.00			\$23,100
299						
400 PTD EX PL prep and paint plaster walls	12,792	SF	\$1.09			\$13,975
an PTD EX PL prep and paint plaster ceilings	2,273	SF	\$1.20			\$2,731
402						
PTD WD wall base, chair rail, ceiling molding, soffit trim	1,100	LF	\$3.00			\$3,300
404 PTD EX WD wall base, chair rail	128	MHR	\$124.35			\$15,917
ats ** 09 90 00 Painting Total				\$0	\$28,953	\$81,898
406						
407						
405.						
10 SPECIALTIES						
410						
all 10 00 00 Specialties						
412 Basic signage, wayfinding, identification signage, code required	12,024	GSF	\$0.40	\$4,810		
413 Cast bronze exterior sign	1	AL	\$10,000.00	\$10,000		
414			and accounted			
Privacy toilet partition xfull height	8	STALL	\$2,500.00			\$20,000
Privacy toilet partition xfull height at ADA compartment	2	STALL	\$3,750.00			\$7.500
117 Toilet accessories to multi-user restroom	2	RMS	\$3,500.00			\$7.000
Toilet accessories to single-user restroom	2	RMS	\$1,500.00			\$3.000
🖽 Hand dryer	6	FIX	\$650.00			\$3,900
					CHA	Consulting Inc.

12,024 GSF

DIRECT TRADE COST DETAILS

IMPROVEMENT IMPROVEMENT PRESERVATION RENOVATION 80 Baby changing station 5 EA \$800.00 \$4,0 81 Adult changing station 1 EA \$12,00.00 \$12,2 82 Shelf adjacent to lavatory 2 EA \$15,00.0 \$3 83 Mob rack and shelf at Janitor Closet 1 SET \$350.00 \$3 84 If cextinguisher and cabinet - qty provided 4 EA \$500.00 \$22,0 91 100 00 Equipment \$14,810 \$0 \$49,2 91 11 00 00 Equipment \$14,810 \$0 \$49,2 91 11 00 00 Equipment \$14,810 \$0 \$57,0 91 11 00 00 Equipment \$10 00 00 Equipment \$50 \$0 \$75,0 91 12 EURNISHINGS \$0 \$0 \$50 \$74,4 91 12 EURNISHINGS \$0 \$0 \$74,4 91 12 00 00 Furnishings \$13 20 00 Furnishings \$13 20 00 Furnishings	ELEN	IENT	QUANTITY	UNIT	UNIT RATE	ACCESSIBILITY	EXTERIOR	INTERIOR
Baby changing station 5 EA \$800.00 \$4,0 44 ddut changing station 1 EA \$120.000 \$1,2 45 Shelf adjacent to lavatory 2 EA \$150.000 \$3 46 Mob rack and shelf at Janitor Closet 1 SET \$350.00 \$3 47 Mob rack and shelf at Janitor Closet 1 SET \$350.00 \$3 48 Mob rack and shelf at Janitor Closet 1 SET \$350.00 \$3 49 Mob rack and shelf at Janitor Closet 1 SET \$350.00 \$20 49 Mob rack and shelf at Janitor Closet 1 SET \$300.00 \$20 \$20 40 Mob rack and shelf at Janitor Closet 4 EA \$500.00 \$20 \$20 41 100 00 Equipment 50 \$0 \$75,00 \$0 \$75,00 \$0 \$75,00 41 100 00 Equipment Total 50 \$0 \$57,00 \$0 \$75,00 42 100 00 Funishings 1 AL \$75,000.00 \$20,000 \$74 44 20 00 00 Funishings \$0 \$0 \$74 \$74 44				-		IMPROVEMENT	PRESERVATION	RENOVATIONS
eii Adult changing station 1 EA \$1,200.00 \$1,2 25 Shelf adjacent to lavatory 2 EA \$150.00 \$3 26 Mob rack and shelf at Janitor Closet 1 SET \$350.00 \$3 26 Fire extinguisher and cabinet - qty provided 4 EA \$500.00 \$2,0 27 100 00 Specialties Total \$14,810 \$0 \$49,20 27 100 00 Equipment \$14,810 \$0 \$49,20 28 1100 00 Equipment \$10,000 Equipment \$50 \$0 \$75,00 29 100 00 Equipment \$10,000 Equipment \$0 \$0 \$75,00 20 100 00 Equipment \$0 \$0 \$75,00 \$0 \$75,00 20 100 00 Equipment \$0 \$0 \$75,00 \$0 \$75,00 21 20 00 Equipment \$10,000 Equipment \$0 \$0 \$75,00 21 20 00 D Furnishings \$0 \$0 \$7,4 21 20 00 O Equipment \$1 \$0 \$20,000 \$7,4 <td< td=""><td>Baby changing station</td><td></td><td>5</td><td>EA</td><td>\$800.00</td><td></td><td></td><td>\$4,000</td></td<>	Baby changing station		5	EA	\$800.00			\$4,000
Application Control State	Adult changing station		1	EA.	\$1,200.00			\$1,200
423 Mob rack and shelf at Janitor Closet 1 SET \$350,000 \$3 424 Mob rack and shelf at Janitor Closet 1 SET \$350,000 \$3,000 425 Fire extinguisher and cabinet - qty provided 4 EA \$500,000 \$14,810 \$0 \$49,20 426 I BOUIPMENT 5 5 \$14,810 \$0 \$49,20 427 100 00 Equipment 5 \$14,810 \$0 \$49,20 428 100 00 Equipment 5 \$50 \$0 \$75,00 429 100 00 Equipment \$0 \$50 \$0 \$75,00 420 100 00 Equipment \$0 \$0 \$75,00 \$0 \$75,00 421 20 00 Funishings \$0 \$0 \$75,00 \$0 \$75,00 423 10 00 0 Equipment \$0 \$0 \$75,00 \$0 \$75,00 423 10 00 0 Funishings \$20 000 Funishings \$0 \$0 \$74,400 \$74,400 \$74,400 \$74,400 \$74,400 \$74,400 \$74,400 \$74,400 \$74,400 \$74,400	422 Shelf adjacent to lavatory		2	EA	\$150.00			\$300
Mob rack and shelf at Janitor Closet 1 SET \$33000 533 Fire extinguisher and cabinet - gty provided 4 EA \$500.00 \$2,0 \$2,0 100 00 Specialties Total \$14,810 \$0 \$49,2 \$14,810 \$0 \$49,2 100 00 Equipment 514,810 \$0 \$49,2 \$100 00 Equipment \$100 00 Equipment \$514,810 \$0 \$49,2 11 100 00 Equipment Commercial grade foodservice equipment at Catering Pantry 1 AL \$75,000.00 \$0 \$75,0 12 00 00 Furnishings 50 \$0 \$75,0 \$0 \$75,0 12 00 00 Furnishings 12 00 00 Furnishings Total \$0 \$0 \$7,4 12 00 00 Furnishings Total \$0 \$0 \$7,4 \$0 \$0 \$7,4 14 14 20 00 Hydraulic Elevator Modernization \$0 \$0 \$7,4 \$0 \$0 \$7,4 14 14 20 00 Hydraulic Elevator Modernization \$0 \$20,000 \$20,000 \$20,000 \$20,000 \$20,000 \$0 <td< td=""><td>A23</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	A23							
4 EA \$500.00 \$2,0 <	424 Mob rack and shelf at Janitor Closet		1	SET	\$350.00			\$350
42 File extinguisher and cabinet - qty provided 4 EA \$500.00 \$2,0 427 10 00 0 Specialties Total \$0 \$14,810 \$0 \$49,2 43 11 EQUIPMENT 5 \$14,810 \$0 \$49,2 43 11 00 00 Equipment \$0 \$75,0 \$0 \$75,0 44 11 00 00 Equipment \$0 \$0 \$75,0 \$0 \$0 \$75,0 43 11 00 00 Equipment \$0 \$0 \$75,0 \$0 \$0 \$75,0 43 11 00 00 Equipment Total \$0 \$0 \$75,0 \$0 \$0 \$75,0 44 12 DURNISHINGS \$0 \$0 \$0 \$75,0 \$0 \$7,4 45 12 00 00 Furnishings \$0 \$0 \$7,4 \$0 \$0 \$7,4 46 12 CONVEYING SYSTEMS \$0 \$0 \$7,4 \$20,000.00 \$20,000 \$20,000 \$20,000 \$20,000 \$20,000 \$0 \$11,00 \$20,000 \$20,000 \$0 \$11,00 \$11,00 \$11,00 \$11,00 \$11,00 <	425							
427 100 00 Specialties Total \$14,810 \$0 \$49,2 427 100 00 Specialties Total \$14,810 \$0 \$49,2 428 11 EQUIPMENT 11 100 00 Equipment \$11 100 00 Equipment \$11 100 00 Equipment \$50 \$50 \$50 \$57,00 429 11 00 00 Equipment Total \$0 \$75,00 \$50 \$50 \$75,00 420 12 EURINISHINGS \$0 \$75,00 \$0 \$77,00 \$75,00 421 12 00 00 Furnishings \$0 \$50 \$50 \$7,4 421 12 00 00 Furnishings \$0 \$7,4 \$0 \$7,4 421 12 00 00 Furnishings Total \$0 \$7,4 \$0 \$7,4 421 12 00 00 Furnishings Total \$0 \$7,4 \$7,4 422 10 00 Flydraulic Elevator Modernization \$0 \$7,4 423 14 20 00 Flydraulic Elevator Modernization \$20,000.00 \$200,000 \$200,000 423 *14 20 00 Hydraulic Elevator Modernization \$14 20 00 Hydraulic Elevator Modernization \$14 20 00 Hydraulic Elevator Modernization \$14 20 00 Hydraulic Elevator Modernization <td>426 Fire extinguisher and cabinet - qty prov</td> <td>rided</td> <td>4</td> <td>EA</td> <td>\$500.00</td> <td></td> <td></td> <td>\$2,000</td>	426 Fire extinguisher and cabinet - qty prov	rided	4	EA	\$500.00			\$2,000
223 11 EQUIPMENT 243 11 00 00 Equipment 250 11 00 00 Equipment 261 11 00 00 Equipment Total 262 11 00 00 Equipment Total 263 50 275,000.00 \$0 284 50 29 29 29 29 200 00 Furnishings 2 200 00 Furnishings 5 \$0 21 20 00 Furnishings 5 \$0 20 12 00 00 Furnishings 5 21 20 00 Furnishings 5 \$0 21 20 00 Furnishings 5 \$0 21 20 00 Furnishings 5 \$0 21 20 00 Furnishings 6 \$0 21 20 00 Furnishings 70tal \$0 32 \$0 34 \$0 35 \$0 36 \$0 37,4 \$0 36 \$0 37,4 \$0 36 \$0 37,4 \$0 37,4 \$0 36 \$0 37,4 \$0 37,4 \$0	427 10 00 00 Specialties Total					\$14,810	\$0	\$49,250
11 EQUIPMENT 11 EQUIPMENT 11 10 00 Equipment 11 00 00 Equipment 11 00 00 Equipment total 10 00 0 Equipment Total 10 0 00 Equipment Total 10 0 00 Equipment Total 11 10 0 00 Equipment Total 10 0 00 Equipment Total 10 0 00 Equipment Total 11 10 0 00 Equipment Total 11 10 0 00 Equipment Total 12 12 FURNISHINGS 12 12 00 00 Furnishings 12 12 00 00 Furnishings Total 13 12 00 00 Hydraulic Elevator Modernization 14 12 00 00 Hydraulic Elevator Modernization 14 12 00 00 Hydraulic Elevator Modernization 13 12 00 00 Hydraulic Elevator Modernization Total 14 12 00 00 Hydraulic Elevator Modernization Total	428							
10 11 EQUIPMENT 41 11 00 00 Equipment 43 11 00 00 Equipment Total 43 10 00 Equipment Total 43 10 00 Equipment Total 43 10 00 Equipment Total 44 50 50 \$0	429							
414 1 00 00 Equipment 50 \$75,0 429 1 00 00 Equipment \$0 \$75,0 420 1 1 00 00 Equipment Total \$0 \$0 \$75,0 421 1 00 00 Equipment Total \$0 \$0 \$75,0 423 1 1 00 00 Equipment Total \$0 \$0 \$75,0 424 1 00 00 Equipment Total \$0 \$0 \$75,0 425 1 2 00 00 Purnishings \$0 \$74,4 426 1 2 00 00 Furnishings Total \$0 \$7,4 427 1 2 00 00 Furnishings Total \$0 \$7,4 428 41 50 \$0 \$7,4 429 1 2 00 00 Furnishings Total \$0 \$0 \$7,4 429 1 2 00 00 Furnishings Total \$0 \$0 \$7,4 429 1 4 20 00 Hydraulic Elevator Modernization \$0 \$0 \$7,4 429 *14 20 00 Hydraulic Elevator Modernization \$20,000 \$20,000 \$20,000 430 *14 20 00 Hydraulic Elevator Modernization Total \$220,000 \$0 \$0 <td>430 11 EQUIPMENT</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	430 11 EQUIPMENT							
411 100 00 Equipment \$75,00 \$75,0 411 100 00 Equipment Total \$0 \$0 \$75,0 411 12 FURNISHINGS \$0 \$7,4 \$0 \$7,4 412 12 00 00 Furnishings \$0 \$0 \$7,4 \$0 \$0 \$7,4 412 12 00 00 Furnishings Total \$0 \$0 \$0 \$7,4 \$0 \$0 \$7,4 412 12 00 00 Furnishings Total \$0 \$0 \$7,4 \$0 \$0 \$7,4 413 12 00 00 Hydraulic Elevator Modernization \$0 \$0 \$7,4 \$0 \$7,4 414 10 00 Hydraulic Elevator Modernization \$20,000.00 \$20,000 \$20,000 \$0 \$0 414 20 00 Hydraulic Elevator Modernization Total \$220,000 \$0	431							
435 Commercial grade foodservice equipment at Catering Pantry 1 AL \$75,000.00 \$75,0 431 10 0 00 Equipment Total \$0 \$0 \$75,0 436 \$0 \$0 \$75,0 437 \$0 \$0 \$75,0 438 \$100 00 Equipment Total \$0 \$0 \$75,0 437 \$12 FURNISHINGS \$0 \$77,0 \$77,4 438 \$2 LOC \$3,734.25 \$77,4 437 \$2 LOC \$3,734.25 \$77,4 442 12 00 00 Furnishings Total \$0 \$0 \$77,4 443 ************************************	432 11 00 00 Equipment							
11 00 00 Equipment Total \$0 \$0 \$75,0 43 12 EURNISHINGS \$0 \$75,0 437 12 EURNISHINGS \$0 \$77,4 438 12 00 00 Furnishings \$0 \$0 \$77,4 439 12 00 00 Furnishings Total \$0 \$0 \$7,4 441 \$0 \$0 \$0 \$7,4 442 12 00 00 Furnishings Total \$0 \$0 \$7,4 443 ************************************	433 Commercial grade foodservice equipm	ent at Catering Pantry	1	AL	\$75,000.00			\$75,000
445 445 446 447 447 12 00 00 Furnishings 448 12 00 00 Furnishings Total 449 12 00 00 Furnishings Total 441 50 442 12 00 00 Furnishings Total 443 50 444 50 444 50 444 50 444 50 445 50 446 14 CONVEYING SYSTEMS 447 444 448 445 449 446 444 50 445 50,000.00 50 \$20,000 50 \$20,000 446 14 20 00 Hydraulic Elevator Modernization 447 444 448 445 444 445 445 446 446 447 447 448 448 449 449 449 449 440 441 450 442 (2 00 Hydraulic Elevator Modernization Tot	434 11 00 00 Equipment Total					\$0	\$0	\$75,000
436 12 FURNISHINGS 437 12 FURNISHINGS 438 12 00 00 Furnishings 449 12 00 00 Furnishings Total 440 12 00 00 Furnishings Total 441 2 LOC \$3,734.25 442 12 00 00 Furnishings Total 443 \$0 \$0 \$0 444 444 50 \$0 \$7,4 445 444 445 444 445 444 446 14 CONVEYING SYSTEMS 50 \$20,000 \$20,000 447 *14 20 00 Hydraulic Elevator Modernization 50 \$20,000 \$20,000 448 *14 20 00 Hydraulic Elevator Modernization Total \$200,000 \$200,000 \$200,000 450 *14 20 00 Hydraulic Elevator Modernization Total \$220,000 \$0 \$0	435							
437 437 438 439 440 441 442 12 00 00 Furnishings 443 444 444 445 446 447 448 448 449 441 442 443 444 444 445 446 447 448 449 449 441 442 443 444 444 445 446 447 448 449 449 441 442 443 444 444 445 446 447 448 449 449 441 442 443	436							
421 EURNISHINGS 439 439 430 12 00 00 Furnishings 431 Recessed entry mat 2 LOC \$3,734.25 432 12 00 00 Furnishings Total \$0 443 \$0 444 \$0 445 \$0 446 \$12 CONVEYING SYSTEMS 447 \$12 00 00 Hydraulic Elevator Modernization 448 *14 20 00 Hydraulic Elevator Modernization 449 1 LS \$20,000.00 \$20,000 450 1 BUD \$200,000.00 \$200,000 451 *14 20 00 Hydraulic Elevator Modernization Total \$220,000	437							
439 439 440 12 00 00 Furnishings 411 Recessed entry mat 2 LOC \$3,734.25 \$7,4 412 12 00 00 Furnishings Total \$0 \$0 \$7,4 413 8 \$0 \$0 \$7,4 414 414 414 414 414 414 414 414 414 414 414 414 414 414 41	438 12 FURNISHINGS							
440 12 00 00 Furnishings \$7,4 411 Recessed entry mat \$0 \$7,4 412 12 00 00 Furnishings Total \$0 \$0 \$7,4 412 12 00 00 Furnishings Total \$0 \$0 \$7,4 414	439							
411 Recessed entry mat 2 LOC \$3,734.25 \$7,4 412 12 00 00 Furnishings Total \$0 \$0 \$7,4 413 12 00 00 Furnishings Total \$0 \$0 \$7,4 414 415 0 \$0 \$0 \$7,4 414 415 0 \$14 \$0 \$14 \$14 414 415 50 \$20,000 \$20,000 \$20,000 \$20,000 \$20,000 \$20,000 \$20,000 \$20,000 \$20,000 \$20,000 \$0 \$14 \$20,000 <td< td=""><td>440 12 00 00 Furnishings</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	440 12 00 00 Furnishings							
442 12 200 00 Furnishings Total \$0 \$0 \$7,4 443 443 443 50 \$0 \$7,4 444 443 443 443 443 443 443 445 444 445 444 445 445 445 445 445 445 445 445 446 445 446 446 447 447 447 447 448 414 400 Hydraulic Elevator Modernization 449 448 <td>411 Recessed entry mat</td> <td></td> <td>2</td> <td>LOC</td> <td>\$3,734.25</td> <td></td> <td></td> <td>\$7,469</td>	411 Recessed entry mat		2	LOC	\$3,734.25			\$7,469
443 444 445 445 446 14 CONVEYING SYSTEMS 447 448 449 14 CONVEYING SYSTEMS 449 449 440 441 442 443 444 444 445 447 448 448 449 449 449 441 442 443 444 444 445 447 448 448 449 449 441 442 443 444 445 446 447 448 449 449 449 441 442 442 443 442 442 </td <td>442 12 00 00 Furnishings Total</td> <td></td> <td></td> <td></td> <td></td> <td>\$0</td> <td>\$0</td> <td>\$7,469</td>	442 12 00 00 Furnishings Total					\$0	\$0	\$7,469
444 445 445 446 14 CONVEYING SYSTEMS 447 448 449 449 470 449 449 440 451 452 453 454 454 455 450 451 452 453 454 454 455 450 451 452 452 454 454 455 454 454 455 451 451 451 451 451 451 451 451 451 451 451 451 451 452 451 451 451 451	443							
14 CONVEYING SYSTEMS 14 CONVEYING SYSTEMS 437 438 439 439 431 431 432 433 434 435 *14 20 00 Hydraulic Elevator Modernization 430 431 432 433 434 435 Elevator repairs - budget provided 1 BUD \$200,000.00 \$220,000 \$220,000 \$220,000 \$220,000 \$220,000 \$220,000 \$220,000 \$220,000 \$200,000 \$220,000 \$220,000 \$220,000 \$220,000 \$220,000 \$200,000 \$200,000 \$220,000 \$200,000 \$220,000 \$200,000 \$220,000 \$220,000	444							
446 14 CONVEYING SYSTEMS 447 **14 20 00 Hydraulic Elevator Modernization 448 **14 20 00 Hydraulic Elevator Modernization 449 **14 20 00 Hydraulic Elevator Modernization Total 450 **14 20 00 Hydraulic Elevator Modernization Total 451 **14 20 00 Hydraulic Elevator Modernization Total 452 **14 20 00 Hydraulic Elevator Modernization Total	A45							
447 448 **14 20 00 Hydraulic Elevator Modernization 449 449 448 **14 20 00 Hydraulic Elevator Modernization 449 449 449 440 440 441 441 442 442 443 444 444 445 447 447 448 449 449 449 441 442 442 442 443 444 444 445 451 451 451 451 451 451 451 451 451 451 451 451 451 451 451 451 451 <	446 14 CONVEYING SYSTEMS							
443 **14 20 00 Hydraulic Elevator Modernization 443 **14 20 00 Hydraulic Elevator Modernization 444 **14 20 00 Hydraulic Elevator Modernization Total 445 **14 20 00 Hydraulic Elevator Modernization Total	447							
449 Wall-mounted inclined wheelchair lift at stage 1 LS \$20,000 \$20,000 450 Elevator repairs - budget provided 1 BUD \$200,000 \$200,000 451 *14 20 00 Hydraulic Elevator Modernization Total \$20,000 \$20,000 \$0	448 **14 20 00 Hydraulic Elevator Modern	ization						
Isevator repairs - budget provided 1 BUD \$200,000.00 \$200,000 451 *14 20 00 Hydraulic Elevator Modernization Total \$200,000 \$0 \$0	449 Wall-mounted inclined wheelchair lift a	at stage	1	LS	\$20,000.00	\$20,000		
451 **14 20 00 Hydraulic Elevator Modernization Total \$220,000 \$0	450 Elevator repairs - budget provided		1	BUD	\$200,000.00	\$200,000		
857	451 **14 20 00 Hydraulic Elevator Modern	ization Total				\$220,000	\$0	\$0
MAG Contraction of the second s	452							
453	453							
454	454							
CHA Consulting Inc.							CHAC	onsulting Inc.

12,024 GSF

DIRECT TRADE COST DETAILS

	ELEMENT	QUANTITY	UNIT	UNIT RATE	ACCESSIBILITY	EXTERIOR	INTERIOR
					IMPROVEMENT	PRESERVATION	RENOVATIONS
155	21-25 MECHANICAL						
456							
457	**21 00 00 Fire Protection						
A58	4 inch Fire Service street connection	1	LS	\$7,500.00			\$7,500
459	4 inch DDCVA	1	EA	\$6,500.00			\$6,500
450	4 inch Fire department connection	1	EA	\$2,500.00			\$2,500
461	2 inch FCVA Floor control valve	4	EA	\$1,752.00			\$7,008
467	1 1/4 inch FHV -fire hose valve	- 4	EA	\$358.50			\$1,434
A63	2 1/2 Dry system deluge vale	1	EA	\$3,156.00			\$3,156
464	Air compressor & dryer	1	EA	\$1,596.00			\$1,596
465	Air pipe type L copper w fittings	1	LS	\$1,356.00			\$1,356
466	Control and wiring	1	LS	\$1,836.00			\$1,836
467							
463	Sprinkler heads						
46 9	Dry sprinkler head	48	HEAD	\$174.00			\$8,352
-70	wet sprinkler head	95	HEAD	\$90.00			\$8,550
71							
472	Sprinkler pipe	12.024	GSF	\$3.60			\$43,286
473	particular statements and stat						
474	Start up and testing	1	LS	\$2,164,32			\$2,164
475	Rigging and delivery	1	LS	\$3,060,00			\$3.060
476	Submittals and shop drawings	1	LS	\$816.00			\$816
477	Drafting, coordination and BIM	1	LS	\$2,448.00			\$2,448
478	Caulking and Firestopping	1	LS	\$612.00			\$612
179	Cut and patch	1	LS.	\$1,020,00			\$1.020
480	Seismic restraint	1	LS	\$1,224.00			\$1,224
481	Project Management and supervision	1	LS	\$3,468,00			\$3,468
482	**21 00 00 Fire Protection Total		. 25		\$0	\$0	\$107.887
483						15	
184							
485	**22.00.00 Plumbing						
436	Demolition	12.024	SF	\$1,26			\$15,150
487			-	10.00			+
-	New work						
ung	4 inch DCW service	1	LS	\$7,500.00			\$7,500
						CHA	Consulfing Inc

12,024 GSF

DIRECT TRADE COST DETAILS

ELEMENT	QUANTITY	UNIT	UNIT RATE	ACCESSIBILITY	EXTERIOR	INTERIOR
			1	IMPROVEMENT	PRESERVATION	RENOVATIONS
2 1/2 inch DDCVA	1	EA	\$4,200.00			\$4,200
2 1/2 inch water meter	1	EA	\$1,392.00			\$1,392
30 Gallon Elec Hot water heater 4.5 KW	1	EA	\$2,664.00			\$2,664
Point of use elec HW heater	1	EA	\$1,290,00			\$1,290
94 Circulating pump	1	EA	\$1,272.00			\$1,272
195						
96 Plumbing fixture						
WC- water closet	8	EA	\$1,566.00			\$12,528
WC- water closet (H)	4	EA	\$1,773.00			\$7,092
99 LAV - Lavatory	7	EA	\$1,635.00			\$11,445
500 Sink- Family room	1	EA	\$1,695.00			\$1,695
501 Sink- Classroom	1	EA	\$1,995.00			\$1,995
502 Sink-Pantry	1	EA	\$1,755.00			\$1,755
Sink-Janitor closet	1	EA	\$1,395.00			\$1,395
504						
305 Domestic CW/ HW pipe	12,024	SF	\$6.00			\$72,144
Domestic CW/ HW pipe insulation	12,024	SF	\$1.20			\$14,429
97 Sanitary pipe	12,024	SF	\$4.50			\$54,108
508 Storm pipe	12,024	SF	\$1.80			\$21,643
Gas Pipe	12,024	SF	\$2.10			\$25,250
510						
511 Wall Hydrant (Allow)	4	EA	\$414.00			\$1,656
512 Hose bibb (Allow)	8	EA	\$219.00			\$1,752
513						
514 Start up and testing	1	LS	\$3,607.20			\$3,607
515 Rigging and delivery	1	LS	\$4,080.00			\$4,080
Submittals and shop drawings	1	LS	\$1,224.00			\$1,224
517 Drafting, coordination and BIM	1	LS	\$3,264.00			\$3,264
Caulking and Firestopping	1	LS	\$1,224.00			\$1,224
519 Cut and patch	1	LS	\$2,040.00			\$2,040
520 Seismic restraint	1	LS	\$3,978.00			\$3,978
21 Project Management and supervision	1	LS	\$18,870.00			\$18,870
522 ** 22.00.00 Plumbing Total			3104040446	\$0	\$0	\$300,643
523						1000
524						

CHA Consulting, Inc.

12,024 GSF

DIRECT TRADE COST DETAILS

ELEMENT	QUANTITY	UNIT	UNIT RATE	ACCESSIBILITY	EXTERIOR	INTERIOR
		1	1	IMPROVEMENT	PRESERVATION	RENOVATIONS
**23 00 00 Heating, Ventilation and Air-Conditioning						
526 Equipment						
527 ERU-1 650 CFM	1	EA	\$41,172.00			\$41,172
528 FCU F-04	1	EA	\$6,672.00			\$6,672
529 FCU CPY-04	4	EA	\$6,672.00			\$26,688
530 FCU CPY-012	4	EA	\$6,672.00			\$26,688
531 FCU HDY-12	1	EA	\$6,672.00			\$6,672
532 FCU HBD-40	1	EA	\$6,672.00			\$6,672
533						
534 Ground Source Heat pump 136 GPM load side	2	EA	\$165,408.00			\$330,816
535						
536 Glycol feeder						
537 GF-1	1	EA	\$3,948.00			\$3,948
538 GF-2	1	EA	\$3,948.00			\$3,948
539 GF-3	1	EA	\$3,948.00			\$3,948
540						
541 Electric Wall heater						
542 EWH 1.5KW	5	EA	\$1,716.00			\$8,580
543 EWH 2 KW	2	EA	\$1,956.00			\$3,912
543 EWH 4KW	4	EA	\$3,487.20			\$13,949
545						
546 Air separator 4 inch Taco	1	EA	\$3,132.00			\$3,132
547 Air separator 3 inch Taco	1	EA	\$2,484.00			\$2,484
548						
549						
550 Expansion Tank						
551 ET-1	1	EA	\$3,084.00			\$3,084
552 ET-2	1	EA	\$3,084.00			\$3,084
933 ET-3	1	EA	\$3,084.00			\$3,084
554						
555 HW Pumps						
536 Well pump 1&2 150 GPM 90' HD	2	EA	\$9,960.00			\$19,920
557 CHW pump 3&4 110 GPM 80' HD	2	EA	\$8,985.00			\$17,970
558 HW pump 5&6 95 GPM 60' HD	2	EA	\$5,790.00			\$11,580
559						

CHA Consulting, Inc.

12,024 GSF

DIRECT TRADE COST DETAILS

ELEMENT	QUANTITY	UNIT	UNIT RATE	ACCESSIBILITY	EXTERIOR	INTERIOR
				IMPROVEMENT	PRESERVATION	RENOVATIONS
60 Air outlets						
61 S-1	3	EA	\$375.00			\$1,125
62 S-2	11	EA	\$355.00			\$3,905
63 R-2	2	EA	\$295.00			\$590
64 E-1	6	EA	\$275.00			\$1,650
65 E-2	2	EA	\$255.00			\$510
66 T-2	2	EA	\$305.00			\$610
457 RG (36x6)	8	EA	\$425.00			\$3,400
563 SR (20×10)	10	EA	\$330.00			\$3,300
569 SR (12x12)	5	EA	\$285.00			\$1,425
570 SR (12x8)	2	EA	\$255.00			\$510
571			10.0030			10.10
573 Sound attenuator						
73 (22×10×36)	1	EA	\$1,500.00			\$1,500
574 (28×12×36)	2	EA	\$1,950.00			\$3,900
75			Concerne.			1-1
576						
57 Ductwork						
TR LP Duct w misc accessories	9,450	LB	\$15.50			\$146.475
579						terebute.
Duct insulation						
581 lined duct	2,200	SE	\$4.25			\$9.350
wrapped duct	4.000	SE	\$2.95			\$11,800
583	4444					
584						
585 Testing and balancing (air and water)	1	15	\$20 500.00			\$20 500
586			010,000,000			420,000
Piping and insulation						
Black steel Sched 40 CWS&R nine						
3 joch	505	16	\$85.00			\$47 925
see 2 inch	101	IF	\$46.00			\$4 646
set 1 5 inch	180	IF	\$42.00			\$7 560
a Joinch	155	IF	\$35.00			\$5,425
(0)	155	LF	\$55.00			23,423
03						

CHA Consulting, Inc.
12,024 GSF

DIRECT TRADE COST DETAILS

	ELEMENT	QUANTITY	UNIT	UNIT RATE	ACCESSIBILITY	EXTERIOR	INTERIOR
				1	IMPROVEMENT	PRESERVATION	RENOVATIONS
95	Black steel Sched 40 HWS&R pipe						
96	3 inch	225	LF	\$85.00			\$19,125
97	2 Inch	95	LF	\$46.00			\$4,370
98	1.5 inch	170	LF	\$42.00			\$7,140
99	1.25 inch	145	LF	\$35.00			\$5,075
ini.							
601	Black steel Sched 40 HWS&R pipe insulation						
502	3 inch	225	LF	\$17.00			\$3,825
503	2 inch	95	LF	\$9.20			\$874
504	1.5 inch	170	LF	\$8.40			\$1,428
505	1.25 inch	145	LF	\$7.00			\$1,015
606							
607	Condensate Drain pipe						
60.8	1.5 inch	150	LF	\$55.00			\$8,250
509	3/4 inch	520	LF	\$35.00			\$18,200
510							
61.1							
512	ATC with wiring						
51.I	ERU-1 650 CFM	1	EA	\$30,000.00			\$30,000
514	FCU F-04	1	EA	\$4,500.00			\$4,500
615	FCU CPY-04	4	EA	\$4,500.00			\$18,000
615	FCU CPY-012	4	EA	\$4,500.00			\$18,000
617	FCU HDY-12	1	EA	\$4,500.00			\$4,500
618	FCU HBD-40	1	EA	\$4,500.00			\$4,500
61.9	Ground Source Heat pump 136 GPM load side	2	EA	\$27,300.00			\$54,600
620	GF-1	1	EA	\$2,160.00			\$2,160
621	GF-2	1	EA	\$2,160.00			\$2,160
622	GF-3	1	EA	\$2,160.00			\$2,160
623	HW pump 3&4 110 GPM 80' HD	2	EA	\$5,340.00			\$10,680
624	HW pump 5&6 95 GPM 60' HD	2	EA	\$5,340.00			\$10,680
625							
526							
627	Start up and testing	1	LS	\$7,214.40			\$7,214
628	Rigging and delivery	1	LS	\$8,160.00			\$8,160
520	Submittals and shop drawings	1	LS	\$1,632.00			\$1,632
						CHA /	Canculfing, Inc.

12,024 GSF

DIRECT TRADE COST DETAILS

ELEMENT	QUANTITY	UNIT	UNIT RATE	ACCESSIBILITY	EXTERIOR	INTERIOR
		1	1	IMPROVEMENT	PRESERVATION	RENOVATIONS
Drafting, coordination and BIM	1	LS	\$8,160.00			\$8,160
631 Caulking and Firestopping	1	LS	\$2,448.00			\$2,448
632 Cut and patch	1	LS	\$4,080.00			\$4,080
533 Seismic restraint	1	LS	\$13,500.00			\$13,500
634 Project Management and supervision	1	LS	\$37,230.00			\$37,230
535 **23 00 00 Heating, Ventilation and Air-Conditioning Total				SO	\$0	\$1,132,775
636						
637						
638						
639 26-28 ELECTRICAL						
640						
541 ** 26 00 00 Electrical						
GB LED downlight at assessable entrance, det 1.1/A-20	7	FIX	\$150.00	\$1,050		
643						
544 Demolition of existing panels feeders and safe off	12,024	SF	\$1.50			\$18,036
645						
646 Lighting budget	1	LS	\$168,561.00			\$168,561
647 Lighting refurbish & installation	1	LS	\$121,350.00			\$121,350
648 Lighting control	1	LS	\$22,364.64			\$22,365
649 Light wiring	1	LS	\$28,858.00			\$28,858
650						
551 Power distribution with conduit and wire	12,024	SF	\$11.40			\$137,074
652						
553 Fire Alarm system with conduit and wire	12,024	SF	\$5.94			\$71,423
654						
555 Emergency Voice alarm communication system (EVACS) with wiring	12,024	SF	\$2.34	\$28,136		
656						
657 Receptacles and outlets	12,024	SF	\$3.30			\$39,679
658						
639 Grounding and bonding	12,024	SF	\$0.66			\$7,936
660						
661 Telecom	12,024	SF	\$3.50			\$42,084
662						
🛤 Audiovisual Systems Program Report - budgets provided						
664 Great Hall	1	BUD	\$167,000.00			\$167,000

12,024 GSF

DIRECT TRADE COST DETAILS

	ELEMENT	QUANTITY	UNIT	UNIT RATE	ACCESSIBILITY	EXTERIOR	INTERIOR
				1	IMPROVEMENT	PRESERVATION	RENOVATIONS
665	Colonnade	1	BUD	\$61,800.00			\$61,800
666	Classroom	1	BUD	\$42,500.00			\$42,500
567	A/v conduit & wire	12,024	SF	\$1.66			\$19,960
668							
669	Equipment termination	12,024	SF	\$1.50			\$18,036
670							
671	Start up and testing	1	LS	\$5,050.08			\$5,050
673	Rigging and delivery	1	LS	\$6,120.00			\$6,120
673	Submittals and shop drawings	1	LS	\$1,632.00			\$1,632
674	Drafting, coordination and BIM	1	LS	\$6,120.00			\$6,120
675	Caulking and Firestopping	1	LS	\$1,224.00			\$1,224
676	Cut and patch	1	LS	\$3,264.00			\$3,264
677	Seismic restraint	1	LS	\$9,282.00			\$9,282
678	Project Management and supervision	1	LS	\$34,068.00			\$34,068
679	**26 00 00 Electrical Total				\$29,186	\$0	\$1,033,421
610							
681							
682							
683	31 EARTHWORK						
684							
585	31 00 00 Mobilization & Erosion						
686	Mobilization Operations						
687	Mobilization	1	LS	\$15,000.00			\$15,000
685	Construction fence installation and maintenance	500	LF	\$20.00			\$10,000
689	Double construction gate	2	EA	\$2,500.00			\$5,000
690	Temporary construction entrance	2	LOC	\$7,500.00			\$15,000
691	Temporary signs	1	LS	\$5,000.00			\$5,000
692	Wash down/re-fueling/parking areas	1	EA	\$3,500.00			\$3,500
693	Tree to protect	1	AL	\$5,000.00			\$5,000
684							
695	Erosion and Sedimentation Controls						
696	Erosion control barrier; install and maintenance	500	LF	\$14.00			\$7,000
697	Silt sacks in all ex. drainage structures	1	AL	\$2,500.00			\$2,500
698	Misc. Environmental Protections	1	AL	\$5,000.00			\$5,000
699	Misc. Site Demolition	1	AL	\$10,000.00			\$10,000
						CHA	Consulting, Inc.

12,024 GSF

DIRECT TRADE COST DETAILS

ELEMENT	QUANTITY	UNIT	UNIT RATE	ACCESSIBILITY IMPROVEMENT	EXTERIOR PRESERVATION	INTERIOR RENOVATIONS
Reallocation for budget purposes only				\$12,500	\$12,500	(\$25,000
31 00 00 Mobilization & Erosion Total				\$12,500	\$12,500	\$58,000
32 EXTERIOR IMPROVEMENTS						
32 10 00 Paving and Surfacing						
Accessible walkway at North Entrance, x2loc	215	SF	\$19.40			\$4,175
Curb cut at NE corner	1	LOC	\$750.00			\$750
1 Contraction of the second						
Brick sidewalk reset at Derby Square after new utility work	6,413	SF	\$15.00			\$96,198
1 32 10 00 Paving and Surfacing Total				\$0	\$0	\$101,123
8						
33 SITE UTILITIES						
A CONTRACT OF						
7 33 10 00 Water						
Fire suppression supply	20	LF	\$125.00			\$2,500
Gate valve; 4"	1	EA	\$2,100.00			\$2,100
Connection To Existing	1	EA	\$7,500.00			\$7,500
33 10 00 Water Total				\$0	\$0	\$12,100
2						
1						
33 20 00 Sanitary Sewer						
Demo existing floor drain and drain piping	1	LS	\$5,000.00			\$5,000
Floor clean out in basement slab	1	OPEN	\$495.00			\$495
6" PVC Sanitary line	34	LF	\$76.00			\$2,571
Excavate and replace belly in sanitary pipe	30	LF	\$195.00			\$5,932
Connection To Existing	1	EA	\$7,500.00			\$7,500
33 20 00 Sanitary Sewer Total				\$0	\$0	\$21,498
2						
3 33 30 00 Storm Sewer						
4 Entry drain	16	LF	\$90.00	\$1,447		
					CHAC	Consulting Inc.

DIRECT TRADE COST DETAILS

	ELEMENT	QUANTITY	UNIT	UNIT RATE	ACCESSIBILITY IMPROVEMENT	EXTERIOR PRESERVATION	INTERIOR RENOVATIONS
735	Yard Drain	1	EA	\$1,850.00	\$1,850		
736	Connect to Existing	2	EA	\$6,500.00	\$13,000		
737	33 30 00 Storm Sewer Total				\$16,297	\$0	\$0
738							

CHA Consulting, Inc.

ALTERNATES

	CERTAIN	QUANTITY	UNIT	UNIT RATE	CUST
B	A1.1 New de-icing system at basement accessible entrance				\$9,90
	A1.2 New de-icing system at balance of eaves and downspouts				\$66,90
1	E1 Low voltage lighting control system				\$42,30
	E2 Emergency lighting inverters				\$23,50
	E3 NM Romex cable branch circuitry				(\$17,50
- 2	E4 Eliminate fire alarm radio master box and antenna				(\$32,40
	AV-1 Great Hall video presentation system				\$194,70
	AV-2 Great Hall production assistance				\$25,00
	AV-3 Great Hall portable video conferencing				\$14,50
16	AV-4 Colonnade production enhancement				\$12,40
4	AV-5 Classroom public area paging system				\$16,80
1	Alternate A1.1				
2 /	A1.1 New de-icing system at basement accessible entrance				
3	Remove first few courses of slate at eave	4	MHR	\$115.00	\$46
4	Eave de-icing metal clad materials	4	LF	\$200.00	\$80
5	Downspout loop cable from gutter to grade	150	LF	\$2.75	\$41
6	Install system by Roofer	12	MHR	\$115.00	\$1,38
7	Electric power wiring from breaker to control box	1	RUN	\$2,000.00	\$2,00
8	System Controller	1	LS	\$2,500.00	\$2,50
9	Burdens and Markups	30%		\$7,553	\$2,26
0	Alternate A1.1 Total				\$9,90
1					
2					
3	Alternate A1.2				
4	A1.2 New de-icing system at balance of eaves and downspouts				
5	Remove first few courses of slate at eave	122	MHR	\$115.00	\$13,97
6	Eave de-icing metal clad materials	162	LF	\$200.00	\$32,40
7	Downspout loop cable from gutter to grade	420	LF	\$2.75	\$1,15
8	Install system by Roofer	8	MHR	\$115.00	\$92
9	Electric power	2	RUN	\$1,500.00	\$3,00
0	Burdens and Markups	30%		\$51,448	\$15,43
a ,	Alternate A1.2 Total				\$66,90
2					
3					
4	Alternate E1				
5	E1 Low voltage lighting control system				
5	Provide low voltage lighting control system in lieu of standard	12 024	GSE	\$2.70	\$37 46
	switching	12,024	0.51	\$2.10	<i>JJ2,40</i>
7	Burdens and Markups	30%		\$32,465	\$9,73
8	Alternate E1 Total				\$42,30
9				CHA Cons	ulting, Inc.

ALTERNATES

	ELEMENT	QUANTITY	UNIT	UNITRATE	COST
50	Alternate E2				
1	E2 Emergency lighting inverters				
	Provide budgetary cost to provide emergency lighting inverters to				
12	new lighting fixtures for emergency lighting in lieu of emergency	12,024	GSF	\$1.50	\$18,03
	lighting fixtures with integrated batteries				1
3	Burdens and Markups	30%		\$18,036	\$5,41
4	Alternate E2 Total				\$23,50
5					
00	Alexander F2				
0	F2 NM Remain while breach simulitary				
8	E3 NIVI ROMEX Cable branch circuitry				
59	in lieu of MC cable branch circuit where permitted	12,024	GSF	(1.26)	(\$15,15
50	Burdens and Markups	15%		(15 150 24)	152.27
51	Alternate F3 Total	1370		(15,150.24)	(\$17.50
52					14-21/20
53					
54	Alternate E4				
55	E4 Eliminate fire alarm radio master box and antenna				
	Provide alternate budgetary cost to remove fire alarm radio master				
56	box and antenna from scope if it is determined not required by the	12,024	GSF	(2.34)	(\$28,13
	Salem fire department.			4.5.4	
57	Burdens and Markups	15%		(28,136.16)	(\$4,22
58	Alternate E4 Total				(\$32,40
59					
70					
71	Alternate AV-1				
72	AV-1 Great Hall video presentation system				
73	Misc metals, rough carpentry, GC laborer	1	LS	\$10,000.00	\$10,00
74	Option D; motorized screen and projector	1	BUD	\$137,200.00	\$137,20
75	Conduit and wire rough-in	1	LS	\$2,500.00	\$2,50
76	Burdens and Markups	30%		\$149,700	\$44,91
77	Alternate AV-1 Total				\$194,70
78					
79	and the second sec				
80	Alternate AV-2				
51	AV-2 Great Hall production assistance				
32	communications during productions	1	BUD	\$19,200.00	\$19,20
12	Burdens and Markups	30%		\$19 200	\$5.76
84	Alternate AV-2 Total	5070		<i>QI3,200</i>	\$25.00
35	Alteriate Arez Total				423,00
86					
37					
38					
				CHA Consu	ining, Inc.

ALTERNATES

		QUANTIT	UNIT	UNIT KATE	COST
89	Alternate AV-3				
90	AV-3 Great Hall portable video conferencing				
91	Option F; self-contained portable system	1	BUD	\$11,100.00	\$11,10
92	Burdens and Markups	30%		\$11,100	\$3,33
93	Alternate AV-3 Total				\$14,50
94					
95					
96	Alternate AV-4				
97	AV-4 Colonnade production enhancement		-		40/00
98	Option A, B, C; increase level of flexibility	1	BUD	\$9,500.00	\$9,50
99	Burdens and Markups	30%		\$9,500	\$2,85
100	Alternate AV-4 Total				\$12,40
101					
102	Altermete AV E				
103	AV-5 Classroom public area paging system				
105	Public area paging	4	RUD	\$12 500 00	\$12 50
106	Conduit and wire rough in	1	15	\$400.00	\$12,50
107	Burdens and Markuns	30%	1.5	\$12 900	\$3.8
108	Alternate AV-5 Total	5070		<i>\$12,500</i>	\$16.80
					1-1-1
109					
110					
L10 L11					
109					
109					



OLD TOWN HALL RENOVATIONS

32 Derby Square / Salem MA

PROGRAMMATIC & ANALYTICAL INFORMATION

- E.01PROGRAMMATIC CONSIDERATIONS FOR OLD TOWN HALL
10 Jan 2022 / Mills Whitaker Architects / Memo of Q+A Session
- E.05 HYDRANT FLOW TEST FOR FIRE SUPPRESSION SYSTEM 17 Dec 2021 / Metro-Swift Sprinkler Corporation
- E.08 HAZARDOUS MATERIALS SURVEY RESULTS 14 Mar 2022 / Universal Environmental Consultants
- E.15 ACOUSTICAL ANALYSIS 19 Apr 2022 & ff / Acentech Incorporated
- E.39 FINISHES DISCUSSION & DECISIONS 16 Jun 2022 / Mills Whitaker Architects
- E.44 SUSTAINABILITY & ENERGY STUDY 22 Aug 2022 / The Green Engineer

APPENDIX E PROGRAMMATIC & ANALYTICAL INFORMATION Mills Whitaker Architects LLC

PROGRAMMATIC CONSIDERATIONS for OLD TOWN HALL in SALEM

Prepared by Mills Whitaker Architects LLC / 10 January 2022

The Old Town Hall serves as a local hub for Arts and Culture. The contemplated project intends to restore and renovate this historic building so that it better serves the community for these types of uses. In advance of our 1/12/2022 program discussion to review prior and future uses, here is a preliminary list of questions for consideration of the project's programmatic criteria.

Two video conference meetings were held via Zoom, one on 1/12 and another on 1/13. Participants at each meeting consisted of:

Don Mills / Project Architect – Mills Whitaker Architects Julie Barry / Salem Senior Planner – Arts & Culture Chelsea Titchenell / Salem Planning Assistant – Arts & Culture Melissa Martinez / Owner's Project Manager – Anser Advisory Answers to the questions discussed during the meetings are noted below in italics.

BUILDING USES & AMENITIES

- 1. How would you best summarize the characteristics and types of uses for each floor?
 - a. At the second floor in the Great Hall space, former offices, and single restroom? Great Hall is used for theater, weddings, catered dinners, music, burlesque, and similar uses. Former Selectmen's Room and adjacent toilet serve as a Green Room for theater use, and as the bride's room for weddings. Former Town Clerk's Office is used for storage of theater props/screens/etc. and for access to the elevator.
 - b. At the first floor in the colonnade space, office, entrances, and foyers? The colonnade area is used as gallery space, standing room function area (cocktails), intimate gatherings (small weddings), receptions, vendor stalls (freaks & antiques, craft fairs, local artisans). Power outlets are problematic even though they were redone recently. South Foyer IS used for storage, trash, recycling, etc. The office is currently used for History Alive and might be used by the Art Planner (again).
 - c. At the basement level for storage, future catering kitchen and meeting room? City documents will be moved out of the basement and no space is required for that existing use. A catering kitchen should be provided (see item 5 below). Storage for building needs and tenants should be provided. A multi-use classroom is a necessary asset and could be used for rehearsals, table readings, dance, and art.
 - d. What past or future uses have been poorly served and need improvement? Theater is challenging due to the lack of wings, support space, poor acoustics, and limited lighting. Amplified music is problematic due to acoustics (too reverberant).
 - e. What future uses have never been accommodated and need to be considered? Dance has not been prevalent, and while a sprung floor is not necessary it would be good to have some amenities for dance (barre, mirrors, practice, and performance) for the basement (part of multi-use space) and second floor (portable components).
 - f. ...?

The Great Hall stage is not normally used except occasionally for vocal performers. If it is not original to the space, removal could be considered in lieu of making it accessible or seeking a variance (for which approval is unlikely). The perimeter tiered

seating in Great Hall is thought to be original. These elements will be reviewed further, and historic significance will be assessed prior to making decisions.

2. If simultaneous events have been scheduled in the past, what kinds of problems have you experienced in the following areas, and should these concerns be addressed?

- a. Distracting noise transfer between floors from one event to another?
 You can hear a penny drop onto the second floor when listening from the first floor.
- b. Access and egress concerns from entrances and stairs that may be disruptive? Current access to/from the restrooms is only available from the south stair.
- c. Clarity of access pathways for attendees between floors and to the restrooms? Having separation between the north stair and first floor (similar to the existing separation at the south stair) for continuity from basement to second floor could be helpful for preserving the integrity of simultaneous events.
- d. ...?

Having access through the basement to the north and south stair would be far better than only having access via the south stair. This would also eliminate the need for the awkward pair of basement exits to the east and west to be used as egress.

3. If the current occupancy load limitations were no longer applicable, and if the structure and egress could support having more people in the building, how many people might you hope could use each floor at a maximum for certain events?

- a. For second floor events in the Great Hall (currently limited to 150 persons)? A capacity of 250 to 300 persons would be preferrable to the current limitations.
- b. For first floor events in the Colonnade (currently limited to 150 persons)? It would be good if 150 to 200 persons could occupy the Colonnade.
- c. For basement classes/workshops/seminars in a small meeting area (currently 0)? A versatile classroom type space for at least 20 persons would be very useful.
- d. For simultaneous occupancy in the whole building (currently limited to 250)? It would be good to know the maximum number of occupants allowed by egress and structural capacity for times when a seasonal flow-through event might occur.
- e. ...?

Providing column supports in the basement below the first floor columns would greatly improve the structural capacity of both the first and second floors.

- 4. The restrooms in the building include public multi-fixture restrooms in the basement and a single-user restroom on the second floor. The existing fixture count does not support maximum occupant loads in the building, and renovated restrooms must be expanded to meet your preferred full occupancy capacity per the plumbing code.
 - a. Is retaining a single-user restroom at the second floor an essential feature?
 Yes, having this restroom is a very useful amenity for performers and bridal parties.
 - b. Are you interested in pursuing a plumbing variance to have three multi-fixture restrooms in the basement designated for men, women, and all gender? Would prefer to seek a variance for one all gender restroom instead of having three separate restrooms. (Julie will share the variance application information that was used for approval of multi-fixture inclusive restroom at Artists' Row.)

Programmatic Questions for Old Town Hall

- c. Will the restrooms only be available to the public when the building is open for specific events, or will there be a need for off-hours access to the restrooms? Due to the lack of direct exterior handicap access to the basement, restrooms will only need to be made available when the building is open.
- d. ...?

Will explore layouts for having a single multi-fixture inclusive restroom in the basement, or possibly two restrooms if the layout lends itself better to that type of configuration. If a variance is not successful, having a women's and men's room would be acceptable as long as no urinals were used, and private stalls provided for future conversion into all gender restrooms without further modifications.

- Existing foodservice within the building appears to be limited to a microwave in the former town clerk's office on the second floor behind stored portable theater screens.
 - a. Were the two options for a kitchen in the 2020 DREAM drawings discussed? Showed these briefly and noted that neither option seemed to provide the types of appliances that would be needed for a catering kitchen.
 - b. Have any discussions been initiated yet with the Salem Board of Health? No, not yet. They will likely require a separate hand wash sink and a grease separator for the main sink(s).
 - c. What type of kitchen amenities would be advantageous for various events? All electric appliances with a convection oven, microwave, refrigerator/freezer, counters, cabinets, etc. The architect will review the two catering kitchens provided in our renovation of the Cary Memorial Building, one for the Green Room and another for concessions (with the former likely a better fit for the Old Town Hall).
 - d. Have concessions ever been served during events? What type are appropriate? No concessions are contemplated.
 - e. ...?

6. What other plumbing fixtures might be desired to support various uses and events?

- a. Drinking fountain with bottle fill feature, or water dispenser with container refills? If feasible, a drinking fountain with bottle fill would be nice but not essential. Perhaps in the basement if dance classes can be held there.
- b. Green room sinks for theater prep? The sink in the adjacent restroom at the second floor will suffice.
- c. Utility room mop or slop sink(s)?
 Yes, in the basement.
- d. Art sink(s) for basement classroom area?
- Yes, and it would need a solids separator per the plumbing code.
- e. ...?
- The building has some accessible features but is not in full compliance with current accessibility regulations. Have there been specific complaints about the following:
 - a. Pavement conditions in Derby Square and around the building?

Programmatic Questions for Old Town Hall

No known formal complaints.

- b. Directional signage at the south façade doors to the accessible entrance? No known formal complaints.
- c. Exterior landing at the main north entrance (door swing, cross slope)? Anecdotal complaints about the door swinging over the landing when approaching via the sloping walkway on the west side of the entry. Discussed how solving this will require making the sidewalk area on the north side of the building wider by moving the curb toward Essex Street.
- d. Stair railings at all floor levels inside the building (sizes, clearances, continuity)? No known complaints about pinch points where clearances are diminished.
- e. Ramped floor leading to the first floor elevator landing and to the south stair? No known formal complaints.
- f. Height of existing thresholds at any of the doorways (excessive height/slope)? No known formal complaints.
- g. Accessible restroom availability (location, clearances)? No known formal complaints.
- h. Assistive listening systems for assembly events (for the hearing impaired)? Was not aware that this is a code requirement and requested more information. 521 CMR 14.5 states that an assistive listening system is required in an assembly area that can accommodate at least 50 persons (521 CMR 14 Places of Assembly).

i. ...?

The project cost will trigger the need for full compliance with current accessibility regulations per 521 CMR 3. The October 2019 "ADA Transition Plan" report that was provided for the Old Town Hall responded to existing conditions but did not address full compliance issues since a renovation project was not part of that study.

8. Are there any special features under consideration for supporting events, such as:

- a. Projection screens, large visual displays, or other audiovisual systems? No screens, displays or other AV systems are anticipated.
- b. Speaker systems for amplified sound, or distributed speakers for announcements? Speakers for amplified sound could be considered, but orientation of the use and setup may preclude using anything other than portable speakers. Could be useful to review options with our AV Consultant. Speakers for building-wide announcements (e.g., PA Systems) are not needed.
- c. Theatrical lighting (permanent or portable), lighting controls, dimming systems? Dimming is needed and is not currently installed at the existing first floor and second floor fixtures. Portable theatrical lighting seems preferable over permanently installed fixtures to retain the current historic ambience of the second floor. Options can be reviewed with assistance from our Lighting Consultant.
- d. ...?

Review of noise issues with our Acoustical Consultant is important to diagnose the transfer between floors, excessive reverberance, and future concerns for mechanical equipment noise when an HVAC system is provided.

Programmatic Questions for Old Town Hall

58R Pulaski St. P.O. Box 3007 Peabody, MA 01960	Fax: (978) 531-2433 Fax: (978) 531-2433 Fax: (978) 531-2433 Fire Protection Contractors
	Sprinkler Contractors License #SC-001199 www.metroswift.com
December 17, 2021	
City of Salem Department of 98 Washington Street Salem, ma 01970	Planning and Community Development
RE: Hydrant Flow Test result 32 Derby Square Salem, Ma	5
Attention: Ms. Julie Barry	
We wish to provide the follow Water Department and Metro	ving hydrant flow test results conducted on December 16, 2021 @ 10:00 PM with The Salem Swift Sprinkler Corporation at the above referenced location.
The gauged hydrant (HYD-10 located up the hill in front of 3	(27) is located between 5 Derby Square and 32 Derby Square and flow hydrant (HYD-103) is(27) Derby Square on the Essex Street side off a twelve-inch (12") water main.
Test Results with Pollard 2-1/	2" Diffuser:
Static Pressure: Residual Pressure: Pitot psi	82 psi 77 psi <u>60 psi</u>
Flow	1,306 gpm
If you should have any question	ons, please do not hesitate to call this office.
Best regards,	
METRO-SWIFT SPRINKLE	R CORP.
<i>Tuchaul P. Jenne</i> Richard P. Rennick Sales Representative	red (
- INSPECTIONAL S	ERVICES, FIRE PUMP TESTING, BACKFLOW INSTALLATION, 24-HOUR EMERGENCY SERVICE -

Hydrant Flow Test Results Project Name: OLD CITY HAIL BUILDING Date: 12-16-24 Time: 16-00 Location: 32 DEABY SQUARE Image: SQUARE Image: SQUARE Image: SQUARE Operator Image: SQUARE Image: SQUARE Image: SQUARE Image: SQUARE Image: SQUARE Operator Image: SQUARE Image: SQUARE Operator Operator Image: SQUARE Operator Operator Image: SQUARE Operator <	Kimberley Driscoll Mayor David H. Knowlton, P.E. City Engineer/DPS Director	CITY OF SALEM Engineering Department 98 Washington Street, 2 nd floor Salem, MA 01970 Phone: (978) 619-5673
Project Name: $\begin{array}{c} 0LD \ CiTY \ HA \ HA \ HB \ But \ Ditter \ Date: \ \underline{DITY} \ HA \ HA \ HB \ Ditter \ Dit$	Hydran	t Flow Test Results
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Project Name: OLD CITY HAI	1/ BuilDING Date: 12-16-21 Time: 10:00 Pm
Hydrant Coefficients: \frown Ch=0.90Hydrant \bigcirc	GAUGE Sketch	-0 HVD-1051 Flow 32 DELBY SQUILL
Observation Hydrant #: Observed Static Pressure (psi): Observed Residual Pressure (psi): Pressure Drop (psi) HYD - 1027 \$7 \$5 \$7 Flow Hydrant #: Nozzle Size (in.): Flow (gpm): Velocity Pressure (psi): HYD - 1031 $7^{1/2}$ 1306 60	Observation Hydrant Q - Flow	Hydrant Coefficients: (Circle One) (Circle One) Hydrant Coefficients: Ch=0.90 Ch=0.80 Ch=0.70
Flow Hydrant #:Nozzle Size (in.):Flow (gpm):Velocity Pressure (psi): $HVD - 1031$ 212^{44} 130660	Observation Hydrant #:Observed Static PressuHVD - 102782	are (psi): Observed Residual Pressure (psi): Pressure Drop (psi): 77 <i>PSI</i> 5 <i>PSI</i>
	Flow Hydrant #: Nozzle Size (in HYD - 1031 21/2 **	.): Flow (gpm): Velocity Pressure (psi): 1306 60
Comments		Comments



March 14, 2022	
Mr. Donald W. I NCARB / LEED A	Mills, RA IP (BD+C)
Mills Whitaker	architects
Arlington MA C	2475
Dufaranas	Asherter pretricing Materials Insportion and Complian Services
Ketererice;	Salem Old Town Hall, Salem, MA
Dear Mr. Mills:	
Thank you for t services.	he opportunity for Universal Environmental Consultants (UEC) to provide professi
UEC was contra contain asbesto	cted to perform limited investigation and testing from various materials suspecte s at areas scheduled to be renovated at the Old Salem Town Hall, Salem, MA. Tes
UEC was contra contain asbesto was performed Bulk samples ar (PLM) in accord collected by a N by a Massachus	cted to perform limited investigation and testing from various materials suspecte is at areas scheduled to be renovated at the Old Salem Town Hall, Salem, MA. Tes on Friday, March 11, 2022. No destructive or roof testing was performed. halysis for asbestos were performed using the standard Polarized Light Microscopy ance with Environmental Protection Agency (EPA) standard. Bulk samples were Aassachusetts licensed asbestos inspector Mr. Jason Becotte (Al-034963) and ana etts licensed laboratory EMSL. Wohurn, MA. Bulk sample is determined to be Ash
UEC was contra contain asbesto was performed Bulk samples ar (PLM) in accord collected by a N by a Massachus Containing Mat Department of compliance, pro	cted to perform limited investigation and testing from various materials suspecte is at areas scheduled to be renovated at the Old Salem Town Hall, Salem, MA. Test on Friday, March 11, 2022. No destructive or roof testing was performed. halvsis for asbestos were performed using the standard Polarized Light Microscope ance with Environmental Protection Agency (EPA) standard. Bulk samples were Massachusetts licensed asbestos inspector Mr. Jason Becotte (Al-034963) and ana etts licensed laboratory EMSL, Woburn, MA. Bulk sample is determined to be Asb erials (ACM) if the sample was found to contain more than 1-% asbestos. Per the Environmental Protection (DEP) any amount of asbestos, would trigger OSHA oper disposal, and no visible emission regulations during removal.
UEC was contra contain asbesto was performed Bulk samples ar (PLM) in accord collected by a N by a Massachus Containing Mat Department of compliance, pro Samples results	cted to perform limited investigation and testing from various materials suspecters is at areas scheduled to be renovated at the Old Salem Town Hall, Salem, MA. Test on Friday, March 11, 2022. No destructive or roof testing was performed. halysis for asbestos were performed using the standard Polarized Light Microscopy ance with Environmental Protection Agency (EPA) standard. Bulk samples were Massachusetts licensed asbestos inspector Mr. Jason Becotte (Al-034963) and ana etts licensed laboratory EMSL, Woburn, MA. Bulk sample is determined to be Asb erials (ACM) if the sample was found to contain more than 1-% asbestos. Per the Environmental Protection (DEP) any amount of asbestos, would trigger OSHA oper disposal, and no visible emission regulations during removal. are attached.
UEC was contra contain asbesto was performed Bulk samples ar (PLM) in accord collected by a N by a Massachus Containing Mat Department of compliance, pro Samples results Thirty (30) bulk contain asbesto	cted to perform limited investigation and testing from various materials suspected is at areas scheduled to be renovated at the Old Salem Town Hall, Salem, MA. Tes- on Friday, March 11, 2022. No destructive or roof testing was performed. halysis for asbestos were performed using the standard Polarized Light Microscopy ance with Environmental Protection Agency (EPA) standard. Bulk samples were Massachusetts licensed asbestos inspector Mr. Jason Becotte (Al-034963) and anal- etts licensed laboratory EMSL, Woburn, MA. Bulk sample is determined to be Asb erials (ACM) if the sample was found to contain more than 1-% asbestos. Per the Environmental Protection (DEP) any amount of asbestos, would trigger OSHA oper disposal, and no visible emission regulations during removal. are attached. samples were collected and analyzed for asbestos from various materials suspect is.
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UEC was contra contain asbesto was performed Bulk samples ar (PLM) in accord collected by a N by a Massachus Containing Mat Department of compliance, pro Samples results Thirty (30) bulk contain asbesto Samples results • Joint Co • Old win Hidden ACM pig	cted to perform limited investigation and testing from various materials suspecte is at areas scheduled to be renovated at the Old Salem Town Hall, Salem, MA. Tes- on Friday, March 11, 2022. No destructive or roof testing was performed. halysis for asbestos were performed using the standard Polarized Light Microscopy ance with Environmental Protection Agency (EPA) standard. Bulk samples were Assachusetts licensed asbestos inspector Mr. Jason Becotte (Al-034963) and ana etts licensed laboratory EMSL, Woburn, MA. Bulk sample is determined to be Asbe erials (ACM) if the sample was found to contain more than 1-% asbestos. Per the Environmental Protection (DEP) any amount of asbestos, would trigger OSHA oper disposal, and no visible emission regulations during removal. are attached. samples were collected and analyzed for asbestos from various materials suspect is. indicated that asbestos was found in the following samples collected: mpound. dow glazing caulking. be and hard joint insulation might exist.
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UEC was contra contain asbesto was performed Bulk samples ar (PLM) in accord collected by a N by a Massachus Containing Mat Department of compliance, pro Samples results Thirty (30) bulk contain asbesto Samples results • Joint Co • Old win Hidden ACM pip All ACM that mi contractor under The estimated or removal only as	cted to perform limited investigation and testing from various materials suspecte is at areas scheduled to be renovated at the Old Salem Town Hall, Salem, MA. Tes- on Friday, March 11, 2022. No destructive or roof testing was performed. halysis for asbestos were performed using the standard Polarized Light Microscope ance with Environmental Protection Agency (EPA) standard. Bulk samples were Assachusetts licensed asbestos inspector Mr. Jason Becotte (Al-034963) and ana etts licensed laboratory EMSL, Woburn, MA. Bulk sample is determined to be Asb erials (ACM) if the sample was found to contain more than 1-% asbestos. Per the Environmental Protection (DEP) any amount of asbestos, would trigger OSHA oper disposal, and no visible emission regulations during removal. are attached. samples were collected and analyzed for asbestos from various materials suspect s. indicated that asbestos was found in the following samples collected: perpound. dow glazing caulking. be and hard joint insulation might exist. ght be disturbed must be removed by a Massachusetts licensed asbestos abatem er the supervision of a Massachusetts licensed asbestos region to required.
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Mr. Donald W. Mills, RA March 14, 2022 Page 2

Please do not hesitate to call me at (508) 628-5486 if you have questions about our services.

Very truly yours,

Universal Environmental Consultants

Ammar M. Dieb President

UEC:\222 135.00\Report.DOC

Enclosure

Hazardous Materials Survey Results / March 2021

CHAIN OF CUSTODY 132201572

Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

PLM 24-hour TAT

Town/City:Building Name	iun Itall	
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ample	Description of Material	Sample Location				
1	Plaster	2. & FL wall				
2		2nd fl. closet wall				
3		Basement mens room ceiling				
4		1				
5		Basement nens room wall				
6		A st fl. wall				
7		Stairwell wall				
8		1st fl. hidden ceiling				
9		1 1				
10	Joint compound	Elevator machine room				
)(1 1				
12		Ist fl. divider wall south				
13		1 1				
14	1×1 AT ceiling	1st fl. Hidden ceiling				
15	1 1					
16	Brown give doub					
17	1 1					
18	Textured ceiling plaster	Basement Document Room				
19	01					
20						
Desert	Jason Berothe	3-11-22				
Receive		ate:				
F	MSI ROSTON IN Page	1 Of 2				
	Hazardous Materia	als Survey Results / March 2021				

OrderID: 132201572

CHAIN OF CUSTODY 132201572

Universal Environmental Consultants	
12 Brewster Road	
Framingham, MA 01702	
Tel: (508) 628-5486 - Fax: (508) 628-5488	
adieb@uec-env.com	

PLM

Town/City: -------------------Building Name Old Town Hall

Sample	Description of Material	Sample Location
21	Plaster Fire Step	Basement above Brick wall
92	1 1	LI
23	Block paper under hard wood	lst floor
29		i i
25	Gray duct sealant	Boiler room
26	L I	i l
FC	window Frame Caulk	2nd fl. exterior
28	1 1	1st Fl-exterior
29	old window glass glaze	Attic window Debris
30	1 1	1 1
Reporte Receive	d By: Jason Bewite Date	e: Due Date: 24-Hours
-	Page 2	Of 2



EMSL Analytical, 5 Constitution Way, Unit A Woburn,

EMSL Analytical, Inc. 5 Constitution Way, Unit A Woburn, MA 01801 Tel/Fax: (781) 933-8411 / (781) 933-8412 http://www.EMSL.com / bostonlab@emsl.com	EMSL Order: Customer ID: Customer PO: Project ID:	132201572 UEC63
Ammar Dieb	Phone:	(617) 984-9772
Universal Environmental Consultants	Fax:	(508) 628-5488
12 Brewster Road	Received Date:	03/11/2022 3:15 PM
Framingham, MA 01702	Analysis Date:	03/13/2022
	Collected Date:	

Project: Old Town Hall; Salem, MA

Attention: Ammar Dieb

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

			Non-Asbe	stos	Asbestos % Type	
Sample	Description	Appearance	% Fibrous	% Non-Fibrous		
01	2nd Floor Wall - Plaster	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected	
02	2nd Floor Closet Wali - Plaster	Gray/White Non-Fibrous		100% Non-librous (Other)	None Detected	
03	Basement Men's Room Ceiling -	Gray/White Fibrous		100% Non-fibrous (Other)	None Detected	
04	Basement Men's Room Cailing - Plaster	Gray/White Non-Fibrous		100% Non-fibrous (Other)	None Detected	
05	Basement Men's Room Wall - Plaster	Gray/White Fibrous	2% Cellulose	98% Non-fibrous (Other)	None Detected	
06	1st Floor Wall - Plaster	Gray/White Fibrous	<1% Cellulose	100% Non-fibrous (Other)	None Detected	
07	Stainwell Wall - Plaster	Gray/White Non-Fibrous		100% Non-fibrous (Other)	None Detected	
08	1st Floor Hidden Ceiling - Plaster	Gray/White Fibrous	2% Cellulose	98% Non-fibrous (Other)	None Detected	
09	1st Floor Hidden Ceiling - Plaster	Gray/White Fibrous	2% Cellulose	98% Non-fibrous (Other)	None Detected	
10	Elevator Machine Room – Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected	
11	Elevator Machine Room - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected	
12	1st Floor Divider Wall South - Joint Compound	White Fibrous Homogeneous		98% Non-Tibrous (Other)	2% Chrysotile	
13	1st Floor Divider Wall South - Joint	White Fibrous		98% Non-fibrous (Other)	2% Chrysotile	
14	1st Floor Hidden Ceiling - 1x1 AT Ceiling	Brown Fibrous Homogeneous	98% Cellulose	2% Non-librous (Other)	None Detected	
15	1st Floor Hidden Ceiling - 1x1 AT Ceiling	Brown Fibrous Homogeneous	98% Cellulose	2% Non-fibrous (Other)	None Detected	
16	1st Floor Hidden Ceiling - Brown Glue Daub	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected	

Initial report from: 03/14/2022 13:06:58

AS9_PLM_0/098_0001 - 1.78 Printed 3/14/2022 1.06 PM

Hazardous Materials Survey Results / March 2021

Page 1 of 3



EMSL Analytical, Inc.

5 Constitution Way, Unit A Woburn, MA 01801 Tel/Fax: (781) 933-8411 / (781) 933-8412 http://www.EMSL.com / bostoniab@ernsi.com EMSL Order: 132201572 Customer ID: UEC63 Customer PO: Project ID:

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

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type			
17	1st Floor Hidden Ceiling - Brown Glue Daub	Brown Non-Fibrous Homogeneous	-	100% Non-fibrous (Other)	None Detected			
18 132201572-0018	Basement Document Room - Textured Ceiling Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected			
19 32201572-0019	Basement Document Room - Textured Ceiling Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected			
20 132201572-0020	Basement Document Room - Textured Ceiling Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected			
21	Basement Above Brick Wall - Plaster Fire Stop	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected			
22	Basement Above Brick Wall - Plaster Fire Stop	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected			
23	1st Floor - Black Paper Under Hardwood	Black Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected			
24	1st Floor - Black Paper Under Hardwood	Gray Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected			
25	Boiler Room - Gray Duct Sealant	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected			
26	Boiler Room - Gray Duct Sealant	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected			
27 132201572-0027	2nd Floor Exterior - Window Frame Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected			
28 132201572-0028	1st Floor Exterior - Window Frame Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected			
29	Attic Window Debris - Old Window Glass Glaze	Gray Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile			
30	Attic Window Debris - Old Window Glass Glaze	White Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile			

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Hazardous Materials Survey Results / March 2021

EMSL
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EMSL Analytical, Inc. 5 Constitution Way, Unit A Woburn, MA 01801

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EMSL Order: 132201572 Customer ID: UEC63 **Customer PO:** Project ID:

Analyst(s) Ramon Buenaventura (30)

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Samples analyzed by EMSL Analytical, Inc. Woburn, MA NVLAP Lab Code 101147-0, CT PH-0315, MA AA000188, RI AAL-139, VT AL998919, ME LB-0039

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Hazardous Materials Survey Results / March 2021

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ACENTECH

April 19, 2022

Donald W. Mills, RA Mills Whitaker Architects P.O. Box 750089 Arlington, MA 02475

Via email:

donmills@millswhitaker.com

Subject

Acoustics Narrative & Measurement Results (Revised) Old Town Hall 32 Derby Square, Salem, MA Acentech Project No. 634989

Dear Don,

This report presents our recommendations related to sound isolation, room acoustics, and mechanical noise control for the renovation of Old Town Hall in Salem, MA. This narrative is based on an early progress set dated February 10, 2022, as well as a document containing programmatic considerations and feedback from users who are familiar with the building. A markup of our sound isolation, reverberation time, and background noise measurement results is attached to the end of this document.

OBSERVATIONS, MEASUREMENTS & CRITERIA

On February 23, 2022, we visited Old Town Hall to observe existing architectural conditions. During the visit, we also measured sound isolation, reverberation time (RT) and background sound levels, which have informed our recommendations. Our measurement procedures, results, and criteria for improvement are described in this section.

SOUND ISOLATION

Measurements & Observations

We performed both airborne and impact sound isolation measurements between all levels. We measured airborne sound isolation by generating pink noise (equal sound energy per octave band) in a source room and measuring sound levels with a handheld sound level meter. We then measured the resulting sound levels in the vertically adjacent space of interest. The difference in sound level allows us to determine the degree of noise reduction offered by the floor-ceiling assembly separating the two spaces.

We represent airborne and impact sound isolation performance in terms of single-number rating systems called Noise Isolation Class (NIC) and Impact Sound Rating (ISR), respectively. NIC is similar in concept to the Sound Transmission Class (STC) rating, with the main difference being that the former is measured in the field, and the latter is lab-tested. Similarly, Impact Insulation Class (IIC) is the lab-tested rating system that quantifies isolation of impact sound like footfalls, and ISR is the field-tested analog. We usually expect that NIC / ISR ratings will be about 5 points below their STC / IIC counterparts for a well-built construction with minimal leaks. Our measured NIC / ISR ratings are shown in Table 1 on the following page.

When listening to our pink noise source from receiver noise, we tended to notice leaks at room perimeters. At some locations, we could localize leaks through small holes in the floor, as discussed later in this report. The stairwells were also prominent paths for sound transmission between floors.

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Table 1: Sound Isolation Measurement Results

Adjacency	Noise Isolation Class (NIC)	Impact Sound Rating (ISR)
Attic to Great Hall	NIC 44	n/a
Great Hall to Colonnade	NIC 43	ISR 47
Colonnade to Basement	NIC 28	ISR 22

Criteria

One of the primary acoustical goals of the project is to enable concurrent events in the Great Hall and the Colonnade. In the past, this has been difficult due to the poor sound isolation between these spaces. One user commented, "You can hear a penny drop onto the second floor when listening from the first floor." This is partially because the spaces are so quiet. The audibility of activity noise from the adjacent space will be somewhat reduced by the elevated background noise levels that the new mechanical systems will produce. The other component of promoting separation between these spaces will be to improve the existing floor-ceiling assembly. For the Great Hall / Colonnade adjacency, we recommend aiming for an assembly that achieves STC / IIC 55, which would correspond to approximately NIC / ISR 50.

For the Classroom in the basement, we recommend designing for STC / IIC 50, which would correspond to approximately NIC / ISR 45.

We do not yet have a specific requirement for sound isolation between the attic and the Great Hall, because this will be determined by the sound levels of the mechanical equipment in the attic.

ROOM ACOUSTICS

Measurements & Observations

We measured the reverberation time (RT) in the Great Hall and the Colonnade by popping a balloon and measuring the sound decay with our sound level meter. The results of our measurements are shown in Table 2 below. The single-number RT in the last column is the average of the 500 Hz and 1000 Hz octave band RTs.

Table	2	Measu	red F	Reve	rberation	Time	(RT)	in the	Great	Hall
1.104 64 1.10	- market	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	- CA 24 1		The second second second second	A COLORADOR OF THE OWNER OWNE OWNER		The second second	1000 1000 1000 100	

C	Reverberation Time (seconds)									
space	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	RI 500, 1000			
Great Hall	1.6	2.0	3.1	4.0	3.3	2.7	3.6			
Colonnade	0.9	1.0	1.2	1.3	1.2	1.2	1.3			

These measurement results support our subjective observation that the Great Hall is quite reverberant. When we popped our balloon and listened to the resulting decay, we could hear a strange "whirring" or "buzzing" noise as the sound faded away. We expect this is due to reflections bouncing back and forth between the hard, parallel surfaces.

Due to its irregularities and smaller volume, the Colonnade is much less reverberant than the Great Hall. However, the Colonnade is still reverberant enough that there may be problems with noise buildup during large gatherings.

Criteria

Users have commented on the "poor acoustics" of the Great Hall, and mentioned that it is too reverberant for amplified music. We understand that a variety of events are held in this space, including speeches, plays, and musical performances. Most events will be speech-oriented. The optimal reverberation time for speech events is usually in the 0.5 – 1.0 second range. The optimal reverberation time for musical performances is usually in the 0.8 – 2.0 second range, depending on the type of music. Given these wide ranges, our goal for the Great Hall is to reduce reverberation time while maintaining sufficient liveliness to support occasional performances; we will target an occupied reverberation time around 1 second, while unoccupied conditions will be somewhat more reverberant.

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The Colonnade will be more oriented toward social gatherings and functions. As such, the goal here will be to reduce reverberation to the 0.5 - 0.8 second range to promote speech intelligibility and reduce the buildup of activity noise. The Classroom should aim to achieve a similar reverberation range as the Colonnade in order to accommodate spoken instruction.

BACKGROUND NOISE LEVELS

Measurements & Observations

With no centralized HVAC system affecting our measurements, the background noise levels were quite low throughout the building. A graph of our background noise measurement results is attached to the end of this document. The results are presented in terms of two statistical levels; L₉₀ and L₁₀. L₉₀ refers to the level that is being exceeded for 90% of the measurement period, which is a good representation of the background sound level. We typically describe background noise using the standardized Noise Criteria (NC) rating system, which quantifies noise levels in relation to a group of weighted curves. All spaces had very low NC results: NC-17 to NC-22.

Table 3: Measured Background Noise Levels

Space	Noise Criteria (NC) Goal
Attic	NC-22
Great Hall	NC-22
Colonnade	NC-21
Basement	NC-17

On the attached graph, L₁₀ refers to the level being exceeded for only 10% of the measurement period, which represents louder, transient events. In this case, it corresponds with the traffic and activity noise in Derby Square, which was clearly audible through the windows. This is demonstrated in the graph by the wide gap between the L₁₀ and the L₂₀.

Criteria

Table 4 below provides our recommended maximum background noise goals for various project spaces. As the project develops, we will evaluate the mechanical design and use these goals to develop our noise control recommendations.

Table 4: Recommended Maximum Background Noise Goals

Space	Noise Criteria (NC) Goal
Great Hall	NC-25
Colonnade	NC-30
Classroom	NC-30
Foyers, Corridors, Support Spaces	NC-40 to -45

SOUND ISOLATION RECOMMENDATIONS

VERTICAL SOUND ISOLATION

Attic to Great Hall

We understand that you are planning to keep the existing plaster ceiling in the Great Hall. This is a good starting point for sound isolation, since the measured performance of the ceiling was fairly decent at NIC 44. Depending on the sound levels from the ERVs and any other mechanical equipment in the attic, upgrades on the attic side may be warranted. If the ERVs are particularly noisy, you could consider building a mechanical enclosure around the units. The key design parameter would be to maximize the mass of the enclosure. If the attic mechanical equipment is not especially noisy, a couple of plywood layers may suffice. We will review this topic when we receive information about equipment selections and layouts.

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Denald W Mills, RA April 19, 2022 Page 4 of 5

Great Hall to Colonnade

We understand that you are planning to remove the existing plaster ceiling in the Colonnade and replace it with two (2) layers of GWB suspended on springs. Spring hangers are well-suited for the high level of airborne and impact sound isolation required at this adjacency. However, we note that the GWB is much lighter than the plaster it is replacing. To preserve airborne sound isolation, we recommend that you consider adding more mass to the assembly. You could do this by increasing it to three (3) layers of GWB, or by adding a layer of mass-loaded vinyl atop or between the GWB layers. We also recommend batt insulation in the joist cavities, 4^e thick minimum.

Our understanding is that you are preserving the existing wood floors in the Great Hall. If that changes, there may be an opportunity to implement noise control elements, such as a resilient underlayment, between the subfloor and the finish floor, to help reduce the transmission of impact noise such as from footfall and furniture movement. If that is a possibility, we will work with you to detail a suitable assembly.

Colonnade to Basement Amenities

Due to the exposed joists, the current sound isolation performance between the basement and the Colonnade is quite poor. We understand that you are planning on providing drywall and acoustical ceilings throughout the basement. At the Classroom, we recommend that you install two (2) layers of GWB on resilient clips (similar to Pliteq GenieClip¹) or hangers (similar to Mason WHR²), with batt insulation in the cavity. An acoustically absorptive ceiling finish (as recommended below) could either be surface-applied to the GWB (e.g. Clipso-type stretched fabric) or suspended below (e.g. clouds, baffles, or a secondary ACT ceiling). If the Catering Pantry will be a kitchen-type environment with the potential for cooking activity noise, you may also consider a similar assembly for that space.

Since other basement areas are less acoustically sensitive, we expect that most aesthetically preferred ceilings would be acceptable acoustically. If you decide to use ACT at certain locations, we recommend specifying a product that achieves at least NRC 0.70 and CAC 35.

Colonnade to Basement Mechanical Room

We have not yet received information about the ground source heat pump processing equipment to be housed in the basement mechanical room, but from past project experience we expect it could be noisy. Even with the walls separating the Colonnade from the South Foyer, there is still some vertical overlap between the basement mechanical room and the Colonnade.

To limit mechanical noise transmission to the Colonnade, we recommend one of two options:

- Option 1: Install a sound barrier ceiling in a portion of the basement mechanical room. As a starting point, we recommend that you plan on a GWB ceiling with an 18" cavity depth and batt insulation in the cavity. When we receive sound data for the equipment in the mechanical room, we will be able to provide more specific details for this assembly, including cavity depth, number of GWB layers, and manner of attachment (likely resilient clips or spring isolation hangers). This ceiling will require careful coordination with equipment connections in order to limit piping and/or ductwork penetrations through the GWB.
- Option 2: Consider adjusting the South Foyer walls to be one window position to the north, as shown in Figure 1 on the following page.

¹ https://pliteq.com/products/sound-control-clip/genieclip-rst/

2 https://mason-ind.com/whr-2/

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Figure 1: Recommended Modification of Wall Position, to avoid a direct vertical adjacency between the mechanical room and the Colonnade space

HORIZONTAL SOUND ISOLATION

Classroom / West Restroom

We recommend that the demising wall between Classroom 007 and West Restroom 015 be a double-stud construction. Include a 1" airspace between the stud rows and batt insulation in the cavities.



Figure 2. Recommended Double-Stud Wall

New Colonnade Walls

The new walls on the first floor are designed to allow people to pass between the basement and second floor without interrupting events in the Colonnade. To promote that intended separation acoustically, we recommend that you build single-stud walls with two (2) layers of GWB on each side, and batt insulation in the cavity. Achieving the full benefit of this upgrade will require gasketed doors (as described below) and/or vestibules.

Doors

We recommend sealing the doors to Classroom 007, North Foyer 102, South Foyer 109, and Hall 203. This includes full-perimeter gaskets at the head and jamb, and a neoprene sweep paired with a raised threshold at the door bottom. Double doors should also include an astragal or meeting stile seal. See the attached detail for a list of recommended products.

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Exterior Windows

We understand that you intend to add exterior storm windows to the existing windows. These storm windows will be helpful in addressing the significant amount of intruding noise from Derby Square we heard on site. The key design parameter is to maximize the gap between the existing sash and the new exterior storm windows. If you can achieve a 2-inch airspace, a glazing thickness of 1/4-inch would be sufficient for the storm window. If there is not enough room to include a 2-inch airspace, we will work with you to determine the appropriate thickness (and potentially lamination) of the storm window.

SEALING PENETRATIONS

We noted a number of holes and penetrations in the Colonnade wood flooring and basement mechanical room walls (see Figures 4 & 5). All holes and penetrations will need to be sealed to prevent them from serving as sound leaks. Larger penetrations should be filled with backer rod and/or mineral wool, closed off as tightly as possible, and covered with firestop spray. Smaller holes in walls, floors, or ceilings should be plugged.



Figures 4 & 5: Hole in Colonnade Floor (above) & Penetration in Basement Mechanical Room Wall (below)

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ROOM ACOUSTICS RECOMMENDATIONS

Great Hall

We understand that you are currently planning for full ceiling coverage of 2^a fiberglass board stretched fabric panels in the Great Hall. We predict that the reverberation time will be reduced to about 1 second with this coverage. 1 second is a decent "compromise" target that would allow the room to accommodate a variety of events. As we discussed during our visit, you could also achieve approximately this same result with full coverage of an acoustical plaster like Baswaphon³ (which would be surface-applied directly to a ceiling substrate) or StarSilent⁴ (which must be suspended). These products would allow the ceiling to have the same appearance as typical GWB when viewed from afar.

You may decide to implement full ceiling coverage and do nothing further for room acoustics. This approach would be suitable for most events, though some recitalists might find it somewhat dry. If you would like to build more flexibility for musical performances into the design, you could consider treating only half the ceiling. With this modification, the reverberation time would be somewhere between 1 and 2 seconds, depending on the specified absorptive product. Then, to better accommodate speech events, you could implement adjustable acoustics products. These could be banners deployed from the ceiling (such as the AcouRoll product used at Lexington's Cary Memorial) or sound absorptive window shades similar to AcoustiVeil⁵. Absorptive panels at the rear walls and side walls would also be beneficial for amplified musical performances.

Colonnade

We understand that you are currently planning for full ceiling coverage of 1" fiberglass board stretched fabric panels in the Colonnade. We expect this to reduce the reverberation time from 1.3 seconds to about 0.6 seconds. Since the Colonnade is more of a social gathering space, the shorter RT is ideal, given that it promotes speech intelligibility and limits the noise buildup from large crowds of people talking all at once. You could also achieve the same result with one of the acoustical plaster products recommended above if you prefer a GWB appearance.

Classroom

In the sound isolation section above, we recommended a resiliently supported GWB ceiling for the Classroom. This ceiling is effective at blocking noise from above, but since GWB is also an acoustically reflective surface, leaving it untreated and exposed would result in an excessively reverberant learning space. This may make speech intelligibility difficult during meetings and teacher instruction. We recommend full coverage absorptive treatment for the ceiling in the Classroom. You could either use 1" fiberglass board stretched fabric panels you are currently planning for the Colonnade, or one of the acoustical plaster treatments recommended above.

If the Classroom will be used for teleconferencing (which we expect may be common, post-pandemic), we also recommend installing absorptive wall panels on at least two perpendicular walls. The panels should be at least 1" thick, and should extend from 3' to 7' AFF.

MECHANICAL NOISE & VIBRATION CONTROL RECOMMENDATIONS

As mentioned above, the building's new mechanical design will feature a ground source heat pump system with compressors in the basement mechanical room. Occupied spaces will be served by an assortment of ducted fan coil units and wall-mounted or ceiling-mounted VRF units. There will also be energy recovery units in the mechanical attic. No equipment has been specified yet, so at this point our recommendations are conceptual. As the mechanical design develops, we will review equipment selections with sound data in order to refine and quantify our recommendations.

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³ https://www.baswana.com/

⁴ https://www.starsilent.com/

⁵ https://www.mechoshade.com/products/shadecloth/shadecloth-selector/

Denald W Mills, RA April 19, 2022 Page 8 of 8

MECHANICAL NOISE CONTROL

Ductborne Noise

It is likely that the ERVs will need attenuators in both the supply and return ducts. Adding attenuators would reduce the fan noise that breaks out from the sides of the ducts, which is especially critical over the Great Hall. For now, we recommend that you plan for attenuators between 3' and 5' in length for the ERVs.

We expect that ducted FCUs will receive outside air from the ERVs. Depending on their sound levels, they may need attenuators as well. At minimum, we recommend adding 15' of lined ductwork downstream of each FCU.

Airflow Noise

We are also concerned with duct airflow noise, which increases with velocity. At the end of this document, we have included a table of recommended airflow velocities that correspond with our NC goals. As the mechanical design develops, we recommend sizing the ducts so that the airflow velocities stay below the values indicated in the table.

Projector Noise

We understand that the projector will be located behind the south wall of the Great Hall in an enclosure above the double exit doors leading to the staircase. Projectors can often pose challenges to spaces designed for low background noise, so we are pleased to note that the projector will be housed within an enclosure, which will likely serve our needs well. We will plan to work with you and our AV colleagues to ensure that the enclosure is adequate to block fan noise from the projector to the Great Hall.

VIBRATION CONTROL

ERVs / FCUs

ERVs and FCUs, if floor-supported, should be mounted on restrained spring isolators similar to Mason Industries type SLR. If they are supported from above, they should be suspended on spring hangers similar to Mason Industries type 30N. We will recommend static deflections for these units when we learn more about the sizing and operation of the equipment.

VRFs

Wall-mounted VRF units should be installed on captive neoprene mounts similar to Mason RAA – RDA, sized to achieve at least 0.25" static deflection under load.

Ground Source Heat Pump Equipment

The compressor/condenser equipment in the basement mechanical room will also need to be vibration isolated. We will advise on specific isolation after reviewing the equipment planned.

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We hope this report provides all the information you need at this time. Please reach out via phone or email with any questions.

Sincerely,

Josh Brophy Consultant

CC: Ben Markham, Khaleela Zaman (Acentech)

Encl: Background Noise Measurement Graph Measurement Results Markup Door Gasket Recommendations Recommended Duct Airflow Velocities

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Recommended airflow velocities (fpm) consistent with indicated Noise Criterion (NC) (through net free area of duct section or device)

		NG	: 15	NO	: 20	NC	:25	NC	330	NC	335
ă	uct element or device	Supply	Return	Supply	Return	Supply	Return	Supply	Return	Supply	Return
1	Terminal device ^{1,2}	250	300	300	360	350	420	425	510	500	600
- MH	First 8-10 feet of duct	300	350	360	420	420	490	510	600	600	700
014	Next 15-20 feet of duct	400	450	480	540	560	630	680	765	800	006
1000	Next 15-20 feet of duct	500	570	600	685	200	800	850	970	1000	1140
103	Next 15-20 feet of duct	640	200	765	840	006	980	1080	1180	1280	1400
	Next 15-20 feet of duct	800	006	960	1080	1120	1260	1360	1540	1600	1800
-	Maximum within space	1000	1100	1200	1320	1400	1540	1700	1870	2000	2200
	Terminal device ^{1,2}			300	360	350	420	425	510	500	600
- AN	First 8-10 feet of duct			325	375	375	450	450	550	550	650
1010	Next 15-20 feet of duct	Unlined	ductwork	400	450	480	540	560	630	680	765
000	Next 15-20 feet of duct	for acol	nmended = ustically	500	570	600	685	200	800	850	970
121	Next 15-20 feet of duct	critical	spaces.	640	200	292	840	006	980	1080	1180
	Next 15-20 feet of duct		(800	006	960	1080	1120	1260	1360	1540
-	Maximum within space			1000	1100	1200	1320	1400	1540	1700	1870

Notes:

1/2" minimum slot width

No dampers, straighteners, deflectors, equalizing grids, etc. behind terminal devices. All ducts with 1" thick internal sound absorptive lining. Fan noise must be considered separately. + nin +

Acoustical Analysis: Narrative & Measurements

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June 17, 2022

Donald W. Mills, RA Mills Whitaker Architects P.O. Box 750089 Arlington, MA 02475

Via email:

donmills@millswhitaker.com

Subject

Acoustics Review of Mechanical Narrative Old Town Hall 32 Derby Square, Salem, MA Acentech Project No. 634989

Dear Don,

This report presents our recommendations related to mechanical noise and vibration control for the renovation of Old Town Hall in Salem, MA. Our review is based on the "MP/FP System Narrative" (issued May 12, 2022) provided by your mechanical engineer. The recommendations described in this report build upon those in our initial acoustics report (issued March 18, 2022).

CRITERIA & SYSTEM OVERVIEW

CRITERIA

Background Noise Levels

Our background noise level goals were provided in our initial report. These goals, which are defined in terms of the Noise Criteria (NC) rating system, are summarized in TABLE 1 below. We used these ratings as the basis for developing our noise control recommendations.

Space	Noise Criteria (NC) Goal
Great Hall	NC-25
Colonnade	NC-30
Classroom	NC-30
Foyers, Corridors, Support Spaces	NC-40 to -45

TABLE 1: Recommended Maximum Background Noise Goals

SYSTEM OVERVIEW

Project Equipment

The building's mechanical design will feature a ground source heat pump system with processing equipment located in the basement mechanical room. Occupied spaces will be served by fan coil units of various sizes, with International Environmental (IEC) units as the basis of design. An energy recovery unit in the attic will circulate outside air throughout the building. Electric water heaters serve support and circulation areas. At this point, some of the project's mechanical equipment has been specified, but other equipment selections are still to be determined. As the mechanical design develops, we will plan to review equipment selections (or reselections) with sound data in order to refine our recommendations.

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MECHANICAL NOISE CONTROL RECOMMENDATIONS

DUCTBORNE FAN NOISE CONTROL

General Guidelines

According to the MEP narrative, ductwork will include 1" hospital grade liner. We have since clarified with your mechanical engineer that this could either be a foam type liner similar to Nomaco K-Flex, or standard fiberglass acoustical lining similar to Johns Manville Linacoustic. For our analysis, we understand that we can assume the latter, which performs much better acoustically.

Using sound data published on the FCU manufacturer's website, we performed calculations to predict ductborne noise to the project's occupied spaces. In some cases, we found that the 1" acoustical duct lining (if NRC 0.70 or better) alone provided enough attenuation to meet project goals, while some duct paths required an attenuator *in addition to* the lining. We also found that one space (the Colonnade) will require significant modifications to the duct layouts in order to accommodate the required noise control measures.

Great Hall

The Great Hall is served by an FCU (model HBD-40) that is located in the attic above. Duct runs in the attic distribute the air through nine diffusers spaced evenly throughout the Great Hall ceiling. We have determined that for the supply path, our background noise goal of NC-25 can be achieved if the supply ductwork is lined with the 1" fiberglass lining. If the lining is deleted or if a closed-cell foam liner is used, you would need to include an attenuator that achieves at least 14 dB dynamic insertion loss (DIL) at the 500 Hz octave band. The attenuator would need to be placed before the first split in the ductwork after the FCU.

Return air for this FCU enters the existing grilles at the south end of the Great Hall. Even with fiberglass duct lining, this path results in background noise levels in the Great Hall that slightly exceed our noise goals at lower frequencies. Within each of the two return duct paths from HBD-40, we recommend that you include an attenuator that achieves at least 4 dB DIL at the 125 Hz octave band. If the lining is deleted or if a closed-cell foam liner is used, the attenuators would need to achieve at least 6 dB DIL at 125 Hz.

Colonnade

For the FCUs serving the Colonnade (model CPY-12), the current ductwork configuration would result in background noise levels in the NC-50 range, which is four times higher than our recommended noise goal of NC-30. The primary concern is that the supply duct runs are very short (see FIGURE 1 below), and it would not be practical to fit adequate attenuation into those paths. We recommend that you redesign the ductwork so that the supply air can be more evenly distributed throughout the room, similar to the configuration in the Great Hall. This may entail enclosing longer duct runs within a soffit below the currently-planned sound barrier ceiling. With these longer duct runs, we expect that the supply paths will be able to accommodate the attenuators that are necessary to achieve the NC-30 goal in the Colonnade. We expect that the attenuators will need to achieve approximately 10 dB DIL at the 125 Hz octave band, but we will need to review the redesigned ductwork to confirm this.



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Classroom

The current configuration of the FCU serving the Classroom (model HDY-12) is shown in FIGURE 2 below. There is not currently enough duct length for the fiberglass lining alone to provide enough attenuation. For both the supply and return paths, we recommend including attenuators that achieve at least 5 dB DIL at the 125 Hz octave band. Note that this is *in addition to* the fiberglass lining.



FIGURE 2: Classroom FCU Ductwork Layout

AIRFLOW NOISE CONTROL

Airflow Velocities

In additional to ductborne fan noise, we are also concerned with duct airflow noise, which increases with velocity. In our initial acoustics report, we provided a table of recommended airflow velocities that correspond to our NC goals. For reference, we have also included that table at the end of this report.

We note that the dimensions of the following components currently result in airflow velocities that are higher than recommended:

- Great Hall diffusers (currently 20"x8")
- Duct runs leading to Great Hall diffusers (currently 12" diameter)
- Colonnade diffusers (currently 36"x3")

As the mechanical design develops, we recommend sizing the terminal device and duct dimensions so that the airflow velocities stay below the values indicated in the attached table.

Diffusers, Registers & Grilles

When you select air distribution devices, we recommend that you specify them with an NC rating that is at least 5 dB lower than the recommended NC goal for the space. When several diffusers or grilles are located in close proximity of each other (such as at the Classroom), select devices up to 10 dB below the NC goal for the space.

RADIATED NOISE CONTROL

Attic Fan Coil Units

To evaluate how radiated noise from the attic FCU (model HBD-40) might affect the Great Hall, we used the radiated sound power data from the FCU manufacturer's cut sheet along with the noise reduction performance of the existing ceiling assembly, measured during our March 2022 site visit. As we noted in our initial report, the current performance of the Great Hall ceiling is already quite good. As a result, we do not expect radiated noise from the FCU to be a concern, and the potential mitigation strategies we offered in our initial report (e.g. building a mechanical enclosure around the unit, or installing it over layers of plywood) are likely no longer necessary.

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Energy Recovery Unit

The ERU is also located in the attic, so we are also interested in evaluating its radiated noise contribution to the Great Hall. Given that the ERU has a much lower airflow capacity than the FCU (650 CFM compared to 4500 CFM), we expect that it will be considerably quieter. Therefore, radiated ERU noise is not likely to be a concern. However, later in design we would still like to see the sound levels of the selected unit in order to confirm this.

Ground Source Heat Pumps

In our initial report, we noted the possibility that the ground source heat pumps in the mechanical room may be rather loud. Although a basis of design has now been specified (Multistack MR020), we have not yet seen the sound data. Depending on the units' sound levels, we expect that a sound barrier ceiling in the mechanical room may still be necessary to block radiated noise to the Colonnade.

To reiterate, we recommend that you budget for a GWB ceiling with an 18" cavity depth and batt insulation in the cavity. When we receive sound data for the heat pumps, we will be able to provide more specific details for this assembly, including cavity depth, number of GWB layers, and manner of attachment (likely resilient clips or spring isolation hangers). This ceiling will require careful coordination with equipment connections in order to limit piping and/or ductwork penetrations through the GWB.

VIBRATION CONTROL RECOMMENDATIONS

GENERAL RECOMMENDATIONS

Ductwork

Duct connections to all vibration isolated mechanical equipment (e.g. the ERU and FCUs) should be flexible.

Piping

We recommend resiliently supporting piping connected to vibration isolated mechanical equipment (pumps, etc.) for a distance of at least 50° from the equipment. Pipes with a diameter greater than 4° should be isolated throughout the building.

Isolators for the first three support points nearest to connected equipment should achieve at least half of the specified static deflection of the isolators supporting the connected equipment. Isolators similar to Mason SLF or 30N should be used when the required static deflections are greater than 0.50°. Mason ND or HD should be used for static deflections less than or equal to 0.50°. All other pipe support isolators within the specified limits should be either Mason ND or HD, achieving at least 0.25° static deflection.

Piping vibration isolation is intended both for piping connected to mechanical equipment and plumbing piping connected to motor-driven equipment.

MECHANICAL EQUIPMENT

Fan Coil Units

Suspended FCUs should be supported by spring hangers similar to Mason 30N, sized to achieve at least 1.5" static deflection under load. It is unclear whether than FCUs in the attic will be supported from above or from below, but it is preferable to suspend them from above using the 30N hangers. If they must be floor-supported, they should be mounted on restrained spring isolators similar to Mason SLR, sized to achieve at least 1.5" static deflection under load.

Energy Recovery Unit

As with the FCUs, if the ERU in the attic is supported from above (which is preferable), it should be suspended using spring hangers similar to Mason 30N. If it is floor-supported, it should be mounted on restrained spring isolators similar to Mason SLR. In either case, the isolators should be sized to achieve at least 1.5" static deflection under load.

Ground Source Heat Pumps

We recommend installing the ground source heat pumps on conical neoprene isolation mounts similar to Mason ND, sized to achieve at least 0.2" static deflection under load.

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Well / CHW / HW Pumps

If the pumps in the mechanical room are floor-supported, they should be installed on concrete inertia bases, which are in turn installed on springs similar to Mason SLF, sized to achieve at least 1.5" static deflection under load. If these are inline pumps, they should be suspended on spring hangers similar to Mason 30N, sized to achieve at least 1.5" static deflection under load.

Electric Water Heaters

Electric water heaters should be installed on captive neoprene side wall mounts similar to Mason RBA, sized to achieve at least 0.25" static deflection under load.

.

We hope this report has provided the information you need at this time. Please reach out via phone (617-499-8055) or email (<u>ibrophy@acentech.com</u>) with any questions.

Sincerely,

Josh Brophy Consultant

CC: Ben Markham (Acentech)

Encl: Recommended Duct Airflow Velocities

appustics technology vibration

Recommended airflow velocities (fpm) consistent with indicated Noise Criterion (NC) (through net free area of duct section or device)

	ON D	15	ON	20	ON	:25	ON	30	Q	35
ø	Supply	Return	Supply	Return	Supply	Return	Supply	Return	Supply	Return
	250	300	300	360	350	420	425	510	500	600
t	300	350	360	420	420	490	510	600	600	700
duct	400	450	480	540	560	630	680	765	800	900
duct	500	570	600	685	200	800	850	970	1000	1140
duct	640	700	765	840	900	980	1080	1180	1280	1400
duct	800	006	096	1080	1120	1260	1360	1540	1600	1800
space	1000	1100	1200	1320	1400	1540	1700	1870	2000	2200
2			300	360	350	420	425	510	500	600
duct			325	375	375	450	450	550	550	650
duct	Unlined o	ductwork	400	450	480	540	560	630	680	765
duct	for acou	nmended stically	500	270	600	685	002	800	850	970
duct	critical s	spaces.	640	200	765	840	006	980	1080	1180
f duct		(800	006	960	1080	1120	1260	1360	1540
pace			1000	1100	1200	1320	1400	1540	1700	1870

Acoustical Analysis: Review of Mechanical Info

Notes:

1/2" minimum slot width 4

NO 4

No dampers, straighteners, deflectors, equalizing grids, etc. behind terminal devices. All ducts with 1" thick internal sound absorptive lining. Fan noise must be considered separately.

ACENTECH

Subject: Salem Old Town Hall- Acoustical Concern in

Date: Tuesday, June 21, 2022 at 16:12:35 Eastern Daylight Time

From: Semoon Oh

To: Don Mills

CC: Jared Humphreys

Don:

This stage analysis is based on my preliminary concepts sketches which was primarily for cost estimating and architectural concepts level coordination.

I have reviewed the Acentech report dated 06/17/2022.

- A. Physical Constraints:
 - 1. Physical constraints of the first floor is quite challenging for us.
 - 2. On the first floor we are limited by ceiling height, and severely limited length room for the FCUs.
 - Other areas have plenty of room so we can refine them during the design phase based on Acentech guidance.

B. As far as I can see, our focus should be on addressing the Colonnade Duct-borne Fan Noise. We propose the following, assuming that custom sized silencers are available:

- Direct connect 8"x60" IAC 3ULM1 silencer on discharge. Velocity of +364 fpm, its DIL @125Hz is 12, self-noise is 43, and air pressure drop is 0.09"WG.
 - Full 8"x60" duct plenum (Lining if required, but since it would be so short, don't know if will accomplish anything).
 - b. Four 7" Buckley Buckduct Acoustic branch ducts to two supply register plenums.

 Direct connect 10"x62" IAC 3ULM1 silencer on return. Velocity of -280 fpm, its DIL @125Hz is 12, self-noise is 43, and air pressure drop is 0.04"WG.

- a. Full 10"x62" duct stub to a filter frame.
- b. Return air ceiling plenum (with some absorption?).
- c. There's no room for longer silencers but there is a possibility that we can use 10"x62" IAC 3ULS3. Velocity of -280 fpm, its DIL @125Hz is 15, self-noise is 40, and air pressure drop is 0.06"WG.
- 3. FCU & Silencer assembly supported by Mason 30N 1.5"SD spring hangers.
- 4. Pipes to have flexible connections, neoprene double sphere type.

Of course, during the design phase we would select equipment based on detailed calculations and design based on closer field measurements.

Regards, Semaan Oh

Semoon Oh, PE, Principal

VAV International, Inc.

Consulting Mechanical Engineers

400 W.Cummings Park, S-4700 Woburn, MA 01801 T. (781)935-7228

Page 1 of 2



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From: Don Mills <donmills@millswhitaker.com> Sent: Tuesday, June 21, 2022 2:07 PM To: Semoon Oh <soh@vavint.com> Cc: Jared Humphreys <jhumphreys@vavint.com> Subject: Acoustical Concern in Salem Old Town Hall

Semoon,

Our acoustical consultant has concerns about the fan coil unit noise serving the first floor colonnade. I have attached their evaluation for your review. They suggest something that is not feasible, so I sent them a couple of quirky sketches to see if we could elongate the ductwork. They were not crazy about either of my sketches due to duct turns creating more turbulence in the chase idea (unless the turns are radiused) and about the narrow ducts in the joist space idea. I have attached the rough sketches that I sent to them. They asked if you have any thoughts about making these units quieter since they don't believe that there is enough length for successful attenuators as shown. Any thoughts?

Thanks,

Don Mills Mills Whitaker Architects LLC 617-283-5377 millswhitaker.com

Page 2 of 2

Tuesday, August 30, 2022 at 18:34:19 Eastern Daylight Time

 Subject:
 FW: Salem Old Town Hall- Acoustical Concern in

 Date:
 Tuesday, August 30, 2022 at 18:33:49 Eastern Daylight Time

 From:
 Don Mills

 To:
 Jared Humphreys

Jared,

We do not have an updated report, but we have this email reply from Acentech based on suggestions by Semoon. See below.

Thanks,

Don Mills Mills Whitaker Architects LLC 617-283-5377 millswhitaker.com

From: Brophy, Joshua <JBrophy@ACENTECH.com> Date: Monday, June 27, 2022 at 12:41 To: Don Mills <donmills@millswhitaker.com> Cc: Markham, Ben <bmarkham@ACENTECH.com> Subject: RE: Salem Old Town Hall- Acoustical Concern in

Hi Don,

We did some additional calculations to evaluate the silencers that Semoon mentioned in the email below. Based on data sheets provided on the manufacturer's website, these silencers would be sufficient to attenuate ductborne noise enough to meet our goals for the Colonnade. However, silencer performance data typically assumes ideal installation conditions, and in this case the space constraints and short duct runs may increase pressure drop and self-noise beyond what is reported on the cut sheets.

All that being said, we think these mitigation solutions are a good starting point for cost estimation purposes. Later in design we will be available to reevaluate predicted noise levels based on updated details and potential equipment reselections. At this point, we recommend that you plan to include the silencers, flex duct for supply registers, and acoustically lined return air ceiling plenums that Semoon has described below.

Josh Brophy Consultant

ACENTECH 33 Moulton Street Cambridge, MA 02138

o 617 499 8000 contact us d 617 499 8055 acentech.com

Acoustics Technology Vibration

Page 1 of 3

From: Don Mills <donmills@millswhitaker.com> Sent: Tuesday, June 21, 2022 4:16 PM To: Brophy, Joshua <JBrophy@ACENTECH.com> Cc: Markham, Ben <bmarkham@ACENTECH.com> Subject: FW: Salem Old Town Hall- Acoustical Concern in

Joshua,

I passed along your HVAC comments and my quirky sketches to our HVAC engineer, and he responded with comments below.

Thanks,

Don Mills Mills Whitaker Architects LLC 617-283-5377 millswhitaker.com

From: Semoon Oh <<u>soh@vavint.com</u>> Date: Tuesday, June 21, 2022 at 16:12 To: Don Mills <<u>donmills@millswhitaker.com</u>> Cc: Jared Humphreys <<u>jhumphreys@vavint.com</u>> Subject: Salem Old Town Hall- Acoustical Concern in

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Page 2 of 3

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Page 3 of 3

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Thanks,

Don Mills Mills Whitaker Architects LLC 617-283-5377 millswhitaker.com

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FINISHES & FIXTURE CONSIDERATIONS for OLD TOWN HALL in SALEM

Prepared by Mills Whitaker Architects LLC / 16 June 2022

INTRODUCTION: A meeting was held from 3-5pm to review proposed finishes and fixtures for the Old Town Hall. Attendees included the following, but only the first three listed were able to attend for the entire duration of the two-hour long meeting:

Don Mills, Project Architect & Presenter / Mills Whitaker Architects Melissa Martinez, Owner's Project Manager / Anser Advisory Julie Barry, Senior Planner of Arts & Culture / City of Salem Tom Daniel, Director of Planning & Community Development / City of Salem Jenna Ide, Director of Capital Projects & Municipal Operations / Cit of Salem Patti Kelleher, Preservation Planner / City of Salem Michael Lutrzykowski, Director of Facilities / City of Salem

CEILINGS: Ceiling materials were reviewed for each of the building levels, starting with the second floor and continuing down to the basement level. Existing and proposed conditions were described and discussed at each level.

Second Floor Ceiling: The existing ceiling is a flat cement-based plaster on wire lath that dates from the 1933 renovations since the original 1816 ceiling would have been a softer lime-based plaster on wood lath. At the perimeter of the room is an astragal moulding and broad cove ceiling that dates from 1933 but presumably replicates the original ceiling.

The proposed ceiling at the second floor will add a 2" thick layer of fiberglass board covered with stretched fabric over the existing flat portion of the ceiling that will match the painted plaster look while absorbing acoustical energy to reduce the reverberance of the room. The cove will remain at the perimeter to maintain the current appearance of the Great Hall. A rounded edge to the fabric ceiling will be set near the painted astragal to complement the transition from the acoustical treatment to the existing ceiling that will remain exposed. This ceiling treatment will only be applied to the Great Hall since the adjacent rooms and hallways are not acoustically sensitive and can retain exposed plaster as the ceilings.

First Floor Ceiling: The existing ceiling in the Colonnade consists of a 1970's veneer plaster ceiling on metal channels over a concealed 1933 cement-based plaster ceiling on wood studs suspended below the existing wood joist framing. The concealed plaster contains daubs of adhesive that probably held perforated acoustical ceiling tiles in 1933 as part of that renovation. The adhesive daubs and former ceiling tiles were tested for asbestos and were not found to contain any hazardous materials. The need to reduce noise transmission between floors and reduce acoustical reverberance in the Colonnade requires addressing these existing materials.

The proposed ceiling recommends removal of the two layers of existing ceilings and the suspended wood framing, followed by installing insulation in the joist cavities and a new layered ceiling that will reduce noise transmission between floors and reduce acoustical

reverberance on the first floor. The concealed portion of the ceiling will consist of two layers of gypsum wallboard and an interstitial layer of vinyl suspended on spring isolation hangers from the joists. Below the drywall, a 1" thick layer of fiberglass board will be provided and covered with stretched fabric to match the painted plaster look while absorbing acoustical energy. This will provide a look like the existing ceiling while matching its existing height about the finished floor and improving room acoustics significantly by reducing reverberation. This treatment is like the Great Hall with the exception that the concealed fiberglass will be only one-inch thick instead of two, and the stretched fabric will terminate at the adjacent walls and central beams instead of stopping short of the large cove ceiling that is unique to the Great Hall.

Basement Level Ceiling: Existing ceilings in the basement include exposed wood framing in unfinished spaces, painted plaster in the restrooms and painted concrete slabs in the three structural bays at the south end of the building (concrete installed in the 1933 renovation).

Proposed ceilings for the basement included retaining exposed wood framing in storage areas, retaining painted concrete in portions of the southern bays (adjacent to the elevator and south stair, and introducing acoustical ceiling tiles in the newly finished spaces (corridor, restrooms, pantry, and classroom). Concerns were expressed over the modern appearance of ceiling tiles and associated lighting, noting that the basement should be more compatible in style with the other portions of the building. After reflecting upon those concerns, the Architect proposed to eliminate the use of acoustical ceiling tiles and instead to use painted drywall in the corridors and restrooms.

In the classroom area, the treatment will be like the Colonnade with stretched fabric over 1" thick fiberglass insulation over a double layer of concealed drywall in order to reduce noise transmission to and from the first floor while improving speech intelligibility.

FLOORING:

Second Floor Flooring: Existing flooring consists of 2.25" wide oak boards throughout, but the oak in the Great Hall appears to be an extra layer of flooring that may date from 1933. Portions of the flooring needs repair and replacement, but overall, it is in serviceable condition and should be refinished as part of the project. The flooring can be matched at the stage extension and stair modifications related to provision of an inclined wheelchair lift that will provide handicap access to the existing stage area.

Stair treads are oak, some of which are split and should be replaced in kind. Stair risers are painted wood that can be retained and refinished.

The single-user gender-neutral accessible restroom flooring is quarry tile, presumably of recent vintage since it is not original to the building. A replacement ceramic tile mosaic of one-inch white hexagonal tiles with black accent tiles is proposed as an appropriate floor to match the 1933 renovation era in this corner of the building.

Finishes & Fixture Considerations for Old Town Hall

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First Floor Flooring: Existing flooring in the Colonnade and immediately adjacent areas match the second floor oak. The central area of the Colonnade is especially worn and a portion of it was replaced but did not result in a seamless match. Replacement of the central aisle between the columns in its entirety is recommended due to the previous poor match/patch and since it is more worn than the side aisles. This portion of the floor runs in the north/south direction whereas the side aisles run east/west, and this will facilitate a visually appropriate replacement approach.

The main entrance at the north and central exit at the south are quarry tile, a material that may date from 1933 but that seems out of place in terms of the building's character. These two entrance areas will be upgraded with a recessed floor match trimmed with perimeter granite paving tiles to serve as a better transition from the granite exterior landings and stairs while also serving to remove dirt and debris prior to tracking it onto the wood floor.

The two side door foyers at the south side of the first floor are reached via short ramps from the oak flooring to quarry tiles at the SE foyer by the stairs and broadloom carpet at the SW foyer by the elevator. Neither ramp is compliance with accessibility regulations, and these will be replaced with 5% sloping walkway area to avoid needing rails since they are too narrow for meeting the clearance requirements for ramps (although they do meet the widths required for egress). Each foyer will receive a robust walk-off mat type of carpet tile and the revised sloping access areas will be matching the oak flooring.

Basement Level Flooring: The existing floor in the basement consists of unfinished concrete in the hallways, storage areas, and mechanical room. The two multi-fixture restrooms have quarry tile that match other areas of the building. The treatment of a renovated basement was proposed as resinous flooring with paint chips to create a well wearing and stone-like appearance over the concrete. A painted wood base will be used in the common areas while an integral resinous cove base will be used in the restrooms. The classroom area will receive a cushioned athletic flooring surface to allow for multiple uses that could include dance and crafts.

RESTROOMS / Toilet Partitions: Full height privacy toilet partitions will be used in the multifixture toilet rooms to allow for future conversion to gender-neutral facilities when code allows. The latching system will incorporate an integral occupied/unoccupied signage to facilitate usage. The panels and doors will have small gaps between the floor and ceiling for ventilation purposes while maintaining full visual privacy.

RESTROOMS / Lavatories: Sinks in the restrooms will be wall-mounted types and will not include counters since those tend to accumulate water during use and give an unsanitary appearance. Consideration will be given in the multi-fixture restrooms for ganged lavatories with integrated water, soap, and hand-drying fixtures like the Sloan "AER-DEC" lavatories that are on the market.

RESTROOMS / Water Closets: Toilets will be floor-mounted with infrared flush valves with sensors recessed into walls were possible. A manual button will allow for flush valve operation if the automated function is temporarily disabled.

Finishes & Fixture Considerations for Old Town Hall

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RESTROOMS / Accessories: Grab bars and mirrors will be furnished and installed by the general contractor. Changing tables will be surface-mounted horizontal stainless-steel units provided in contract. Hand dryers will be hands-free and waste-free electric units installed as part of the work. Accessories with consumable items like toilet paper and soap will be selected based on the City's standards when the job is specified, with the intent being for appropriate devices to be furnished by the Owner's vendor and installed by the Contractor or furnished by the Contractor if the devices are not proprietary. Waste receptacles will be free-standing.

WALLS: The existing walls at the first and second floors primarily consist of circa 1933 cement plaster on wire lath. At the exterior walls, the wire lath is attached to wood strapping that is attached to the exterior brick masonry bearing walls, resulting in insufficient wall cavity space for insulating the exterior walls (only one inch). The project will retain these plaster surfaces, along with the painted wood trim (base, chair rail, crown) where present. At the contemporary partition separating the Colonnade from the South Foyer, the wall is 1970's veneer plaster with joint compound that tested positive for asbestos that will be abated as part of the project.

Basement walls in the hallways and restrooms are plaster, and in the storage areas they are concrete masonry units (CMU) that were installed to conceal the rubble stone foundation walls. All the basement wall finishes date from the 1933 renovation when the market stalls were removed, and the southern bays were rebuilt for a boiler room. All plaster finishes and CMU will be removed due to the significant renovation needed in the basement for providing new support columns, expanded restrooms, catering pantry, multi-use classroom space, and replacement of the concrete slab floor 7" lower than the existing slab in most of the area. New wall finishes will be painted drywall to replicate plaster, and the perimeter walls will receive concealed closed cell spray foam insulation in galvanized metal stud wall cavities.

Selective portions of the existing 1933 dark gray toilet partitions will be salvaged and used as wall material in the basement restroom lavatory alcoves.

ELEVATOR: The existing elevator has a history of poor performance and high maintenance costs, and the Architect has been trying to contact the current vendor (Haley) who presumably knows existing conditions the best. Michael provided a cell phone number for the company to facilitate contact. During this meeting, the Architect noted that the enamel painted frames and doors are not complimentary of the historic character of the building and showed examples of doors and frames with trimmed frames and bronze doors complimentary of the building's character,

After the meeting, the Architect was able to connect with the elevator vendor to review conditions and discuss recommendations for aesthetic and functional upgrades. Jeff Halley of Halley Elevator met with the Architect on July 14, 2022, to review existing equipment conditions and tour the interior of the shaft. The elevator machine is a custom Gillespie machine with Virginia Controller, both of which are over 25 years old and in need of replacement. The elevator is a hole-less hydraulic with a cantilevered support mast on the back side of the shaft adjacent to the machine room. The elevator is vented through an abandoned masonry flue. Jeff recommended replacing the machine, controller, and

Finishes & Fixture Considerations for Old Town Hall

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wearable moving parts in the shaft while renovating the cab interior and adding metal cladding to the doors and jambs.

PANTRY: The catering pantry in the basement will be a support space for serving events in the Old Town Hall, but not for cooking purposes. Two options exist for the approach to this room. One is an all-stainless system in keeping with a commercial warming kitchen environment, and another is an approach with top quality appliances in a more traditional cabinetry array. The commercial approach may be more acceptable to the health department while the traditional approach may be more compatible with the building's inherent character. These two options will be reviewed further during subsequent documentation phases and will involve meetings with Board of Health and with input from the Historical Commission.

DOOR HARDWARE:

Existing hardware throughout the building will need to be upgraded for accessibility compliance and will be reviewed in detail during the subsequent design phase for visual appropriateness.

Finishes & Fixture Considerations for Old Town Hall

Finishes & Fixtures Considerations / June 2022

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www.greenengineer.com		12,000 sf) includes the renovation of the historic building and on the first floor, and another exhibition/multipurpose space ms.	st early-on in the process.	key to promote the City commitment to address our climate incorporation of sustainable design strategies represents is overall impact of the built environment.	ng that serves as an educational tool for staff, residents, and at lo reduce the cost to operate the building and reduce its.	d to conduct an initial Lifecycle Cost Assessment of HVAC LEED for New Construction version 4 rating system as a formal LEED certification at this time, however the following mpt from EO 484.)	nurce heat pump (GSHP) HVAC strategy.				
		Massachusetts in Climate Zone 5A. The project (~ in the basement, an exhibition space (colonnade) ces, storage spaces, and mechanical/electrical rool	ied sustainability as an important goal for the projection	that a wholistic approach to sustainable building is performance learning environment. Additionally, purces and environmental leadership by reducing th	signing a low impact site and energy-efficient buildi a low-energy building with an aggressive EUI targ	C design options, assess performance impacts, an w general sustainability opportunities using the 1 imited budget, the project does not intend to pursue t forward. (Note - state projects <20,000SF are exe	f a historic building and the selection of a ground sc	sign direction and project budget.			
te Green Engineer statrable Dasign Consulting	ve Summary	n Old Town Hall is located in Salem, a classrooms and a catering pantry i) on the second floor, along with offic	f Salem and the design team identifi	It team and stakeholders recognize for the project to act as a high- infor the project to act as a high-	for a sustainable project include des he building will be designed to be a intal impact, year over year.	of the SD assessment is two-fold: nergy Analysis: To evaluate HVAC stems. EED-NCv4 Assessment: To reviev arrework. Given the small size and lit sessment will help guide the project	benefit of the project is the reuse of	assessment will help inform the des	Data	ilding Area: 12,024 SF te Area: 10,000 SF arking Quantity: No parking EE: 20 sitors: Peak 500	
The	Executiv	The Salem will include (great hall)	The City of	The project crisis and economical	The goals f visitors. Th environmer	The focus of the f	The major I	This initial	Project D	B and a set of a set	

reen Engineer	ile Dasign Consulting	y Analysis	ure depends on de-carbonizing our buildings. As a result of this analysis the Salem Old Town Hall project is pursuing an all-electric approach coling. The project has the project has committed to ground source heat pump (GSHP) HVAC strategy.	ach, the overall carbon impact of the building will continue to decline as the electrical grid continues to become cleaner.	for the complete energy analysis and LCCA.	Assessment	g the LEED for New Construction v4 rating system to evaluate design options with the goal to design and construct a building which minimizes environment, creates an engaging and healthy space for occupants and reduces operating costs.	lef summary of sustainable design strategies and project limitations that have been evaluated to-date. The assessment follows the LEED Please see Appendix 2 for the full LEED-NCv4 scorecard.	ve Process ect team could conduct an early energy and water-use analysis in early design through the use of a "simple box" model and a water budget. Itscussion is needed to confirm if the project team will continue to track this credit.	& Transportation am Old Town Hall is located in a highly walkable area receiving a Walkscore of 99 which is considered a "Walker's Paradise" with multiple ifty resources within a quarter mile walking radius from the project's main entrance. The design does not include parking on-site. The project ric building erected in 1816 and is currently used as a cultural and rental facility. The project is also located in a Qualified Census Tract which a where 50 percent of households with incomes below 60 percent of the Area Medium Gross Income (AMGI). The Salem Old Town Hall is slking distance from the Newburyport/Rockport commuter rail, bus route: 450, 451, 455, and 456.	the Sites ect will complete and document a site assessment that includes topography, hydrology, climate, vegetation, soils, human use, and human fects. The project site appears to have brick walkways and dark grey slate shingles. Light colored walkways, pavers, and roofing materials e considered to reduce urban heat island.	ect's site design is limited, and the area constraints will limit the installation of bike facilities. In addition, the site limitations effect the rainwater ment improvements and potential accommodations for EV parking. Project team is evaluating exterior lighting fixtures to meet BUG ratings as led by the project's lighting zone.	Dane 0 rd 4 01 0 4 2
The Gree	Sustainable D	Initial Energy A	A low-carbon future for heating and cool	Given this approach	See Appendix 1 for I	Initial LEED As	The team is using th its impact on the env	Following is a brief credit categories. Pl	Integrative F The project Further disc	Location & The Salem to community is a historic is an area within walkin	Sustainable The project health effect should be or	The project managemer determined	dd Readfamt St. Conte

www.greenengineer.com	ject teams focus on their local environmental, social iority credits. Surrounding Density and Diverse Uses or New Construction v4 requirements. Currently, the id as "Maybe".		1.4785095970
	category are based on the project's zip code to help pro rmined by USGBC. The project achieved two regional pro represents the current assessment against the LEED fc for "Certified" certification - and another 41 Identifie		Page 4 of 4
The Green Engineer Sustainable Design Consulting Regional Priority	Points earned under the regional priority co equity, and public health priorities as detern and Building Life-Cycle Impact Reduction. Refer to the attached LEED-NC v4 scorecard that i project is tracking 48 points as "Yes" – enough for		23 Breatord St., Cancord, MA 01742
		Sustainability & Energy Study / August 2022	

	1970	alysis Report		iner
APPENDIX 1	arly Design Assista alem Old Town Hall 2 Derby Sq, Salem, MA	Energy An	une 3, 2022	The Green En

www.greenengineer.com	The Green Engineer Sustainable Design Consulting
	Executive Summary

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OLD TOWN HALL Renovations / Salem MA Design Development Report



12 Ten Ten	e included to account for occupancy and Electrical lighting, temperature se I the characteristics of the mechanica e accounted for in the model. More regarding model inputs can be viewed in x. At this analysis is to show the impact and of a group of energy saving strategies or use of the building. The computer mode used for comparison of the relative in the energy use for the options. Actual of any of the schemes will depend or illed design and operation of the building	พพพพ.ฮัรยกรทุ่เทศตราชทา
	patterns are equipment. points, and systems ar information the appendi interaction the energy is to be differences energy use further deta	
	consumption data to compare against. The following three (3) C406 measures have been included in the model: 1. Reduced lighting power density system in accordance with IECC 2018 Section C406.3 2. Reduced air-infiltration in accordance with IECC 2018 Section 406.9 3. Enhanced envelope performance in accordance with IECC 2018 Section C406.8 This analysis utilizes DOE 2, a sophisticated building simulation program that performs thermal and illuminance calculations on an hour-by-hour basis. It uses typical yearly climatic data to determine the energy loads and system requirements for the building. Building description input involves defining the building envelope. The anticipated internal load	
Madeling Methodology	This report documents the results of computer simulations for the selected strategies for the Salem Old Town Hall project. This energy analysis evaluates different strategies for the selected mechanical system: Geothermal Heat Pumps (GSHP): Geothermal Heat Pumps (GSHP): Second Dop. A dedicated outdoor air system (DOAS) also served by the ground loop provides ventilation air to the spaces directly. As discussed on page 3, three bundles have been identified for the geothermal system, and evaluated for this analysis. The first bundle incorporates base allowance conditions according to the prescriptive requirements of ASHRAE 90.1-2016 w/MA Amendments, to provide baseline energy	The Green Engineer
	Sustainability & Energy Study / August 2022	

Bundle Descritetion	kwh	MMH Saufiners	Gas Consumption (Thorne)	Gas Savings (Therm)	to The form	Energy Cost Savings	Energy Use Intensity
uonduosan amund	Consumption	SUIVBC IIVVN	(miani)	(mian i)	CINERGY COST		/ m/nigal
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GSHP - BOD+	89,013	52,364			- \$14,687	\$8,672	,
Strategies	Basis	of Design (BOD)		8	OD+ (Builds On BOD)		
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Lighting	10% r	educed LPD, compare	d to MA amended base	eline 2	0% reduced LPD, compa	red to MA amended	baseline
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ENDIX 2 - Initial LEED Asse LEEDv4 BD+C: New Consi Project Scorecard		TOTALS	- M- Na	16 21	M- No	1 0 INTEGRATIVE PROCESS	1 IPc1 Integrative Process	- M- Na	0 7 LOCATION & TRANSPOR	N LTet LEED for Neighborhood I	LTc2 Sensitive Land Protection	1 LTc3 High Priority Site	LTe4 Surrounding Density and	4 LTc5 Access to Quality Transitv	1 LTr6 Bicycle Facilities v4.1	LTc7 Reduced Parking Footpri	I LTos Electric Vehicles v4.1	- M - No	0 7 SUSTAINABLE SITES	SSpr1 Construction Activity Pollu	Ssot Site Assessment	2 SSc2 Site Development - Protec	1 Ssc3 Open Space	3 SSo4 Rainwater Management/	1 SSc5 Heat Island Reduction	SSe6 Light Pollution Reduction	- M - No	1 4 WATER EFFICIENCY	WEPr1 Outdoor Water Use Redu	WEPr2 Indoor Water Use Reduct	WEPr3 Building-level Water Mete	West Outdoor Water Use Redu	2 WEe2 Indoor Water Use Reduct	2 WEc3 Cooling Tower Water Use	4 Week Water Metering
issment iruction (LEEDv4 NC)						1 · · · · · · · · · · · · · · · · · · ·			TATION 16	Jevelopment Location 15	4	1-2	Diverse Uses v4.1 1-5	4.1 1-5.	1.	nt v4.1 1	-		10	tion Prevention Reg'd	Ŧ	at or Restore Habitat 1-2	-	14.1 2.3	1.2	-		H	ction Reg'd	ion Req'd	sring Req'd	ction 1-2	1-6 1-6	12	-
Project Address: Date:	LEED Goal	Bldg Area	Parking	Site Area	Visitors	Responsible	Team		Responsible										Responsible	CWCM	Arch/Civ/LA				Arch/Civil	MEPILA		Responsible	l	MEP	Owner/MEP		MEP		AKD
Salem Old Town Hall 32 Derby Square, Salem, MA, 01970 8/2/22	Certifiable ~30	12,024 SF	No parking as part of the project	Approx. 10,000 sf	20 500 peak	Notes & Status	Requires team conduct early energy and water analysis		Notes & Status		Located on land that has been previously developed.	Project is a historic building but not located in a historic district. The proje (QCT).	Project is within walking distance from 8+ diverse uses. Walkscore: 99	Project is located near five or so bus stops & MBTA commuter rail. 75 We	No bicycle storage/showering facilities in project	No parking included as part of project, which meets credit.	No parking predudes credit achievement		Notes & Status	REQUIRES the development of an erosion and sedimentation control pla	Assume project team would conduct required site assessment	Limited site development precludes achievement	Limited site development precludes achievement	Limited site development precludes achievement	Pending materials & calcs. Dark grey slate shingles unlikely to meet high	Team to evaluate exterior lighting fixtures to work to select compliant BU		Noles & Status	REQUIRES no irrigation or 30% reduction in water use for irrigation. Proj	REQUIRES minimum water use reduction of 20% against LEED baseline	REQUIRES whole-building water meters for all water sources & sharing o	No irrigation meets credit requirements	New water fixtures to be installed. Potential gender neutral bathrooms. In reduction threshold (2), 40% (4) as maybe	NA	Dunding desire to install continued sub-matering
The Green Engineer												ect is located in a Qualified Census Tr		sekday/42 Weekend trips total.						ue					reflective roof criteria.	Grated fixtures			ect does not include irrigation	. Project target is 30%.	of water usage for 5yrs		vo urinals. Assume 30% minimum		

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OLD TOWN HALL RENOVATIONS

32 Derby Square / Salem MA

SUPPORTING DOCUMENTATION

- F.01MASSACHUSETTS CULTURAL RESOURCE INFORMATION SYSTEM1967 2017 / Massachusetts Historical Commission Scanned Records
- F.25 OLD TOWN HALL / BUILDING EVOLUTION DOCUMENTATION Sept 1996 / Excerpt from "Programmatic Study" / Staley McDermet Associates
- **F.34** STRUCTURAL ASSESSMENT FOR THE OLD TOWN HALL 9 May 2007 / Structures North Consulting Engineers
- F.50 OLD TOWN HALL ADA TRANSITION PLAN Oct 2019 / Institute for Human Centered Design
- F.57OLD TOWN HALL ASSESSMENT REPORT20 Apr 2020 / DREAM Collaborative / Existing Conditions Report
- F.69 CITY OF SALEM UNOFFICIAL PROPERTY CARD Assessor's Information on Current Building and Land Value

Massachusetts Cultural Resource Information System

Scanned Record Cover Page

Inventory No:	SAL.2496	144
Historio Name	Salem Old Town Hall	
Common Name	Salem Town Hall and Market House	2.2 C () () () () () () () () () (
Adress;	32 Berby Sq Derby Sq off Essex St	TO DE MARKET
City/Town:	Salem	
Village/Neighborhood	Central Salem	
Local No:		
Year Constructed	1816	
srchilect(s)	Ballou, James; Colins, John Francis; Gray Architects; Smith and Walker; Smith, Philip Horton; Upham, Joshua	
wrohilectural Style(s)	Federal	
Use(s)	Business Office; Market or Grocery Store; Meeting Hall; Museum; Other Commercial; Other Cultural; Other Educational; Other Religious; Restaurant; Town Hall; Other Governmental or Civic; Community Center	
Significance	Architecture; Commerce; Community Planning; Education; Landscape Architecture; Military; Performing Arts; Politics Government; Recreation; Religion	
Area(s):	SAL HP: Downtown Salem Historic District SAL HV: Old Town Hall Historic District SAL HZ: Downtown Salem Multiple Resource Area	
Designation(s);	Nat'l Register District (12,04/1972); Nat'l Register District (10/18/1983); Nat'l Register MRA(10/18/1983); Preservation Restriction (06/02/1997)	
Building Materials(s):	Roof: Copper; Slate Wall: Brick; Granite; Wood; Stone, Cut Foundation: Concrete Cinderblock; Granite; Stone, Cut	
he Massachusetts His rojects to scan record:	torical Commission (MHC) has converted this paper rec s of the Inventory of Historic Assets of the Commonwea	ord to digital form <i>a</i> t as part of ongoing Ith and National Register of Historic
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is resource may be a	railable in digital format at this time.	

records and related scanned files may be updated as new information is incorporated into MHC files. Users should note that there may be a considerable lag time between the receipt of new or updated records by MHC and the appearance of related information in MACRIS. Users should also note that not all source materials for the MACRIS database are made available as scanned images. Users may consult the records, files and maps available in MHC's public research area at its offices at the State Archives Building, 220 Morrissey Boulevard, Boston, open M-F, 9-5.

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> Commonwealth of Massachusetts Massachusetts Historical Commission 220 Morrissey Boulevard, Boston, Massachusetts 02125 www.sec.state.ma.us/mhc

MACRIS Record of Old Town Hall / SAL_2496

FORM B - BUILDING

MASSACHUSETTS HISTORICAL COMMISSION MASSACHUSETTS ARCHIVES BUILDING 220 MORRISSEY BOULEVARD BOSTON, MASSACHUSETTS 02125

Photograph



View looking northwest.

Locus Map (north at top)



Recorded by: Walter R. Wheeler Hartgen Archeological Assoc./Larson Fisher Assoc.

Organization: City of Salem DPCD Date: July 2017

12/12

Assessor's Number USGS Quad Area(s) Form Number



NRDIS 12/04/1972; NRDIS NRMRA 10/18/83; PR 6/2/1997

Town/City: Salem

Place: (neighborhood or village): Downtown

Address: 32 Derby Square

Historic Name: Old Town Hall and Market House

Uses: Present: public

Original: town hall and public market

Date of Construction: 1816

Source: House History, Historic Salem, Inc.

Style/Form: Federal

Architect/Builder: Joshua Upham (builder, 1816); Philip H. Smith (1933-34); James Ballou (preservation architect, c. 1975); Gray Architects (c. 2015 renovations)

Exterior Material:

Foundation: stone (granite blocks)

Wall/Trim: brick

Roof: slate

Outbuildings/Secondary Structures: none

Major Alterations (with dates): conversion of first floor and basement spaces from a market house (c. 1933, Philip Horton Smith, architect); renovated (c. 1975, Jim Ballou, architect); renovations (c. 2015, Dennis Gray of Gray Architects, architect)

Condition: good

Moved: no ⊠ yes □ Date:

Acreage: 0.09

Setting: The Old Town Hall occupies an urban setting principally consisting of brick masonry commercial and mixed-use buildings, in which structures typically occupy the majority of their lots and have their street facades in line with the street wall.

> RECEIVED DEC 05 2017

MASS. HIST. COMM.

Follow Massachusetts Historical Commission Survey Manual instructions for completing this form.

MACRIS Record of Old Town Hall / SAL_2496
MASSACHUSETTS HISTORICAL COMMISSION 220 Morrissey Boulevard, Boston, Massachusetts 02125

SAL 2496

Area(s) Form No.

SAL HP, SAL HV; SAL HZ

SALEM

Recommended for listing in the National Register of Historic Places.

If checked, you must attach a completed National Register Criteria Statement form.

ARCHITECTURAL DESCRIPTION:

Old Town Hall is a two-story Flemish-bond brick masonry building of rectangular plan, with a gable roof. Principal entrance is via the north and south gable end elevations, with the sloping site requiring the provision of granite stairs with cast and wrought iron railings for each of the three entrances on the south elevation. Unusual in its siting within the City of Salem, Old Town Hall sits in the middle of Derby Square with all four of its elevations feature a similar level of detailing. The first floor is articulated as a series of arched openings set between granite-based piers, creating an arcade; the openings are partially filled with double-hung sash with semicircular transoms. Above this, a stringcourse comprised of four rows of running bond brick encircles the building. Second floor windows have arched tops with fixed upper sash and operable 12-light lower frames.

The central bays of the five-bay wide gable-end elevations are accentuated by the placement of a Palladian window at the second floor level, a lunette window in the gable-end pediments, and by the use of a wider and higher arch at the first floor level. At the gable ends, a modillioned cornice and raking cornice ornaments the roof edge. An octagonal cupola with copper clad bellcast roof is located in the center of the ridge of the roof. Two large brick chimneys are located in the center of both slopes of the roof, near the south end of the building.

The first floor interior was originally designed to house a public market. It has recently been renovated to serve as a public exhibition space. The second floor is almost entirely given over to a public meeting space, which is also rented for private events.

The stepped, brick-paved plaza that encircles the building was constructed in the 1970s as part of work undertaken by the Salem Redevelopment Authority, and was executed from designs by John Collins. The steps successfully negotiate the change in topography between Essex Street and Front Street, while simultaneously creating a formal podium for Old Town Hall and an areas for visitors to the farmer's market which uses this space to congregate. The design also featured an informational kiosk, providing a place for public postings. The design of the kiosk, which is located at the south end of the site near Front Street, has been altered.

This building is a National Historic Landmark, is within the NR Old Town Hall Historic District, the NR Downtown Salem Historic District, and the NR Salem Multiple Resource area.

HISTORICAL NARRATIVE:

Old Town Hall is located in what is now known as 32 Derby Square in downtown Salem. According to a house history on file at Historic Salem, Inc., Derby Square was a part of what was historically known as the 'Market,' a space from Essex to Front Street. Prior to the Market, at the time of the Revolution, it was the homestead of Col. William Browne, having been in the family for more than a century.

Colonel Browne was a tory holding the office of mandamus councilor, when, on August 24, 1774, he entertained Governor Gage and his civil and military staff, while Timothy Pickering, summoned by the sheriff into their presence, kept His Excellency so long in an 'indecent passion' that the town-meeting, which the Governor had come to disperse, had transacted its business and adjourned. Troops had been ordered up from the Neck, Town House square was crowded with people, and bloodshed seemed imminent. Later, Colonel Browne's estate was confiscated, and in 1784 it was conveyed by the State to Elias Hasket Derby, the most successful merchant of the town.¹

Colonel Benjamin Pickman, father of merchant Benjamin Pickman, Jr., wrote an account of the town and its buildings in 1793. These accounts were published in 1864 by the Essex Institute. In the account, Pickman discusses the mansion

Visitor's Guide to Salem (1927), 141

Continuation sheet_1

MASSACHUSETTS HISTORICAL COMMISSION 220 Morrissey Boulevard, Boston, Massachusetts 02125

32	DERBY	SQUARE
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Area(s) Form No.

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SALEM

owned by Elias Haskett Derby, Esq., "at present untenanted." He reviews that "this house was built by Hon Samuel Browne, who was born in 1669, was many years a representative, the first town-treasurer in Salem, a judge of the Superior Courts, Colonel of the Regiment and a Counciller. He was by far the greatest merchant in his day, in the county of Essex. He bestowed many valuable donations upon the schools; and died in 1731, aged 63, leaving this house to his son Samuel, who graduated in 1727." Samuel married a Winthrop of New London, and died in 1742, aged 34. He was concerned in mercantile affairs, but his indolence preventing his giving much attention to business, most of his personal property was spent. He left this house to his son William, who graduated in 1755, was chosen representative in 1762, appointed Colonel of the Regiment in 1770, and a judge of the Superior Court in 1774. He studied law with Mr. Trowbridge of Cambridge: in 1774 was appointed a mandamus Counselor, guitted the town of Salem in October, and took refuge in Boston, and went to England in March-, 1776, when the King's troops left Boston. During the course of the war, this house, and all his other estate was confiscated, which was the only property confiscated in Salem....Note: This House was on or near the site of Mr. Kimball's hat-store, extending thence to the wooden buildings occupied by Mr. Roberts, confectioner.²

The Visitor's Guide to Salem continues: "In 1799, Mr. Derby removed the residence of Colonel Browne, and erected upon its site, at a cost of eighty thousand dollars, the most sumptuous mansion ever built in Salem. It was occupied only a few months, and not long after Mr. Derby's decease was closed and offered for sale. No tenant or purchaser appeared for so costly an establishment."⁴ The property was inherited by Elias Hasket Derby's eldest son Elias Hasket Derby Jr. of Charlestown. The building remained vacant until merchants John Derby III and Benjamin Pickman, Jr., son and son-in-law of Elias Hasket Derby Sr., purchased this property from Elias Hasket Derby Jr. in 1815.

Col. Benjamin Pickman, born in 1763, was one of Salem's most prominent citizens. After attending Dummer Academy, he studied at Harvard College, graduating in 1784. He married Anstis Derby, the daughter of Salem's most eminent merchant, Elias Hasket Derby, and his wife, Elizabeth (Crowninshield) Derby, on October 30, 1789. The couple had ten children, six of whom lived to adulthood? Maturity. The Derbys resided in the old Pickman mansion, located on Essex Street, which had been purchased by Elias Hasket Derby in 1794 as a gift to his daughter Anstis. Pickman studied law under Chief Justice Parsons of Newburyport for a short time, after which he followed his father's footsteps into the field of commerce. He was the fourth Colonel in his family with the same name. Other achievements include becoming the first President of the Salem National Bank in 1803, serving as an elected Senator from 1802-1805, and working as a Representative of Salem to the General Court. Additionally, he became a member of the Governor's Council. He served as the second President of the Essex Historical Society and held office in the filterary and historical organizations in Salem, and also worked as overseer of his alma mater, Harvard College, from 1810 to 1818. Furthermore, he served as President of the Board of Directors of the Theological School in Cambridge and as a Fellow of the American Academy of Arts and Sciences.⁴

Pickman and his brother-in-law John Derby III purchased the Elias Hasket Derby's mansion and surrounding land with the intention of creating convenient commercial space for the city. "Centered on the new Market House, the scheme called for the construction of three brick commercial rows, one of which, the Pickman-Derby block (1817) also still stands."⁵ The extravagant Derby mansion was razed to make way for the commercial space. The Rev. William Bentley, a witness to the destruction of the Derby Mansion, wrote in his diary on Nov. 20, 1815:

I took my last view of the Mansion of the late eminent Merchant E. H. Derby, situated easterly from the Old Meeting House in Essex Street & going back with its gardens to Front Street. It was the best finished, most elegant, & best constructed House I ever saw. It was entirely of wood with an excellent facade in the Ionic order, with a noble flight of marble steps to the top of the basement story. Its stucco work had nothing like it in the rotundo on the south side & the buildings & gardens were in exquisite taste. It had fallen to the eldest son who had left it. The heirs could not agree to occupy it & the convenience of the spot for other buildings brought a sentence of destruction & before the world it was destroyed from its foundations. I saw the front demolished & left it in ruins. Sic transit gloria.⁶

Pickman (1864) 93-95.

Portraits in the Essex Institute, 161

Tolles and Tolles (2004), 85-88. Bentley et al. (1914), 362.

Continuation sheet 2

Visitor's Guide to Salem (1927), 141

MASSACHUSETTS HISTORICAL COMMISSION 220 Morrissey Boulevard, Boston, Massachusetts 02125

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Area(s) Form No.

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SALEM

Pickman and Derby had seen a need for a new market house as well as an opportunity to profit from its location on their property. They submitted their proposal to build stores and a street on the lot at Town Meeting on May 20, 1816, with the condition that the town construct a new building on the property to serve as a town hall and market house. The required the lower floor of the building to be used as a market space, and the upper floor to be a hall open to public meetings. If their conditions were not met, they declared the title would revert to the Derby and Pickman heirs. The town agreed to these conditions, and the plan was accepted. On July 13, 1816 the 100 foot by 65 foot plot located in the center of their square was conveyed to the Town of Salem.⁷ The development of Derby Square and the construction of attached brick commercial buildings began in 1817. "Two stories high with a pitched roof, the block is divided into three units by two fire walls. The brickwork is the unusual Flemish bond type and is highlighted by a cornice with square and ogee-curve dentils. Two round windows decorate the south gable end of the block. Old photographs show that the first floor doors and windows once had arched headings and fanlights similar to those gracing the Old Market House and Town Hall."^a

On January 21, 1817 the property was partitioned, with 5/9 shares going to Colonel Benjamin Pickman and 4/9 shares going to John Derby. Pickman received two brick stores, then called #1 and #2 (currently known as 215 Essex Street) in addition to "the land and buildings on the east side of the area around the Market House south of the market, and the south west corner of Derby square."⁹

Once the square was partitioned, Col. Pickman enlarged his block of stores. On Jan. 29, 1817 he engaged Joshua Upham, a mason, to build two new stores (now 7 Derby Square). Joshua Upham (1784-1858) was born on a farm in Saugus. He left home at the age of 15 and went to Boston to learn how to become a mason. Before he could finish his apprenticeship, he had an altercation with the master's wife, and ran away on a ship headed for Salem with a small allowance of food. He arrived in Salem on Aug. 3, 1803 with 75¢ and the clothes on his back. Joshua found employment with Mr. James Nichols, a local mason, who supplied him with a trowel and a place to board, and eventually married his eldest daughter Mary Nichols. Joshua worked with Mr. Nichols through the season and because of an expected lack of work in the winter, took a job offered by William Gray, the Salem millionaire, who was erecting a stone factory in Amesbury. He was paid \$83.34 for 74 days work which enabled him to purchase his first "Salem suit of clothes," for he had been wearing the same clothes since he left Boston. Before age 20, he went into business for himself and later entered a partnership with his future father-in-law, James Nichols. Mr. Upham became a master mason and was the most successful in Salem. It was just after they had completed the new Market House that Joshua was hired by Col. Pickman to build his stores. President Monroe's came to visit Salem on July 8, 1817. The Town Hall was used for the very first time on this occasion. Col. Benjamin Pickman gave the address welcoming President Monroe to Salem and the next day entertained him at his house. One can envision the Col. proudly pointing out his newly erected buildings to the president as they passed by¹⁰

When the City constructed a new City Hall in 1837, the Old Towne Hall was no longer used as the headquarters of the city government, although the building was still used for various government offices.¹¹ A flourishing public market continued in this building until 1933. John Goff wrote in the original MHC historic resource survey form that,

The Market House stalls, and basement dining rooms were removed in 1933-34, following architect Philip H. Smith's radical redesign of the building. Smith & Walker were engaged during the Great Depression to find new uses for Old Town Hall to save the building from demolition, and to put unemployed skilled workmen back on the payrolls. As part of their proposed preservation solution the old market stall areas on the first floor were remodeled into new city offices, new storage areas, a new city vault, a new boiler room, and public restrooms were also installed in the basement.¹²

Phillip H. Smith (1890-1960) was a well-known architect and had several commissions in Salem including the Pequot House on 47 Congress Street (SAL 4187), the Salem Ward 3 Fire Station at 415 Essex Street (SAL 705) and the Hawthorne Motor Hotel on 2-28 Washington Square West (SAL 2647). In the mid-1970s, the restoration of the Old Town Hall and Market House was the cornerstone of the Salem Redevelopment Authority's imaginative program to revive and preserve the Derby Square section

Continuation sheet 3

Salem MA, Southern Essex District Registry of Deeds, Book 211, Page 1, 7/13/1816. Hereafter cited as SED [Book #]: [Page#], [date].

Tolles and Tolles (2004), 85-88.

SED 211:220, 1/21/1817

ⁱⁿ Upham (1885),

Tolles and Tolles (2004), 86.

¹² Massachusetts Historical Commission Historic Resource Survey Form, SAL 2496

MASSACHUSETTS HISTORICAL COMMISSION 220 Morrissey Boulevard, Boston, Massachusetts 02125

SALEM

32 DERBY SQUARE

Area(s) Form No.

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of the downtown business district.¹³ The renovation of this building and reimagining of Derby Square around it was one of the centerpiece projects of the revitalized downtown Salem business district as envisioned by the Salem Redevelopment Authority and John Collins, and was undertaken by architect, Jim Ballou.¹⁴ It was one of the principal urban interventions undertaken at that time, and connects with related work undertaken simultaneously along Essex Street and what is today known as "Artist's Row," to the south. Together the three projects sought to enrich the pedestrian experience of the city in the old commercial core. "It was a complete redesign of the setting of this building; the landscape designs for Derby Square were completed by landscape architect John F. Collins."¹⁵

Salem restoration architect James Ballou (1920-1995) was trained at BAC and MIT. His 1970 AIA Directory entry also noted his work on the restoration of Governor Shirley Eustis House (1968-9) and Faneuil Hall Market Buildings (1969-70).¹⁶ He was responsible for a number of renovations and restorations undertaken on buildings within the Urban Renewal area in Salem in the early 1970s, and sat for a time on the Salem Renewal Agency board.

John Francis Collins (1936-2011) was a landscape architect and urban planner who founded the landscape architecture program at Temple University's Ambler Campus. Mr. Collins had been a principal in The Delta Group, a regional landscape architecture, planning and engineering firm, until his retirement in 2004. He had won many awards in his 40-year career and had directed a host of major design projects in the Delaware Valley and beyond. Among his local projects were the Rittenhouse. Square Master Plan, Schuylkill River Park, the Philadelphia-Valley Forge Trail, Market Street East and Chestnut Street Park. He was also involved in the Trans-Alaska Pipeline Visual Engineering Program and the Conceptual Design/Master Plan for Armagh, Northern Ireland. Mr. Collins co-founded the firm of Adleman, Collins & DuTot in Philadelphia in 1963. The firm later became Collins DuTot & Associates, and in 1971 joined with others to form The Delta Group.¹⁷

The first floor of this building is now the home of the Salem Museum. The second floor continues to be used for public meetings and community events.

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Historic Salem Inc. House Histories.

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Salem State University Archives, Nelson Dionne Collection. https://www.flickr.com/photos/salemstatearchives/nelsondionne. Washington, D.C. U.S. Bureau of Census. United States Censuses. 1790-1940, www.ancestry.com.

Internet Sources Find A Grave Website, https://secure.findagrave.com.

12 Tolles and Tolles (2004), 87.

Interview with Oscar Padjen, 3 May 2017.

Massachusetts Historical Commission (2017).

¹⁶ Massachusetts Historical Commission (2017).
 ¹⁷ Fox, Walter, "John F. Collings, landscape architect" Chestnul Hill Local, 9 August 2011.

Continuation sheet 4

32 DERBY SQUARE

MASSACHUSETTS HISTORICAL COMMISSION

220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area(s) Form No.

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SAL HP, SAL HV, SAL HZ

SALEM

ALHV: SALHZ SAL 2496

 Genealogy, Family Trees & Family History Records.
 www.ancestry.com

 Google Books Search.
 http://books.google.com.

 Historical Newspapers search.
 http://geneaolgybank.com.

 Maps
 1820
 Plan of the town of Salem in the Commonwealth of Massachusetts, Jonathan P. Saunders, Boston.

 1851
 Map of the City of Salem, Massachusetts.
 Henry McIntyre, Philadelphia.

 1874
 Atlas of the City of Salem.
 G. M. Hopkins & Co.

 1911
 Atlas of the City of Salem.
 Walker Lithograph & Publishing Co.

 1950
 Insurance Maps of Salem.
 Massachusetts, Sanborn Map Company, New York.

Interviews

Interview with Oscar Padjen, 3 May 2017, via telephone.

Continuation sheet 5

INVERTORI FORMED CONTINUATION SHEET

SALEM

32 DERBY SQUARE

MASSACHUSETTS HISTORICAL COMMISSION 220 Morrissey Boulevard, Boston, Massachusetts 02125

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FIGURES:		
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Figure 1: 1820 Saunders *Plan of the town of Salem in the commonwealth of Massachusetts*, Leventhal Map Center, Boston Public Library; blue arrow pointing to the "Market, Town Hall, Derby Square".



Continuation sheet 6

SALEM

32 DERBY SQUARE

MASSACHUSETTS HISTORICAL COMMISSION 220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

SAL.HP, SAL.HV; SAL.HZ

Area(s) Form No.

SAL.2496



SALEM

32 DERBY SQUARE

MASSACHUSETTS HISTORICAL COMMISSION 220 Morrissey Boulevard, Boston, Massachusetts 02125

SAL.HP, SAL.HV; SAL.HZ

Area(s) Form No.
SAL.HZ SAL.2496



Figure 5: c. 1880 stereoview (Salem State University Archives, Nelson Dionne Collection). Looking north.



Figure 8: c. 1980 stereoview (Salem State University Archives, Nelson Dionne Collection). Looking south.

Continuation sheet 8

SALEM

32 DERBY SQUARE

Form No.

MASSACHUSETTS HISTORICAL COMMISSION 220 Morrissey Boulevard, Boston, Massachusetts 02125

SAL.HP, SAL.HV; SAL.HZ

SAL.HZ SAL.2496

Area(s)



Figure 7: 1915 photograph of the Market House from the newspaper article dated 12 August 1938 in the Salem Evening News.



INVENTORY FORM B	CONTINUATION SHEET
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32 DERBY SQUARE

SAL.2496

Form No.

MASSACHUSETTS HISTORICAL COMMISSION 220 Morrissey Boulevard, Boston, Massachusetts 02125

SAL.HP,	SAL.HV; SAL.HZ

Area(s)

SALEM

PHOTOGRAPHS: (photos by Neil Larson and Walter R. Wheeler, 2016 unless otherwise indicated).



View looking southwest.

Continuation sheet 10

SALEM

32 DERBY SQUARE

MASSACHUSETTS HISTORICAL COMMISSION 220 Morrissey Boulevard, Boston, Massachusetts 02125

SAL.HP, SAL.HV; SAL.HZ



Form No.

Area(s)



View looking south.



View looking north.

Continuation sheet 11

Massachusetts Historical Commission) Bóylston Street Boston, Massachusetts 02116	Town Salem Place (neighborhood or village)
Boston, Massachusetts 02110	Town Salem Place (neighborhood or village) Central Salem
	Place (neighborhood or village) Central Salem
	20 0 1 0
	Address 32 Derby Square
	Historic Name Town Hall and Market House
	Uses: Present commercial/exhibition
	Originaltown hall and public market
	Date of Construction 1816
	Source Historic Structure Report (1975)
	Style/Form Federal
	architect: unknown (Bulfinch?) Architect/Builder <u>builder: Joshua Upham</u>
	Exterior Material:
	Foundation Granite
	Wall/Trim Brick
	Roof Slate
	Outbuildings/Secondary Structures None
	· · · · ·
	Major Alterations (with dates)
RECEIVED	1933-34: [reconfigured basement, first floor,
MAY 0 7 1007	1977: restoration of 1st fl. collonade.
MAT 2 / 1777	ConditionExcellent
MASS. HIST. COMM.	Moved 🖾 no 🗆 yes Date <u>N/A</u>
	Acreage 0.13± acre (5,600 s.f. lot: 4,000s.f.
Recorded by John V. Goff, Architect	Setting Urban setting overlooking public squa
Organization Staley McDermet Associates	street from north.
Date (month/day/year) March 1, 1996	
Follow Massachusett "istorical Commi	ission Survey Manual instructions for mpleting this form.
MACRIS Reco	rd of Old Town Hall / SAL_2496

The rich history and architectural character of Salem's "Old Town Hall" demands that further research be conducted on the upper floor uses of the building as well. Preliminary evidence indicates a wide range of uses for the following spaces:

Room	Activity	Year	Source
Sec. 411-11			
Sreat Hall:	Presention of U.S. President Manual	1017	
	Reception of U.S. President Monroe	1817	Detwiller-Ballou report
	I own meetings	1817	Detwiller-Ballou report
	Religious Meetings	1822	Detwiller-Ballou report
	Reception of? Lafayette, Revolutionary War hero	1824	Detwiller-Ballou report
		1829	Detwiller-Ballou report
	Use by Military Companies	pre-1830	Detwiller-Ballou report
	Salem Lyceum lectures	post-1830	Detwiller-Ballou report
	Reception of? U.S. President Andrew Jackson	1833	Detwiller-Ballou report
	Salem Charitable Mechanics Association lectures?	prior to 1842	Detwiller-Ballou report
	Evening School	winter, 1907	Detwiller-Ballou report
	Drama Productions	1934	Staley McDermet Associates report
	Drama Productions (Witch Trial Re-enactment)	1990s	John Goff recollection
	Paul Madore Chorale, rehearsals	1990s	John Goff recollection
	Salem Preservation Fair	1990s	John Goff recollection
	Function rentals	proposed	Staley McDermet Associates report
ast Office:			
	Salem Town Selectmen's Office	1816	Detwiller-Ballou report
	offices of Historic Salem Inc.	1970s	Staley McDermet recollection
	Stage lighting controls, etc.	proposed	Staley McDermet Associates report
Vest Office:			
	Town Clerk's Office	1816	Detwiller-Ballou report
	"Clerk's office of the Salem Dispensary"	1859	Detwiller-Ballou report
	Elevator reception, catering, etc.	proposed	Staley McDermet Associates report
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Old Town Hall: Preliminary Listing of Uses, Second Floor Rooms

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BUILDING FORM

ARCHITECTURAL DESCRIPTION See continuation sheet Describe architectural features. Evaluate the characteristics of this building in terms of other buildings within the community.

Old Town Hall is a 40 x 100 foot 2-1/2 story brick building sited on a raised platform which extends five feet out from the building on all sides, except the south (old front) where stairs project 7 feet from the building. A public square is located immediately south.

The building is pitch-roofed, with gable ends at both north and south. In plan, it is a 5 x 11 bay structure. On the main facades (north and south) the center bay is dominant, with a lunette attic window and grand Palladian window aligned above paired, main entrance doors to the building. The south facade has two side doors which led originally to the stairs and the main meeting hall on the second floor. On both north and south facades, curved signs saying TOWN HALL are positioned above the Palladian windows.

The four main levels of the building (basement, first floor, second floor, attic and roof) are distinguished one from another by different materials (primarily stone and brick) as well as by a beltcourse between floors 1 and 2; and a cornice above the second floor. On the gable ends, the cornice is closed, and supported by modillion blocks—a fine piece of Classical detail. Variations in round-top window sizes (all openings have arched tops) and muntin patterns add significantly to the richness and balance of the composition as a whole.

Old Town Hall is a one-of-a-kind, unique architectural asset in Salem. Its Federal Style components are superbly proportioned and crafted. The building has great imageability, due in part to its exposure on all four sides, and visibility from two prominent urban downtown streets (Essex Street and Front Street).

HISTORICAL NARRATIVE See continuation sheet

Discuss the history of the building. Explain its associations with local (or state) history. Include uses of the building, and the role(s) the owners/occupants played within the community.

Old Town Hall occupies one of the most historically significant sites, and is itself one of the most historically significant architectural landmarks in Salem. The site was originally a waterfront parcel which by the 1790s supported the mansion of Elias Haskett Derby, America's first millionaire. Recognizing these facts, the old waterfront edge to the south of the building is now called Front Street; while the area is called Derby Square.

As a historical landmark, Old Town Hall served as both Salem's principal municipal building, as well as Salem's major public market structure, from its construction in 1816 through 1836, when Salem achieved City status. The Town Hall & Market House was thus the primary governmental building as well as an important mercantile center during the prosperous Federal Period, Salem's greatest age of maritime expansion and urban refinement. Old Town Hall (as it is currently called) remains one of the oldest structures in downtown Salem, as well as the predecessor structure to Salem City Hall, built nearby in 1837.

BIBLIOGRAPHY and/or REFERENCES See continuation sheet

Books and Reports:

- Bentley, William. <u>Diary</u>, Volume 4, 1816-1817 period, pp. 423, 424, 445, 453, 460.
- Detwiller, Frederic C. et al. <u>Salem Town Hall</u>; Historic Structure Report, January, 1975.
- Kimball, Fiske. Mr. Samuel McIntire, Carver: The Architect of Salem. Essex Institute, Salem, MA 1940, Figures 129-152;
- Staley McDermet Associates. Programmatic Study: Old Town Hall, Salem, Massachusetts September, 1996 -

□ Recommended for listing in the National Register of Historic Places. If checked, you must attach a completed National Register Criteria Statement form.

HISTORICAL NARRATIVE - CONTINUATION

Old Town Hall has been used for many purposes during the 180 years which have elapsed since construction began. For much of its early history, the building was called the "Town Hall and Market House" reflecting the primary uses of the early 19th century. As originally conceived and built, the *basement and first floor* were designed for Public Market use (like Quincy Market in Boston), while the *second floor* was largely reserved for Town Hall and Town Offices use. The building thus served an important double function by providing both an upstairs setting for democratic political processes, and a downstairs setting for the purchase and sales of food and produce. To compliment food related uses, dining rooms and a restaurant also operated in the south end of the basement, originally accessed by exterior stairs which were removed in 1933-34. A public Fish Market, and other food facilities, were also maintained outside of, and south of the building, where the working waterfront provided means for food import, (proximity to the wharves) and an excellent outdoor area for display of fresh foods. The outdoor food display and purchase areas remained highly popular during much of the 19th and early 20th centuries. In later years, public trolleys—and the nearby railroad—continued to bring people to the site, after Salem's Great Age of Sail was eclipsed.

Thorough study of the building's early tenancy and use has not yet been conducted, and remained outside the scope of work for both major architectural studies completed in 1975 and 1996. (Salem Town Hall: Historic Structure Report, 1975; Programmatic Study: Old Town Hall, Salem, Massachusetts, 1996). Still, some insights were provided by F.C. Detwiller's researches in 1975, and by Staley McDermet Associates findings added 21 years later.

In some of his most ground-breaking work, Detwiller uncovered names of some of the original 1816-1817 Market House tenants, recorded in tenant contracts, market regulations, and ancient manuscripts. He found that a great number --perhaps a majority--of the earlier "victuallers" resided in Danvers, suggesting that the downtown Salem Market provided a valued downtown foothold for farmers who lived (and kept animals) in outlying areas. Here are the names of the earliest tenants which Detwiller found associated with the Market House stalls. These names all date from November, 1816, and were earlier published on page 1 of the Use & Tenancy Timetable in Detwiller's report:

(First Floor Market Stall tenants):

Stall 17	Amos King	Danvers	victualler	
Stall 19	Benjamin Stevens	Danvers	victualler	

(Basement tenants, some with additional holdings on First Floor):

Construction of the second structure and an		<i>.</i>	
(2 southern cellars)	Thomas Davenport	(Salem?)	victualler
Stall 6, also half of cellars under 6 and 8	George Abbott	Danvers	
Stall 8, also half of cellars under 6 and 8	Ebenezer Nichols	Danvers	
Stall 13, also cellars under 13 and 15	Jesse Sheldon	Beverly	
Stalls 14 and 16, also cellars under 14 and 16	Daniel Woodbury	Danvers	victualler

Detwiller's data suggests that the original Market House stalls (11 bays originally, numbered 1 through 22) were numbered with odd stalls on one side; with even stalls on the other, and that exterior doors which no longer survive were likely used to access additional stalls—and/ or storage spaces—in the basement. Detwiller's data also indicates quite clearly that, where known, a good proportion (5 of the 7 known) of the early "victuallers" were from Danvers.

It appears that the public market continued at the first floor level of the building, into the opening years of the 20th century. Detwiller found that some of the earliest Salem City Directory listings for these Market House tenants carried "victualler" listings at Market House or Market Court addresses (1837 Directory listings, reproduced, Use & Tenancy Timetable, page 2).

Detwiller further found that the 1869 Salem Directory listed seven different Market House tenants occupying 18 numbers (or stalls?) inside the building. These occupations were as follows:

Benjamin S. Wheeler, provisions, occupied Nos. 1 through 4;

Alfred A. Ward, provisions, occupied Nos. 5 and 6;

John H. Read, fruits and vegetables, occupied Nos. 7 through 9;

SAL. 2496

Warren A. Read, butter and cheese, occupied Nos. 10 and 11,

Roberts & Bigelow, provisions, occupied Nos. 12 through 14;

Jonathan O. Ward, provisions, occupied Nos. 15 and 16;

Daniel P. Emerson, provisions, occupied Nos. 17 and 18.

Reduction of total stall numbering from 22 down to 18 may have been associated with basement dining room use (after 1819), which likely took 4 stalls (2 bays x 2 sides, east and west) out of circulation for farmer's market or victualler rentals.

It is worth noting that two of the above 7 listed 1860s tenants were members of Salem's Ward family. The Wards in Salem had deep interests in the provisions (meat products) business in Salem, and by the year 1900, came to dominate the local market in Old Town Hall. City Directory listings, and turn-of-the century photographs indicate that F.T. Ward & Co. became the major (and only?) tenant on the first floor of the building by the opening years of the 20th century. Directory listings further suggest that F.T. Ward began his training in this business as a "Clerk" for Alfred A. Ward (listed above). More research on this industry dominance is required. (See 1969 Directory, also page 3 of Use & Tenancy Timetable, in 1975 Detwiller-Ballou report.) By 1907, the principal occupier of the first floor Market House stalls was the "Salem Beef Company." Whether or not this, too, was a Ward family owned business, remains to be determined.

In addition to supporting "victuallers" and provisions dealers who sold foodstuffs from the basement and first floor stalls of the building, a portion of the basement of Old Town Hall (the southernmost end) was also used as a **public restaurant and Dining Room** in the early years. Detwiller found historical evidence of a Rumford roaster having been installed in one (if not both) of the chimneys in the basement, suggesting that the public "Kitchen & Dining Rooms" were of Federal Period origin. A sketch plan prepared by Detwiller in October, 1974 (1975 report, Basement Plan) indicates an 1819 date of origin for public restroom and dining room in the basement. No clear plan has yet been located which describes how the early basement restaurant and dining room(s) were configured. The problem is compounded by the fact that the southern end of the basement has been subsequently altered on at least two occasions. (ca. 1900, 1933). However, it seems reasonable to assume that the drop in total rentable stall numbers (noted above-reduction from 22 to 18) was likely associated with conversion of 2 structural bays west + 2 structural bays east in the basement (= 4 "stalls" total) to new dining room use.

We know from surviving photographs and city directory listings, that a number of public food establishments continued to use the basement of Salem's Old Town Hall after the Civil War. "Abbott's Eating House-Meals at All Hours" advertised its basement occupation about 1865, while about ten years later the sign was changed to read "Moulton's Eating House." Three other early tenants in the basement room(s) included Charles H. Kezar (a retailer of "Liquors, etc."), D.A. Eldredge, "City Lunch and Dining...successor to C.H. Kezar...Meals served at all hours" and the Subway Market, or New Subway Market, which maintained a grocery store and butchery business in the south basement rooms in the early 20th century. Good exterior and interior photographs of the Subway Market were recently located in the private collection of Sheila L. Theberge of Salem. Mrs. Theberge is related to Elphege, Donat, and Orille L'Heureux who sold "salt pork...blood sausage...pure lard" and other choice foodstuffs in the Subway Market prior to World War I. (see L'Heureux family photographs reprinted in 1996 study, Historical Photographs, Figures 8 and 9).

The Market House stalls, and basement Dining Room(s) were removed in 1933-34, following architect Philip H. Smith's radical redesign of the building. Smith & Walker were engaged during the Great Depression to find new uses for Old Town Hall to save the building from demolition, and to put unemployed skilled workmen back on the payrolls. As part of their proposed preservation solution, the old market stall areas on the first floor were remodeled into new City offices (ten brand new City offices!) New storage areas, a new City Vault, a new Boiler Room, and Comfort Stations (public restrooms) were also installed in the basement. These 1930s alterations effectively removed forever most–if not all–traces of the Market House's early presence in the building. (Yet some of the bricked-in basement door locations remain visible; also, archaeological resources remain unknown). After 1934, the first floor and basement rooms of Old Town Hall presented a much cleaner, and more orderly appearance, reflecting in part that decade's great emphasis on sanitation and modern conveniences. The wiping out of the old 19th century market stalls (and removal of facilities for farmers) was seen to be a "progressive" demonstration of Salem urbanization. The dropping of market functions from the building was paralleled by a dropping of "Market House" from the name of the building after 1934. When the dust had cleared from all the mason's work (brick-cleaning, etc., which included sandblasting off the old "Market House" sign) in 1933-34, Salem's "Town Hall and Market House" was reborn as the "Old Town Hall." People seemed eager to forget most, if not all of the retail activities which formerly tied the building to the public spaces nearby, and which earlier accounted for most of the activity on the two lowest–and most easily accessible–floors of the building.

While no complete study has yet been made of the tenants and historical uses of Old Town Hall, more attention should be given to both the post-1934 uses of the first floor City offices, and the post-1817 uses of the second floor rooms. Preliminary evidence from the 1975 and 1996 reports indicates that some of the first floor offices were occupied by the Salem Planning Department and the Salem Redevelopment Authority (SRA) prior to the construction of 1 Salem Green in the mid-1970s. The Salem Chamber of Commerce (currently the only first floor tenant) appears to be the final "holdout" from the City's intense interest in having first floor owns for offices back during the Great Depression. The Chamber's main office (first floor, northwest corner), retains its 1930s front door with sidelights, providing good insights into how Smith & Walker remodeled the whole first floor office subdivisions and tenant uses in the 20th century.

ARCHITECTURAL DESCRIPTION - CONTINUATION

Old Town Hall contains a number of interior features which are architecturally significant:

At the basement level, the first floor support structure has been found to be architecturally significant. It survives mostly from the 1816-17 period, in good condition. The perimeter walls are cut stone, faced inside with concrete block added in the 1930s. The wood first floor rests upon a system of heavy wood beams, and large wood floor joists, which in turn are supported by brick piers, running down the center of the building. The piers, joists, and beams all appear to survive from the Federal Period. Basement toilet rooms, storage vault, and boiler room, added in the 1930s, are not deemed to be historically significant.

At the first floor level, the most important architectural feature is the central colonnade. Sixteen wood columns define eight structural bays of colonnade, as well as side galleries which originally supported Public Market functions. The colonnade was restored extensively in the 1970s, and is an important character-defining element in the building. The present columns in the building retain the original Tuscan profile of those installed in the 1810s, but construction was changed in the 1970s. The original solid wood columns, heavily damaged by atterations over the years, were replaced with steel columns inside wood casings, which presently support the colonnade. Although fabric has been replaced, the architectural concept and element continues. The south stairs in Old Town Hall are also believed to date from 1816-17.

On the second floor level, the most significant architectural feature is the Great Hall, which measures 37 x 71 feet in plan, and occupies the north eight bays of the building. The Hall originally functioned as the Town Hall for Salem, before Salem acquired City status. Two small rooms (originally municipal offices), a central hall, and south stairs also survive from the Federal Period. The Great Hall is distinguished by cove ceilings, a stage at the north end, raised seating platforms against the east and west walls, and crystal chandeliers; most of these elements were refurbished or introduced in the 1930s. The former office rooms contain fireplaces and closets which are thought to survive largely intact from the Federal Period. Other notable and early (Federal Period) features on the second floor are the Palladian windows (extreme ends, north and south), Gothic arch muntined round top windows, wood wainscot, paneled doors, and door casings. The door casings on the doors in the south wall of the Great Hall are believed to have been re-used and to survive from the 1799 E. H. Derby mansion, which formerly occupied the site of Old Town Hall. The central door casing is particularly noteworthy, displaying a carved grapevine motif.

The attic (largely inaccessible, except by a trap door over the south central hall) contains 10 heavy timber wood trusses, which survive intact and are additional significant interior elements from the 1816-17 Federal period. The building is thought to have been roofed with slate roofing from its original build date, although most, if not all of the current roof survives intact from the 1930s. The picturesque, and architecturally significant Colonial Revival style ventilating cupola on the roof, survives from 1933-34.

As it presently stands, Old Town Hall is largely a composite of architectural elements dating from two periods: (1816-17, Original Build Period), and 1933-34 (Depression Era Alterations). For a more complete categorization and description of architectural features and the building's evolution, see <u>Programmatic Study: Old Town Hall, Salem, Massachusetts</u>, (September, 1996), especially "Building Evolution Documentation", pages 1-8, and "Architectural Features" pages 1-55.

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- "May Revive Question of Putting the Old Town Hall in Order", April 7, 1933, pp. 1, 16;
- "Allow Use of Town Hall", April 14, 1933, p. 8;
- "Mayor at Washington for Meeting to Give 4,000,000 Men Work", November 15, 1933, p. 1;
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- *Council to Discuss Work Program Tonight. Jobs for 800 in Sight. *November 27, 1933, p. 1;
- *City to Start At Once on Big Federal Civil Works Program*, November 28, 1933, pp. 1, 15;
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- "Warmer Weather has Speeded Up the CWA Projects, Locally", January 10, 1934, p. 1;
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- "Restoration of Old Town Hall is Rapidly Nearing Completion", January 27, 1934, p. 1;
- "All CWA Work will come to Close Tonight at Midnight", February 15, 1934, pp. 1, 12;
- "All Work on CWA Projects Came to End at Midnight", February 16, 1934, pp. 1, 4;
- "Hundreds of Workers. . . Return to Jobs", February 17, 1934, p. 1;

Files:

- File of biographical information on Philip Horton Smith maintained by John Goff, Salem, MA;
- File on Old Town Hall maintained by Salem Planning Department; Salem, MA;
- File of permit information at Salem Building Department, 1 Salem Green, Salem, MA;

Photographs:

 Historic photographs of Old Town Hall kept at former Essex Institute library, Peabody-Essex Museum, Salem, MA;

Architectural Drawings:

 Drawings A-1, A-2, for Three Associates, Inc. 1976-77 improvements, "Interior Rehabilitation-Old Town Hall" (Job # A76-8) now at Staley McDermet Associates, Salem, MA;

Interviews:

- Interviews with widow and son of architect Philip Horton Smith;
- · Interview with widow of architect James Ballou;
- Interview with architect Frederic Detwiller,
- Interview with architect John Emerson;
- Interviews with architect Staley McDermet;
- Interview with historian James McAllister, Derby Square Tours, Salem, MA;

Correspondence:

 December 14, 1972 letter from John F. X. Davoren, (Chairman, Massachusetts Historical Commission) to Robert Scagliotti, (Chairman, Salem Historical Commission) confirming National Register listing.

FORM B - BUILDING	SAL. 2496 In Area no. Form no.
MASSACHUSETTS HISTORICAL COMMISSION Office of the Secretary, State House, Boston	8 MEDIS HE35 253
	1. Town Salem Place = CS
	Address Derby Square
	Name Town Hall
2. Photo (3x3" or 3x5")	Present use Commercial/exhibition
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	Present owner
	scription:
	e 1816
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	AlteredDate
Nov. 197	MovedDate
	5. Lot size: 4,000 sq. ft.
	One acre or less Over one acre
	Approximate frontage 40 ft.
	Approximate distance of building from street
	Adjacent
	6. Recorded by A. Crump
	Organization Salem Redevelopment Authority
	Date November 1979
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7. Original owner (if k	nown) <u>Town</u>	of Salem		
Original use	Town Ha	ll, market		
Subsequent uses (if	any) and dates_	Meeting hall, c	ffices	
8. Themes (check as m	nany as applicab	ole)		
Aboriginal Agricultural Architectural The Arts	X	Conservation Education Exploration/ settlement	Recreation Religion Science/ invention	-
Communication Community develop	ment \underline{X}	Military Political	humanitarian X Transportation	
9. Historical significa	nce (include exp	lanation of themes	checked above)	
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 Bibliography and/or early maps, etc.) Salem Hist 	r references (su toric District	ach as local historia Study Committee 1	es, deeds, assessor's records, Report, 1968.	
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Corners: Plain Pilasters Quoins Obscured	
OUTBUILDINGS	LANDSCAPING
5. Indicate location of structure on map below	6. Footage of structure from street <u>125' How</u> 26% Property has feet frontage on street
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	For
	Photo E-05 258-1-137
NOTE: Recorder should obtain written permissi zation before using this form.	on from Commission or sponsoring organi- (See Reverse Side)
FORM - MHCB - 10M-6-66-943017	i (iii)
MACRIS Record of Old	Town Hall / SAL_2496

SAL. 2496 FOR USE WITH IMPORTANT STRUCTURES (Indicate any interior features of note) Fireplace Stairway Other GIVE A BRIEF DESCRIPTION OF HISTORIC IMPORTANCE OF SITE (Refer and elaborate on theme circled on front of form) See in S.H. D.S.C. Znuestips tion - vol III. Bages 144-147- Derold Delivering REFERENCE (Where was this information obtained? What book, records, etc.) BIBLIOGRAPHY Original Owner: Registry of Deeds Deed Information: Book Number Page MACRIS Record of Old Town Hall / SAL_2496



Building Evolution Documentation

Introduction

The Town Hall and Market House (as it was first known) is one of Salem's earliest and most significant historical landmarks. Historically, the building served as the center and setting for Salem's town meetings and municipal functions before Salem became a city in 1836. Architecturally, the structure is a masterpiece of Federal Style design, and has been attributed by some to the Boston architect Charles Bulfinch, who was working on another project (the Almshouse) in Salem while the Town Hall and Market House was under construction.

This Building Evolution Documentation section has been prepared to identify the major periods of construction and alteration of Old Town Hall (as it is now known), in order to provide context for identifying and evaluating surviving architectural features. New research suggests that Salem's Town Hall and Market House evolved through five major periods of construction and alteration, which may best be described as follows.

Major Construction Periods

1. Original Build Period (1816-17)

The Town Hall and Market House occupies a site which formerly supported the 1790s waterfront mansion of Elias Hasket Derby. Derby, America's first millionaire, was the Federal Period owner and developer of Salem's famous Derby Wharf. Derby Wharf, Derby Street and Derby Square (the official name for the square adjacent to Old Town Hall) all paid homage to the Derbys who lived here prior to 1816.

The Federal Period was Salem's chief period of growth and expansion. Vigorous urban expansion is reflected both in the fact that the new Town Hall and Market House was built as part of a general wave of urban improvements in Salem, and also in the speedy construction timetable for the building. A number of major public improvements were made in Salem in the 1810s, in addition to the Town Hall and Market House. A new 1811-13 Stone Gaol (jail), 1813 Jailer's House, 1815-16 Charity House (Almshouse) and a public Fish Market were four other local responses to new public cries for urbanization. The Fish Market and additional brick Market Stalls stood immediately south of the Town Hall & Market, the principal focus of new Salem waterfront developments.

The proposal to give land for a Town Hall and Market Place was made by John Derby and Benjamin Pickman in May, 1816. Their proposal was accepted in June. A building committee was created in July. Construction commenced and the corner stone was laid in August. The building was completed and open to the public in November, a mere six months after initially proposed. The name of the original builder, Joshua Upham, has survived, but we presently have no written record of the architect(s) who prepared original drawings. This omission may be partly due to the informal nature of the practice of architecture in this early period (some housewrights turned out fine works without architect's drawings), as well as to the prevalent Federal Period concerns, which were to look first and foremost to creating a new urban infrastructure.

Salem's new Town Hall & Market was designed as a 40 x 100 foot 2-1/2 story brick building on a granite stone base. The original concept, retained for much of the 19th century, was for the basement and first floor to accommodate a public market function, and the second floor a meeting hall and pair of Town Offices. The Market functions were the principal activities for which the building was first valued. Town government used the upper floor for only about 20 years, until Salem's emergence as a city in 1836. Subsequent construction of City Hall (1836-37) effectively made the upstairs rooms obsolete.

> Building Evolution Documentation Page 1

As originally conceived and built, the south end of the Town Hall and Market House was the major, and most prominent facade. It was here that the basement received its grandest public exposure and that the greatest number of public entrances was concentrated (5 sets of doors). The only stairs to the second floor were located at this south end, and the center double doors led to a grand public colonnade, which provided access to and helped organize the public market stalls on the first floor.

The basement of the building was originally accessible from the south, east and west sides. It was originally used to accommodate public dining rooms and a kitchen, to compliment food purchases made nearby. The basement kitchen was originally equipped with Rumford roasters, an early type of Federal Period oven invented by Benjamin Thompson, later Count Rumford, who grew up in downtown Salem.

Although Old Town Hall no longer retains its basement kitchen and dining rooms (removed in 1933-34), the building still retains many character-defining elements which survive from the earliest build period. These features include:

- The siting;
- Building massing;
- · Most of the exterior brickwork;
- Facade rhythm (although some openings have been partially filled in);
- Fenestration (including two grand Palladian windows, and a rich variety of other window types);
- Paneled doors;
- · Slate roofing; and
- · Ornate cornice.

2. Victorian Period (ca. 1850-1910):

By the mid-to-late 19th century, several minor alterations had been made to the Town Hall & Market House.

- Gas lights were installed both on the interior and exterior;
- Meat racks were installed on the first floor level, which projected out of the building when in use;

- Business signs were frequently posted on the exterior (especially to advertise new mercantile uses of the basement); and
- An original "MARKET HOUSE" sign, painted on the brick of the south end, had become faded but was still legible.

Photography was developed during the Victorian period; as a result, the earliest surviving photographs of the 19th century building appearances and uses for the Old Town Hall date from after the Civil War. The earliest photographs date from the 1870s, '80s, and '90s, and reveal surprising details and intense usage from the Gilded Era. Some of these details include:

- A second "MARKET HOUSE" sign, of painted wood, was mounted near the belt course on the north end;
- An early vertical flagpole had been removed from the north end, but empty metal brackets survived;
- Side openings survived at the basement and first floor levels providing abundant access to both the first floor market and basement levels.

Although by this period, municipal functions had left the second floor for the new City Hall, the building continued to enjoy great public exposure and utility as a market building. Outdoor farmers' markets were held with regularity on the open square south of the structure. Use and activity was further promoted by having a number of related markets continuing to function in buildings on all sides facing the square, and by having visitors brought to the site by trolley on both Front and Essex Streets.

3. Depression Era Alterations (1933-34):

Between World Wars I and II, parking in downtown Salem became a vexing urban problem. The new and increasing use of automobiles intensified traffic congestion, while suburban shopping malls had not yet been built to lure shoppers (and their cars) away from downtown.

The situation hit a crisis point in 1930. That year, a serious proposal was forwarded to demolish the building that had come to be known as Old Town

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Hall as part of a scheme to gain extensive surface parking between Essex and Derby Streets. The proposal intensified public debate over the merits of Old Town Hall, eventually resulting in the City commissioning a re-use study and re-use proposal for the building, prepared by Salem's leading Colonial Revival architect, Philip Horton Smith, in 1931.

Smith was a Harvard University-trained Colonial Revival architect, and the son of Salem's leading industrialist, J. Foster Smith, Agent of the Naumkeag Steam Cotton Mills, now the Shetland Properties on Congress Street, then one of the City's major employers. As a Colonial Revival architect, Smith had been responsible for designing many Colonial Revival landmarks in Salem, including the replica of the 17th century "Pequot House" now on the property of his father's mills; Office and Workers' Boarding Houses for those same mills; the Gazebo on the Salem Common, the Hawthorne Hotel, the Salem Post Office, and the Tabernacle Church on Washington Street. All these fine Colonial Revival style structures were designed between the 1910s and 1930s by Smith, assisted by Edgar T. P. Walker, his junior partner.

Although Smith & Walker was the official firm responsible for effecting Old Town Hall's first major alterations in the 1930s, historical accounts and our knowledge of the firm both indicate that this project was personally supervised by P. H. Smith. Smith tended to keep the "Colonial" projects which came into the office, while Walker tended to become more involved when a client might prefer a Gothic Revival style building. Walker had a fine repertoire of Gothic Revival design skills, honed by years of working in Boston under Ralph Adams Cram.

For virtually his entire career (1911 through 1960) Philip Horton Smith resided in his native Salem on Federal Street, while he kept a professional office in Boston. The firm developed a good reputation for doing historical work. Smith would later point out how he had renovated a number of Early American churches, and supervised restoration of the famous Old Ship Meeting House in Hingham. Yet it was in designing new buildings in the "Colonial" style where Smith's skills as a Colonial Revival architect were most evident.

At the time, P. H. Smith's work on Old Town Hall was called a "restoration." However, the term "alteration" is more technically correct in an architectural sense, because the building was not restored to a previous original appearance. New design concepts and architectural elements were introduced that forever altered the building. Perhaps the project was considered a restoration in its time, because it was a re-use of a historic landmark augmented with Colonial Revival elements.

A number of obstacles plagued the idea of saving Old Town Hall through the early 1930s, many the result of the Great Depression beginning in 1929. The Depression thrust the City into an emergency situation, and caused Smith's re-use study, completed in 1931, to be shelved for several years. Between 1931 and 1933, there was intense concern that the building might come down for a parking lot. William Sumner Appleton (Founder and Director of the Society for the Preservation of New England Antiquities) traveled to Salem in 1932 to photograph the structure, presumably for emergency documentation purposes.

The fate – and saving – of Salem's nistoric Old Town Hall was not secured and achieved until November, 1933, when the worsening Depression and availability of Federal funds finally resulted in a bold new endorsement of re-use plans by the City. Salem Mayor George I. Bates seized the opportunity to have the project implemented under the new Federal Civil Works Program, one of the earliest Federally-funded relief programs in United States history.

The Town Hall restoration project was undertaken simultaneously with a variety of other urban improvements in Salem, said to be "the greatest and most varied...list of projects...ever submitted [in the city] at one time." Other projects undertaken at the same time included a swimming pool at Salem Willows, a branch library in North Salem, as well as a great deal of sewer and water works improvements, and repairs to city roads and city sidewalks.

The infusion of Federal money and undertaking of all the CWP (or CWA) projects was seen to be a

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great civic boon to Salem in the 1930s. The progress of the funding, and the Old Town Hall "restoration" project, was well detailed in at least 15 separate newspaper articles at the time. However, the Federal program also brought with it a number of problem conditions, which, in retrospect, likely resulted in compromise preservation decisions being made.

The major new problem was time: the new CWP could only fund projects conceived, approved, supervised, and completed in a 3-month (12 week) period from mid-November, 1933 to mid-February, 1934. This phenomenally rushed work schedule placed great strain upon Smith and his assistants. All exterior and interior renovation work had to be performed during the cold winter months. Availability of skilled masons proved to be limited. Federal conditions were also imposed restricting workers to a maximum twenty hours per week during much of the period.

When Smith's plans were finally implemented, the major programmatic decisions made were to:

- Strip the basement and first floors of their old market uses;
- Install new public restrooms ("comfort stations"), boilers, and storage facilities in the basement;
- Introduce 10 new city offices on the first floor;
- Improve the public hall facilities on the second floor (stage and seating upgrades);
- Introduce a new stair at the north end which both provided a second means of egress for the hall, and effectively reversed the building's original orientation.

The implementation of this program resulted in a number of exterior architectural changes:

- 19th century signs and old flagpole brackets were removed;
- The brick exterior walls were sandblasted and re-pointed;
- Between 5 and 15 doors that originally provided access to the basement and first floor levels on the south, east and west walls were replaced with windows or (on the south)

were bricked in, giving the building a much more formal look;

- Openings were cut to provide access to the new basement rest rooms;
- New windows with screens were installed throughout the entire first floor;
- A new ventilating cupola was constructed on the roof;
- The chimneys were removed and rebuilt, likely from the basement floor up;
- Colonial Revival style wrought iron light fixtures were added to the north and south elevations.

All these changes significantly altered the appearance of the building, and were perceived to be great urban improvements at the time.

Implementation of Smith's program also resulted in a number of interior changes and alterations, including:

- Removing market functions from the basement;
- Removing the restaurant use, including the Rumford roasters and restaurant fixtures, from the basement;
- Installing a new boiler room and boilers in the basement where the restaurant had been located;
- Installing new basement public restrooms;
- Installing a concrete floor in the basement, and lining the stone foundation walls with concrete block;
- Installing new vaults at the basement and first floor levels;
- Replacing the wood timber structure on the south end of the first floor with a concrete floor structure;
- Removing meat racks, etc., from the first floor,
- Altering the first floor colonnade with new office partitions;
- Blocking old openings (the northeast windows) with a new stair between the basement and second floor;

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- Altering stage and seating areas on the second floor,
- Introducing Colonial Revival style hanging light fixtures in the stairs and hall;
- Installing new tongue-and-grooved hardwood oak floors, and new subfloors in portions of the first floor;
- Installing toilet rooms behind each of the second floor offices;
- Replacing the existing slate roof with new slates;
- · Installing new exit signs;
- Installing new ventilators, radiators, ductwork and grilles;
- Installing new plumbing and electrical systems.

The complete extent of the 1930s alterations will probably not be fully understood until copies of original plans and/or blueprints are located. Initial searches for these documents have failed to produce any surviving copies in Salem. In the future, it may prove useful to continue the search for historical documents either through Federal resources (e.g. the National Archives) and/or through the heirs of junior partner Edgar Walker, who are thought to have inherited Smith & Walker office materials left over from this period of joint practice.

From a 1996 vantage point, it is easy to be critical of some aspects of the work implemented 60 years ago. However, it should never be forgotten that it was Mayor George Bates' and architect Smith & Walker's deep commitment which brought Old Town Hall back from the edge of destruction and preserved it as one of Salem's finest landmarks.

These achievements set the stage for later improvements, and did tremendous good locally by employing hundreds of skilled but unemployed laborers. These achievements also put Salem in the national forefront as a progressive city able to undertake needed urban improvements by taking advantage of new innovative Federal programs.

4. Post-War Renovations (1952-ca. 1970)

Some interior changes were made to Old Town Hall after World War II. In 1952, at least two changes were made:

- A new toilet room was installed in the southeast corner of the first floor;
- More new partitions were installed between some of the columns of the first floor colonnade.

Between 1952 and the early 1970s at least two additional changes were made:

- A number (six?) of the original wood columns were replaced with steel columns;
- Newer types of partitions were introduced at the first floor level, to define new offices.

The cumulative effect of all these changes was to make alterations which were eventually reversed, and/or removed from the building during the First Restoration.

5. First Restoration (1977)

During the 1970s, serious attention was made to restore Old Town Hall to its early appearance. Interior work concentrated on the first floor level, where major alterations had been introduced in 1933-34. A two-part program of research and restoration was undertaken, focusing upon:

- Better documentation of the early evolution of the structure; and
- Building stabilization.

The lead portion of this new effort was a Historic Structure Report (HSR), authored by Frederic C. Detwiller while in the employ of noted Salem preservation architect James H. Ballou. The HSR was admitted into the Ballou office with the job number 7311, which suggests it extended or continued a job originally started in 1973. However, close inspection indicates it was substantially produced between October, 1974, and mid-February, 1975, even though it carried a document date of January, 1975. Thus, it seems reasonable to assume that the HSR, was produced between 1973 and 1975.

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Detwiller and Ballou's HSR is now recognized to be the best surviving record of Old Town Hall's early construction and use. The HSR also served to identify historic elements which had been lost or removed over the years, and provided the basis for making informed architectural decisions in the major restoration of 1977.

The 1970s restoration of Old Town Hall moved into high gear after Detwiller and Ballou's HSR was completed in 1975. Beginning in the nation's Bicentennial year (1976) a new architectural firm was hired to design and supervise architectural changes. The firm engaged to restore Old Town Hall was Three Associates, Inc. of Salem; architect John Emerson, a resident of Chestnut Street, Salem, was Principal. Another Salem architect, Staley McDermet, assisted with the preparation of the drawings.

Three Associates, Inc. prepared a number of photographic documents and architectural drawings to remedy a wide range of exterior problem conditions. In 1996, Mr. Emerson recalled that the firm's 1970s work was largely limited to doing a lot of "deferred maintenance", e.g. replacing rotted wood on the exterior, scraping and repainting exterior woodwork, and re-puttying windows. Three Associates concentrated its efforts on building stabilization, and did "minor brick work" to further this goal. The full extent of the exterior work done in the 1970s will probably not be completely understood until copies of the photomontage exterior elevation drawings are located. Initial searches in 1996 have failed to produce copies of these documents.

Copies of Three Associates' drawings documenting interior modifications have been located, and indicate that a significant amount of design attention was given to restoring the grandeur of the colonnade on the first floor. This work involved:

- Repairing and/or replacing all the columns in the colonnade;
- · Installing a new ceiling, first floor,
- Patching interior walls, first floor;
- Installing suspended schoolhouse light fixtures in the colonnade, appropriate to the 19th century character of the building;

- Replacing and/or repairing much of the chair-rail, baseboard and wainscot woodwork on the first floor (which probably dated from 1933-34);
- Retaining, but reducing in size, the front northwest room from three to two bays;
- Removing office partitions from the 1930s and later;
- Installing a vestibule on the south end, first floor;
- Reproducing paired exterior wood doors;
- Removing the 1952 first floor toilet room;
- Creating new openings to provide access to the south stairs from the interior;
- Installing new exit signs and new emergency lights;
- Replacing the three doors to the second floor hallway with wood fire doors covered with panels to replicate the originals;

1977 is believed to have been the year when Three Associates' plans were contracted and built. Drawings dated December, 1976 suggest construction commenced and was completed the following year.

As additional funds became available after the 1977 restoration, two other important small restoration projects were undertaken:

- Reproduction sidelights with curved muntins were installed on the Palladian windows;
- Reproduction curved "TOWN HALL" signs were installed on both the north and south facades.

These changes were first suggested by Detwiller in 1974-75.

Accrued Significance

1. Original Build Period (1816-17)

Features which survive from the Original Build Period are to be considered "Must Be Saved" features. They are the oldest architectural elements on the structure, and generally provide excellent insights into the design and construction

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standards of the early 1800s which were responsible for elevating Salem from a 200 year old town into an urban center with global influence and aspirations during the Federal Period. On this building, Original Build Period features were typically fabricated with an exceptionally high degree of craftsmanship, and they have generally retained excellent integrity in the 180+ years they have remained in continuous use.

2. Victorian Period (ca. 1850-1910):

Most Victorian Period fixtures have been removed from the structure. Victorian Period features, where they survive, are to be considered "Should Be Saved" features. They do not possess the historical significance of the earlier period, but still provide good insight 19th century commerce and use.

3. Depression Era Alterations (1933-34):

Philip Horton Smith's design features surviving from 1933-34, have accrued historical significance in the 60+ years since they were originally conceived and installed. They are significant as well-proportioned Colonial Revival style features introduced by Salem's leading Colonial Revival architect from the early 20th century. In general, they retain excellent integrity. As a result of their age and condition, most of the 1930s elements (with the exception of features in the basement) are classified as "Must Be Saved" features. Their importance is further enhanced by the degree to which the 1933-34 changes impacted the building, and by the rarity of written materials on the building prior to the work.

To further assist in the identification, assessment, and restoration of features from this period, the following projects are recommended:

- Locate surviving cop(ies) of Smith & Walker's 1931 re-use and preservation report prepared for the City of Salem;
- Locate surviving cop(ies) of Smith & Walker's 1933-34 construction documents and office correspondence, financed by the Federal Civil Works Program (also called CWP or CWA).

4. Post-War Renovations (1952-ca. 1970)

Features from the Post-War Renovations period, where they may survive, are to be considered "Need Not Be Saved" features at the current time. They were never a part of a cohesive or integrated design, and do not possess sufficient age to be considered historically significant. They also generally retain poor integrity as most were removed in the First Restoration.

5. First Restoration (ca. 1977)

Features from the First Restoration period are to be considered "Should Be Saved" features. In most cases, these features contain information and preserve appearances critical to the two periods most characteristic and significant to this structure: the Original Build Period and the Depression Era Alterations Period.

Conclusion

Salem's Old Town Hall and Market House, in its present configuration, is very much a joint product of its original construction in 1816-17 and the 1933-34 alterations. All future restorations and renovations should follow the lead opened by the 1977 Restoration by recognizing that both these periods now possess historical significance, and achieve this recognition by introducing new useupgrade features which are architecturally sympathetic to both the "Colonial" and Colonial Revival features still abundantly evident in the building.

For more detailed significance assessments and recommendations, see the Architectural Features Section later in this report. All features profiled in the Architectural Features Section were considered to possess architectural significance in 1996.

References:

Books and Reports:

- Bentley, William. <u>Diary</u>, Volume 4, 1816-1817 period, pp. 423, 424, 445, 453, 460.
- Detwiller, Frederic C. et al. Salem Town Hall: Historic Structure Report, January, 1975.

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 Kimball, Fiske. <u>Mr. Samuel McIntire, Carver:</u> <u>The Architect of Salem</u>. Essex Institute, Salem, Mass. 1940, Figures 129-152;

Articles in local newspaper (The Salem Evening News):

- "May Revive Question of Putting the Old Town Hall in Order", April 7, 1933, pp. 1, 16;
- "Allow Use of Town Hall", April 14, 1933, p. 8;
- "Mayor at Washington for Meeting to Give 4,000,000 Men Work", November 15, 1933, p. 1;
- "Mayor Returns from Capital with Large Construction Plans", November 18, 1933, p. 1;
- "Council to Discuss Work Program Tonight. Jobs for 800 in Sight." November 27, 1933, p. 1;
- "City to Start At Once on Big Federal Civil Works Program", November 28, 1933, pp. 1, 15;
- "Civil Board Approves Willows Pool and Town Hall Project", December 5, 1933, p. 1;
- "Mayor's Persistence Won Approval on the Civil Works Program", December 6, 1933, pp. 1, 8;
- "Renovation of the Town Hall Now Underway in Earnest", December 21, 1933, p. 1;
- "Mayor Seeking More Speed on the Local CWA Jobs Underway", January 4, 1934, pp. 1, 3;
- "Warmer Weather has Speeded Up the CWA Projects, Locally", January 10, 1934, p. 1;
- "Salem CWA Workers Started on Reduced Schedule Yesterday", January 20, 1934, p. 1;
- "CWA Jobs Safe At Least until 15th of Month", January 25, 1934, p. 2;
- "Restoration of Old Town Hall is Rapidly Nearing Completion", January 27, 1934, p. 1;
- "All CWA Work will come to Close Tonight at Midnight", February 15, 1934, pp. 1, 12;
- "All Work on CWA Projects Came to End at Midnight", February 16, 1934, pp. 1, 4;

 "Hundreds of Workers... Return to Jobs", February 17, 1934, p. 1;

Files:

- File of biographical information on Philip Horton Smith maintained by John Goff, Salem, Massachusetts;
- File on Old Town Hall maintained by Salem Planning Department; Salem, Massachusetts;
- File of permit information at Salem Building Department, One Salem Green, Salem, Massachusetts;

Photographs:

 Historic photographs of Old Town Hall kept at former Essex Institute library, Peabody-Essex Museum, Salem, Massachusetts;

Architectural Drawings:

 Drawings A-1, A-2, for Three Associates, Inc. 1976-77 improvements, "Interior Rehabilitation--Old Town Hall" (Job #A76-8) now at Staley McDermet Associates, Salem, Massachusetts;

Interviews:

- Interviews with widow and son of architect Philip Horton Smith;
- Interview with widow of architect James H. Ballou;
- Interview with architect Frederic Detwiller;
- Interview with architect John Emerson;
- Interviews with architect Staley McDermet;
- Interview with historian James McAllister, Derby Square Tours, Salem, Massachusetts;

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Executive Summary

The Old Town Hall was constructed in 1816 as the home of Salem's former "Town Meeting"- style government, with a large meeting hall at the second floor, offices at the first floor, and storage and retail spaces in the basement. Constructed in the formal Federal style, the Old Town Hall is situated on a gentle grade that slopes northward toward Essex Street and is oriented on a north-south axis.

Throughout its 190-year history, it has served the city in a variety of ways, but has recently fallen into a state of disuse, despite the efforts of many that have lovingly restored and maintained the structure, and made occasional improvements to it.

Presently, there is a relatively minor amount of repair and maintenance that is needed to bring the building structure and exterior envelope up to a "state of good repair" Overall, the building has both fared and been treated quite well.

Although the Old Town Hall continues to serve as a venue for a variety of occasional public events, calculated safe live loads, and therefore occupant loads are limited in part by the bending capacity of timber transfer beams in the basement. Bolstering these beams would go a long way toward increasing the load capacity of the building.

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General Structural Description

Structurally, the old town hall is composed of load-bearing multi-wythe brick walls that support a trussed gabled roof and two interior wood-framed floors.

The north wall has a large arched doorway at the center, flanked by two paired arched windows at the first floor, a Palladian window at the center of the second floor flanked by two paired arched windows, and semi-circular fan window at the top gable.

The south wall has a three granite stairways leading to arched doorways alternating with two arched widows at the first floor, a Palladian window at the center of the second floor flanked by two paired arched windows, and then a semi-circular fan window at the top gable.

The east and west walls each have eleven arched windows that are recessed between wall piers at the first floor, and eleven arched windows at the second floor.

The <u>roof structure</u> consists of 10 A-frame-like timber "king post" trusses with braced top chords that span from the east-to-west and support north-south-running board-sheathed roof purlins. The roof is clad in slate, and penetrated by two brick chimneys at its south end and a ventilating cupola at its center.

The <u>second floor structure</u> is constructed of heavy 13x13 timber beams of white pine that run in the east-west direction, from exterior wall to exterior wall and are supported near the center of the building by two rows of modern-era wood-cased steel pipe columns. Framing conditions in the basement suggest that even the present column locations were not original to the building, rather, there may have been a single row down the center of the structure that was split into two rows some time during the first half of the 20th century (*please see "first floor structure" below*). These are regularly spaced and centered about the pier lines between windows of the east and west walls.

Running between the beams in the north-south direction are sawn lumber 4x14 white pine joists that are butt-cogged into the beams. These are covered with two layers of rough-sawn boards and then a layer of hardwood strip flooring that is the present floor surface.

The <u>first floor structure</u> was constructed, originally, of 4x14 sawn lumber joists that span in the east-west direction between the exterior wall foundations and the center of the building, where they pass uninterruptedly over a single north-south-running, rough-hewn heavy timber beam. This beam runs for most the

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building's length, spanning across the tops of 16-inch square brick piers that are centered about the pier lines on the east and west walls. The joist spans were broken at many locations where former floor openings are headed off by older and sometimes newer timbers. The original joinery consisted of double tenons passing from the ends of the supported joist or header, through the supporting header or trimmer, as was commonly done around the turn of the nineteenth century.

Later, ca. 1933-1934, the floor framing was modified considerably to accommodate the column relocations (please see "second floor structure" above) at the first floor and additional floor openings and infills. East-west-running 10x14 sawn heavy timber beams were inserted into the first floor framing at the pier lines to support the lines of doubled wooden columns between the first and the second. Visually, the beams are of an obvious later vintage than the surrounding framing, and are composed of southern yellow pine, a wood that was not available locally until the late nineteenth century. The later floor openings were made with sawn timbers and joists that are of a similar surface appearance, and all of which were connected with mass-produced pressed metal bridle hangers (an earlier version of today's "Simpson" hangers).

More recently, a concrete block masonry wall was constructed against the interior face of the original stone rubble foundation wall running around most or all of the building. This was presumably done to create a cleaner interior surface and perhaps to stop occasional leaks that may have emanated from the original rough-jointed stonework. There have also been other framing modifications using modern dimensional lumber, and 1976 the double row of columns was replaced with steel columns in "turned" wooden enclosures.

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Noted Conditions and Remedial Recommendations

Interior/ Attic Level and Roof Framing-

- A visual inspection of the roof structure found all trusses, purlins and sheathing to be in an outwardly, generally sound condition, with no significant rot, insect damage or distress that would in any way threaten the structure.
- The exposed ceiling joists also appeared to be in good condition. Most of the ceiling plaster and lath system is covered with insulation.
- There is a concave ovular plaster structure sitting on the ceiling structure that
 many have likened to a tub or tank. This is actually the dome of an oculus
 that was once located in the center of the main hall's ceiling and was
 removed to make way for the present ventilation duct.

Interior/ Second Floor-

 A visual inspection of the second floor interior spaces found nothing that would suggest or indicate any weakness or damage in the building structure. The limited, regularly spaced undulations in the floor surfaces follow the floor framing plan and the stiffness differences between the floor joists and the main carrying beams. These are within normal and reasonable limits.

Interior/ First Floor-

 The first floor slopes irregularly in several areas. This is due to framing conditions and modifications that are visible from within the basement level (please see "Interior/ Basement").

Interior/ Basement-

- Where visible from below, the first floor construction appears to be in generally good condition.
- Nearly all of the re-framed openings and modifications structure have been done using metal bridle hangers at flush framed connection, however, some of these are just toe-nailed. Flush-framed metal hangers should be provided at all toe-nailed connections (item #B-1).
- Most of the brick piers that support the center bearing line have been damaged to varying degrees by rising damp, which is where moisture is

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wicked upward from below the floor slab through brick piers and evaporates on their surfaces. The evaporating moisture often carries salts with it, which crystallizes (cryptofloresces) within the brick and mortar matrices, softening the mortar and often spalling and cracking the bricks.

The brick piers should be repaired by removal and replacement of all damaged mortar and brick units with more durable materials, and an attempt to create moisture barriers through the bottoms of the piers with metal or synthetic flashing. Otherwise, the brick piers can be replaced (item **#B-2**).

In the event that additional column lines are constructed in the basement (please see "Floor Capacity" section below), the piers can be left to deteriorate as they will no longer be needed as load-carrying elements.

Exterior Masonry-

General-

- The building has been sand blasted as a method to clean the exterior; this
 has caused the layer of glazing on the brick to be removed. The loss of
 glazing will inevitably shorten the expected life of the brickwork. Short-term
 solutions such as applying breathable surface-applied water-repellant sealers
 can help slow this decline, but will require repeated application every 7- to10years (item #E-1). The exterior still looks sound overall, and an on-going
 program of replacing the most damaged individual bricks can also be helpful
 (item #E-2).
- Most of the bricks have cracks in them from firing, which may be becoming more severe due to surface-weathering. The worst of these bricks may need to be replaced in the future (set item #E-2).

North Elevation (facing Essex Street)-

- The north elevation is in relatively good condition and only needs a few repairs.
- The insides of the second floor window arches need to be repointed as well as an area below the first floor west window (item #E-3).
- There is a broken window in the arched window in the pediment that must be replaced (item #E-4).

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- The first floor window frames are soiled at the base of the arched glass and the paint at the sills is peeling.
- Efflorescence can be seen below the center second floor window, the window to the east of the center window and above the two first floor windows to the west of the door. This appears to be from water passing through the brownstone sills, which are now painted, or through the window surround. The tops of the sills should be sealed or parged to prevent additional infiltration, and the window surrounds should be checked for watertightness. The white deposits should be removed (item #E-5).

West Elevation-

- There is efflorescence below most of the second floor windows, the base of the chimney and north of the north window. The moisture sources should be eliminated and the deposits removed (item #E-5).
- Other than a broken brick at the top of the chimney, which must be replaced (item #E-2), the brickwork is in good condition.
- There is a pile of bricks at the base of the north window.
- On the south half of the building there are a few locations of widened joints between the granite stones of the foundation, possibly because of chips and broken stones.
- The granite cornerstone has been re-pointed.
- Between the last two windows at the south end there is some discoloration of the granite including some rust streaks from the railings.
- The railing on the south side of the door is no longer connected to the building and should be reattached (item #E-6).
- · The windows at the basement level have been boarded over.
- The area above the granite between the fifth and sixth first floor windows has been rebuilt.

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South Elevation-

- There is efflorescence below all of the windows on the first and second floors, above the west second floor window and to the west of the west door. The moisture sources should be eliminated and the white deposits removed (item #E-5).
- Some repointing is needed at the tops of both chimneys and below the west end of the arched window in the pediment. At the bottom east corners of the center and east stairs the mortar has worn away between the stones and needs to be repointed. A hole in the mortar to the east of the west window needs to be pointed.
- There is a chipped brick to the west of the west doorway and four holes to the
 east of which was probably the location of a sign, which has been removed.
 The chipped bricks should be replaced and the holes filled (item #E-2). Some
 other chipped bricks at the corner to the west of the west door have been
 patched with mortar.
- The area between the stairways seems to have been rebuilt as it does not match the rest of the building.
- The paint is peeling at the first floor windows and doors.
- Rust streaks can be seen on all stair sidewalls.

East Elevation-

- There is efflorescence below all but the three southern windows on the second floor and above the five center first floor windows. It is between the fourth and fifth windows from the south along the edges of the windows as well as at the north corner and to the south of the north window. The moisture sources should be eliminated and the deposits removed (item #E-5).
- The infilling below some of the windows, the first two from the south, the fifth
 from the south and the north window needs repointing (item #E-3). The top of
 the chimney is also in need of repointing as well as the returns at the second,
 third and fourth first floor windows from the south.
- There are broken bricks below the south window and to the south of the fourth window from the south. A brick is broken on the north sidewall of the door. A brick between the sixth and seventh window from the south has a hole in it and another in the same area has a line worn into it. There is

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chipped brick below the seventh first floor window from the south and the north corner below the window is worn. A brick below the north first floor window there is a brick that has worn away. The faces of some bricks between the second and third first floor windows have broken off. The damaged bricks should be replaced (item #E-2).

- There are rust streaks on the sidewalls of the front stairs and the ones to the door on this elevation.
- The granite to the north of the door is chipped. There are also wide mortar joints between the granite and brick infill below the south first floor window.
- The first floor window frames are dirty at the base of the arched glass and the paint at the sills is peeling.
- There are metal rods in the granite on both sides of the wall below the forth first floor window from the south.
- Concrete rather than stone is found at the ground level below the second and third windows from the north.
- A windowpane is broken at the sixth second floor window from the south, is now covered with plastic and should be replaced (item #E-4). The top sash of the third second floor window from the south is missing and covered with Plexiglas. The windows at the basement level have been boarded over.
- The area above the granite between the first and second and third and fourth first floor windows from the north has been rebuilt as well as a large area between the second and third fourth floor windows from the north.

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Old Town Hall Salem, MA

Floor Load Capacity

Assumptions-

The floor capacity of the Old Town Hall was calculated based upon the following assumptions:

- Floor Dead Load= 15 to 20 pounds per square foot (psf)- typical value for heavy wood-framed construction.
- 2. Partition loads to be subtracted out of calculated Floor Live Load.
- 3. Wood species is Eastern White Pine- based upon wood sample analysis.
- Wood grade is "Select Structural"- based upon density and visual grading of exposed members.
- Steel pipe columns assumed to be "standard" series- conservative assumption.

The following member types were considered:

- First and second floor joists- loaded at each respective level, spanning approximately 8 ½-feet between timber beams. Actual size: 3 7/8" wide x 13 ½" deep, Eastern White Pine #1. Checked for bending and shear stresses of 775 pounds per square inch (psi) and 135 psi allowable, respectively.
- Second floor timber beams- supporting joist end loads, spanning approximately 13-feet from wall to double row of interior pipe columns. Adjusted size: 9 %" wide (reduced from 13" to account for joist cogs, wane) x 13" deep, Eastern White Pine No. 1. Checked for bending and shear stresses of 875 psi and 125 psi allowable, respectively.
- First floor timber beams- supporting first floor joists and second floor columns, spanning approximately 17-feet between foundation walls and the center pier line in the basement. Actual size: 9 ¾" wide (reduced from 13" to account for joist cogs, wane) x 13" deep, Southern Yellow Pine No. 1. Checked for bending and shear stresses of 1350 psi and 165 psi allowable, respectively.
- First floor columns- supporting first floor framing with a 13-foot maximum unbraced length, size: 3 ½" nominal diameter (4" outside diameter). Checked for axial load with 46,000 psi assumed yield stress.

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Old Town Hall Salem, MA

 <u>Basement piers</u>- supporting first and second floor framing. Checked for bearing stress based upon masonry crushing strength of 750 psi.

Calculated Floor Load Capacities-

Were it not for the first floor conditions, the second floor would have a live load capacity of 90 psf, limited by the floor beams in bending. Because the second floor is supported by the first floor through "transfer beams" that support the steel pipe columns, its live load capacity is limited by them.

Not considering the contribution of second floor live loads on the timber transfer beams, the first floor has a maximum live load capacity of at least 90 psf, limited by the header beams that frame across former openings and support joists on either side. In bays that are not "headed-off" or have two headers per joist span, the live load capacity is greater than 100 psf.

The timber transfer beams that support the second floor columns see between 50 and 75 percent of their bending and shear loads coming from the second floor. Where there are no header beams framing into their sides, these beams see about as much load from the second floor as a common joist, while carrying all of the loads of the second floor columns that land on them. In such cases, they have the ability to support 80 psf on the second floor, assuming no live load on the first. Although with an 80 psf live load on the first floor, they have no excess capacity to support loads on the second floor, if the first floor load is limited to 50 psf, such as in an office use, the live load capacity of the second floor becomes 65 psf.

If the cases where transfer beams support header beams on one or both sides, the contribution of the first versus second floor loading becomes about even. Assuming headers frame into both sides of a given transfer beam, the total live combines load capacity becomes about 65 psf. This can either mean 65 psf at the second floor and no live load at the first, 65 psf at the first and none at the second, or 32.5 psf at both levels at the same time.

To understand floor loading, consider a 10-foot square area with evenly distributed persons each weighing 200-pounds. Approximately 5-people could occupy the 100 square foot area per 10 psf of capacity.

Required Floor Load Capacity, Limitations-

The code requires that public meeting spaces have live load capacities of 100 psf if moveable seating is used, 60 psf with fixed seating. First floor retail spaces must have a live load capacity 100 psf while office spaces must have 50 psf capacity, but with an additional 20 psf allowance for partitions. With the present

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situation, the floors of the old town hall do not meet any of these criteria unless one floor is kept empty while the other is in use.

In a fixed seating situation, all occupants are uniformly distributed over the floor area. Typical limits on seating would have the seats spaced at 18" within rows spaced 32" apart, resulting in 4 square feet per occupant. Adding 40 pounds pre seat with a 200-pound person, this would result in 60 psf, which is the same as what the code requires. Assuming fixed seating over 75% of the useable floor area the floor could support up to 325 people. This would limit the available live load at the first floor to 20 psf, which in our opinion is too low to allow unrestricted public occupancy (see below), and we therefore recommend that access be restricted at the first floor during large second floor events.

In the case of non-fixed seating, the difficulty is predicting where and how closely occupants will stand. In a moderately condensed crowd, each person occupies approximately 3 square feet, generating 67 psf on the floor. In the event of an emergency, evacuation, or even a one-time monumental event, the crowd could condense to 2 square feet per person, creating the 100 psf prescribed by code. With no live load on the first floor, there is still a limit of 80 psf on the second floor, which is less than the 100 psf prescribed by code, however, the code also allows live loads on members that support more than one floor to be reduced by 20%, resulting in a net effective live load of 80 psf, which equals the capacity of the supporting beams. Again, this requires that the first floor be unoccupied, or at most minimally occupied in a controlled manner.

Short-Term Recommendations-

In consideration of the above, the second floor <u>or</u> first floor may continue to be used in the same manner in which it has traditionally been used for events as long as the events occupy <u>either the first floor or the second floor</u>, <u>but not both at</u> <u>the same time</u>. The total limit of occupants should be no more than 450, on either floor, one floor at a time.

In special cases where it is important to use both floors concurrently, the number of occupants should be limited, seat spacing should be arranged, and attractions or activities should be spaced so that an average of no more than 15-people occupy any given 10-foot square area at any time on either level. This would have people spaced approximately 2.5 to 3-feet apart on all sides, which is about the maximum socially comfortable human density that takes in the typical Salem event. This translates out to a limitation of less than 225 people each over the first and second floor (450 total) and controlled in such a way as limits total density as described above.

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Please note that the occupant limitations that we have described are based upon floor load capacity only, and not on the capacity of the emergency egresses, which should be evaluated separately.

Long-Term Recommendations-

In addition to the repairs and improvements that we recommend as remedial recommendations (previously in this report), we recommend the following long-term improvements to provide for adequate structural support for building's end users.

With Continued Assembly Use-

If the Old Town Hall is to continue being used as an assembly space, we recommend adding two lines of columns and footings in the basement, directly below the lines of columns at the first floor. This would eliminate relieve the first floor transfer beams and would increase the allowable live load capacity of both the first and second floors to 90 psf, concurrently. This means that the use possibilities of the building would be almost limitless, other than for fire code and egress issues that are not part of this report. The only loading excluded uses would be storage, manufacturing and library stacks.

With Less Load-Intensive Use-

If the Old Town Hall is were to become offices and/or residences, which require have live load capacities of 50 psf and 40 psf, respectively, the floor construction as-is would have sufficient capacity to support these loads at each floor concurrently, however, there would be no available capacity for the weight of interior partitions. Adding basement columns and footings below the transfer beams would also be needed under this scenario.

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Old Town Hall Salem, MA

Prioritized Budgetary Cost Estimate

Conditions-Driven/ Remedial Work Items-

ltem #	Item Description	Urgency (see below)	Budgetary Estimate	
B-1	Install hangers on toe-nailed flush framed beam and joist connections.	2	\$5,000 to \$10,000	
B-2	Repair or replace rising damp-damaged brick piers.	2	\$15,000 to \$25,000	
E-1	Seal exterior brickwork.	4	\$90,000 to \$125,000	
E-2	Replace cracked, damaged or missing bricks.	3 to 4	\$15,000 to \$20,000	
E-3	Cut and repoint eroded mortar joints in brickwork.	3	\$25,000 to \$35,000	
E-4	Perform specific window repairs- Allowance.	2	\$1,500 to \$2,500	
E-5	Investigate efflorescence blooming, seal brick or eliminate water sources, remove white deposits.	4	\$15,000 to \$20,000	
E-6	Reattach detached railing.	1	\$1,000 to \$1,500	
	Total Remedial Work		\$60,000 to \$60,0000	239.00

Degrees of Urgency:

1= Immediate threat to public safety and/or stability of the structure. 2=Possible or eventual threat to public safety and/or stability of the structure (level 1) if not corrected soon.

3=Will worsen to level 2 or cause other problems if not corrected.

4=Will eventually worsen and increase in severity if not corrected.

5=Would be a good improvement to make, eventually.

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Load Capacity-Driven Improvements-

Item #	Item Description	Estimate
LB-1	Install new steel columns on footings in basement, below columns at first floor.	\$40,000 to \$50,000
(B-2)	Subtract: Repair or replace rising damp-damaged brick piers.	(\$25,000) to (\$0,000)
	Total Load Capacity-Driven Improvements (w/ credit for not doing pier repairs in low-end estimate)	\$15,000 to \$50,0000

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Cost	\$113	\$476	\$363		8		\$174
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ARCHITECTURE | REAL ESTATE DEVELOPMENT

Old Town Hall and Artists' Row Assessment Report

CITY OF SALEM



DREAM Collaborative LLC 31 St. James, 6th floor Boston, MA 02116 617.606.7029 www.dreamcollaborative.com

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ARTIST'S ROW STALL #4

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Project Team

The assessment of the City of Salem Old Town Hall, the Public Restrooms, and the four Stall was led by DREAM Collaborative LLC with the assistance of CES and Janet . Bailey Associates. The team members are:

DREAM Collaborative LLC

Jean Vatelia, Senior Project Manager Suleman Gajere, AIA, Project Architect

Consulting Engineering Services

Lauren Homer, Project Manager Edward Wellington, PE

Janet Bailey Associates

Janet Bailey, President Anita M. Lauricella, Consultant

City of Salem

Jenna Ide, Director of Capital Projects Julie Barry, Senior Planner of Arts & Culture

INTRODUCTION

Project Background

The City of Salem has a historic Old Town Hall in a key downtown business and tourist area. The City also has 4 buildings that it leases to artists, 1 it leases to a restaurant, and 1 bathroom in the area known as Artists' Row. These are connected by Derby Square, which is a public space in downtown Salem. The City would like to get a baseline assessment (condition, code, age of systems, etc.) of these buildings and surrounding areas (7 total) and develop a capital needs and prioritization list for capital improvements, deferred maintenance, and repairs.

In addition, the City is looking for a Business Plan and Market Viability Study for Old Town Hall. Old Town Hall is used for many functions and events throughout the year, but the City believes this use can be expanded and enhanced to the benefit of the Salem community. The City would like assistance in developing a plan to re-imagine its use, with revenue projections, which will then inform the capital plan and priorities for this facility.

Project Scope

The facility assessment includes the following:

- Visit the properties to evaluate the general conditions of the Old Town Hall, the Public Restrooms, the four Stalls in order to make recommendations regarding life safety, roof, building envelop, MEP, and Market Analysis
- 2. Identify components that have deferred maintenance issues and provide preliminary cost estimates
- 3. Review ADA compliance Code from existing reports
- Review maintenance records for a proposed Operations & Maintenance budget
- 5. MEP Analysis
- 6. Market Analysis

OLD TOWN HALL & ARTISTS' ROW ASSESSMENT REPORT / 5



OLD TOWN HALL - 32 Derby Street

Building Usage

Salem Old Town Hall is located at 32 Derby Square in the City's historic district. Built in 1816, this brick Federal-style building was constructed by local builder Joshua Upham. The building originally functioned as an open market on the first floor and town offices on the second floor. In 2015, the City completed exterior improvements and restored the building's wood windows. The building has also received some roof snow guards and small repairs in 2017. The building is located within the City's Urban Renewal Area and is listed in the National Register of Historic Places as the Old Town Hall Historic District. The building is protected by a preservation restriction held by the MHC. It is subject to the jurisdiction of the Salem Redevelopment Authority (and its Design Review Board) and Historical Commission.

There are no current city employees working out of the space, however the building is an active rental facility for events such as weddings, corporate functions, etc. The space is also currently home-base to a theater company on the 2nd floor and a history museum with interpretive displays on the 1st floor, both 'resident' organizations operate only on a seasonal basis making the space 'go dark' during the winter and early spring months. In addition to these uses the basement contains restrooms, storage for the theater company, and many City documents.

Building Description

The Old Town Hall is a two (2) story building and has a lower level with an accessible entrance on the north side. The main entrance is located on the south side on Derby Square (this entrance is not accessible). The building floors are connected by an elevator and two (2) sets of interior stairs. The first floor is used as an exhibit space and the second floor is used as a public hall. Men's and women's multi-user toilet rooms are located in the basement and a single-user toilet room is located on the second floor. There are a variety of events such as fashion shows, fundraisers, museum exhibits and weddings hosted in the facility. Parking is provided at nearby municipal parking lots and local parking garages. There are also on-street parking spaces on Washington Street and Front Street.

OLD TOWN HALL : 32 DERBY SQUARE / 6



Figure 1 Slate roof North elevation



Figure 2: Clogged drain on the red brick walkway



Figure 3: Granite payer in poor condition



Figure 4: Snow guard at the roof perimeters



Figure 4a: Hole found at the perimeter of the building



Figure 4b: ADA Ramp on Derby Square

Roof Observations:

There is a slate gable roof system in fairly good condition at the Old Town Hall. With limited visual inspection, the team inspected the north side through the roof hatch. No leaks were observed from the roof membrane in the attic. However, a few items of note were observed:

- No insulation was observed between the rafters of the roof, but there were paper shreds on the floor of the attic
- Chipped Slate roofing tiles, to keep eyes on
- Snow guard at the perimeter
- No parapet on the gable slate roof
- The fascia boards on the East and West elevations need to be changed because they are distressed; cracks were observed on both.

Site Conditions

After conducting a visual assessment of the site conditions, the team gathered some information which outlines the deficiencies found:

- Various granite pavers were in distress
- A hole was observed near the West foundation wall.
- The drain on the brick walkway facing the main entrance needs to be cleaned
- Handicap ramp is uneven on the North side of the building.
- When the right leaf of the North Entrance door is open it reduces the accessible route to less than 36" wide.
- There was no drainage observed around the foundation of the building which is a concern for water penetration.

General Accessibility

The IHCD did a complete ADA assessment report in 2019 for the Old Town Hall (Appendix I) and the surrounding area of Derby Square (Appendix J). Reference these documents for further accessibility issues throughout the building and site, and for recommendations for improvement.

OLD TOWN HALL : 32 DERBY SQUARE / 7



Figure 5



Figure 6



Figure 7



Figure 8

Building Envelope Assessment

The visible sections of frame and mullions appear to be in distress, with visible deterioration and cracks of the wood frames. The Colonial Red brick itself is mostly in good shape. However, there were some concerns:

- Window frames are in distress despite restoration
- Red and mixed bricks need to be re-pointed in several sections on all elevations.
- Cracks were observed on the entry doors
- The decorative trims around the windows are in great shape

Foundation Assessment:

The CMU wall foundation was in fair condition; there was not a great deal of deterioration. However, we observed black char on joists and also cracks on the CMU wall on the North elevation of the basement. Below are a few more items that were found:

- There is a document public drawing for the Town
- There is an existing vault where they conserved old drawing in the City.
- There is a louver cover that brings fresh air in the boiler room
- A large 12" x 12" wood beam as a primary structural member
- Poor lighting in the restrooms

Basement Observations:

- Dark burning stain on floor joists
- Storage needs to be organized. Poor or no ventilation
- We found a puddle of water inside the electrical room
- There is no sump pump at the site south exit
- Crack on the foundation wall on the North elevation

Figure 5: Dark burning stain on floor joists (basement)

Figure 6: Crack in north foundation wall

Figure 7: Wood Window frame in distress (N. Wall)

Figure 8: Barge board trim in distress (Needs to be restored)

OLD TOWN HALL : 32 DERBY SQUARE / 8



Figure 9





Figure 11

Figure 12

Accessibility

The IHCD did a complete ADA assessment report in 2019 for the Old Town Hall (Appendix I) and the surrounding area of Derby Square (Appendix J). Reference these documents for further accessibility issues throughout the building and site, and for recommendations for improvement.

First Floor Observations

- Wood Floor on the Colonnade Hall was uneven in several locations
- Interior window frames were in distress despite restoration. There were visible cracks on the wood frames in several windows and some could even closed
- No AC units and no active ventilation on the floor.
- Ceramic flooring at the North Vestibule
- There is a vault found on the first floor.
- Handicap ramp is on the opposite side of the building from the elevator; therefore, signage will be necessary to navigate traffic.
- Stairs to the Second level are at the North and South Vestibule.
- Different hard wood sections could be observed.
- Scrape, prime, and repaint mullions and frames
- Install sealant along the full perimeter of the frames to plug all the holes at the building foundation in order to prevent water penetration in the basement.
- No fire suppression system inside the Hall or elsewhere in the building.

Figure 9: Hard wood floor on the Colonnade Hall Figure 10: Arch Window from the interior Figure 11 Vault / Storage for the City

Figure 12: Decorative Trim Molding entering the Colonnade

OLD TOWN HALL : 32 DERBY SQUARE / 9



Figure 13



Figure 14



Figure 15



Figure 16

Second Floor Observations

- Hard wood floor inside the Great Hall is in distress. Repairs were done with pieces that do not match and patch repairs were made with white caulking. A hole was observed in the floor approaching the stage. It also uneven and creeks in various places.
- Ceiling height at 17 ft. inside the Great Hall
- Wood folding chairs along the north & south walls
- A green room with a bathroom for guests
- Cracks observed behind the folding chairs on the North wall
- Attic access 18 ft from the floor
- Stage is fairly high at 30.5" without any accessible access.
- Repairs mullions and window frames that are in distress around the building perimeter
- Install sealant along the full perimeter of the frames

Attic Floor Observations

- We were able to access the roof hatch in order to inspect the north side of the slate gable roof
- A wood plank pathway was created from East to West
- A tub was found with cloth over it in the attic
- The roof rafters framing were in good condition
- There was two red brick chimney walls on the East and West elevation
- Paper insulation was observed on the floor of the attic

Figure 13: Hard wood floor on the Great Hall Figure 14: Window on the South wall from the interior Figure 15: Attic access door Figure 16: View of the single bathroom on the second floor

OLD TOWN HALL : 32 DERBY SQUARE / 10

Recommendations:

Roof/Building Envelope

- 1. Repair and re-point red bricks on all elevations
- 2. Replace or restore main front and back wood doors
- 3. Repair window frames from the outside
- 4. Inspect roof and attic annually for leaks
- 5. Replace fascia board on the East and West elevations

Foundation/Basement

- 6. Repair the cracks on the CMU wall on the North Wall
- Inspect burned wood floor joists to structural integrity is not compromised
- 8. No mold was found but ventilation is needed
- Redo the bathrooms to accommodate more people, especially when there is activity in the building
- Replace some of the granite pavers in the pedestrian walkway
- 11. Clean and organize the basement

First Floor

- Refinish the hard wood floor at the Colonnade Hall if possible. Otherwise replace with new flooring.
- 13. Remove the track lights and upgrade
- 14. Install a HVAC split system in the Facility office

Second Floor

- Refinish the hard wood floor at the Great Hall if possible. Otherwise replace with new flooring.
- 16. Fix cracks on the North wall behind the folding chairs
- Repair crack molding around the window on the West elevation

 Potential upgrade: Build a prep kitchen space in the basement to serve the Great Hall activities.

Accessibility

- Refinish the hard wood floor at the Great Hall if possible. Otherwise replace with new flooring.
- 20. Fix cracks on the North wall behind the folding chairs
- 21. Repair crack molding around the window on the West elevation

OLD TOWN HALL : 32 DERBY SQUARE / 11



Figure 17 (Photo 4)



Figure 18 (Photo 5)



Figure 19 (Photo 6)



Mechanical Observations

- There is currently no automatic fire suppression (sprinkler) system in place; one is typically required for a facility of this use classification including the placement of manually operated fire extinguishers throughout the facility.
- The building heating system consists of condensing gas boilers, heating hot water pumps and piping serving radiators throughout the building. The heating system is approximately 10 years old and appears to be in good condition. (Figures 17, 18, 19)
- There are six heating zones, each with a stand-alone, wall-mounted thermostat. Manifolds are provided for each zone and individual PEX pipe run outs are provided to each radiator.
- A combination of copper and PEX piping was used for heating hot water piping. In general, pipe insulation was incomplete. Fiberglass pipe insulation was observed on portions of the copper piping, however, insulation was not continuous at pipe hangers, valves and some fittings. There was no insulation provided on PEX piping although it is required by energy code. Recommend providing insulation per IECC,
- Pipe and equipment labeling is very minimal. A handwritten note is provided to indicate hot water system zoning. (See Figure 20)
- Ducted toilet exhaust fans are provided for each bathroom on the lower level. The fans were functional but appear to be past their useful life. The fans were intended to be interlocked with the bathroom light switches, however, at least one fan was wired to the exterior lights, not the bathroom lights. Recommend to be fixed.

Figure 17: Condensing gos boilers Figure 18: Heating hot water pump Figure 19: Radiators piping Figure 20: Hot water system zoning

OLD TOWN HALL : 32 DERBY SQUARE / 12



Figure 21



Figure 22



Figure 23



Figure 24

Plumbing Observations:

- An indirect domestic water heater (gas) is provided and was installed at the same time as the heating hot water system. A taco controller is provided to control the boiler system. (Figure 21)
- Sanitary piping was observed in fair condition. The hub and spigot type cast iron piping suggests that the piping is at least 50 years old. (Figure 24)
- Water and gas meters appear to have been replaced recently. (Figures 22, 23)
- Plumbing fixtures appeared to be in good condition.
 Facilities staff indicated that most fixtures has been replaced approximately 10 years ago.

Electrical Observations:

- The electrical infrastructure consists of a 600A main panel and numerous distribution panels of various ages. This building had an old electrical system setup with fuse breaker panel boards. The panel boards have been added onto over the years. Old panels should be considered to be replaced. (Figures 28, 29, 30, 31). In order to determine if the system is able to handle any future upgrades we recommend a load assessment is done.
- Battery boxes are provided for emergency lighting.
 Facilities staff indicated that the batteries require replacement. Recommend a battery maintenance routine. (Figures 25, 26)
- Lighting controls consist of basic switches and dimming dials that appear old and outdated.
- There is no backup generator at the facility

Fire Alarm Observations:

The fire alarm system appeared to be in functional condition and was installed in the 1990's. This system should be tested for verification. No sprinkler system was observed throughout the building (Figure 25)

Figure 21: Taco Controller to control boilers

Figure 22: Water meter

Figure 23: Gas meter

Figure 24: Cast Iron sewer pipe in the basement

OLD TOWN HALL : 32 DERBY SQUARE / 13



Figure 25



Figure 26



Figure 27



Figure 28



Figure 29



Figure 30



Figure 31

Figures 25& 26: Battery Box for emergency lighting Figure 27: Lighting Control Figure 28: 600 A Main Panel Figure 29: Distribution Panels Figure 30: Fuse Breaker System Figure 31: Main Circuit Breaker

OLD TOWN HALL : 32 DERBY SQUARE / 14

	General Property Data		
Parcel ID 35-0253-0	Account Numb	per	
Prior Parcel ID – Property Owner SALEM CITY OF	Property Locati	on DERBY SQUA	RE
OLD TOWN HALL Mailing Address	Property U Most Recent Sale Da	lse Improved, Mu ate 1/1/1900	
City	Legal Referen Grant	ice 211-1 tor	
Mailing State MA Zip	Sale Pri	ice O	
ParcelZoning B5	Land Ar	rea 0.092 acres	
2.2.0	Sufferit Property Assessmen	in.	
Card 1 Value Building Value 2,393,300	Xtra Features 0 Land Value	309,400	Total Value 2,702,700
	Building Description		
Building Style Govt. Bldg.	Foundation Type Typical	F	looring Type Hardwood
# of Living Units 0	Frame Type Wood	Bas	ement Floor Average
Duilding On de Durch	Deef Cours Slats		Heating Fuel Typical
Building Grade Excellent	Roof Cover State		
Building Condition Good	Siding Brick	Air C	Conditioning 0%
Building Grade Excellent Building Condition Good Finished Area (SF) 8000 Number Rooms 0	Siding Brick Interior Walls Above Avg # of Bedrooms 0	Air (# of B: # d	Conditioning 0% smt Garages 0 of Full Baths 0
Building Grade Excellent Building Condition Good Finished Area (SF) 8000 Number Rooms 0 # of 3/4 Baths 0 Wasser Science Na s property contains 0.092 acres of land mainly	siding Brick Siding Brick Interior Walls Above Avg # of Bedrooms 0 # of 1/2 Baths 1 Legal Description Interative Description of Prope	Air (# of B: # af Of # of Of Prty style building, b	Conditioning 0% smt Garages 0 of Full Baths 0 ther Fixtures 0 uilt about 1829 , having Brick
Building Grade Excellent Building Condition Good Finished Area (SF) 8000 Number Rooms 0 # of 3/4 Baths 0 # of 3/4 Baths 0 Na s property contains 0.092 acres of land mainly erior and Slate roof cover, with 0 unit(s), 0 roo	siding Brick Interior Walls Above Avg # of Bedrooms 0 # of 1/2 Baths 1 Legal Description Irrative Description of Proper y classified as Improved, Mu with a(n) Govt. Bldg. m(s), 0 bedroom(s), 0 bath(s), 1 half bath(s). Property Images	Air (# of B: # of O # of O	Conditioning 0% smt Garages 0 of Full Baths 0 ther Fixtures 0 uilt about 1829 , having Brick
Building Grade Excellent Building Condition Good Finished Area (SF) 8000 Number Rooms 0 # of 3/4 Baths 0 # of 3/4 Baths 0 Na s property contains 0.092 acres of land mainly erior and Slate roof cover, with 0 unit(s), 0 roo	siding Brick Siding Brick Interior Walls Above Avg # of Bedrooms 0 # of 1/2 Baths 1 Legal Description Irrative Description of Property y classified as Improved, Mu with a(n) Govt. Bldg. m(s), 0 bedroom(s), 0 bath(s), 1 half bath(s). Property Images	Air (# of B: # of O # of O	Conditioning 0% smt Garages 0 of Full Baths 0 ther Fixtures 0
Building Condition Good Finished Area (SF) 8000 Number Rooms 0 # of 3/4 Baths 0 National States and States an	roor cover state Siding Brick Interior Walls Above Avg # of Bedrooms 0 # of 1/2 Baths 1 Legal Description Intrative Description of Property (classified as Improved, Mu with a(n) Govt. Bldg. (m(s), 0 bedroom(s), 0 bath(s), 1 half bath(s). Property Images	Air (# of Ba # of Or Perty style building, b	Conditioning 0% smt Garages 0 of Full Baths 0 ther Fixtures 0
Building Condition Good Finished Area (SF) 8000 Number Rooms 0 # of 3/4 Baths 0	A solution of the solution of	Air G # of B: # # # of Of erty style building, b Contemporation of the second erty and the second of	Conditioning 0% smt Garages 0 of Full Baths 0 ther Fixtures 0 uilt about 1829 , having Brick