

IV EXISTING FACILITIES

Overview

The Cameron School was originally built in 1872 with an expansion made in 1908 for a total size of about 14,200 square feet. It was used as a school through the late 1980's and in 1993 it was renovated to become the home of the Westford Council on Aging.

The two-story wood frame building - with a footprint of about 4,735 gross square feet - has a basement with a cut stone foundation and an attic under a hipped asphalt roof. The building is generally symmetrical along its north/south axis (the east and west elevations are nearly identical).

The building is about 93'-4" feet long and 57'-5" feet wide at its widest. Two covered porches mark the egress points for the two stairs on the north of the building, while two covered exits at grade are at the mid-points of both the east and west sides of the building.

These access points act as the main public entrance and service entrance to the building, respectively. There is a metal fire escape at the south elevation from the second floor to the first floor and then to grade.

Historic Status

The site lies within the Forge Village Historic District, which was listed on the National Register of Historic Places in May of 2002. (See Appendix D for an excerpt from Westford's Preservation Plan.) The address, 20 Pleasant Street, is in the database of the Register (reported by a representative from the Massachusetts Historic Commission) as a contributing building in the historic district, although it is not listed individually as an historic building.

Design Restrictions and Allowances

If the building is to be considered a "partially preserved building" for the purposes of the Massachusetts State Building Code (780 CMR 3409.0) it must either be listed individually on the National Register of Historic



Figure 4.1 View of northeast corner of the Cameron School from Pleasant Street. Note on-grade main entrance along east side of building.



Figure 4.2 Oblique view from northwest.



Figure 4.3 Pleasant Street (north) facade of building.



Figure 4.4 View of rear of building (south) and portion of east elevation.

Places or it must be certified as an historic building by the Massachusetts Historic Commission (MHC). In order to obtain this certification, a written request – accompanied by address, photographs, maps — must be sent to MHC for confirmation that the building is indeed a contributing building to the district for the purposes of some relief from building code requirements.¹

Additionally, if any state or federal funding is used or licensing required on the renovation project, the MHC will require review and acceptance of the proposed alterations prior to construction.

Envelope

Siding and Trim

The existing building is clad with wood clapboards with a 4" exposure. The trim is also wood. Individual windows and north porch doors are trimmed with flat stock with molding over the head. The trim around multiple windows and all other exterior doorways is mitered with a small profile moulding at the perimeter. The corner boards (16" wide) have a raised profile and a capital at the eaves. A +/- 8" high frieze runs under the eaves around the full perimeter of the building.

Since there are no gutters along the main roof, there is some water damage to the trim and siding.

¹ Relief that may be granted: 780 CMR 3400.3 – 10.1 Partially preserved buildings need not comply with the seismic load requirements of 780 CMR 3408. The scope of this building project would fall into Seismic Hazard Category 2 (Table 3408.1), which requires earthquake resistance to comply with 780 CMR 3408.3.5 (Existing Lateral Load Capacity) and that the building shall be investigated for the presence of special earthquake hazards (781 CMR 3408.6.3) — such as the chimney — and that all hazards be corrected.

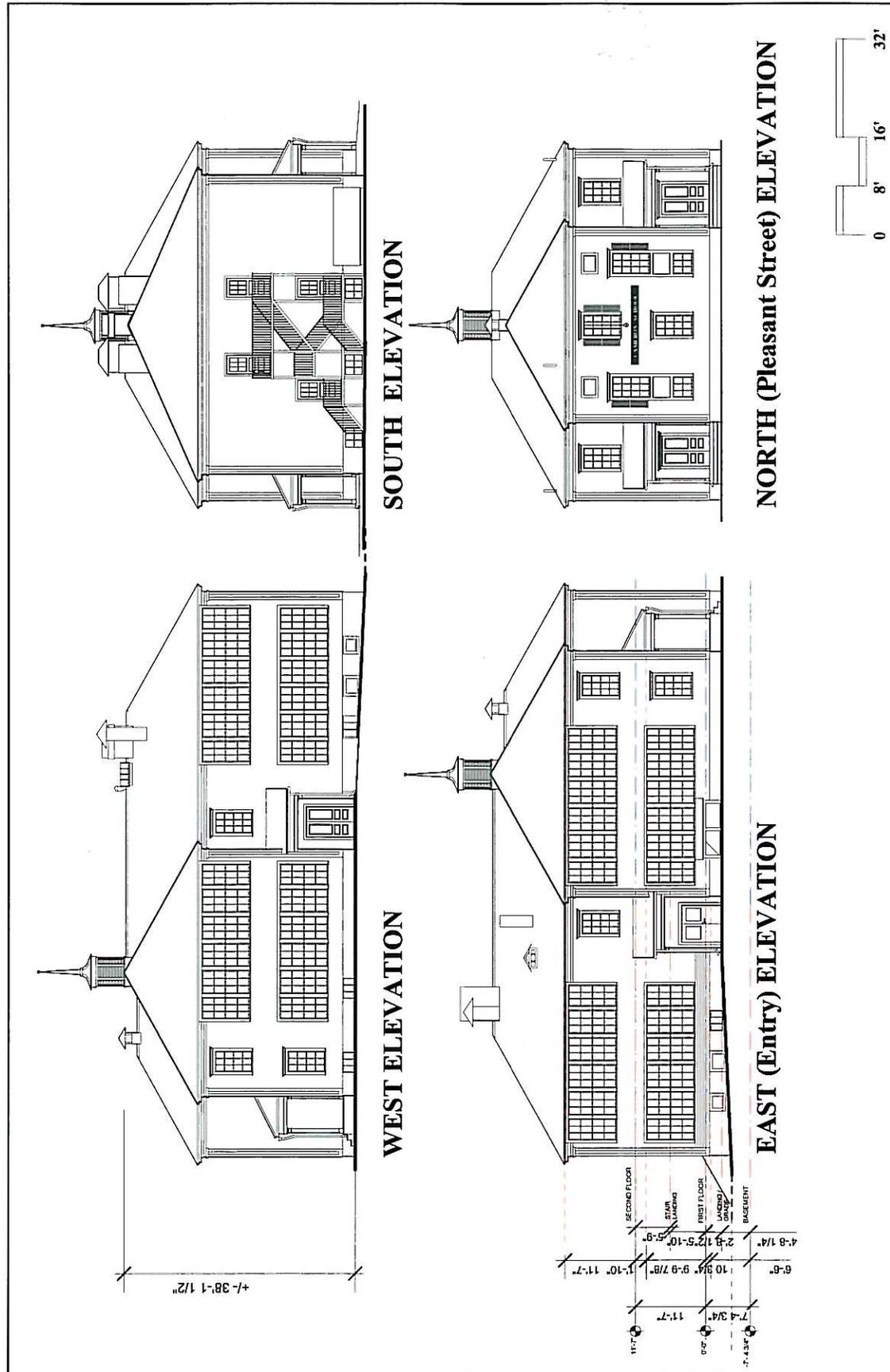


Figure 4.5 Existing Elevations

CAMERON SENIOR CENTER FEASIBILITY STUDY, Westford, Mass.

Existing Elevations

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Figure 4.6 Typical window trim types.



Figure 4.7 Northwest porch paneled doors.



Figure 4.8 and 4.9 Main entry doors and egress door to fire escape.

Catlin Architecture would encourage the Town to consider replacing the siding with a cementitious plank product and the trim with a PVC product, to significantly reduce the maintenance intervals of the building. The building currently needs to be scraped and painted approximately every 5 to 7 years. The paint on the plank product will fade slightly rather than peel and would require painting approximately every 20 years.

Windows and Doors

Doors

The painted wood raised paneled double doors on the north porches appear to be original or in the original style. These are in good shape because they are somewhat protected from the weather (Fig 4.7). The west egress double doors are also painted wood (black) and have a 2/3 height light. The double doors at the east entrance are painted metal (painted grey) with a square light (Fig 4.8). The doors leading to the fire escape on the south side are single leaf, wood doors, also painted black with 6 lights (Fig 4.9).

Windows

All of the windows in the building are double-hung single glazed wood window units, with a 6 over 6 light configuration. Six larger windows are ganged together in each of the classrooms for a large window wall effect. Smaller units provide light in the stair halls, offices, toilets and storage rooms. Many window shashes and sills are deteriorating (Fig. 4.45). It is recommended that all windows be replaced with insulated units.

Storm windows

Exterior metal storm window units appear to be on all windows, except for the Pleasant Street façade, where plastic sheeting has been applied to reduce drafts in the building.



Figure 4.45 Interior wood window sill.

Roof

A 30-year asphalt roof was reported to have been installed in 2005 on the hipped roof. The roof was reportedly stripped to the sheathing prior to installing new material.

Interior**General Plan Organization**

The building has four classrooms on each floor with a central hall (with elevator installed in 1993) and central stair running east west between the north and south pairs of rooms. Stairs and service rooms (janitor / storage / toilet rooms) are located on the northern edge of the building at both levels. (See figure 4.15).

Mid-Level Entry

The entry is located on a landing about 32.5" below the first floor. A small room is located over the entry hall, approximately 69" below the second floor level.

First Level

On the first level, the south pair of rooms was combined to create the 1,200 square foot multi-purpose room (dining), with an adjacent non-code compliant kitchen. This room has four free standing columns. The remaining two rooms are used as a lounge and administrative area. Along the full northern edge of the classrooms runs a circulation area that connects the stairs to exterior porches. A janitor's closet / storage room and a handicap accessible toilet room are located along this spine. An open office work space has been located in the western end of this area. Both offices are in conflict with life-safety and building codes.



Figure 4.10 Multipurpose room -- looking southeast.



Figure 4.11 Administrative area.



Figure 4.12 Lounge.



Figure 4.13 Multipurpose room bulletin board.



Figure 4.14 Multipurpose room - looking southwest.



Figure 4.16 Art / ceramics/ computer lab / card room.



Figure 4.18 Multipurpose room - looking southwest.



Figure 4.17 Billiards room.



Figure 4.19 Exercise room.

Second Level

The second floor has retained the four classrooms much as they were and are used for exercise, games/billiards, arts and crafts/computers classroom, and a thrift store. One enclosed office is located adjacent to the north-eastern stair. As on the floor below, an open office work space has been located at the opposite end.

Basement

The basement houses mechanical systems, general and medical equipment storage, and also provides space for the model train set-up and the food pantry. The ceiling height is inadequate, is not code compliant for public use nor is the egress access.

Floor to Floor Heights

Basement to First +/- 7'-4 3/4"
 First to Second 11'-7"

Ceiling Heights:

Basement +/- 6'-6"
 First Floor +/-10'-1"
 Second Floor +/- 11'-7"



Figure 4.20.



Figure 4.21.



Figure 4.22.



Figure 4.23.

Figure 4.20-23 Basement functions, clockwise from top left: Medical equipment storage, general and medical equipment storage, model train set up, food pantry.

Elevations

Basement	-7'-4 3/4"
Mid-Level Entry :	-2'-8 1/2"
First Floor	0'-0"
Upper Landing	+5'-10"
Second Floor	+11'-7"

Vertical Circulation

Stairs

The building currently has three internal stairways, an external metal fire escape from the second floor on the north elevation and an exterior concrete stair from the basement to grade on the west side. Additional internal stairs occur on the east and west sides of the building connecting the mid-level entries and other mid-level rooms to the main floor levels.

Two of the stairways that mirror each other are located on the north end of the building. These stairways connect all the floors - basement through second - and are open on the first and second levels. Offices, toilets, mechanical rooms are located off of these stairs. Office work areas are also located within this circulation area which is in violation of building code requirements.

The centrally located stairway has a fire door separating it from the lobby, which was propped open with a wooden wedge. On the second floor level there are double doors separating the stairs from the main level, although these doors do not have a fire rating nor are sealed to prevent smoke from entering the stairwell. Classroom doors on the second floor also open onto the stair landing.

*Figure 4.24
View from west stair
through building to
east entry door.*



Figure 4.25 Northeast open stair from second floor.



*Figure 4.26 Central hall / elevator lobby at second floor.
Note double doors held open at stair landing.*



Figure 4.27 Office area in second floor north stair corridor.



Figure 4.28 Central stair to west service entrance.

Under current code (780 CMR 3404.13) all required egress stairs must be enclosed. This will be addressed in the proposed design.

Risers are generally 6.5" to 7" and the treads range from 10" to 12" deep.

Elevator

The 3-stop hydraulic elevator, installed in 1993, provides accessibility to the first and second floors of the building. The third stop is at the main entry of the building which is approximately 32.5" lower than the first floor. The elevator does not serve the basement. The elevator is serviced by Beckwith Elevator.

The interior cab size is 80" x 49". This is smaller than what is now required for a medical emergency elevator (80" x 54" minimum inside dimension, 524 CMR 17.40.1d), which is intended to accommodate a stretcher. This elevator would most likely be allowed for continued use. Should there be a need for public use of the basement, another stop would need to be accommodated and the existing shaft/cab size may be grandfathered. A new elevator located in the addition would be required to be stretcher accessible and meet the minimum dimensional requirements noted above.



Figure 4.29 Elevator at mid-level entry.

Finishes

Ceilings

All ceilings are plaster except for in the thrift shop where a suspended ceiling grid with 2x4 acoustic ceiling tile has been installed. Most lighting in the building is surface mounted or pendant strip lighting. A ceiling fan is located in the administrative area.

Floors

There is hardwood flooring throughout much of the Cameron School building. Hardwood maple flooring is in the exercise room and thrift shop, and is likely under carpeting in other rooms. The stairs are constructed of a hard pine. Carpet is present in the lobby, lounge, multipurpose room, art/computer classroom, billiards, and in the hallways. At the entrance there is ceramic tile covered by a mat while at the side entries walk-off mats are provided. There is sheet vinyl in the restrooms and the basement floor is painted concrete.

Walls

There is likely plaster on wood lathe throughout most of the building; however gypsum wall board was used



Figure 4.30 Hardwood maple flooring and bead board wainscot in exercise room. Also, note perimeter forced hot water base board and window air conditioning unit.

in the 1993 construction of toilet rooms and janitor room. There is bead board wainscot with chair rail under windows and blackboards throughout the building.

Building Systems

Heating & Cooling

An oil-fired boiler provides forced hot water that is fed throughout the building with perimeter baseboard. The oil tank is located in the parking lot and is slated for removal. Testing is needed to confirm that the tank has not leaked.

Each of the upper classroom spaces has a window unit air conditioner. A smaller unit cools the office on the second floor. Two condenser units — located on the east side of the building adjacent to the entry — provide air conditioning for the first floor.

The gas-fired water heater provides domestic hot water to the building.

Make-up air is provided to the mechanical room via a vent.



Figure 4.33 Gas-fired domestic hot water boiler.



Figure 4.34 Vent and supply pipe for underground oil tank

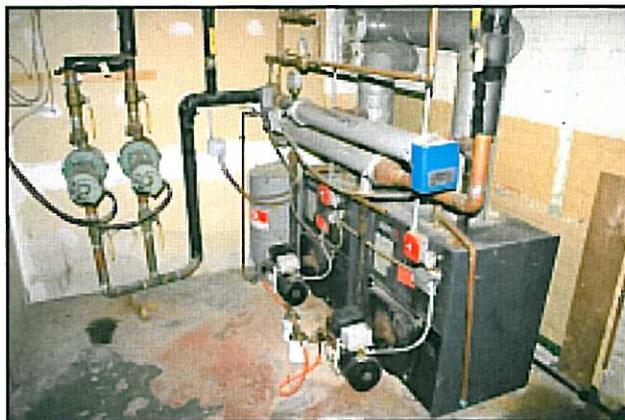


Figure 4.31 Oil-fired hot water boilers.



Figure 4.35 Condensers on east side of building serving the first floor.

Electrical

Electrical service 400 Amp

Three sub-panels are located in basement, one in stair hall at basement, and one in the mechanical room.



Figure 4.32 Make-up air in boiler room.

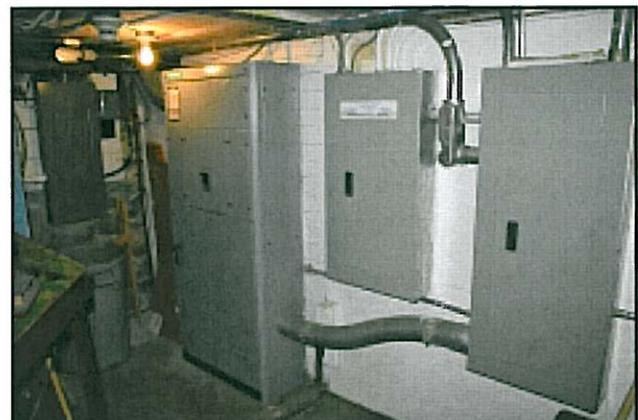


Figure 4.36 Main 440 AMP 120/208 power panels.

Figure 4.37 Janitor's closet. Typical both floors.

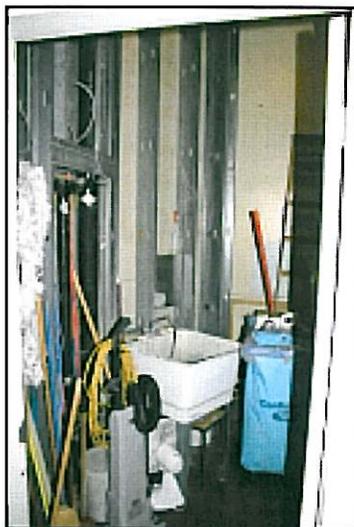


Figure 4.38 Handicapped toilet room. Typical both floors.



Figure 4.39



Figures 4.39 and 4.40 Non-illuminated emergency signage.

Automatic Fire Suppression System

There is no sprinkler system in this building. While the state building code in effect at the time (5th Edition) did not require the building to be sprinklered (even though there was a change in use), Chapter 148, Section 26G of the Massachusetts General Laws¹ had been adopted by the Town of Westford in 1984. This provision requires that every building (nonresidential buildings or additions) over 7,500 gross square feet in floor area (Cameron Senior Center building is +/-14,200 gross square feet, including basement) be protected throughout with an adequate system of automatic sprinklers in accordance with the provisions of the state building code.

Therefore, unless some appeal was made to the head of the fire department or some exception granted, it appears that the Cameron Senior Center should have had a sprinkler system installed in 1993. The building is in violation of life safety building code and must be sprinklered regardless of any scope of work.

Exit Signs

The exit signs are not illuminated and do not appear to be an approved self-luminous type which would provide evenly illuminated letters with a minimum luminance of 0.06 foot lamberts (780 CMR 1023.3). The installation of illuminated signs is required. Battery back-up emergency lighting is also required at exits for safety reasons. There is currently no emergency lighting and it will need to be added.

¹See Appendix E for copy of provision and phone note with fire department representative.