

## Section 17 - CURTIS SCHOOL

### Building Summary

**Address:** 848 Main St.

**Gross Area:** 2,723 sq. ft.

**Description of Site:** Flat. Open. Paved wide turnaround drive in front, with apron parking for about 20 cars. Gently sloping lawn slopes down towards small ball field at rear of narrow back lot; field does not appear to be 'regulation' size, with very limited outfield on the right field side.

**Description of Building:** Constructed in 1896 as one of the Town's first elementary schools. Considered to have historic value. Wood frame and pitched roof with composition shingles. The building is now sided with vinyl, and some of the ornate period details may have been removed.

**Function of Facility:** Historic School; no longer in use.

**Agency or Department:** Town of Hanover

**Technical Construction Description:** Wood frame on stone foundations.

**Valuation:** \$469,500



Locus Map - Town of Hanover



#### Immediate Needs:

- Repairs to roof, walls, doors and windows. Temporary repairs to stabilize the structure and halt infiltration of water and pests.
- Installation of a temporary ventilation system, to prevent further mold and help stabilize the structure.
- Warning signage and area alarm system, to prevent vandalism and reduce Town liability.
- Remove all electrical wiring and boxes from the building as part of the stabilization repairs program. Remove all plumbing fixtures and cap lines. Remove all heating equipment.
- Fully investigate the building and site for all forms of potential and known hazardous materials. Survey should provide an estimated quantity of asbestos, lead, PCB light ballasts, underground oil tanks, and any other hazardous materials.
- Conduct a full market assessment, following the hazardous materials evaluation of building and site, of the value of the property for disposition on the open market.

#### Near Term Needs:

- Design for re-use; schematic design options should be prepared, and feasibility cost estimates prepared.
- Design study meetings and workshops with Town administrators and the general public, to explore options for re-use.

## **Building Summary (continued)**

### **Conditions Summary:**

The building is in very poor condition overall, and is in danger of deteriorating to a point where re-use would become infeasible. There are observed areas of worn and missing roof shingles, where water is getting into the building. There are broken windows and deteriorated doors. Woodwork is deteriorating at several areas due to moisture.

At the interior, the building is completely deteriorated and dangerous. Ceilings are falling in. There is a large amount of general debris in the building. There is a strong odor indicating mold and/or mildew growth. Many lights, plumbing and heating are all non-functional. The fire alarm system appears to be more recent, appears to be in generally good condition, and is reported to be operational.

In a previous report in 1995, the interior surfaces were noted as 'serviceable', and structure as intact. The essential finding from review of this previous report is that this building was in much better condition in 1995, than it is today. In 1995, under systems, it was noted that 'overall everything is working'.

### **Recommendation:**

Based upon evaluation of this building, and upon consideration of the various needs expressed by members of the community and the Town administration, our recommendation to salvage only the basic exterior historic envelope of this building, to the extent possible, and to restructure, redesign, and reconstruct the building to serve as a satellite fire station serving the north end of town.

Prior to undertaking this work, a program of stabilization of the current structure needs to be put into action, in order to prevent further deterioration. And a design project should be undertaken, to study the feasibility of re-use in more depth, including a program for the proposed satellite fire station, schematic designs, and cost estimates.

## **Conditions Assessment**

## **Site**

The building has served many purposes in recent years, but has been abandoned and unused for the last 6 years or so, since the school administration offices relocated to the Salmond School. An attractive older building, but not listed on any Historic Register. There is debate within the community about the merits of attempting to preserve the structure, or to dispose of it, or to raze it and utilize the site for a new facility. The primary issue with this property is the cost to benefit analysis of potential re-use, which, in turn, is dependent upon the proposed re-use function and community need.

### **SITE**

The landform of the site is generally flat, gently sloping down from front to rear. Paving is in fair condition. Lawn areas and the ball field are in fair condition. The ball field is used for games and practices for very young children. There is one drive which circles around to a small parking area at the rear of the building, good for only 3 or 4 cars.

## Conditions Assessment

## Architectural

### **ARCHITECTURAL**

#### **Exterior:**

- Existing exterior cedar shingle siding on the rear of the building is in poor condition. Cracked and weathered.
- Windows are broken and some boarded, in poor condition.
- A previous study notes that the vinyl siding was already installed in 1995; rear shingles were already in poor condition.
- An area of missing siding above a front window.
- Decorative wood brackets covered by sheet metal.
- Granite foundation stones need repointing.
- Paint needed along rear roof line wood trim.
- Brick chimney deteriorated; missing bricks; needs reconstruction. Flashing at chimney base appears deteriorated.
- Rear basement entry choked with plant growth.
- Holes in vertical corner wood trim appear to be caused by pests.
- Broken window on south side, glass debris on ground.
- All foundations stones on south side need repointing.
- Concrete Steps on right side entry have deteriorated.
- Mildew at roof edge.
- Rear garage addition not in keeping with rest of building.

#### **Interior:**

- Interior of building is completely dilapidated, with evidence of serious moisture damage and musty smells.
- Original 'tin' ceiling can be seen above drop ceiling at some areas.
- Cracked plaster.
- Peeling paint.
- Fallen plaster from ceilings at locations of leaks.
- Fallen acoustical ceiling tile; damaged and displaced tiles, damaged and displaced ceiling grid.
- Ceilings hung inside taller space split exterior windows half-way up.
- Rear garage space unfinished, with broken overhead door and boarded-up man door.
- Boarded up windows in various locations.
- Interior divided into smaller spaces using wood framing and wood paneling.
- Broken emergency light at basement.
- Fin-tube covers missing.
- Cracked and uneven concrete floors in basement.
- Low ceiling heights in basement.

#### **Structure:**

(This section of this report was prepared by Engineers Design Group, Inc. Minor edits have been made. Please see the full original report in **Appendix .)**

The building is in reasonably fair condition with no evidence of foundation settlement. The exterior and interior walls do not exhibit any distress, although with vinyl siding and plaster covering the main structural elements, there is no guarantee that the wood framing is in sound condition. The floors have deflected over time.

## Conditions Assessment (continued)

## Architectural

Adaptability of the structure may prove difficult and cost prohibitive.

Any additions should be kept structurally separate and extreme care needs to be taken to avoid any renovations, which would jeopardize the existing structure and resulting compliance with some of the more stringent requirements of Chapter 34 of the 8th Edition of the Massachusetts State Building Code (Repairs, Alterations, Additions, & Change of Use of Existing Buildings).

Change of use to a fire station would require full compliance the 8th Edition code for new construction.

This report is based on an inspection performed on April 19, 2010. No structural or construction drawings of the facility are currently available.

During our site visit, we did not remove any finishes or take measurements so our understanding of the structure is limited to the available drawings and observations at the exterior skin.

The building is in reasonably fair condition with no evidence of any foundation settlement. The framing at the first floor level is spongy with evidence of slopes at various locations.

The basement window levels are in line with the exterior grade, resulting in potential moisture problems.

The building has obviously gone through various remodeling stages. None of which have increased the structural integrity of the building as originally constructed.

The existing wood framed structure may be difficult to adapt to layouts compatible with any renovations or modifications. Further investigation of the wood framed structure by removal of finishes, etc. would be required to assess the capacity of the building to sustain the required Code loading, both lateral and vertical.

Removal of any load-resisting elements could reduce the existing capacity of the structure and depending on the extent, various proportional upgrades would be necessary to satisfy the Massachusetts State Building Code. It would appear that there are very few options to allow adjustment of the interior walls. Any layout revision would likely be cost prohibitive with respect to the structural elements.

If any proposed work is permitted after February 6, 2011, then the code requirements would need to comply with the 8th Edition of the Massachusetts State Building Code.

If any repairs, renovations, additions or change of occupancy or use are made to the existing structure, a check for compliance with 780 CMR, Chapter 34 "Existing Structures" (Massachusetts Amendments to The International Existing Building Code 2009) and reference code "International Existing Building Code 2009" (IEBC 2009) would be required. The intent of the IEBC and the related Massachusetts Amendments to IEBC is to provide alternative approaches to alterations, repairs, additions and/or a change of occupancy or use without

## Conditions Assessment (continued)

## Architectural

requiring full compliance with the code requirements for new construction.

The IEBC provides three compliance methods for the repair, alteration, change of use or additions to an existing structure. Compliance is required with only one of the three compliance alternatives. Once the compliance alternative is selected, any project would have to comply with all requirements of that particular method. The requirements from the three compliance alternatives cannot be applied in combination with each other.

The three compliance methods are as follows:

1. Prescription Compliance Method.
2. Work Area Compliance Method.
3. Performance Compliance Method.

The [best] approach is to evaluate the compliance requirements for each of the three methods and select the method that would yield the most cost effective solution for the structural scope of the project. The selection of the compliance method may have to be re-evaluated after the impact of the selected method is understood and after analyzing the compliance requirements of the other disciplines, Architectural, Mechanical, Fire Protection, Electrical and Plumbing. A detailed analysis of the code provisions would need to be carried out under a feasibility study incorporating various renovation/repair options.

Potential Reuse: There has been interest in the reuse of the building as a satellite fire station. Based on this change of occupancy, Chapter 34 requirements would effectively direct compliance to LEVEL 3 WORK which would entail designing the building in accordance with the code for new construction under I. B. C. 2009 and MA Amendments.

The existing structure would need to be replaced. The exterior walls, consisting of wood studs and sheathing, and the stone foundation walls could be retained, based on a new interior framed structure supported on new concrete foundation walls within the footprint. It is likely that these new walls would be required to underpin the existing stone foundations for excavation to provide headroom for vehicular storage/access at the basement level.

End of structural report

**Roof:** The roof is composition shingles, and appears to be in very poor, failed, condition. There are missing shingles in 3 locations, and evidence of previous patching. In its current condition, the roof appears to be leaking water.

### **Building Code:**

This building is unsafe in its current condition. A stabilization program needs to be undertaken at this time. Building code provisions will be relevant to any proposed re-use of this building.

### **Accessibility:**

The building is not accessible to persons with disabilities, and the elements of the structure that form barriers cannot be removed or modified without disturbing the historic fabric of the

## **Conditions Assessment (continued)**

## **Architectural**

### **Accessibility (continued):**

building. The Rules and Regulations that require public buildings to be accessible have specific provisions that apply to historic buildings. For any proposed re-use of this building, the regulations will require full conformance to accessibility regulations, because the extent of the re-construction required, will dictate that full accessibility be provided.

### **Energy & Environmental Sustainability:**

Issues regarding environmental objectives will come into consideration in any proposed re-construction of the building. In its current state, this is not a relevant discussion point.

### **Hazardous Materials:**

Lead paint is probably present. Caulking and sealants may also contain lead and or pcb's. Asbestos is also likely. A previous 1995 study identified asbestos in several locations and several materials, but it is not clear what the extent of actual testing was at that time, and it is not clear if any abatement has been done subsequent to that report. Mold and mildew are evidenced by smells and musty conditions inside the building.

Fluorescent light fixtures may have ballasts containing pcb's. Lamps may contain mercury. Underground oil tanks and/or lines may be present. A petroleum odor was noted in the basement mechanical room area. The previous 1995 report also noted this odor, and stated that there were general indicators of possible oil contamination of the concrete slab, and perhaps below the slab. This 1995 report also seems to be unclear on the reported removal in the late 1990's of the main fuel oil single-wall underground storage tank. A full investigation of the extent of these and possibly other additional hazardous materials should be conducted.

### **Historical Value:**

This building is considered to be one of the more important historic buildings in the Town. The property has been described as 'Victorian' in previous written assessments, and the architect has been reported to be, a local architect of some distinction at the time the building was constructed.

The true historical value of this building should be further investigated. An Historic Structures report should be prepared, according to U.S. Dept. of the Interior guidelines, to more fully evaluate both the structure itself, and its use over time. The building is not now listed on the Register of Historic places, and is not in any registered historic district. The appeal of this building may have more to do with the fact that it is an attractive old building, and that it has great sentimental appeal to many members of the community, than with its true historic value.

### **Other Issues:**

None.

## **ENGINEERING SYSTEMS: PLUMBING**

### ***APPLICABLE CODES AND STANDARDS***

The plumbing systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

- Massachusetts State Building Code 7th Edition
- Massachusetts Fire Prevention Regulations
- Massachusetts State Fuel Gas and Plumbing Code
- ASHRAE 90.1

### **Plumbing Utilities:**

#### **Domestic Water:**

- Existing Domestic Water Service: The existing building is currently served by a decommissioned domestic water service which enters the basement. The domestic water service equipment includes a water meter and isolation valves. This water service currently serves all of the Schools domestic water needs. The water distribution system is original to the building and each subsequent addition/renovation. This service was disconnected at the time of the inspection.

#### **Natural Gas:**

- Existing Natural Gas Service: There is currently a decommissioned natural gas services to the building serving the boiler and hot water heater. This service was disconnected at the time the inspection was conducted. This service enters the rear of the building at the boiler room.

#### **Sanitary:**

- Existing Sanitary Service: The School's sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the School. The piping material above grade is primarily cast iron. The Plumbing fixtures drain to buried sanitary waste piping exiting the building and running to the buildings sanitary waste system.

#### **Fuel Oil:**

- There is currently no on site fuel storage.

#### **Plumbing Fixtures and Specialties:**

- Existing plumbing fixtures are as follows:
- Water closets are floor mounted; tank type, vitreous china.
- Urinals are floor mounted with flush valve, vitreous china.
- Lavatories are wall hung and counter mounted vitreous china. Faucets are of the two lever handle type.

#### **Domestic Hot Water Systems:**

Existing Domestic Hot Water System:

- The Schools domestic hot water is generated by a gas fired water heater which feeds the schools hot water needs.

#### **Fire Protection Service:**

- There is no fire protection coverage (sprinklers) currently at the facility.

## **ENGINEERING SYSTEMS: MECHANICAL SYSTEMS**

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#### *APPLICABLE CODES AND STANDARDS*

The mechanical systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

- Massachusetts State Building Code 7th edition
- Massachusetts Fire Prevention Regulations
- International Mechanical Code
- NFPA, Latest Version
- ASHRAE 90.1

#### **EXISTING MECHANICAL SYSTEMS**

- The existing building is currently unheated. The current heating system in the building consists of a hot water boiler in the basement which has been decommissioned including the burner having been removed. This equipment appears very old and unsalvageable and would need to be replaced.
- The present Heating and ventilating systems although decommissioned consist of finned tube radiation located throughout the school most appear to be in poor condition. Some thru the wall air conditioning units for select small areas in the basement however their operational capability was unable to be confirmed.
- The only visible exhaust system in the building is a single thru the wall exhaust fan located on the rear wall of the building.

#### **ENGINEERING SYSTEMS: ELECTRICAL SYSTEMS**

##### *APPLICABLE CODES AND STANDARDS*

The electrical power, interior lighting, and fire alarm systems were reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

- Massachusetts State Building Code 7th Edition
- Massachusetts State Fire Prevention Regulations
- NFPA Latest Edition
- 2008 Massachusetts Electrical Code
- Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition
- ASHRAE 90.1

#### **EXISTING ELECTRICAL SYSTEMS**

- The building is served by a 120/240 volts, single-phase, 3-wire electrical service. The service equipment is located in the basement of the building. The service equipment is poor condition.
- There are a number of electrical panels located throughout the facility. These panel boards all are older having been added at the time of various building additions and/or on an as-needed basis. The condition of these panel boards is poor.
- The lighting throughout the facility consists primarily of 1' x 4' 2-lamp wraparound fluorescent fixtures and incandescent fixtures. The lighting throughout the facility is in poor condition.
- The fire alarm system is a new system and in very good condition. There are manual fire alarm pull stations, horn strobes and smoke detectors located throughout the building.
- Site lighting is accomplished via building mounted flood lights.
- Life safety emergency lighting is provided via Emergency battery units with unit mounted emergency light heads units.

#### **MEP SYSTEMS CONCLUSION**





In general, the systems vary in age from original to the building to as recent as 3-5 years old in the case of the fire alarm system which is the only salvageable system. In general all MEP systems are in poor condition and would need to be replaced if the building were to be re-commissioned. Including the testing of all incoming and outgoing service lines and system.

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**AERIAL PHOTO**



Curtis School is the building in the center of the photo.  
(Source: Google)

**Town of Hanover - MUNICIPAL FACILITIES ASSESSMENT - 2010**

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**EXTERIOR PHOTOS**



Exterior view of front entrance.



Exterior view of south facade, broken glass on ground.



Exterior view of back facade.



Exterior detail view of roof condition.

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Exterior, detailed view of front windows.



Exterior, detailed view of stairs. Non-accessible, no guardrails/handrails.



Exterior, view of back facade looking at cedar shingles.



Exterior, doors to basement.

**INTERIOR PHOTOS**



Interior, view of stairs at main entrance.



Interior, view of conditions of wall and ceiling in stairs.



Interior, empty office.



Interior, view of sink.



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Interior, view of exposed wiring conduits.