

Recommendations for repairs and treatment of the 1835 Town Hall are based on four principal and prioritized concerns, (1) repair or correction of discovered code related issues effecting life safety, (2) stabilization of existing building envelope and structure, (3) repairs, renovations and development of Universal Accessibility within the existing Building and grounds, (4), support and/or improvement of the existing Building in its reuse as a Community Center.

The following recommendations have been developed through review, discussions and coordination with the Sterling Town Hall Committee and Sterling Historical Commission. The overriding wish of each of the Committee/Commission is to maintain as much historical accuracy as possible throughout any repairs or renovations.

1. Code related repairs are based upon discovered safety issues found during times of review and will require either actual repair or additional maintenance. The intent of these repairs is to improve occupants life safety.
 - a. Secure steel fire escape structure to Building Second floor framing.
 - b. Provide new or repair existing Boiler room to be self closing.
 - c. Improve emergency lighting and exit signage in Basement.
 - d. Provide increased maintenance to remove snow and ice from exitways.
 - e. Revise snow stockpiling procedures to obstructing boiler make-up air vent.
 - f. Accessible issues are longstanding and are addressed later.

2. Stabilizing of the existing Building envelope and structure is a priority concern to limit on-going degradation of the Building envelope components and structure. Previous moisture damage and deferred maintenance is responsible for much of the poor envelope and structural damage and increase any future repair cost.
 - a. Remove exterior brick masonry paint at exposed foundation, evaluate brick condition and either replace exterior brick wythe or repoint mortar joints.
 1. A clear water repellent may be applied to existing exterior brick surface if acceptable to local and state Historic Commission.
 - b. Remove existing deteriorated paint from all existing wood surfaces, clean and prepare surfaces for new paint finish. (Primer and two finish coats)
 1. Preparation will be extensive as exterior wood surface is heavily weathered. Appropriateness and uniformity of preparation work will be a field condition and paint application could not be warranted for more than 2 years.
 2. Optional treatment is to replace exterior deteriorated wood siding, clapboard and trim with new wood or cement fiber (pre-primed) siding clapboard and trim for longer lasting paint substrate and application.
 3. Provide incidental repairs and/or replacement of existing deteriorated trim to remain.
 4. Repair existing deteriorated lower wood column sub-framing. Removal and reinstallation of wood slats to access sub-framing will be required.

- c. Removal of existing paint and preparation of exterior wood surfaces will require removal of existing aluminum storm windows. Based on age and condition of the storm windows reinstallation would not be recommended.
- Therefore new replacement storm windows should be installed after exterior preparation and painting work is complete. Color of replacement storm windows should be white to minimize appearance.
- d. Removal and replacement of the existing aluminum storm windows will provide the single best opportunity to reglaze the original double hung wood windows. The existing glazing putty is beyond deteriorated and is not present in many areas. In addition wood window would be clean, prepare, painted and refurbished to an operating condition.
1. Rotted and broken Basement windows will require more extensive repair and/or replacement.
- e. Removal of existing aluminum shutters will also be required by exterior surface preparation and painting. Shutters, while improving the historical accuracy of the Building's appearance will not improve the weather resistance of the building envelope. Installation of new wood shutters of historically accurate proportions is considered in an Option or future phase of the treatment recommendations.
- f. Remove and replace exterior caulking and sealants.
1. Windows, doors, exposed joints, front portico slab to building joint, etc.
- g. Multiple previous repairs have made the existing slate roof generally weather resistant. Removal and replacement of existing slate will eventually be necessary but can be deferred until roof leaks become more prevalent, possibly 2 to 8 years. It may also be advisable to install a new more durable and more weather resistant roof prior to any significant interior renovation and expenditure.
1. As part of any future re-roofing work, evaluation of the condition of the existing wood roof deck should be performed after removal of slate roof. Additional funds for replacement of any discovered deteriorated wood roof decking should be included in re-roof work at an additional unit price.
 2. Repair and/or replace existing copper ridge flashing.
 3. Replace existing metal roof edge flashing.
 4. Replace wood roof scuttle with new wood scuttle and lead coated copper cladding.
 5. Provide snow guards in hazardous areas.
- h. Repair and/or replace existing deteriorated exit doors at existing stair and fire escape, subject to accessibility improvements, described later.
1. Fire escape and exit door work should be coordinated with any proposed Second floor accessibility project and schedule.

3. Feasibility Study for Universal Accessibility and recommendations is provided in Phase III of this Study.
4. It is the expressed desire of the Town to maintain and further develop the 1835 Town Hall as a Community Center. It is also the expressed desire of both the Sterling Town Hall Committee and the Sterling Historical Commission to promote the reuse of the 1835 Town Hall through appropriate repairs, renovation/adaption and/or addition. Including eventual Universal Accessibility, and to preserve and maintain as much historical accuracy as possible. The following recommendations are provided to support and improve the continued use of the 1835 Town Hall as a multi-purpose Community Center.
 - a. Remove Second floor meeting room suspended acoustical tile ceiling and recessed lighting, and re-establish original room/ceiling appearance. Providing Universal Accessibility to the Second floor will be a prerequisite to re-establishing public use of any Second floor space.
 1. Re-establish original electrical lighting supplementing as required to accommodate all planned uses.
 2. Repair original board and batten ceiling.
 3. Provide window guards at stage windows approximately 18-inches above finish floor.
 4. Repair deteriorated, broken and missing plaster walls and soffit, refinish to match existing.
 5. Remove existing wood panel partition.
 6. Re-establish stage curtain and track similar to original for stage productions.
 7. Refinish wood flooring.
 8. Repair meeting room/hall door panel.
 - b. Restore existing Second floor balcony for limited use and to original appearance.
 1. Resecure guard wall and rails.
 2. Repair deteriorated, broken and missing plaster walls and soffit, refinish to match existing.
 3. Provide Balcony stair handrail.
 4. Re-establish original Balcony electrical lighting.

- c. Recreate a historically accurate wood stair from First floor to Second floor to replace original stair(s) previously removed.
 - 1. Removal of existing interior egress stair construction will be required and will require approval of local authorities having jurisdiction.
 - 2. Installation of an automatic fire suppression system would help mediate code issue of an open stairway to match the original open stairway.
 - 3. Recreation of Basement stair would be required.

- d. Remove First floor Meeting room suspended acoustical tile ceiling and recessed lighting and re establish original plaster ceiling appearance.
 - 1. Provide new lighting to replicate historic lighting.
 - 2. Replace window trim and casing removed during suspended ceiling installation to match existing.
 - 3. Replacement of carpet flooring.

New plumbing fixtures will include water closets, lavatories and a water cooler meeting the MAAB/ADA Requirements and Massachusetts Energy Code.

A new electric hot water heater will need to replace the existing 15 gallon unit in order to meet the demand of any additional fixtures.

A new electric water cooler will need to be provided for the First Floor in order to meet the present Massachusetts Plumbing Code.

Insulate all existing and new domestic water piping.

Fire Protection System:

As stated in the Code Analysis, the requirements of Chapter 148 of the Massachusetts General Law will need to be reviewed when repairs, renovations or additions are contemplated. Particularly c148§ 26g, adopted by the Town of Sterling, requiring automatic sprinkler system for major alterations to existing Buildings over 7,500 S.F.

If it is determined that a sprinkler system is required, a wet and dry fire suppression system will be installed. This system will require the installation of a new sprinkler water service. Estimated water service should be a 4" service. This new 4" service should enter the building in the same area as the existing ¾" domestic water service.

A Hydrant Flow Test will be required to determine the adequacy of the town's water supply to support the fire suppression system although proposed improvements to the town water supply should ensure sufficient water pressure is available.

Since the existing structure is wood framed, sprinkler protection will be required in all occupied and unoccupied spaces, closets, toilet areas, and concealed spaces such as areas above dropped ceilings, truss spaces, etc. in order to meet the present NFPA requirements. Proper planning and design will be required to minimize the visual impact of the sprinkler system in historic areas.

Heating, Ventilating, and Air Conditioning:

If it is decided to introduce central heating and air conditioning into the building the mechanical ventilation requirements mandated by the Mechanical Code (BOCA) will have to be met. The heating capacity of the existing boilers will not be sufficient to support the additional ventilation loads. Due to this increase the existing hot water boilers will have to be removed and replaced with units having adequate capacity to meet this demand.

The new boiler should be an oil fired hot water sectional boiler. The new boiler will be a sectional type allowing assembly of the unit in the Basement area. The units will have an efficiency of 80 to 85% compared to the present boiler having a 75% efficiency at best. New flue piping, expansion tank, pumps, etc will also be required.

A new chemical feed system will be added to the system. This system will insure system water quality adding reduced maintenance cost as well as boiler life.

The existing baseboard radiation on the First and Second floors can remain.

The existing chimney should be inspected to insure masonry flue is intact and code compliance is met.

Ventilation air, and air conditioning can be introduced throughout the building using air handling units with outside condensing units. A variable volume duct distribution system, having multiple zones can be installed to distribute conditioned air to each occupied space.

The ventilation air, and air conditioning system can be designed to take advantage of load shedding which will reduce equipment cost, as well as energy cost. In addition to load shedding, CO2 Monitoring can be provided which will dramatically reduce the amount of outside air requirements and substantially reduce operating cost.

A new DDC Temperature Control System can be provided that will not only control the heating system but also the ventilating and air conditioning systems as well. This system should have a Central Control Panel having the capability of trouble shooting the entire heating and air conditioning system from its location. The Central Control Panel should also give the user the ability of resetting space temperatures, adjusting outside air requirements, set occupied and unoccupied hours of operation, etc.

Plumbing System:

The Plumbing System's $\frac{3}{4}$ " domestic water service should be adequate based upon a possible two (2) additional single occupancy toilet rooms. Further review will be conducted once the total number of additional plumbing fixtures has been confirmed.

Priority recommendations are related to proposed renovations to include a new elevator restrooms and a new sprinkler system. These elements will require additional zones on the fire alarm system for elevator recall and fire protection switches. This will exceed the capacity of the existing five (5) zone fire alarm panel, which is already using four (4) zones. A new ten (10) zone fire alarm panel may have enough zones for the renovation, but there would be very little or no spare capacity for future expansion of the system. Therefore, a new addressable fire alarm system is recommended, which requires simpler wiring and allows the equivalent of many zones, since each device is separately "addressed"; this would allow for future expansion of the fire alarm system.

Short-term recommendations include interior incandescent fixtures with more efficient fluorescent or compact fluorescent fixtures. The porcelain socket fixtures in the Basement may be relamped with new compact fluorescent lamps with screw-in base. The exterior fixtures should be replaced with new decorative lighting, and supplemented with emergency lighting at the entrances for security and safety. The existing fluorescent lights, many of which are broken and worn should be replaced with new efficient T8 fluorescent light fixtures. In addition, most of the emergency lighting could be incorporated into the general lighting by means of emergency ballasts in select fixtures, which is less expensive and obtrusive than installing separate emergency battery pack light fixtures. The Second floor Meeting room should have attractive emergency light fixtures.

Long-Term recommendations are also based on future proposed renovations as follows.

The suspended ceiling to the Second floor Meeting room may be removed under a future interior renovation. In this instance, decorative pendant mounted lighting is recommended to replace the existing pendant mounted fixtures concealed in the Attic space above the Second floor. The existing support beams running across the Attic space must be accounted for in any such design.

It is recommended to replace the old receptacles and wall switches with new grounded receptacles and quiet type wall switches of a suitable color. Additional receptacles and plugmold are recommended in the office areas and for other future designated uses to be determined.

Based upon the apparent historical nature of this 1835 Sterling Town Hall and its listing on the National Register of Historic Places this Building qualifies as a partially preserved Building under Massachusetts Building Code 780CMR 3409.0 which permits in-kind material repairs and replacement without compliance with most current codes including the Energy Conservation Code, 780 CMR 13.