

PRESCOTT SCHOOL REUSE STUDY



GROTON, MASSACHUSETTS

March 6, 2012

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Purpose of this Report

The Town of Groton is the owner of the Prescott School, a National Register landmark in the center of town. The Town formed the Prescott School Reuse Committee (The Committee) early in 2010 to assess the current condition of the building and the variety of future uses. Bargmann Hendrie + Archetype, Inc. (BH+A) was contracted by the Town to conduct an assessment of the Prescott School building and property, and prepare schematic designs and preliminary specifications for the adaptive reuse of the building. The report also contains cost estimates for each proposed option, an implementation plan, and options for development to provide the Prescott School Reuse Committee, the Town of Groton, and the public with information for the reuse of the Prescott School building.

Executive Summary

The Prescott Building is a historic brick building in the Groton Center Historic District of Groton, Massachusetts. The three story building contains about 27,000 gross square feet and sits on a 2.81 acre lot. The building fails to meet space requirements to continue as a public school and would need many improvements to meet current code requirements. Currently, the Town is leasing the Prescott building to the Groton-Dunstable Regional School (GDRS) to use as administrative offices. The lease is set to expire in 2015 and the GDRS is uncertain if they need or want to rent space in the Prescott School building after that time.

The Prescott School Reuse Committee is charged with providing the best available data, information and insights to the decision makers relative to reuse and disposition alternatives, rather than making a specific reuse recommendation for the Prescott School property. The Committee has examined the building condition and current usage by inspecting the building, reviewing existing reports, and meeting with Town Boards and Departments to assess the building. They have grouped reuse ideas into four categories: Educational, Residential Housing, Commercial, and Community uses. The Committee also met with Groton Center for the Arts (now 3 Rivers Arts Center), Groton Housing Authority, Groton Historical Commission, Groton Council on Aging, Groton-Dunstable Regional School System, and Groton Economic Development Committee because of their interest in the reuse of the building.

Because the building is located in Groton Center and could contribute greatly to the community that it serves, it is important to the Committee to get public opinions about the needs of the community. The Committee conducted a town-wide survey to receive resident input for future uses of the Prescott building. The response was to reuse the building as a mixed-use development incorporating for-profit business use and not-for-profit community use.

The Committee contracted BH+A to prepare schematic drawings for three mixed-use combinations of Commercial (office, retail, and restaurant) and Community/Arts program. The Committee also delineated Commercial/Community percentages as being 50/50, 70/30, and 85/15. BH+A has met with members from 3 Rivers Arts Center, Groton Council on Aging, Groton Fire Department, Groton Historical Society, and Earl Carter, a Groton resident and avid collector of Groton memorabilia, to understand their organization's current and future needs. BH+A also met with Steven Webber from the Groton Board of Trade to get his opinions about business space needs in town.

Conclusion and Next Steps

At a Prescott School Reuse Committee meeting on February 13, 2012, the reuse options were narrowed down to an Inn, a Fire Station, and 70% Commercial / 30% Community. For the purposes of this report, Inn Option 2, Central Fire Station Option, and 70/30 Senior Center Option will be studying in depth.

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I. General Description and Site Conditions

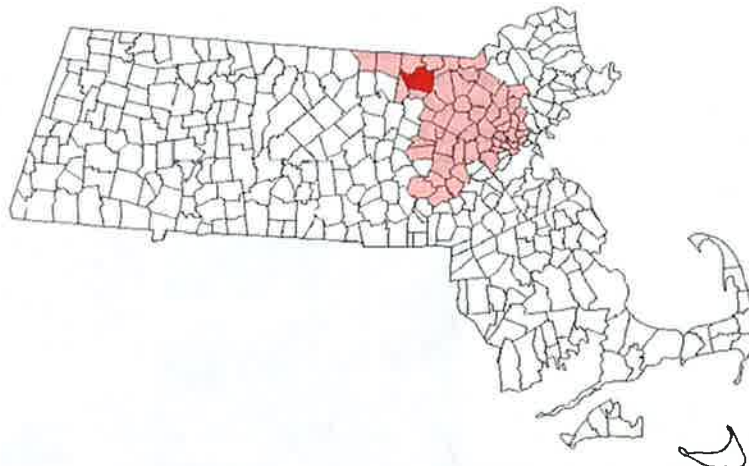


Fig 1. Town of Groton MA highlighted in bright red. Middlesex County in lighter red.



Fig 2. Bird's Eye View of Main Street in Groton, MA. Prescott School property outlined.

Prescott School Reuse Study
Town of Groton, Massachusetts
March, 2012
Historical Summary

The Prescott School is located at 145 Main Street in historic Groton Center. It was listed on the Massachusetts Register of Historic Places in 1964 when the local historic district was designated. Recently, on March of 2010, the school was included in the National Register of Historic Places for its architecture and is one a limited number of remaining historic Main Street schools in the country.

The Butler School, the Town's first High School, was built in 1871 by architect Henry Martyn Francis. Unfortunately, a fire destroyed part of the building in 1925. In 1927, Haynes and Mason Architects were contracted to rebuild the school. They removed a portion of the building in the front near Main Street and removed interior partitions, but retained the core of the building to reuse for the new construction. The architects added a front entrance wing and rear Assembly Hall with an unexcavated basement to the original building. During later renovations, the basement was excavated and used as a cafeteria. Commonly known as the Prescott School, the building has served for 85 years as a high school, junior high school, elementary school, and currently houses administrative offices.

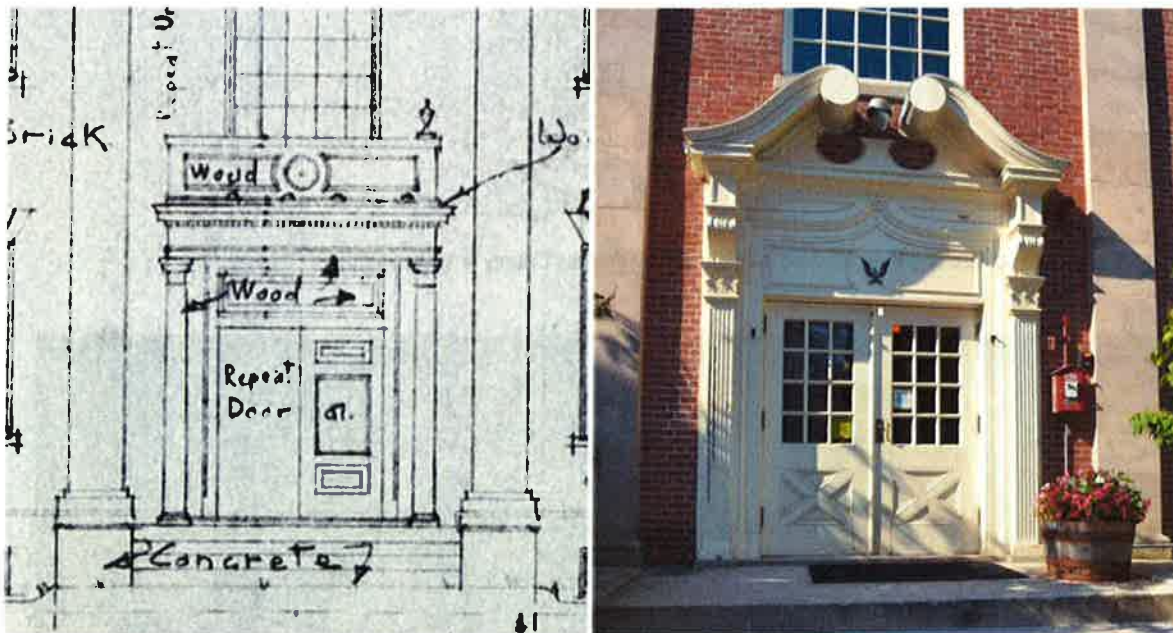


Fig 3. Original Blueprint of east façade. Note the projected portico with wood panel balcony, supporting wood columns, and wood panel doors. Date of renovation has not been identified, but could be discovered with further research.

Fig 4. Existing entry with broken scroll pediment and original doors.

Site Conditions



Fig. 5. Bird's Eye View of Prescott School with approximate property lines.

The Prescott School building sits on an irregular-shaped 2.81 acre lot that fronts Main Street. The site consists of the building with pavement and parking near Main Street, a lawn and playground area in the center, and wooded areas at the sides and rear. The rear is a designated wetland area (see existing site plan for boundaries) and in a 100 and 500 year flood plain.

The Groton Wetlands Protection Bylaw Regulations (adopted 1/11/05, revised 3/28/06), Section 7.1.1 states that a No Disturbance Area has been designated 50 feet from any freshwater wetland. No activity or work, other than foot passage or removal of invasive species, is permitted in this zone.

Between the 50 foot No Disturbance Area and the 100 foot Wetland Buffer Zone, a Temporary Disturbance Area has been established. In this zone, minor grading and travel by heavy machinery is permitted for a limited period of time. Once the activity is completed, however, the area will be allowed to return to natural vegetation and function.

The 100 foot Wetland Buffer Zone prohibits the following activities 100 feet from a freshwater wetland: erection of permanent structures, construction of parking lots, construction of a new sanitary waste disposal system, placement of dumpsters, driveways or retaining walls, and grading except for minor grading.



Fig 6. Lawn area and playground.
Fig 7. Steep slope at edge of parking lot.

The site gently slopes from an elevation of 327 feet above sea level at Main Street to 300 feet above sea level at the rear of the site. There is a steeper slope at the edge of the parking lot pavement to the open lawn area. A one-way access driveway at the south of the site allows vehicles to enter the parking area at the sides and rear of the building, and loops around to the north access driveway to exit to Main Street. There are 32 existing parking spaces and 2 accessible parking spaces- one near the south side of the auditorium for access to the basement ramp, and one near the north ramp.

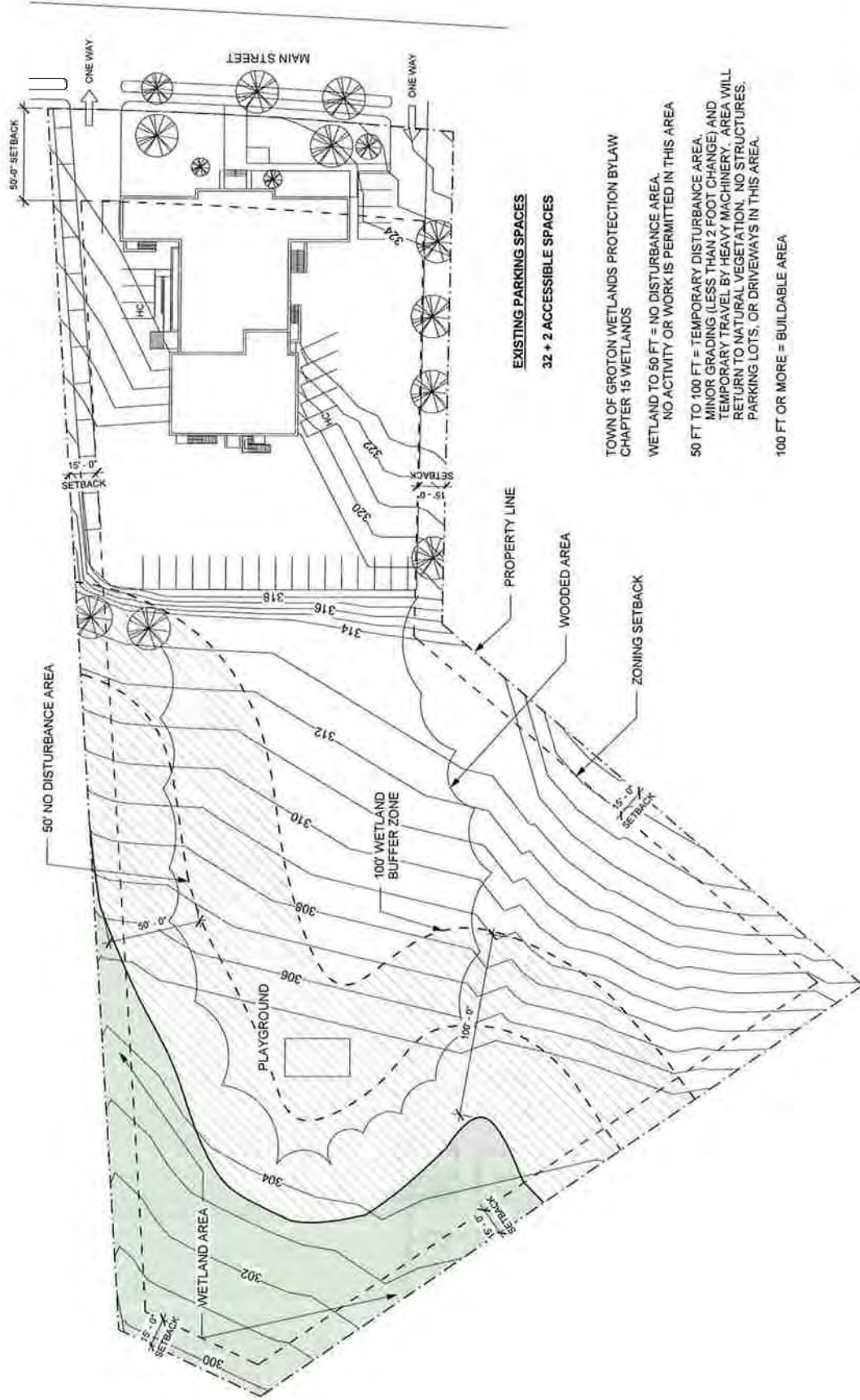
The Groton Planning Board required setbacks are 50 feet front yard setback, and 15 feet rear and side yard setbacks. There are no requirements for parking lot setbacks.



Fig 8. View of parking at rear of building.
Fig 9. View of one-way access lane at south of building

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TOWN OF GROTON
173 Main Street, Groton, MA 01450



EXISTING PARKING SPACES
32 + 2 ACCESSIBLE SPACES

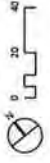
TOWN OF GROTON WETLANDS PROTECTION BYLAW
CHAPTER 15 WETLANDS

WETLAND TO 50 FT = NO DISTURBANCE AREA
NO ACTIVITY OR WORK IS PERMITTED IN THIS AREA

50 FT TO 100 FT = TEMPORARY DISTURBANCE AREA.
MINOR GRADING (LESS THAN 2 FOOT CHANGE) AND
TEMPORARY TRAVEL BY HEAVY MACHINERY. AREA WILL
RETURN TO NATURAL VEGETATION. NO STRUCTURES,
PARKING LOTS, OR DRIVEWAYS IN THIS AREA.

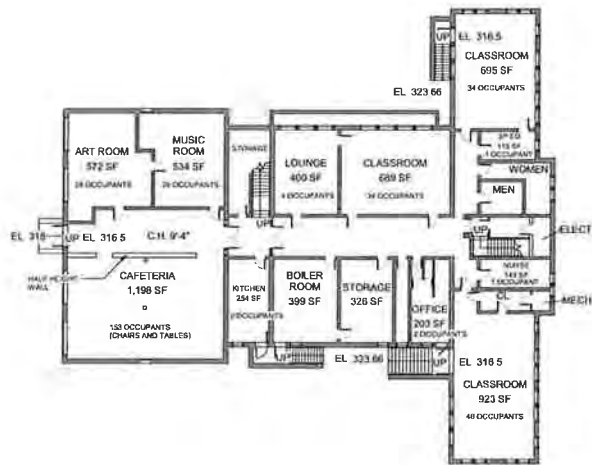
100 FT OR MORE = BUILDABLE AREA

EXISTING SITE PLAN

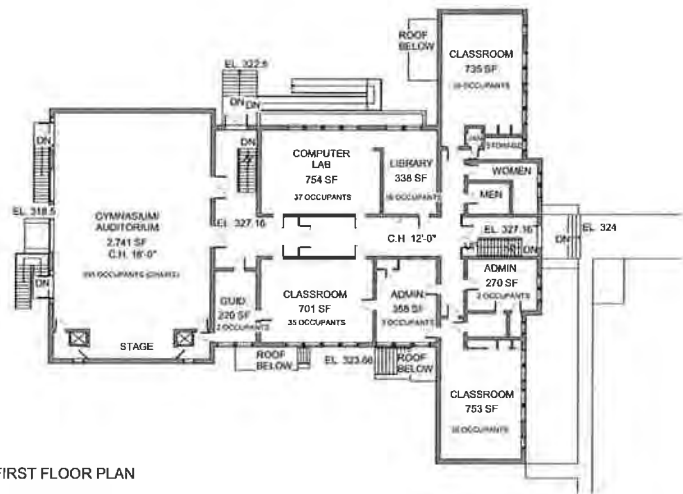


PRESCOTT SCHOOL REUSE STUDY

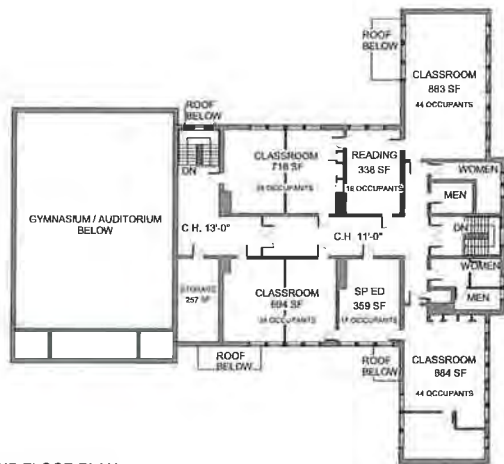
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BASEMENT FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN

EXISTING FLOOR PLANS

GROSS SQUARE FOOTAGE

BASEMENT FLOOR	= 10,200 GSF
FIRST FLOOR	= 10,200 GSF
SECOND FLOOR	= 7,000 GSF
TOTAL	= 27,000 GSF

BUILDING OCCUPANCY

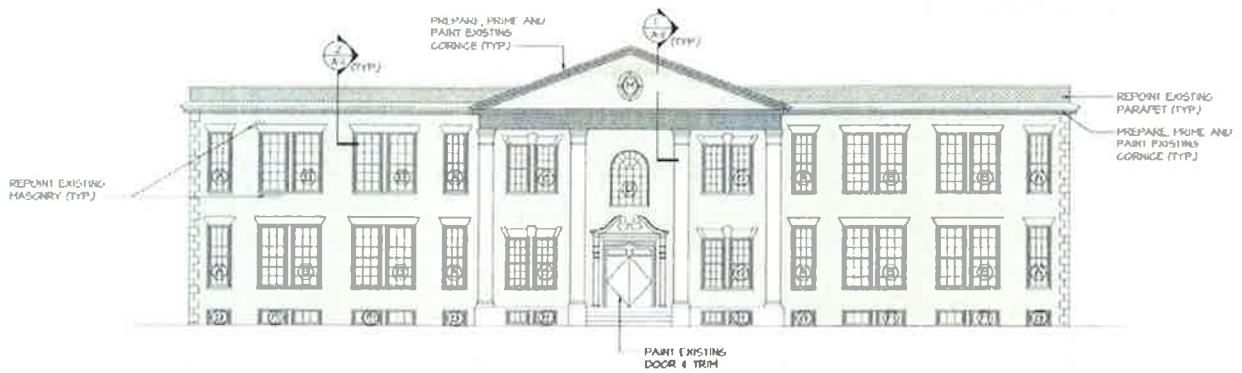
CLASSROOMS	= 518 OCCUPANTS
OFFICES	= 15 OCCUPANTS
GYM/AUDITORIUM	= 391 OCCUPANTS
CAFETERIA	= 153 OCCUPANTS
KITCHEN	= 2 OCCUPANTS
TOTAL	= 1,079 OCCUPANTS

EXISTING FLOOR PLANS

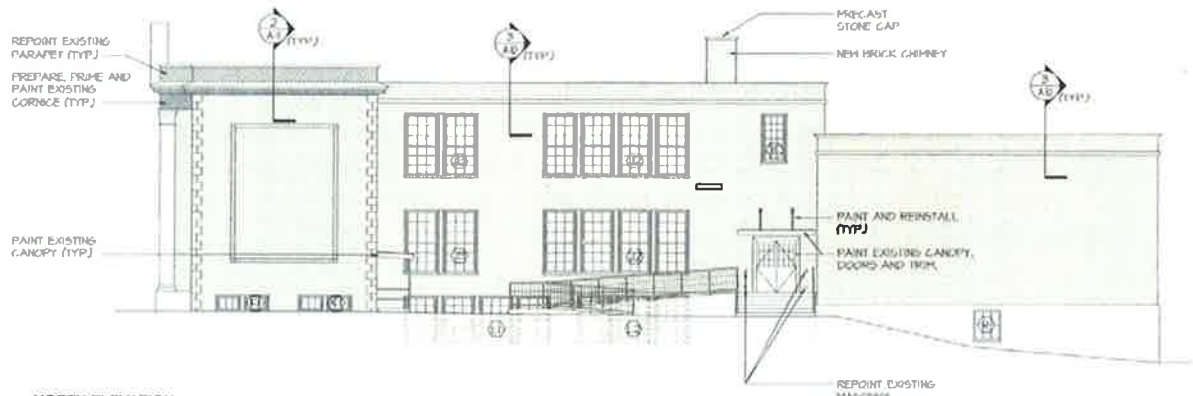


PRESCOTT SCHOOL REUSE STUDY

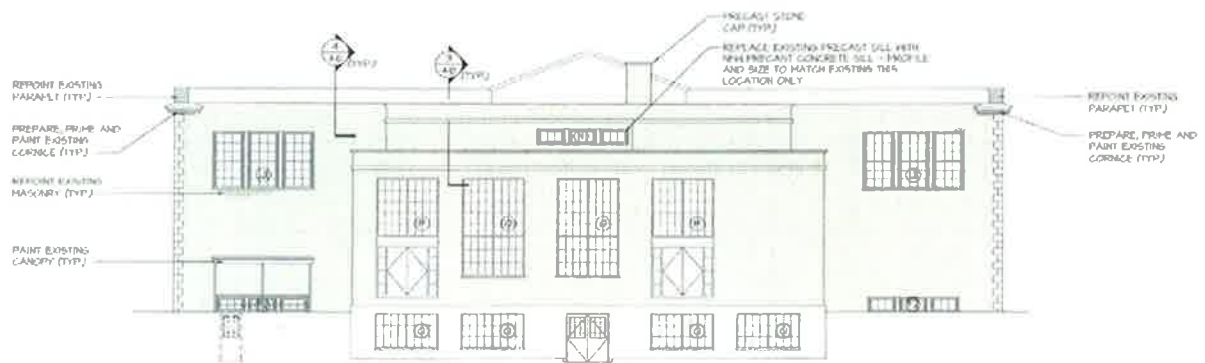
TOWN OF GROTON
173 Main Street, Groton, MA 01450



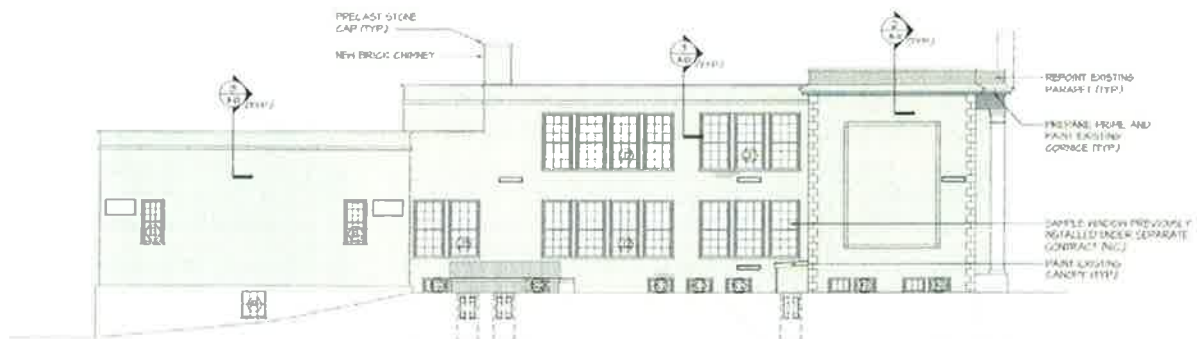
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

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II. Description and Condition of Mechanical, Electrical, Plumbing and Fire Protection Systems

Heating and Ventilation

The existing heating system for the building consists of a gas-fired 2.5 million Btuh output steam boiler with steam radiators and unit ventilators throughout the building. The auditorium and cafeteria are heated by steam unit heaters.

The existing boiler was replaced in 2010. Most of the existing radiators and unit ventilators are original to the building. We were told that the unit ventilators are in good repair with properly functioning outdoor air dampers.

The radiators have individual steam traps. Through the years some have been repaired, but all should be inspected if the steam system is used moving forward.



Fig 10. Existing gas-fired boiler in basement.



Fig 11. Existing radiator in classroom



Fig 12. Existing unit ventilator

The temperature in the building is controlled from a single thermostat in the main corridor of the first floor. The boiler cycles on based on this thermostat. There are no means of individual temperature control.

There are three condensate pumps in the building, two remote smaller units and one larger unit adjacent to the boiler.

There is no ventilation system for the building except for the unit ventilators. The windows are operable, and can be opened to provide additional fresh air if outdoor conditions permit.

The toilet exhaust system for the building is not per code. Currently each toilet room has an exhaust fan that discharges to a grille in the corridor. The discharge will have to be ducted to the exterior.

It is our understanding that the steam system functions well to heat the building. There are temperature variations throughout the building, but that is to be expected with a single thermostat for the building.

Plumbing

The building is served by a 2" water service that enters in the front of the building. The water service consists of a compound meter and a pressure reducing valve. The pressure gauge after the PRV indicates a pressure of 80 psi.



Fig 13. Water service entering front of building in basement

The sanitary for the building discharges to the rear of the building to a tank with duplex grinder pumps. The pumps discharge the sanitary to the sewer main in the street. We were told that the pump system is approximately 15 years old, and the pumps were rebuilt approximately 3 years ago.

The toilet rooms in the building, with the exception of the administration area, were renovated in 1990's, with new toilet fixtures being installed.

The building had a small commercial kitchen with pot sink and grease interceptor. The grease interceptor is located in the boiler room and appears fairly old.

The only issue with the plumbing system that was brought to our attention is the discharge line in the cafeteria area. We were told that this line is possibly cracked, and that it occasionally requires routing to clear blockages, approximately once per year.

Electrical

The existing electrical service is a 400 amp, 208V, 3-phase service that enters below grade in the front of the building. The service is fed from pole mounted transformers across Main Street, with an overhead line to a pole at the edge of the west driveway. The service is run from the pole underground to the building.



Fig 14. Electrical service entering front of building at basement window.



Fig 15. Pole mounted transformer across Main Street.

The existing service equipment is rated at 400 amps and will need to be upgraded to handle any additional new loads. The existing main distribution panel is outdated (spare parts are not available for serviceability) and needs to be replaced. The existing local utility meter number is 78 354 813.

Several branch panel locations do not comply with current codes i.e. they are located high up. The electrical equipment in general appears to be a mix of original and replacement equipment. There are numerous electrical sub-panels throughout the building, which have been added over the years as they were needed.



Fig 16. Electrical panels in basement electrical room.



Fig 17. Newer electrical panel.

Conduit is surface mounted throughout the building and has been added on over time.

The lighting is mostly fluorescent strip lights with T8 ballasts. These are functional but outdated. Existing lighting is in fair condition – still operational, however, several fixtures are missing lenses.



Fig 18. Fluorescent hanging strip lights in classroom.



Fig 19. Fluorescent lights in suspended ceiling at administration office.

The existing fire alarm system is a zoned, Model 5207 Silent Knight system and is functional. Zoned systems are no longer used for buildings of this size and application.



Fig 20. Fire Alarm panel in electrical room in basement.

Existing data and telephone systems needed for operation of the building as office space are active. Wires are exposed throughout the facility.

The existing intercom system is no longer being used but is possibly operational.

Fire Protection

There is not an automatic sprinkler system installed in the existing building.

III. Exterior Conditions and Recommendations

Exterior Conditions



Fig 21. East Elevation
Fig 22. West Elevation



Fig 23. South Elevation
Fig 24. North Elevation

This Colonial Revival and Georgian Revival brick building is simple yet sophisticated with its monumental pilasters at the center bay, central arched window, and cast stone swag above the central window. The broken scrolled pediment above the east entry door, stone quoins at the corners of the east wing, and oval window in the main pediment were all later additions to the east facade.

The exterior shell is in very good condition due to the ongoing maintenance and a recent renovation. In 1997, the Carell Group performed accessibility upgrades by adding the entrance stair and handicap ramp on the north side of the building. They revised the parking to accommodate two handicap parking spaces and also added a retaining wall at the north side of the building. A major exterior renovation was undertaken in 2006 by Helene Karl Architects. They replaced the existing roof with a single-ply membrane roof, removed existing roof exhaust turbines and abandoned chimney, replaced the basement and rear doors, repointed and repaired deteriorated masonry, removed existing rear canopies on the west elevation, replaced the gym windows with a Kalwall system and replaced the original wood windows with new aluminum windows.



Fig 25. Stair and Accessible ramp added by the Carell Group in 1997



Fig 26. Existing West exit door of Auditorium with Kalwall windows above and at sidelights



Fig 27. Image of original canopy and west exit door of Auditorium. Removed in 2006 by Helene Karl Architects. Photo taken 12/20/04

Exterior Recommendations

Retain existing brick walls, window and door openings, broken scrolled pediment above the door, canopy above the north entry door, cast stone window lintels and sills, stone pilasters and quoins, and wood trim mold around the pediment and parapet at the east façade.

The main entrance stair on the east elevation is not code compliant because of high risers of varying dimensions, no handrails, and an elevation change at the door threshold. A new main entrance stair and ramp with a large landing should be installed. This addition may alter the cast stone retaining walls on either side of the stair.

The ramp and stairs at the north entrance is code compliant and may be retained.

The two wood egress stairs on the west elevation of the Auditorium/Gym are roped off and are not structurally sound. These stairs should be removed and one new egress staircase is recommended to meet code requirements.

The three concrete stairways leading to the basement are not code compliant because of high risers and non-compliant handrails. These stairways and railings will most likely be able to remain with a variance from MAAB. The corrugated plastic enclosure on the south concrete basement stair is recommended to be removed and replaced with a more permanent roof and wall system to match the other stair enclosures.

The ramp at the west elevation leading to the basement is not code compliant because of a steep slope and lack of handrails. A new accessible ramp should be installed to meet current code requirements.

All of the original windows have been removed and replaced with windows to match the existing. The existing windows are in good condition and should be retained.

The Kalwall windows on the west elevation and the north and south elevation on basement level of the Auditorium are rusting and are in fair condition. Depending on the use of the Auditorium and Cafeteria, it is recommended that they be replaced with windows that resemble the original glass pane windows and doors.



Fig 28. East entry non-compliant stairs



Fig 29. West basement entry, non-compliant ramp



Fig 30. South concrete stairs leading to basement.



Fig 31. Other south concrete stairs leading to basement. This enclosure is recommended to be removed and replaced.

IV. Interior Conditions and Recommendations

Interior Conditions

The interior of the Prescott School building is quite remarkable and remains very much the same as when it was built in 1927. The T-shaped building has three floor plates with a very similar layout; a wide corridor in the center, running the length of the building, with classrooms on either side. The rear volume holds a cafeteria on the basement floor and an auditorium on the first floor. There are beautiful maple wood floors and pressed tin ceilings throughout the building. In most of the rooms, vinyl tiles and carpet are covering the wood floors and acoustical suspended ceilings are covering the metal ceiling, but the original materials are assumed to still be intact.

There is a "sheathed dado" on almost every wall in the rooms and corridors. In the gym, the dado is a 7' tall vertical beadboard panel with a thin wood profile for the cap and a quarter-round profile at the floor. In the halls and rooms, the dado is about 3' tall with a simple chair rail molding at the cap and simple baseboard at the floor. The panel may be some sort of canvas or fabric that was stretched between the moldings. The canvas is now delaminating from the wall, cracking, and causing irregularities to the panel.

The auditorium doors are original to the building and have locks on the bottom of the doors that slide into the floor at both the closed and open position. The existing auditorium door casings have an added decorative molding on the top of the casing to make it more formal than the classroom doors. Many of the classroom doors are not original to the building but probably looked like the auditorium doors because the classroom and auditorium doors are called out to be "special glazed" on the original door schedule on the blueprints. The door casings are simple wood boards and are most likely original to the building.



Fig 32. View of East entrance vestibule and stair on the first floor.

Fig 33. View of corridor and east stair on the second floor.



Fig 34. View of the main corridor to the auditorium on the first floor. Note the 8-lite transom panel above the doors.
Fig 35. View of the north corridor on the first floor. The wall at the end of the corridor originally had two doors in to the classroom. Also note the exposed electrical wires running along the top of the wall and door.



Fig 36. Classroom at basement floor. Note that the window sills are 7'4" from the floor, yet still provide a substantial amount of natural light in the classroom.



Fig 37. Classroom at first floor.



Fig 38. Classroom at Second floor.



Fig 39. Auditorium space looking north. The walls are exposed brick with the 7' dado, but originally had smooth, terracotta tiles on them.



Fig 40. Auditorium space looking south. The stage has wood molding around the masonry opening and an access door on either side. The stage is at the same level as the main floor, but originally was raised 3'-0" and had different wood molding around the opening. The ante rooms on either side of the stage had stairs to access the stage. If renovated for an auditorium space, a larger, raised stage could be designed for this area.



Fig 41. View of dado at corridor wall on first floor. Note the delamination of the material in the dado panel.



Fig 42. View of Auditorium doors and 7' tall beadboard dado.

Interior Recommendations

There is no elevator in the building or accessible means to access the third floor in a wheelchair. A new three-stop elevator should be installed for access to all three floors of the building.

The entrance doors at the east elevation swing in and do not swing in the path of travel. All main egress doors must swing in the path of travel.

The two interior staircases do not have code compliant handrails and guardrails. The handrails will need to be removed and replaced with guardrails at the half wall and handrails on both sides of the stair.

The existing metal staircases may not be original to the building. The tread and risers are of uniform heights and widths, but the nosing may not be code compliant. The stairs can be retained if desired.

The classroom configuration and auditorium spaces should be retained but new small openings are permitted to be punched in the walls to aid in the reuse of the spaces.

The wood floors should be preserved and can be refinished. The carpet and vinyl floor tiles are recommended to be removed. Asbestos could possibly be in the vinyl tile or tile mastic on the basement floor.

The original plaster on the walls should be retained but the paint is recommended to be removed. It is very likely that there is lead paint on all of the walls, doors, trim, and ceilings throughout the interior of the building. Precautionary measures should be used when stripping the lead-based paint.

The original glass partition walls in the corridors should be retained. Interior partition walls that are not original to the building are recommended to be removed.

The wood beadboard dado in the auditorium should be retained and restored. The dado in the rooms and hallways are in poor condition. More research and testing is needed to determine the material of the interior panel. The chair rail and baseboard should be retained, but the interior panels can be cut out and replaced with plaster, drywall, canvas, or wood, depending on preference.

The pressed-tin ceilings should be retained and preserved. The paint can be removed by sandblasting with walnut shells or other materials that are sensitive to historic fabric. The acoustical drop panel ceilings should be removed to reveal the pressed-tin ceilings above.

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The auditorium doors and hallway partition doors should be retained. The classroom doors are contemporary and do not need to be retained for historical value.



Fig 43. View of metal stair at north entrance. Handrails and a guardrail would be need to bring the stair up to code.

Fig 44. View of classroom on first floor with carpet on the floor and suspended acoustical panels and fluorescent lights at the ceiling.



Fig 45. Interior partition recommended to be removed from a third floor classroom.



Fig 46. Vinyl asbestos tile in the basement are recommended to be removed.

V. Adaptive-Reuse of School Buildings: Case Studies and Research

McMenamins Kennedy School Inn, Portland, Oregon

Historic Kennedy Elementary School

Built in 1915, closed in 1975

McMenamins bought the property and reopened the building as an inn in 1997.

35 guestrooms in old classrooms with original chalkboard and private baths

Nightly rate \$115-\$145

Other amenities include:

- Restaurant

- Bars

- Pool

- Gift shop

- Concordia brewery

- \$3 Movie theater

- Conference rooms

- Event space for weddings or business presentations held in the old gym



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Davie School Inn, Anna, Illinois

Davie School closed in 1996

Reopened in 2002

11 suites in old classrooms

Kitchen, private bath, jacuzzi tub

Nightly rate \$85-\$485



The School House Bed and Breakfast,
Rocheport, Missouri

Built in 1914 for the Rocheport School District

The 4 room school closed in 1972

The previous owners bought the building in 1986 and renovated it into the School House B&B.

Nightly rate: \$150-\$200

The building is listed on the National Register of Historic Places

Started with 6 guestrooms and expanded to the attic and basement to create 11 guestrooms with private baths

The guest rooms on the first and second floors have 13-foot ceilings and large 8-foot windows

The Common Room is a lounge and breakfast room available for all guests to use from 7am to 10:30 pm and has a fireplace, sitting area, and Wi-Fi access

A separate Dormitory building, located next to the Inn, was built in 2007 with 2 private guest rooms

The Faculty Lounge in the basement is a conference/meeting room and kitchen facility for corporate events, overnight retreats, and used as a bridal changing room.





Carr Manor, Cripple Creek, Colorado

Cripple Creek High School was built in 1897

The school closed in 1977

Converted to a small hotel in 1983

Completely renovated into a 14 room inn in
2002 with a conference center and grand
ballroom.

Nightly Rate \$175 for single rooms
and \$400 for suites

Gourmet breakfast in the dining room

High school auditorium was turned into a Grand
Ballroom that can hold up to 75 people for
weddings, dinner theater,
and small musical venue.



Colonial Inn, Concord, Massachusetts

The Historic Main Inn was built in 1716 and provides 15 inn rooms with wide plank pine floors, wainscoting, and post-beamed ceilings.

The Prescott Wing, built in 1970 added 30 more rooms with modern amenities.

Suites are available in the Prescott wing, Rebecca's guest house, and the cottage.

Room rate: \$125-\$175

Suite rate: \$235-\$320



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Community Services Building, Powhatan, Virginia

Design/build adaptive reuse of the old Powhatan High School

Program:
21,000 sf of commercial office space
4,000 sf public auditorium



Amelia County Office Building, Amelia County, Virginia

Amelia County school converted to county offices



Lofts @ 909, Harrisburg, Pennsylvania

Boas School building renovated in 2010 for \$3.7 million

6,000 sf of commercial space at lower level, and loft apartments on first and second floor.

Project qualifies for a city-wide tax abatement program and is eligible for historic tax credits.



Old School Center, Farmington, Illinois
Family Recreation and Mixed-Use Center

75,000 sf Farmington High School built in 1925 and closed in 2004

Meister brothers bought property and renovated it into a family recreation center.

The facility targets large groups, such as church groups, large family functions, school groups, or other community groups, for events like camps, reunions, or other large recreational purposes.

Amenities:

- Large gym

- Auditorium for games or performances

- Commercial kitchen and dining area for catering or use by a group

- Accommodations: 7 suites with queen or king beds and bunk beds, private baths and kitchen. Cabins with bunk beds to sleep 12. Communal restrooms.

Tenants:

- Photography studio

- Tanning salon (which may expand into a full day spa)

- A Mexican restaurant

- Current negotiations with a coffee shop



Suffolk Center for Cultural Arts, Suffolk, Virginia

Suffolk High School, built in 1922 and closed in 1990.

Renovated the 74,000 sf building into a cultural arts facility in 2006

Mission Statement: The mission of the Suffolk Center for Cultural Arts is to encourage and advocate the visual and performing arts by providing a forum where diverse audiences can actively participate in cultural experiences.

The project qualified for historic tax credits

Program includes:

Theater with a raised stage house
for performances

Grand ballroom for banquets and
receptions,

Catering kitchen

Dance and arts studio

Gallery Space

Café

Green room

Dark rooms

Computer labs

Dressing rooms

Conference space

Offices



Cochituate Village Apartments, Wayland, Massachusetts



Wayland Housing Authority renovated an old school building on Main Street into affordable housing for elderly, handicapped and low-to-moderate income families.

55 apartments, average size is 625 sf.

Amenities:

Laundry facilities

Raised gardens

Common rooms for social activities

Within walking distance of shopping, churches and other services

The Town offers local transportation options

2-4 year waiting list to rent apartments

Community Nursery School performs for seniors at the Cochituate Village Apartments



Transportation to Natick and Framingham stops outside Cochituate Village Apartments

Planning Stages and Under Construction

Avery Elementary School Reuse Study, Dedham, Massachusetts

The Town of Dedham is undergoing a study for the reuse of the soon-to-be-vacant Avery Elementary School building. Possible reuse options are a new police station, fire station, and a senior center. The idea of a nonprofit art and community center has peaked some Selectmens' interest. Basing their idea off of the Milton Arts Center that opened in January 2012, the arts center in Dedham could have conference rooms, classrooms, and art studios that could be leased to artists. Fundraisers will look for investment grants, including one for \$10,000 for which they have already applied for from the Massachusetts Cultural Council.



Newburyport Senior Center, Newburyport, Massachusetts

The City of Newburyport is in the study phase of adapting the old Bresnahan Elementary School building into a new Senior Center. The new Senior Center will also have Community Center features, such as space for public meetings, the existing indoor basketball court and stage, as well as offices for various social services including Veterans Services.



Winterville Senior Center and Mixed-Use Project, Winterville, Georgia

Winterville School is a 9,000-square-foot, two story stucco building built in 1918. It is listed on the National Register of Historic Places, but the building was abandoned ten years ago and is now in a dilapidated state. The City of Winterville bought the property for \$1 in 2009. Immediate stabilization began in 2010 at the cost of \$566,560. The school will be renovated as a Senior Citizens Community Center, a library, and government offices. The 450-seat auditorium building next to the school will also be restored as a venue for governmental meetings, public and private conferences, and assemblies for training and education. The project was awarded \$500,000 in Community Development Grant funds. These funds will only go toward restoring the sections that house the senior programs. Total restoration of the two buildings is projected to be around \$1,969,000. The project went out to bid on February 21, 2012.



VI. Conceptual Options

The Prescott School Reuse Committee, Groton organizations, the Groton community, and BH+A have brainstormed to come up with viable adaptive reuse ideas for the Prescott School building. These reuse options include an Inn, a Fire Station, and a mixed use commercial/community building including a Senior Center, an Arts Center, a Historical Society exhibition, retail, and a restaurant. BH+A has developed schematic floor plans to accommodate these uses and are located in the Appendix of this report.

We chose to focus on three options for the code review, outline specifications, and cost estimate.

Three options:

Inn Option 2

Central Fire Station Option

70/30 Senior Center Option (70% commercial, 30% community)

Description of Work

All 3 Options

Remove east entry stair and concrete landing. New landing, concrete stairs and ramp.

Remove corrugated plastic walls and roof and metal guardrail at basement stair enclosure on south elevation. Replace with 3 foot tall brick walls and aluminum roof overhang to match the other stair overhangs at southeast corner of building.

Remove 2 wood stairs at west side of building. Replace with metal emergency egress stair, guardrails, and railings.

Remove concrete ramp at west side of building. Replace with concrete ramp and metal railings.

Remove Kalwall windows at north, south, and west elevations. Replace with new glass windows to resemble original.

Install a 3-stop elevator to access all floors.

Remove metal handrails from interior stairs and replace with code compliant handrails.

Remove indicated interior partition walls and indicated glass partition walls in hallways. Replace with similar partition at noted locations.

Remove carpet and vinyl asbestos tiles throughout.

Remove all acoustical drop ceilings. Remove paint from pressed-tin ceilings. Repair or replace in-kind.

Refinish all wood floors.

Remove bathroom fixtures and finishes.

Remove deteriorating plaster and patch with new plaster on existing walls. New interior wall partitions to be GWB.

Inn Option

New wood stud partition walls for Inn rooms.

Fire Station Option

Demolish existing cafeteria/auditorium and build new apparatus bay structure at rear of existing building.

ALTERNATIVE USE MATRIX

breakdown	scheme	business (for profit)				Town					non-profit	
		office	retail	food service	inn	generic public	senior center	historical	auditorium	fire station	3 river arts	private school
1	A											
	B											
2	A	various combinations										
	B	various combinations					undersized					
	C	various combinations										
	D	various combinations										
3	A	various combinations										
	B	various combinations										
4	A											
	B											

Prescott School Inn

The Town of Groton has the potential and infrastructure to host a 30 room inn in the Prescott School. The historic Old Groton Inn on Main Street was an icon of the town, but sadly burned down on August 2, 2011. The Old Groton Inn provided 16 rooms including 2 suites, private bathrooms, and meals in the Tavern. Their standard room rates were \$169 for double occupancy and \$249 for suites.

There are a few hotels and inns in the area, all about 20 minutes from Groton center. The Residence Inn by Marriott and the Hampton Inn & Suites in Westford are located off of Interstate 495 at Exit 32, east of Groton. The Westford Regency in Westford is a wedding and conference destination. The Lyttleton Inn in near 495 and Rt 119 at Exit 31 is a small 5-room bed and breakfast that services guests visiting the historic Town of Littleton. There are also a few hotels 20 minutes south of Groton in Devens, including SpringHill Suites by Marriott and the new Hilton Garden Inn.

The Town of Littleton is proposing infrastructure improvements for widening Route 119 at the intersection of 495, from one lane in each direction to 2 lanes in preparation for industrial development by Cisco Systems and IBM. Littleton's strategy to promote economic development is to market the site for hotel, restaurant, and high end retail development.

Visitors to Groton will most likely be parents and family that are visiting their children at Groton's two private high schools; The Lawrence Academy and The Groton School. The Lawrence Academy has an enrollment of about 400 students, and about 50% are boarding at the school. The Groton School has an enrollment of about 370 students and about 85% are boarding at the school. These schools have reunion weekends, parents' weekends, sporting events, and visiting professors that could take advantage of the close proximity to an inn if it were located in the Prescott School.

The Thomas Moore College, currently located in Merrimack, New Hampshire, plans to purchase a 33 acre lot at 122 Old Ayer Road in Groton to relocate the undergraduate programs in 2014. This will bring more people to the area and create a greater need for an inn in Groton.



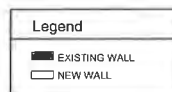
Inn Room in an original classroom of the School House Bed and Breakfast, Rocheport, Missouri.

Prescott School Reuse Study
Town of Groton, Massachusetts
March, 2012

Inn Program

	Square Feet
Lobby/Reception	
Lobby / Reception	400
Subtotal	400
Program Spaces	
30 Inn Rooms @ 400sf each	12,000
Restaurant	1,600
Fitness Room	800
Subtotal	14,400
Food Service	
Kitchen	400
Pantry Storage	150
Loading / Receiving	50
Subtotal	600
Restrooms	
Womens	180
Mens	180
Subtotal	360
Staff Rooms	
Staff Lounge	300
Womens Restroom and Changing Area	300
Mens Restroom and Changing Area	300
Subtotal	900
Support Spaces - in basement	
Mechanical / Electrical / Sprinkle	400
Program Storage	300
Laundry Facility	300
Exterior Maintenance Storage	100
Custodian, in basement	50
Subtotal	1,150
Total Net Square Feet	17,810
Grossing Factor	1.26
Total Program Gross Area	22,441

TOWN OF GROTON
173 Main Street, Groton, MA 01450



NOTE: SQUARE FOOTAGE FOR ROOMS INCLUDE BATHROOM AND CLOSET

RESTAURANT, NO EVENT SPACE

100% COMMERCIAL
0% COMMUNITY



Groton Central Fire Station

The current Groton Central Fire Station is located on Station Avenue, off of Main Street in downtown Groton. While Groton has two other fire stations, West Groton and Lost Lake, the Central Station would house the Fire Department, Emergency Medical Services, and Rescue Department. The current Central Fire Station is too small and does not meet the needs of the departments.



Groton Central Fire Station, Station Avenue, Groton MA

A Fire Station Location Committee was formed to research a new location for the fire station. The Prescott School was listed as an option for relocation of the Fire Station. BH+A met with Town Manager Mark Haddad, Prescott School Reuse Committee representative Halsey Platt, Board of Selectmen Chair Anna Eliot, and Fire Chief Joseph Bosselait on December 28, 2012 to discuss the feasibility of reusing the Prescott School building as the new Central Fire Station.

At the meeting, Joseph Bosselait described the Station's daily operations and programing needs.

Fire Equipment

Large vehicles: Ladder truck, Tanker, Engine, Heavy Rescue
Small vehicles: 2 Ambulances, Truck, Rescue Boat

Personnel

5 full time employees, 1 Chief, 1 Administrative Secretary
Hours: Mon-Fri 6 a.m. to 6 p.m. Sat-Sun 8 a.m. to 2 p.m. (Possibly changing to 6 a.m. to 6 p.m.)
6 a.m. – 8 a.m: 2 employees
8 a.m. – 4 p.m: 8 employees
4 p.m. – 6 p.m: 2 employees
Training days or Emergency Calls: Up to 40 people at the station.

Notes:

The Central Fire Station responds to 90% of all calls. West Groton and Lost Lake Stations respond to other calls.
West Groton Fire Station has 2 bays, Lost Lake Fire Station has 4 bays.
The ladder truck is the first to respond and first out of the station.
The ambulance is always dispatched from Central Station.
40% of the Town does not have hydrants. The Department needs to bring water via tanker truck.

Groton Central Fire Station Program

Public Spaces	Square Feet
Lobby/Waiting Area	250
Open Storage for Coats	50
Greeting Area / First Aid Station with bed and supplies	250
Training Room with storage	1,450
Public Restrooms	300
Subtotal	2,300
Administration	
Administrative Assistant Office	120
Fire Chief Office	250
EMS Director Office	250
Lieutenants Office	160
Alarm/Report Room (for receiving dispatch calls)	180
Work room/Files/Office supply room	100
Meeting / Conference Room	200
Subtotal	1,260
Private Living Quarters	
Day Room (lounge)	400
Kitchen/Dining	500
Fitness Room	400
Staff Sleeping Quarters (6 staff)	620
Restroom/Shower Room (Men and Women)	180
Locker Room	140
Domestic Laundry	100
Subtotal	2,340
Apparatus Bay	
4 Double-Depth Bay Garage	6,400
Maintenance Area	120
Training Tower (interior stairs for drills and rescues out of window)	400
Turn Out Gear Storage (35 lockers)	400
Decontamination Area (shower and changing room)	200
Subtotal	7,520
Support Spaces	
EMS Storage	400
SCBA Room	100
Program Storage	200
Custodian	50
Subtotal	750
Total Net Square Feet	14,170
Grossing Factor	1.26
Total Program Gross Area	17,854

Proposed Central Fire Station

In order to renovate the Prescott School building into a fire station, a large apparatus garage would need to be added to meet the program requirements to store fire engines in the building. Because of site restrictions such as encroaching on the wetland buffer zone and steep existing site grading, the existing 1927 auditorium/gym would need to be demolished to make room for the fire engine garage. The original 1871 structure in the middle section of the building will remain intact. The gym will be thoroughly documented before demolition. See VIII Preservation Issues for more information about MHC review and Secretary of Interior's Standards.

Structural Concerns

BH+A met with David Odeh, a structural engineer and principal of Odeh Engineers on February 15, 2012 to discuss the feasibility of converting the Prescott School into a Fire Station and the structural implications that it may cause.

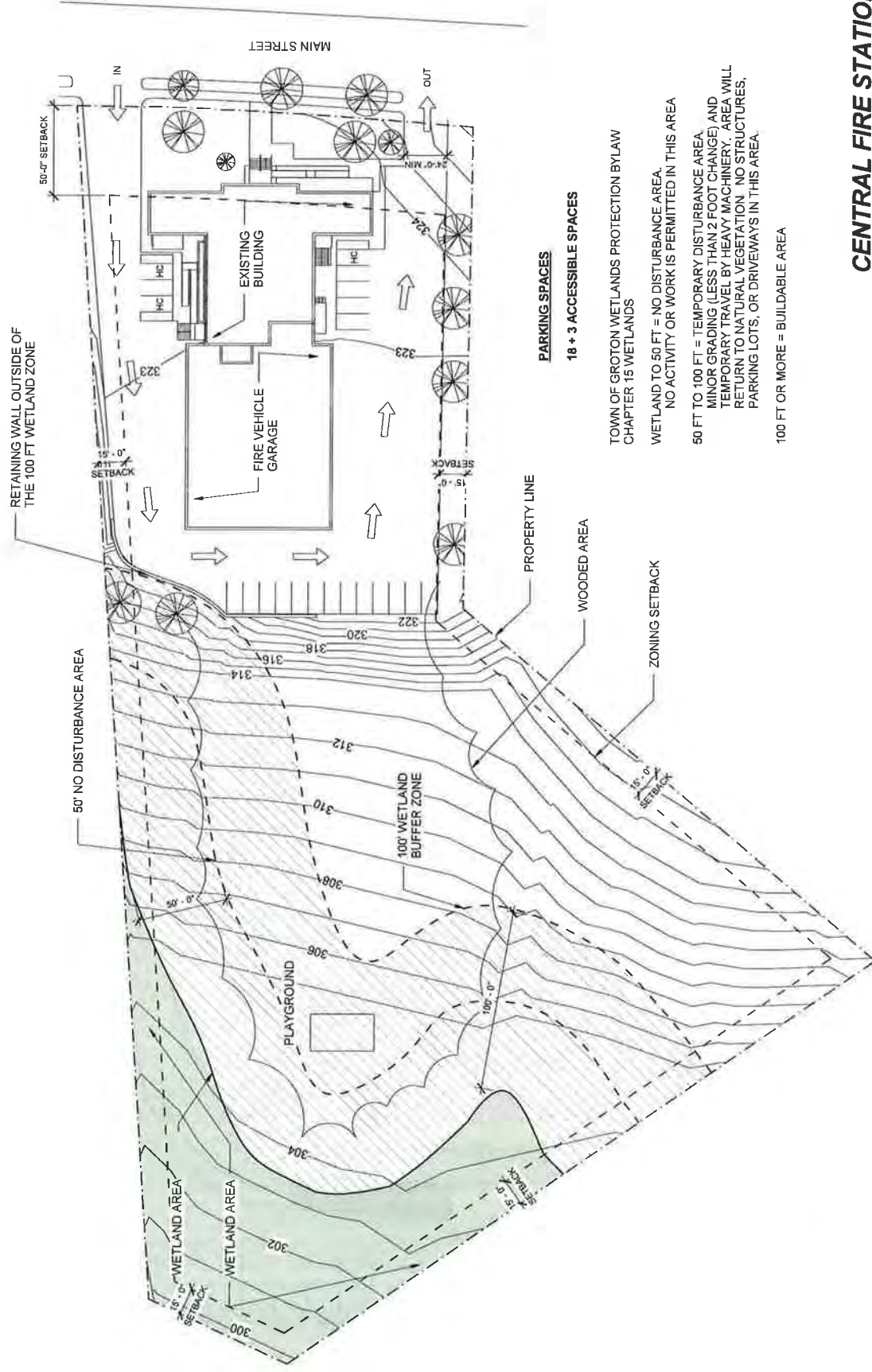
The existing Prescott building is in the Structural Occupancy Category III because it contained a school with an occupant load of greater than 250 (IBC Table 1604.5). If the Prescott School is reused as a fire station, the new use category would jump to a category IV occupancy, which includes fire, rescue, ambulance, and police stations and emergency vehicle garages. IEBC 2009 Chapter A1, Seismic Strengthening Provisions for Unreinforced Masonry Bearing Wall Buildings, Section A102.2 Essential and Hazardous Facilities, states that existing buildings in Category III and IV occupancy categories are not acceptable to be structurally designed using the IEBC. These occupancies or use groups require special detailing considerations, increased seismic loading, and limitations on seismic-force-resisting systems. The structural design to resist wind and seismic forces would need to comply with the International Building Code.

The whole building will need to comply with the IBC standards for new structural design. The Prescott School building's walls are non-reinforced terracotta masonry block core with red brick on the exterior. The floor and ceiling joists are wood, while the basement floor is concrete. The walls have a low shear capacity and seismic design, therefore, to meet code, a seismic upgrade is required. A few options were discussed with David Odeh to bring the structure up to code. One option is to build new bearing walls that would be designed to take the full load of the building. Since the proposed Fire Station design is intended to keep and reuse the existing walls, this may not be the most feasible option. One option would be to introduce steel braces on the interior of the walls to resist seismic loads. Another option is to apply a steel mesh substrate to the interior brick walls, and apply a sprayable concrete called shockcrete on the walls, about 4 inches thick. This will give the existing bearing walls enough strength to meet the structural design requirements for seismic loads. The new apparatus bays can easily be designed to meet code, but was suggested to keep a seismic joint between the existing and new construction and not structurally tied them together.

David Odeh thought that the conversion of the Prescott School building is feasible, with an added premium for structural upgrades.

PRESCOTT SCHOOL REUSE STUDY

TOWN OF GROTON
173 Main Street, Groton, MA 01450

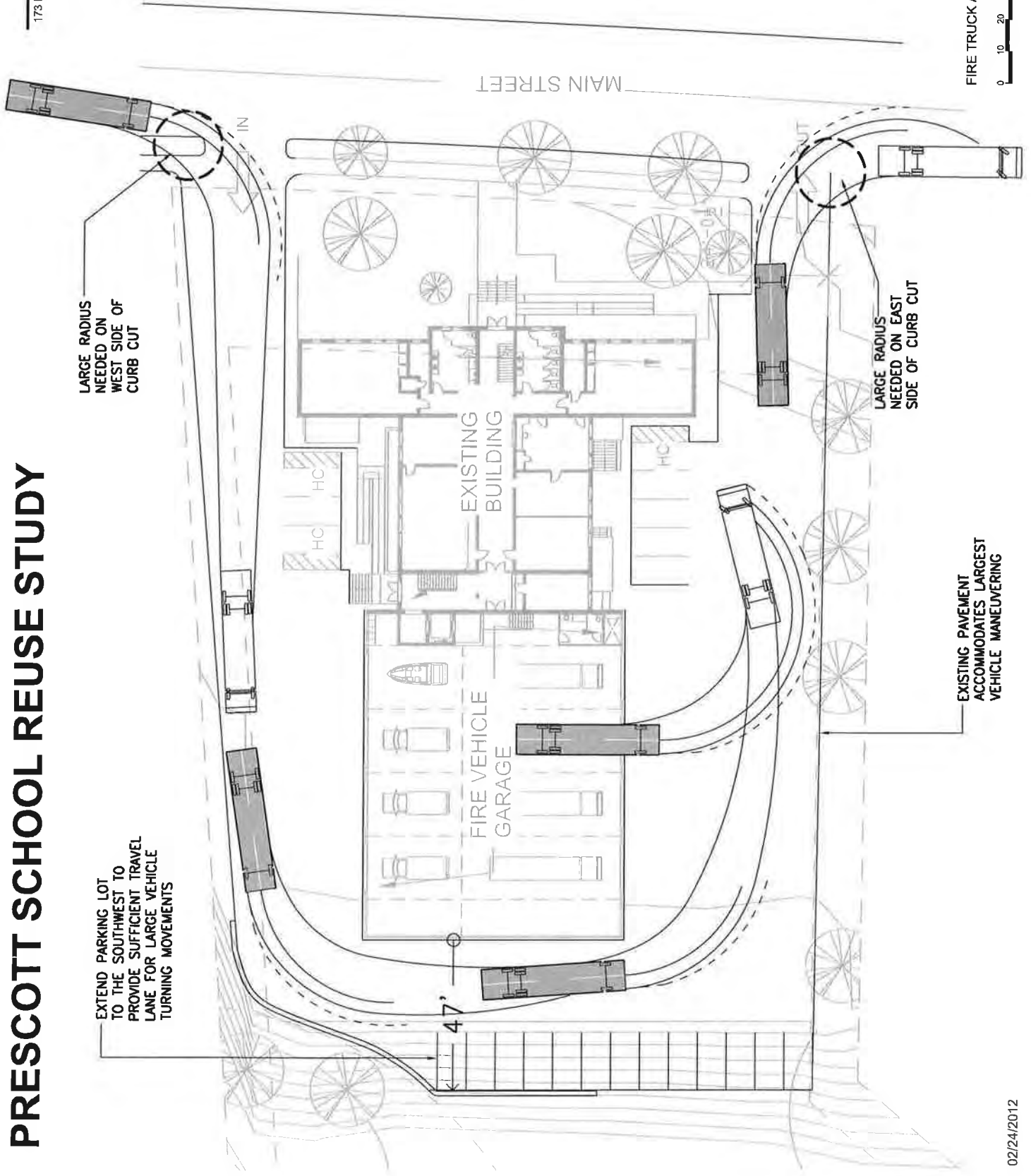


CENTRAL FIRE STATION SITE PLAN WITH BASIC PARKING



PRESCOTT SCHOOL REUSE STUDY

TOWN OF GROTON
173 Main Street, Groton, MA 01450

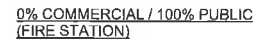


FIRE TRUCK ACCESSIBILITY STUDY



02/24/2012

TOWN OF GROTON
173 Main Street, Groton, MA 01450



BASEMENT FLOOR	= 7,300 GSF
FIRST FLOOR	= 15,450 GSF
<u>SECOND FLOOR</u>	<u>= 7,500 GSF</u>
<u>TOTAL</u>	<u>= 30,250 GSF</u>

FIRE DEPARTMENT
APPARATUS BAYS = 6,829 SF TOTAL
ADMINISTRATION = 1,252 SF TOTAL
FITNESS ROOM = 735 SF TOTAL
LIVING QUARTERS = 4,297 SF TOTAL

UNASSIGNED ROOMS	= 3,645 SF TOTAL
TRAINING ROOM	= 978 SF TOTAL
CONFERENCE ROOM	= 379 SF TOTAL
GREETING/FIRST AID	= 220 SF TOTAL

UNASSIGNED ROOMS	221 OCCUPANTS
APPARATUS BAYS	35 OCCUPANTS
OFFICES	8 OCCUPANTS
ASSEMBLY ROOMS	89 OCCUPANTS
FITNESS	15 OCCUPANTS
<u>BUNK ROOMS</u>	<u>12 OCCUPANTS</u>
TOTAL	380 OCCUPANTS

FIRST FLOOR PLAN

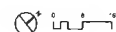
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Legend

EXISTING WALL

NEW WALL

0% COMMERCIAL
100% PUBLIC



Groton Senior Center



Groton Senior Center, 163 West Main Street, Groton MA

The Groton Senior Center building consists of two multi-purpose rooms, a kitchen, and an undersized exercise room. The center would run more efficiently if it had additional program space to run senior programs concurrently. The Senior Center is also far from Groton Center, and not on a walkable street. The Council on Ageing is interested in the possibility of reusing the Prescott Building as the new Groton Senior Center because of its large rooms and proximity to Groton Center and other subsidized senior housing. BH+A met with Martha Campbell and other representatives on January 17, 2012 to discuss the daily operations and programing needs of the Senior Center.

Notes:

Senior Center Hours: 8am to 4pm.

As of now, there are no night programs, but might be in the future.

Other groups use the Senior Center, such as middle school children for after school activities, cooking classes are held in the kitchen, and music classes are held in the multi-purpose room.

Reception

The Center would like a welcoming front desk with bulletin boards, couches, and a comfortable feel. Administration would like one main entry so guests can check in and get oriented.

Kitchen

The Center runs a Meals on Wheels program and delivers 14 meals a day. The meals are catered through the state to the Senior Center. The kitchen should be close to a loading area to load meals from the truck to the kitchen, and then from the kitchen to the delivery van. The kitchen should be a commercial kitchen and have two sets of appliances. Volunteers and staff also serve a daily meal for up to 30 seniors.

Multi-Purpose Rooms

The Center would benefit from additional program rooms such as an art room, meeting room for book clubs and other groups, and a small computer lab. There is also a need for an area to show movies and documentaries.

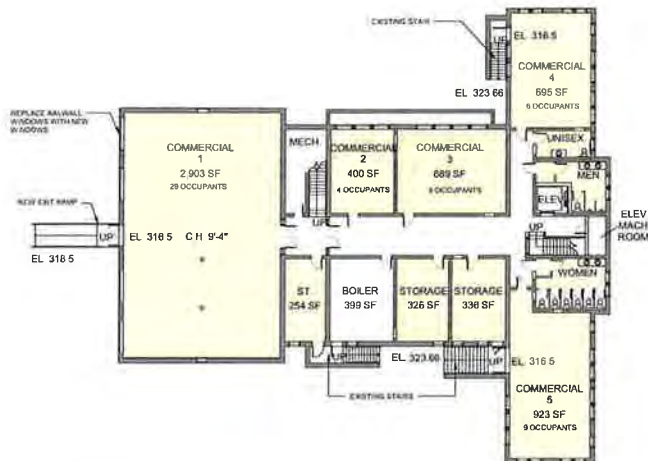
Groton Senior Center Program

	Square Feet
Lobby/Reception	
Lobby / Reception	400
Open Storage for Coats	50
Subtotal	450
Administrative Offices	
Administrative Assistant (lobby receptionist)	inc. above
Executive Director	150
Outreach Director	100
Activities Coordinator	100
Volunteer desks (2) & table	150
Health / Counseling & Other Services	150
Subtotal	650
Program Spaces	
Consignment / Gift Shop	150
Multi-Purpose Room	2,000
Game Room	900
Fitness Studio (cardio & weights)	1,000
Program Space: Art Studio	750
Program Space: Computers (adaptable for future)	375
Program Space: Multi-Purpose	750
Subtotal	5,925
Food Service	
Kitchen	400
Pantry Storage	150
Loading / Receiving	50
Subtotal	600
Restrooms	
Women	180
Men	180
Companion Unisex Toilet	70
Staff Restroom	70
Subtotal	500
Support Spaces	
Mechanical / Electrical / Sprinkler- <i>in basement</i>	
Multi-Purpose Room Storage	300
Program Room Storage	100
Game Room Storage	50
Exterior Maintenance Storage- <i>in basement</i>	
Custodian, 1st Floor	50
Subtotal	500

Total Net Square Feet	8,625
Grossing Factor	1.26
Total Program Gross Area	10,868

PRESCOTT SCHOOL REUSE STUDY

TOWN OF GROTON
173 Main Street, Groton, MA 01450



BASEMENT FLOOR PLAN

70% COMMERCIAL / 30% COMMUNITY (SENIOR CENTER)

GROSS SQUARE FOOTAGE

BASEMENT FLOOR	= 10,200 GSF
FIRST FLOOR	= 10,200 GSF
SECOND FLOOR	= 7,000 GSF
TOTAL	= 27,000 GSF

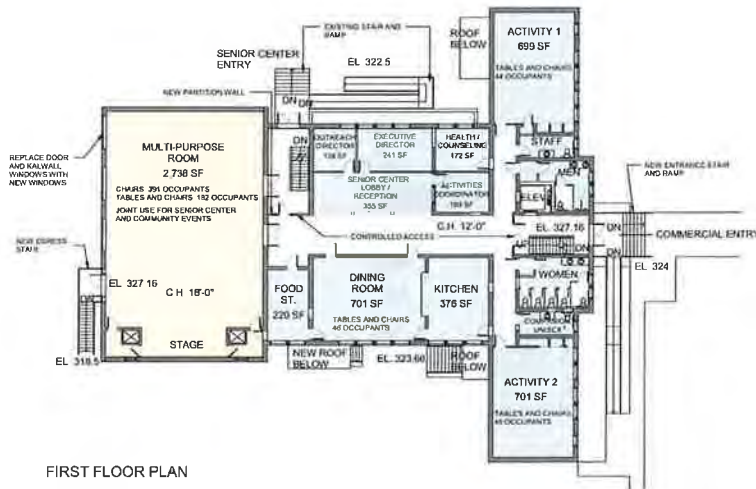
PROGRAM

COMMERCIAL
11 COMMERCIAL UNITS = 9,486 SF TOTAL

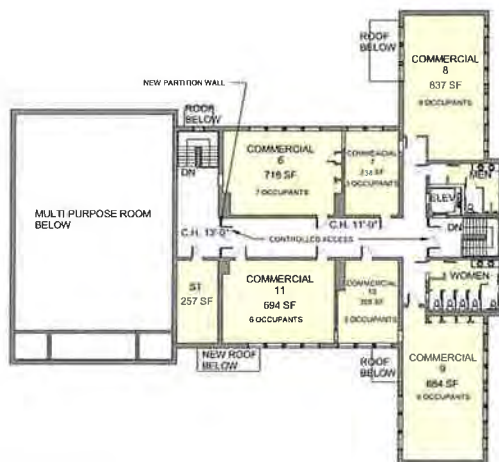
COMMUNITY
SENIOR CENTER = 3,761 SF TOTAL
SHARED MULTI-PURPOSE = 2,741 SF TOTAL

BUILDING OCCUPANCY

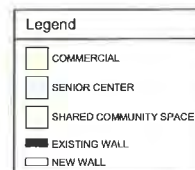
COMMERCIAL:	89 OCCUPANTS
SENIORS:	533 OCCUPANTS
TOTAL:	622 OCCUPANTS



FIRST FLOOR PLAN



SECOND FLOOR PLAN



70 / 30 SENIOR CENTER ALTERNATIVE USE 2B

FIRST FLOOR SENIOR CENTER

70% COMMERCIAL
30% COMMUNITY



3 Rivers Arts



To: Prescott School Redevelopment Committee
From: 3Rivers Arts Center for the Arts
Date: February 21, 2012
Subject: Future Tenant Prescott School



We, the Board members and Executive Director, appreciate the Prescott School Redevelopment Committee's consideration of 3Rivers Arts Center for the Arts as a tenant in the Prescott School building.

As further described in the following pages, 3Rivers Center for the Arts (formerly Groton Center for the Arts or GCA) has been providing programs and events centered on the arts and cultural activities for nearly 40 years. The organization has contributed to the local economy in many ways, including the support of local businesses by our members and patrons. We continue to contribute to the quality of life of many residents of Groton and the surrounding communities through the programs we offer, particularly at a time when the art programs in the public schools have been a victim of required budget cuts.

3Rivers Arts is a non-profit organization 501(c)(3). Our tenancy in the Prescott School would be considered as both a commercial and community use. 3Rivers Arts would pay a fair market rent thereby providing revenue to the Town and contributing to the long-term maintenance of the building. The programs we offer are open to all within the community, and this space will be open to the general public. We will provide gallery space for artists to display their works, and we will seek opportunities to share our space with other non-profit organizations in town, such as the Senior Center.

We had the opportunity to meet with Joel Bargmann and Adrienne Cali of Bargmann Hendrie + Archetype, Inc. to discuss our space needs. Based on this discussion, Joel and Adrienne were able to provide a Program defining our needs by room and square feet (see page 4). A lease-able area ranging from 3,500 to 5,400 square feet would enable 3Rivers Arts to effectively provide the programs we currently offer, as well as those that will be added in the near future. The space in the Prescott School, as it is presently configured, is suitable for our use. An investment in the building would be mostly limited to assuring our occupancy is compliant with ADA regulations and current building and fire/safety codes.

Through the recent hiring of a new Executive Director and Operations Manager, combined with the addition of five new Board members, 3Rivers Arts is pursuing the goal of becoming a regional organization with its home in Groton. This growth will provide additional resources enabling 3Rivers Arts to flourish, in good and not-so-good economic times. This organizational sustainability will make 3Rivers Arts a stable, long-term tenant in the Prescott School.

We believe leasing space in the Prescott School to 3Rivers Arts meets the goals and visions expressed by many Groton residents as well as various Town Boards, is economically viable, contributes to the Public good and should be considered as one of the highest and best uses in the redevelopment of the Prescott School property.

ABOUT 3RIVERS ARTS

Established in 1973 by a group of individuals interested in growing and enriching the arts in Groton, the Groton Center for the Arts (GCA) played an important role in bringing arts to the lives of many.

Early successes included Septemberfest, now Grotonfest, a blockbuster event each fall in Groton center. Indian Hill Music, which began as an amateur organization sponsored by the GCA, now boasts tremendous success in music, education and performance.

NOW, almost 40 years later, the organization is relaunching with a slate of new programs, a renewed commitment to arts education and the creative economy, and an eye toward promoting artistic collaboration in the region.

As this new direction takes off — led by a new Executive Director and Board of Directors — the name Groton Center for the Arts has been changed to 3Rivers Arts, reflecting our new direction, focus and effort. The name is derived from the area our new organization strives to serve - that is the regions that touch the Nashua, Nissitissit and Squannacook Rivers. Our mission is for 3Rivers Arts to inspire and enable regional artistic collaboration through innovative approaches to engaging the community through the arts.

Youth arts programs continue to be offered such as, the 3Rivers Arts Artworks Summer Camp and 3Rivers Arts Youth Theatre. The summer camp serves over 125 children every summer, while the youth theatre enrolls over 60 children for the fall and spring drama productions. The children that participate in our programs learn and have fun — all while individuality, creativity and personal development are encouraged.

While we will continue with the Community Arts and Education Programs — 3Rivers Arts Artworks Camp and the 3Rivers Arts Youth Theatre — we are excited about initiating new programming, such as an Artist Collaborative and the JUSTarts Event Series, which will have a dedicated focus on promoting artists regionally and introducing award-winning, diverse artists to the communities we serve. These programs will emphasize the creative sector's strengths in the region, and play a vital role in revitalizing the local economy.

THE ECONOMIC POWER OF THE ARTS

With a new dedicated focus to supporting artists throughout the surrounding towns adjacent or near Groton, we believe that art and culture can play an important role in economic growth. When it comes to reviving downtown centers, increasing tourism and generating jobs, there are few motors as powerful as the arts. Arts and culture activities have grown, evolved and transitioned to what is now called the Creative Sector, while their economic importance has increased substantially. 3Rivers Arts plans to develop programs to fuel the creative economy and nurture the creative sector. Having a central location at the Prescott School will support us in this endeavor. Not only will artists be able to make a living off their artistic talents, downtown business will feel the positive effect of more customers in their retail shops, restaurants, cafes, and galleries. Other commercial businesses and skilled labor will also reap the rewards of the creative economy's impact.

What is the creative economy? A powerful and positive global force. Together, artists, cultural nonprofits, and creative businesses produce and distribute cultural goods and services that impact the economy by generating jobs, revenue, and quality of life.

Why is it important? The creative economy is one of the most dynamic sectors of the world economy and international trade generating revenues, jobs, export earnings while promoting social inclusion and human development.¹

Creative Sector Scope: The Creative Sector includes non-profit cultural institutions, commercial businesses, and individual artists.

According to a Berkshire Creative Economy report prepared for the Berkshire Economic Development Corporation in 2007ⁱⁱ, it found that the *Creative Cluster is one of the most important economic engines in the Berkshire County economy, providing more than 6,000 jobs.*

The report concluded the reason to nurture and strengthen the creative were:

- a strong creative sector translates directly to a strong economy;
- individual artists and creative businesses add important economic value to the region;
- the cultural institutions economic role is broader than imagined;
- the creative sector has links with and strengthens traditional economic sectors;
- overall, the creative sector includes an estimated 6,100 jobs (Berkshire County)
- significant economic potential exists in the development of new cultural products;
- the creative sector creates new jobs in technical area, in services, and management;
- the creative sector services as a tool for revitalizing the downtown area of cities and towns;
- the creative sector serves as an influential amenity to attract other businesses and residents;
- the activities of the creative sector represent a key product of the hospitality industry;
- the growth of the creative sector increases the economic competitiveness of other sectors in the region;

Most importantly, the creative industries have increasingly been recognized as an area of significant growth in the global economic arena. The United Nations Conference on Trade and Development estimated that the global market value of the creative industries has increased from \$2.2 billion in 2000 to 4 trillion in 2012.ⁱⁱⁱ

With the abundance of artists and the potential for more cultural activities in the region, we see having a cultural arts center in the heart of Groton in the Prescott School as a huge opportunity for the town to embrace the creative sector as a vibrant, economic engine for the town and a hub for the region. We will offer programs and classes tailored for children, teens, young adults, and adults. We will eventually aspire to have a performance center to house our performing arts events and theatre productions, but could also be shared by the community.

Other towns have seen its value and have made inquiries and offers to host 3Rivers Arts new arts center in their towns, including Harvard and West Acton Village.



ⁱ United Nations Conference on Trade and Economic Development "The economic impact of the creative industries in the global economy" report, Amsterdam, February 2010.

ⁱⁱ Mt. Auburn Associates March 2007 report: **Berkshire Creative Economy: A Report to the Berkshire Economic Development Corporation**

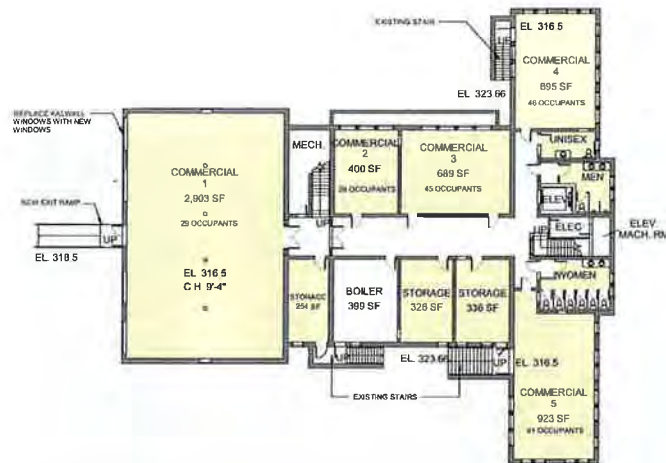
ⁱⁱⁱ UNCTAD Creative Economy Report 2010

3 Rivers Arts Program

	Square Feet
Lobby/Reception	
Lobby / Reception	250
Open Storage for Coats	50
Subtotal	300
Administrative Offices	
Executive Director	100
Program Director	100
Conference / volunteer room	150
Subtotal	350
Program Spaces	
Art Room	750
Film Media & Photography Room	750
Recording Studio / Rehearsal Room	750
Workshop (set construction)	1,500
Performance Area (could be shared)	3,000
Gallery	use corridor
Subtotal	6,750
Restrooms	
Girls	150
Boys	150
Staff Men	70
Staff Women	70
Subtotal	440
Support Spaces	
Set & equipment Storage	400
Program Room Storage	100
Custodian	50
Subtotal	550
Total Net Square Feet	8,390
Grossing Factor	1.26
Total Program Gross Area	10,571

PRESCOTT SCHOOL REUSE STUDY

TOWN OF GROTON
173 Main Street, Groton, MA 01450



BASEMENT FLOOR PLAN

**70% COMMERCIAL / 30% COMMUNITY
(3 RIVERS ARTS)**

GROSS SQUARE FOOTAGE

BASEMENT FLOOR	= 10,200 GSF
FIRST FLOOR	= 10,200 GSF
SECOND FLOOR	= 7,000 GSF
TOTAL	= 27,000 GSF

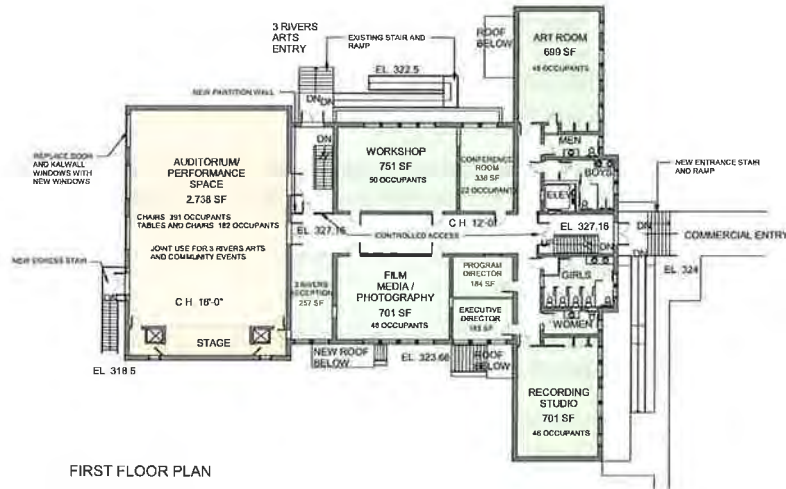
PROGRAM

COMMERCIAL
11 COMMERCIAL UNITS = 9,486 SF TOTAL

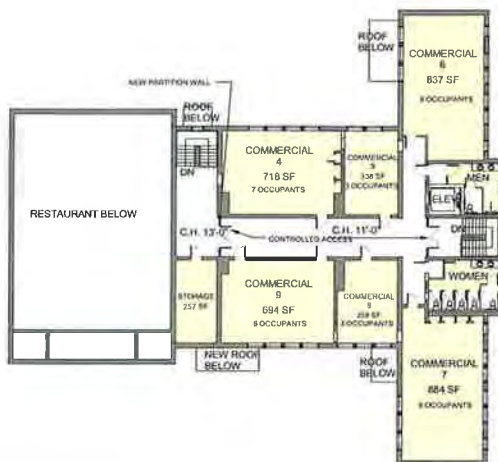
COMMUNITY
3 RIVERS ARTS CENTER = 3,816 SF TOTAL
SHARED AUDITORIUM = 2,741 SF TOTAL

BUILDING OCCUPANCY

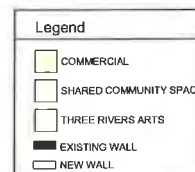
COMMERCIAL:	89 OCCUPANTS
3 RIVERS ARTS:	604 OCCUPANTS
TOTAL:	693 OCCUPANTS



FIRST FLOOR PLAN



SECOND FLOOR PLAN



**70 / 30 3 RIVERS ARTS
ALTERNATIVE USE 2D**

FIRST FLOOR 3 RIVERS ARTS

70% COMMERCIAL
30% COMMUNITY



Groton Historical Society



The Groton Historical Society, 172 Main Street, Groton MA

The Groton Historical Society is located in Governor George S. Boutwell's home on Main Street, across from Town Hall. The Society has a lack of climate controlled storage for its collections. There is archival storage in the attic that is hard to retrieve. The Society is interested in interpreting the Boutwell House as a house museum with period rooms and an 1890's working kitchen for museum programs. They are interested in the Prescott School building because of the need for new archival storage, a display area for exhibits and furniture, and a work/study area to conduct research.

BH+A met with Groton Historical Society volunteers John Ott, Al Collins, and Bobbie Spiegelman on January 17, 2012. We discussed their new vision for the Historical Society and their program needs for new storage space. We also discussed making connections with other historical societies and house museums in the surrounding areas.

Notes:

The Historical Society received a Community Preservation Committee Grant for the renovation of the Boutwell House. They are temporarily closed until the renovations are complete in early Fall 2012.

They have a volunteer staff.

There is a shed in the rear of the property that stores carriages and vehicles in the collection.

They have been able to collaborate with the Groton Library and Town Hall by displaying a few collections in showcases.

The Society does not have the funds to renovate the Prescott Building. They would be interested in the Town funding the renovation.

Groton Historical Society Program

	Square Feet
Lobby/Reception	
Lobby / Reception	250
Open Storage for Coats	50
Subtotal	300
Administrative Offices	
Volunteers Office	100
Subtotal	100
Program Spaces	
Exhibition Space	1,800
Work/Study Room	400
Subtotal	2,200
Restrooms	
Men	150
Women	150
Subtotal	300
Support Spaces	
Storage for Collections, Furniture, Archival Material	600
Custodian	50
Subtotal	650
Total Net Square Feet	3,550
Grossing Factor	1.26
Total Program Gross Area	4,473

Earl Carter's Memorabilia Collection



Earl Carter's Collection above his garage, Groton MA

Groton resident Earl Carter has an extensive collection of Groton memorabilia, archives, and objects in a room above his garage. His estimated 4,000 objects tell the history of Lost Lake, the Groton Inn, and the Groton School, to name a few. His collection is not open to the public, but people come for tours, a walk down memory lane, and to do ancestral research. Mr. Carter is interested in displaying his collection in a public place for permanent exhibition. He is interested in the Prescott School building if he can be assured that his collection will be permanent and the Town will not take back the building in the years to come.

BH+A met with Earl Carter on January 17, 2012 to get a better understanding of his collection and space needs.

Notes:

Mr. Carter's collection is not open to the public, but can be viewed by appointment.

He has an archivist that works 25 hours a week, entering data from the collection into computer software.

He understands that this is not a collection that people would pay to see and it would be hard to staff without a steady source of funding.

Mr. Carter feels he should get an endowment started to be able to maintain the collection for the future.

This collection is not affiliated with the Groton Historical Society but Mr. Carter is interested in donating his collection to the Society, as long as they have some place to display it. As of right now, they do not.

Mr. Carter does not want to see his collection separated or stored in boxes.

If he does move the collection to a larger facility, he knows of another collector of Groton material that might move his collection to Groton.

Earl Carter's Memorabilia Collection Program

	Square Feet
Lobby/Reception	
Lobby / Reception	250
Open Storage for Coats	50
Subtotal	300
Administrative Offices	
Curator's Office	100
Subtotal	100
Program Spaces	
Exhibition Space	3,300
Meeting Room	400
Research Area	400
Subtotal	4,100
Restrooms	
Men	150
Women	150
Subtotal	300
Support Spaces	
Storage for Archival Material	600
Custodian	50
Subtotal	650
Total Net Square Feet	5,150
Grossing Factor	1.26
Total Program Gross Area	6,489

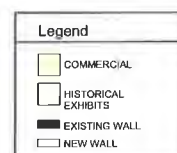
TOWN OF GROTON
173 Main Street, Groton, MA 01450



BASEMENT FLOOR	= 10,200 GSF
FIRST FLOOR	= 10,200 GSF
<u>SECOND FLOOR</u>	= <u>7,000 GSF</u>
<u>TOTAL</u>	= <u>27,000 GSF</u>

COMMUNITY	
HISTORICAL SOCIETY EXHIBITION	= 1,818 SF TOTAL
MEMORABILIA EXHIBITION	= 2,835 SF TOTAL
SUPPORT AND STORAGE	= 2,005 SF TOTAL

COMMERCIAL:	35 OCCUPANTS
RETAIL:	15 OCCUPANTS
RESTAURANT / BAR:	281 OCCUPANTS
<u>EXHIBITION:</u>	<u>310 OCCUPANTS</u>
TOTAL:	<u>641 OCCUPANTS</u>



70% COMMERCIAL
30% COMMUNITY



VII. Recommendations for Mechanical, Electrical, Plumbing and Fire Protection Systems

Mechanical Recommendations

All Options

The boiler is essentially new and therefore could be a useful source of heat. The scenarios below describe how it might be reused.

The toilet exhaust systems will require upgrading and a fresh air system will be required. The scenarios below describe the upgrades for each.

Inn Option

HVAC

An inn has very different requirements than the current school and administrative office uses of the building. The building will require cooling and individual control. The restaurant space will require a significant amount of ventilation.

The heating and cooling for the guest rooms can be provided by many different systems including fan coil units with chiller and boiler, water source heat pumps with cooling tower and boiler, and packaged terminal air conditioners. Each of the potential systems have advantages and disadvantages, such as first cost, operating cost, equipment noise, zoning options, the ability to provide heating and cooling to different spaces at the same time, and ease of installation. For the purposes of this study we will consider a variable refrigerant volume heat pump system (VRV).

A VRV system consists of indoor fan coil units and outdoor condensing units. Each condensing unit or gang of condensing units connects to several indoor units. For this project, a single outdoor unit consisting of multiple modules would be adequate for the whole building. The fan coil units can be wall mounted, floor mounted (console), or concealed-ducted, which will give options for installation. The condensing units can be located on the roof or at grade. Copper refrigerant piping runs from the condensing units to the indoor units.

The VRV system has the ability to provide heating and cooling to different spaces at the same time. This is important for this building due to the east-west configuration and the differing requirements of the clientele.

A VRV heat pump system is very efficient in both the heating and cooling modes. The condensing units have variable speed compressors which ramp up and down to meet the heating or cooling demands of the system. In the heating mode, the condensing units extract heat from the outdoor air so efficiently, that they cost less to operate than conventional boiler systems down to below 20°F. The systems can operate without the need for supplemental heating to below 0 °F.

VRV heat pump systems have first costs comparable to other systems that could be considered.

A variation of the VRV heat pump system that may be attractive is to use the existing boiler for heat and a VRV air conditioning system to provide cooling. The boiler would be converted to hot water, and hot water baseboard would be provided in all spaces requiring heat. The hot water distribution piping would be new. The first cost of this system would be higher than that of a VRV heat pump system, since there would be the additional hot water distribution.

Each toilet room will require exhaust, which will be provided by individual ceiling exhaust fans. For the rooms in the center and front of the building, there will be an exhaust riser to the roof for each stack of bathrooms. The fans for the rooms in the rear basement of the building will be ducted to the rear. Public toilet rooms will also have fans ducted to the roof or out the rear as appropriate.

The corridors require a small amount of outdoor air. A small energy recovery ventilator will be provided in the ceiling of the second floor or in the basement to provide this air, which will be ducted to the corridors.

The commercial kitchen will require a commercial kitchen exhaust hood with a fan on the roof and a rooftop make-up air unit. The heating and cooling for the space will be integrated with the make-up air system. The make-up air unit will be a packaged unit with gas fired heating and DX cooling. The air will be ducted throughout the space to provide make-up air as well as space heating and cooling.

70/30 Senior Center

HVAC

For this scenario window air conditioners will be used to provide cooling for the building.

Heating can be provided by the existing boiler, which is essentially new. The boiler will be converted from steam to hot water. Each space in the building will be provided with new hot water baseboard, which will allow for individual temperature control. The hot water will be circulated by a central pump located in the boiler room. All hot water distribution piping will be new.

Ventilation will be provided by an energy recovery unit located on the roof or in a mechanical room. Air from the toilet rooms will be exhausted through the ERV, preheating or precooling the incoming fresh air. The fresh air will be ducted to the corridors or other spaces requiring mechanical ventilation. The ERV will have a direct expansion (DX) cooling coil with remote air cooled condensing unit and hot water heating coil, which will temper the air to provide neutral temperature air year-round. The ventilation will operate when the building is occupied.

The Multipurpose Room will require a separate ventilation system. This system can also be used to cool and heat the space. The system will consist of a roof mounted ERV with heating and cooling coils. Cooling will be provided by an air cooled condensing unit. Heating will be provided by hot water from the boiler or by gas. The air will be ducted in the ceiling to the space below. The amount of outdoor air provided will be varied based on the occupancy.

The senior center kitchen will be treated as a commercial kitchen. A commercial kitchen exhaust hood will be required, as well as a make-up air unit. The make-up air unit will be heating only, with either hot water from the boiler or gas used to temper the make-up air.

Fire Station

HVAC

A VRV heat pump system would be an effective system for this building. See the Inn Option 2 for a description of this system.

As with the Inn Option, the existing boiler can be used to heat the building. The boiler would be converted to hot water. New hot water baseboard would be installed in all spaces requiring heat, with a new hot water distribution piping system.

Each toilet room will require exhaust, which will be provided by individual exhaust fans. The exhaust fans will be ducted up through the roof or out the sidewall as appropriate.

The corridors will require a small amount of fresh air. This will be provided by a small ERV located in the 2nd floor ceiling or basement mechanical room, which will be ducted to the corridors.

The apparatus bays will require a Plymovent exhaust system for the truck exhaust as well as general exhaust. The general exhaust will be through a roof mounted exhaust fan. The bays will be heated by gas fired unit heaters vented through the roof or sidewall.

HVAC System Additional Detail

Inn Option

Heating-Cooling

Provide (2) Mitsubishi VRV Heat Pump Systems with (2) Mitsubishi PURY-P180TSJMU-A, 15 ton heat pumps.

Provide the following indoor units:

- ¾ ton ceiling concealed fan coil units for each guest room, located above the bathroom ceiling and ducted to high sidewall grilles in the bathroom walls.
- 2 ton ceiling concealed fan coil unit for the Fitness Room ducted to ceiling diffusers.
- Wall mounted ½ ton fan coil in each of the three corridors.
- Ceiling concealed 1½ ton fan coil unit to serve the basement staff rooms.

Supply and return duct shall be sheetmetal. Supply shall be insulated with 1½" fiberglass duct wrap.

Refrigerant piping shall be brazed copper, hard or soft drawn type, with 1½" armaflex insulation.

Provide electric wall heaters at the main entrance, west entrance, east basement entrance and south basement entrance.

Ventilation

Provide a Panasonic FV-08VQ2 ceiling exhaust fan for each guest room. Duct the fans to risers for each group of bathrooms in the center and front portion of the building (9 risers total). Risers from the 2nd to 3rd floors only shall have fire dampers at the floor penetration. Risers from the basement to the 3rd floor shall be in a fire rated shafts with fire dampers at the shaft penetrations. The stacks shall have wind ventilators at the top. Toilet rooms in the rear of the basement shall be ducted out the rear of the building.

Provide a Panasonic FV-30VQ3 ceiling exhaust fan for each public toilet room (4 total). The staff toilet room fans shall be connected to the guest room toilet exhaust risers. The public baths in the center shall be ducted to the roof in a separate riser.

Provide a Reneraire EV130 (130 CFM) energy recovery ventilator above the ceiling in the second floor corridor. Duct 8" exhaust and intake up through the roof. Duct fresh air and exhaust to the basement, 1st and 2nd floors with a single supply and exhaust grille on each floor.

Restaurant

Provide an upblast roof mounted UL listed grease hood exhaust fan. Provide a prefabricated grease duct system with ceramic fiber insulation with an outer layer of aluminum.

Provide an AAON make up air unit with DX cooling and gas heating, approximately 20 tons. Unit shall have hot gas reheat, outdoor air / return air dampers, and a stainless steel heat exchanger. The unit will serve the make-up air and cooling and heating requirements of the space. Provide ducting to ceiling diffusers in the space.

Fire Station

Heating-Cooling

Provide (2) Mitsubishi VRV Heat Pump Systems with (2) Mitsubishi PURY-P180TSJMU-A, 15 ton heat pumps.

Provide ceiling concealed ducted individual indoor units for all spaces with the exception of the basement storage rooms, boiler room and apparatus bays.

Supply and return duct shall be sheetmetal. Supply shall be insulated with 1½" fiberglass duct wrap.

Refrigerant piping shall be brazed copper, hard or soft drawn type, with 1½" armaflex insulation.

Provide four gas-fired unit heaters in the apparatus bays. Units shall be vented through the roof or sidewall.

Provide electric wall heaters at the main entrance, west entrance, east basement entrance, south basement entrance and training tower.

Ventilation

Provide a Panasonic FV-30VQ3 (3 or 4 toilet fixtures) or FV-40VQ3 (5 or more toilet fixtures) ceiling exhaust fans for each toilet room (4 total). The 2nd floor fans shall be ducted through the roof. The 2nd floor fans shall be ducted up through the roof with a fire damper at the 2nd floor penetration.

Provide a Panasonic FV-08VQ2 ceiling exhaust fan in the apparatus bay bath. Duct out the sidewall.

Provide a Panasonic FV-20VQ3 ceiling exhaust fan for the locker room.

Provide a Reneraire EV130 (130 CFM) energy recovery ventilator above the ceiling in the second floor corridor. Duct 8" exhaust and intake up through the roof. Duct fresh air and exhaust to the basement, 1st and 2nd floors with a single supply and exhaust grille on each floor.

Provide a single roof mounted mushroom type exhaust fan for the apparatus bays. Fan shall be 5200 cfm and shall operate based on a carbon monoxide detection system.

Miscellaneous

Provide a Plymovent vehicle exhaust system for the apparatus bays.

70/30 Senior Center

Heating –Cooling

Convert the existing boiler from steam to hot water. Provide duty-standby, base mounted hot water circulating pumps, 150gpm, 3 hp. Provide all piping specialties and accessories, including an automatic air eliminator and expansion tank. Provide new boiler controls to maintain the supply water temperature.

Provide hot water baseboard heat in all spaces, with a control valve and thermostat. Provide type-L copper hot water distribution piping to each space. Pipe shall be insulated with 2" fiberglass pipe insulation with all-service jacket.

Provide hot water unit heaters in the main entrance and at the side entrance.

Ventilation

Provide a Greenheck ERH roof mounted energy recovery ventilator, 1500 cfm, with a hot water heating coil and DX cooling coil. All toilet rooms shall be ducted to the unit. Fresh air shall be ducted to the corridors, senior center lobby, and activities coordinator office.

Kitchen

Provide a UL listed roof mounted upblast kitchen exhaust fan. The duct from the kitchen hood to the fan shall be welded black steel, wrapped with ceramic fiber insulation.

Provide a roof mounted make-up air unit, Greenheck MSX, with hot water heating coil. The unit will be approximately 1200 cfm. Unit shall have inlet dampers and shall be interlocked with the kitchen exhaust fan.

Electrical Recommendations

All Options

The new service entrance switchgear will be located in the basement – the existing room may not be adequate. The switchgear will feed a branch panels located in each wing on each floor. Each distribution panel will feed branch circuits to serve the various building loads. The gross square footage is 27,330 on 3 stories.

All power intensive equipment including elevators, mechanical and kitchen equipment (with heat) will be chosen to operate at 208 volts, 3-phase (if available at that voltage)

All equipment will be located in Electrical/Mechanical rooms with no public access

All new panels should have copper bussing, be NEMA-1 and be manufactured by Siemens, Square "D" or Eaton. All circuits shall be clearly identified at panelboards with typed circuit schedules. All other electrical equipment shall be labeled with white engraved with black lettering laminated nameplates.

It is anticipated that a total of 6 branch panels will be needed (4 @125amps, 2 @225 amps). The main panel will be 800 amps.

Lighting Systems: Generally, lighting performance and criteria shall be based upon energy conservation, visual comfort, controlled brightness and functional use of the given space for new lighting.

Emergency and exit lighting shall be provided in all corridors, public areas (with two or more exits) and means of egress. Generally, selected emergency pack fixtures with integral emergency ballasts will be used for ease of maintenance and a connection ahead of local switching in accordance with NFPA 70 and NFPA 101. Lighting intensities shall be based upon Illuminating Engineering Society

Exit lights shall be LED type with battery back-up.

All occupancy sensors and switches shall be ultrasonic type. Ceiling mounted sensors with manual wall toggle switch override shall be installed in all areas over 600 square feet. Wall mounted switch-type sensors shall be installed in offices, meeting rooms and vestibules. Manual switches (with no corresponding occupancy sensor) are to be installed in Electrical and Mechanical rooms only.

A simple, programmable lighting control timeclock with photocell input shall be incorporated into the design to control the exterior lighting.

Wiring systems shall be in accordance with the National Electrical Code. All wiring shall be in an approved raceway. All wiring and raceway shall be concealed except in mechanical/electrical rooms. Minimum wire size shall be #12. Wiring shall be color coded per the National Electric Code. All wiring and other electrical work shall be done in a neat workmanlike manner and the Contractor shall keep their portion of work clean and orderly. Conductors unless noted otherwise shall be rated at 600 volts, based upon an ambient temperature of 86 degrees Fahrenheit and generally as follows:

Type: Single or Multi-Conductor THHN.

Branch circuits shall have dedicated neutral and ground conductors.

All interior devices shall be commercial grade and rated for 20 amps.

All equipment requiring power shall be powered from the nearest panel. Work shall coordinate with that of other trades to minimize conflicts and eliminate interferences. Equipment installed outdoors shall be Nema-3R rated and devices shall be equipped with weather-proof covers listed for exterior use. All electrically powered equipment shall be equipped with local disconnects (provided by the Electrical Contractor).

Devices shall be located per code or every 12' and at locations as needed by specific equipment.

Grounding shall be per Article 250 of the National Electrical Code 2011 and shall include the electrical systems ground, equipment grounding and all auxiliary systems grounding such that all systems and components maintain low potential differences.

The fire alarm system shall be an addressable, electrically supervised, intelligent, annunciated fire alarm and detection system (Class "A" wiring, style 6) located in conditioned space adjacent to the telecommunications hub. Devices (notification

and initiating) shall be located per 780 CMR and NFPA 72. Carbon monoxide detectors shall be installed on each floor and be wired to the fire alarm control panel (each detector shall be individually homerun).

Data/Telephone/CATV System: A system of terminal backboards, cabinets, outlets, conduits, etc. shall be provided with: Backboards & cabinets installed by the Contractor, conduits to accessible ceiling space, cable tray/j-hooks, outlets & device plates installed by Contractor, wiring for data/telephone/CATV systems shall be included – all cabling shall be run and terminated by others. Cabling shall be CAT-6+ for data outlets, CAT-5e for telephone and RG-6 for CATV.

Inn Option

A restaurant will need a separate electrical panel for the kitchen area and equipment under the hood requires a shunt trip breaker / connection to the Ansul system.

Any event spaces shall have a lighting control system with dimming capabilities and zoned lighting. Guest rooms shall have can lights (2 in each bathroom and one in the room) and wall vanity fixtures. Floor/table lamps shall be used otherwise.

NM cable can be used to serve guestroom circuits in the Inn. Commercial grade wiring shall be used with the type of wire/raceway to match the application. MC cable is acceptable for interior branch circuits.

Aluminum branch panel feeders are acceptable.

Fire Station

Fluorescent lighting systems with electronic ballasts and T8 lamps shall be utilized throughout this facility unless noted otherwise. Light fixtures will include (but not be limited to): high bay fixtures, troffers (direct and indirect), recessed can lights, wall sconces, linear pendants, task lighting. The primary goal in lamping choice and luminaire layout will be to maintain IESNA lighting standards while meeting the 780 CMR and IECC 2009. LED lighting may be used in limited applications.

Commercial grade wiring shall be used with the type of wire/raceway to match the application. MC cable is acceptable for interior branch circuits.

Copper branch feeders shall be used.

A lighting control system shall be installed for emergency all-on function.

A fire station alerting system will be required.

Add a 150kW generator system including transfer switch, remote annunciator, etc.

70/30 Senior Center

Fluorescent lighting systems with electronic ballasts and T8 lamps shall be utilized throughout this facility unless noted otherwise. Light fixtures will include (but not be limited to): troffers (direct and indirect), recessed can lights, wall sconces, linear pendants, task lighting. The primary goal in lamping choice and luminaire layout will be to maintain IESNA lighting standards while meeting the 780 CMR and IECC 2009. LED lighting may be used in limited applications.

Any event and auditorium spaces shall have a lighting control system with dimming capabilities and zoned lighting.

Commercial grade wiring shall be used with the type of wire/raceway to match the application. MC cable is acceptable for interior branch circuits.

Copper branch feeders shall be used.

A dimming or lighting control system shall be installed for the auditorium or any other performance based areas.

Voice evacuation capabilities will be required if any portion of the new occupancy use is Group "E" (educational) or for a space with over 300 occupants (Assembly occupancy).

Miscellaneous

Refer to HVAC and plumbing narratives to impacts of wiring each respective system for the different building types.

Plumbing Recommendations

All Options

General

Provide new hot water heating systems for each scenario as described below.

Provide new domestic water piping and sanitary piping.

Provide new plumbing fixtures.

Pipe and Materials

All drain waste and vent piping shall be Charlotte no-hub cast iron with rubber gaskets and mechanical couplings. Vent piping 2" and larger may be DWV type copper.

Drainage piping 1-1/2" and smaller shall be no-hub cast iron piping with the exception of sink traps which shall be DWV type copper with wrought copper drainage fittings, 95/5 lead-free solder joints. Vents 1-1/2" and smaller may be DWV type copper.

Water piping shall be insulated type L copper tubing. Alternate piping material for water piping may be an approved alternate material such as Polypropylene Aquatherm GreenPipe SDR7.5.

Insulation shall be fibrous glass, sectional pipe insulation with a white flame retardant vapor barrier jacket covering all pipe insulation. Cold water piping shall have a 1/2" insulation wall thickness, hot and re-circulated hot water piping shall have a 1" insulation wall thickness.

Inn Option

Domestic Water Heating

Hotel demand domestic hot water loads are based on 2.5 GPM showerheads, 15 minute showers, and 2 showers per bath in a 2 hour peak period. Commercial kitchen demand domestic hot water loads are based on 3 gallons per meal and 156 maximum meals per hour. Based on this calculation, the total peak GPH equals 1098 gallons of 140 degree water. We propose the installation of (3) Lochinvar model AWN501PM gas fired water heaters, and (1) Lochinvar model RJA200 Locktemp 200 gallon storage tank. This water heater arrangement will provide an adequate volume of water to maintain a continuous flow at 29.7 GPM of 140 degree water.

The storage tank hot water re-circulation system shall be equipped with Grundfos model UPS15-35 SFC recirculation pump to be energized at a tank temperature of 130 degrees and de-energize at a tank temperature of 140 degrees.

The re-circulated hot water system shall be equipped with (2) Grundfos model UPS15-55 SFC recirculation pumps with pumps set to operate on a duty/standby basis with weekly alternation.

The system shall be fitted with a high/low thermostatic mixing valve set to maintain an outlet temperature of 120 degrees. The mixing valve shall be by Leonard Manufacturing, model TM520-RF-O-DT-TC, fitted with dial thermometer and test port connection.

Water Distribution System

Each hotel room's plumbing fixtures will be capable of isolation by means of a valved distribution system with valves located in each unit's closet. The manifold system will allow service to be performed to each unit without disturbing water supply to other areas.

Each hot water riser shall be supplied with re-circulated hot water return piping and balancing valves.

Grease Recovery Unit

Grease laden waste from the commercial kitchen shall be recovered through the use a grease interception system. The Grease recovery unit shall be by Thermaco, model Big Dipper W 750-IS Central Automatic Grease Removal System. Grease recovery unit sizing shall be finalized upon approval of the commercial kitchen equipment and fixture schedules.

Service Sizes

Based on Massachusetts State plumbing code water fixture unit standards for plumbing fixtures, the existing 2" domestic water service is adequate to serve the plumbing requirements of Inn option #2.

Based on Massachusetts State plumbing code drainage fixture unit standards, the existing 4" building sanitary drain is not adequate to serve the drainage loads of the Inn Option #2. Provide a new 6" sanitary service to the building from the street.

Central Fire Station

Domestic Water Heating

The fire station domestic hot water loads are based on four 2.5 GPM showerheads operating continuously for 1 hour. Based on this calculation, the total peak GPH equals 420 gallons of 140 degree water. We propose the installation of a State Ultra Force SUF130 400 NEA gas fired water heater. This water heater arrangement will provide an adequate volume of water to maintain a continuous flow at 8.6 GPM of 140 degree water.

The re-circulated hot water system shall be equipped with (2) Grundfos model UPS15-55 SFC recirculation pumps with pumps set to operate on a duty/standby basis with weekly alternation.

The system shall be fitted with a thermostatic mixing valve set to maintain an outlet temperature of 120 degrees. The mixing valve shall be by Leonard Manufacturing, model TM-26-E-RF.

Water Distribution System

Each fixture group will be capable of isolation by means of a valved distribution system with valves located at access panels located near each fixture group. The isolation system will allow service to be performed to each fixture group without disturbing water supply to other areas.

Grease Recovery Unit

If the kitchen is fitted out as a commercial kitchen, the grease laden waste from the commercial kitchen shall be recovered through the use a grease interception system. The Grease recovery unit shall be by Thermaco, model Big Dipper W-250-IS Point Source Automatic Grease Removal System. Grease recovery unit sizing shall be finalized upon approval of the commercial kitchen equipment and fixture schedules.

Service Sizes

Based on Massachusetts State plumbing code water fixture unit standards for plumbing fixtures, the existing 2" domestic water service is adequate to serve the plumbing requirements of the fire station. In some jurisdictions a larger service size is requested to allow for faster filling of the apparatus equipped with water storage, in which case the service size would have to be increased.

Based on Massachusetts State plumbing code drainage fixture unit standards, the existing 4" building sanitary drain is adequate to serve the drainage loads of the fire station. However, given the problems with the existing line out of the building and the need for the tank and pumps, we recommend installing a new 6" sanitary service to the building from the street. This will eliminate the need to replace the existing underground and the need for and maintenance of the pumps.

70/30 Senior Center

Domestic Water Heating

The senior center domestic hot water loads are based on estimated hand washing loads and kitchen usage. Based on this calculation, the total peak GPH equals 160 gallons of 140 degree water. We propose the installation of a State Ultra Force SUF100 150 NE gas fired water heater. This water heater arrangement will provide an adequate volume of water to provide 192 gallons of 140 degree water in the first hour of use and 154 gallons per hour continuous. This calculation includes all restrooms and kitchen areas identified on the REUSE STUDY documents. Hot water sizing shall be finalized upon receipt of fixture and appliance schedules.

The re-circulated hot water system shall be equipped with a Grundfos model UPS15-35 SUC/TLC recirculation pump.

The system shall be fitted with a thermostatic mixing valve set to maintain an outlet temperature of 120 degrees. The mixing valve shall be by Leonard Manufacturing, model TM-26-E-RF.

Water Distribution System

Each fixture group will be capable of isolation by means of a valved distribution system with valves located at access panels located near each fixture group. The isolation system will allow service to be performed to each fixture group without disturbing water supply to other areas.

Grease Recovery Unit

If the kitchen is fitted out as a commercial kitchen, the grease laden waste from the commercial kitchen shall be recovered through the use of a grease interception system. The Grease recovery unit shall be by Thermaco, model Big Dipper W-250-IS Point Source Automatic Grease Removal System. Grease recovery unit sizing shall be finalized upon approval of the commercial kitchen equipment and fixture schedules.

Service Sizes

Based on Massachusetts State plumbing code water fixture unit standards for plumbing fixtures, the existing 2" domestic water service is adequate to serve the requirements of the senior center/commercial space.

Based on Massachusetts State plumbing code drainage fixture unit standards, the existing 4" building sanitary drain is adequate to serve the drainage loads of the senior center/commercial space. However, given the problems with the existing line out of the building and the need for the tank and pumps, we recommend installing a new 6" sanitary service to the building from the street. This will eliminate the need to replace the existing underground and the need for and maintenance of the pumps.

Fire Protection Recommendations

All Options

Provide a new automatic sprinkler system in accordance with NFPA 13. The system shall be zoned by floor with floor control assemblies on each floor. Provide a wet system alarm check valve and all accessories.

Provide a new 4" fire service with 4" double check valve assembly.

All sprinkler pipe shall be black steel with threaded or grooved joints. CPVC may be used where applicable in accordance with its listing.

In areas where the ceilings are not being removed, the pipe shall be run exposed and be painted.

All sprinkler heads shall be quick response type, recessed.

Fire Station

Provide a dry valve zone to serve the apparatus bays area.

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VIII. Preservation Issues

The Prescott School is located in the Groton Center Historic District, is on the Massachusetts Register of Historic Places, and is listed on the National Register of Historic Places.

National Register of Historic Places

Administered by the National Park Service under the Secretary of the Interior, the National Register of Historic Places is the official list of the Nation's historic places worthy of preservation. The purpose of the National Register is to identify, rather than to protect the historical and cultural resources of our nation. The Massachusetts Historical Commission (MHC) is responsible for nominating properties for listing on the National Register.

National Register listings are used by the federal government as a basis for qualifying a property for federal assistance in the form of favorable tax incentives, such as a 20% rehabilitation tax credit and the charitable contribution tax deduction for the donation of a preservation easement and grants and loans.

Section 106 of the National Historic Preservation Act requires federal and state agencies to consider the impact of their actions on properties listed or eligible for listing on the National Register and chose options that reduce or eliminate adverse impact on the properties. Any new construction projects or renovations to existing buildings that require funding, licenses, or permits from any state or federal governmental agencies are subject to review by the Massachusetts Historical Commission.

Massachusetts State Register of Historic Places

The Massachusetts State Register administers the State program of Federal assistance for historic preservation within the State and cooperates with public officials and agencies to assure that historic properties listed in, or eligible for, the National Register are taken into consideration during public planning and development. Inclusion in the State Register of Historic Place provides eligibility for matching state grants for restoration of properties and income-producing properties are eligible to receive up to 20% of the cost of certified rehabilitation expenditures in state tax credits.

Massachusetts General Laws Chapter 9 requires that any project needing funding, licenses, or permits from any state agency must be reviewed by MHC. MHC review encompasses identification of historic properties, assessment of potential adverse effects on them and consultation among interested parties to avoid, minimize or mitigate adverse effects.

State Agencies and Actions Typically Subject To MHC Review (Per 950 CmR 71)

Massachusetts Department of Environmental Protection (DEP) Sewer Connection Permits and Wetland Permit Superseding-Order-of-Conditions

Massachusetts Water Resources Authority (MWRA) Sewer Permits

Massachusetts Highway Department (MHD) Curb Cut Permits for access to state roads

Massachusetts Architectural Access Board (MAAB) Variances

Massachusetts Division of Housing and Community Development (DHCD)

Groton Historic Districts Commission

The Groton Historic Districts Commission is charged with protecting and preserving buildings in the Groton Center Historic District. The Commission reviews all applications for new construction and renovations in the historic districts to mitigate adverse effects on historic properties. Local funding such as a private individual or company, a city, or a county does not trigger a MHC review.

The Secretary of the Interior's Standards for the Treatment of Historic Properties

The Massachusetts Historical Commission uses the National Park Service's Secretary of Interior's Standards as guidelines when reviewing preservation projects. They are also intended to provide guidance to historic building owners and building managers, preservation consultants, architects, contractors, and project reviewers prior to construction or renovation.

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The Prescott School Reuse Project

Massachusetts Historical Commission Review

The Prescott School reuse project will be subject to MHC review if the project needs financial assistance in the form of grants, loans, tax credits, licenses, variances, or permits from any state or federal agency.

Because the cost of renovation to the Prescott School building will be more than thirty-percent of the assessed value of the building, per the Massachusetts Architectural Access Board (MAAB) 521 Accessibility Code, the whole building will need to meet this code. One option is to remove the three existing basement stairs and rebuild them to meet current codes, or submit an application to the MAAB to grant variances to keep the existing stairs. These variances will trigger a review by the Massachusetts Historical Commission.

The Fire Station Option might be subject to review by the MHC for a few reasons. The Prescott School is located on state road Route 119 and the Massachusetts Highway Department will most likely have to reconfigure the curb cuts to allow for a greater turning radius of a fire truck. New traffic lights will also need to be added in front of the building. The site is also near a wetland, possibly triggering a Massachusetts Department of Environmental Protection permit.

If presented to MHC, a few design issues for the reuse options to be aware of that do not meet the Secretary of Interior's Standards for Rehabilitation are demolition of a few bearing and partition walls. Examples include a wall at the hallway for a reception in Senior Center, a partition wall in Fire Station training room, and a partition wall in the 70/30 Option 2 event room. The Standards do not recommend radically changing a floor plan or interior spaces, but BH+A proposes to add partition walls in the existing classrooms and cafeteria to create room for the Inn and add partition walls for the bunk rooms in the Fire Station. The Inn room walls will be permanent partitions that might damage or obscure the pressed tin metal ceilings that are character-defining features in the rooms. The Standards also do not recommend inserting a new floor within a building that alters or destroys the fenestration, radically changes a character-defining interior space, or obscures, damages, or destroys decorative detailing. Adding a floor above the restaurant of the Inn Option 2 to accommodate additional Inn rooms is not recommended in the Standards.

The Secretary of the Interior's Standards advise that new additions should be avoided and only considered after it is determined that those needs cannot be met by altering secondary spaces. If an exterior addition is still the only viable alternative, it should be designed and constructed to be clearly differentiated from the historic building and so that the character-defining features are not radically changed, obscured, damaged, or destroyed. The Fire Station option proposes to remove the existing auditorium/gym at the rear of the building and build a new apparatus garage in its place. Options were reviewed to keep the auditorium, but the garage would need to be wider and longer than the existing auditorium. The wetland buffer zone encroaches on much of the open land at the rear of the oddly-shaped site and does not leave much buildable area to construct the apparatus garage on a different area of the site.

Groton Historic Districts Commission Review

The Prescott School reuse project will need to be reviewed by the Groton Historic Districts Commission for appropriateness of proposed changes to the exterior. These changes include the addition of a ramp to the main entrance of the building, a larger landing and new stairs at the existing entrance, a new roof above the south exit stairs from the basement, and new egress stairs at the rear of the building.

The demolition of the auditorium/gym for the new construction of the Fire Station apparatus garage will also be reviewed by the Commission. The Town could argue that the new addition will be at the rear of the property, not visible from the street, and the demolished portion will be well documented and archived. Past renovations to the school have been to remove and document roof overhangs about the auditorium/gym walls, removal of original exterior doors and windows, and installation of Kallwall windows that are not historically accurate. This might be a sign that the Commission would grant approval of the new addition.

IX. Zoning and Building Code Review

Codes and regulations governing the repair and or renovation of the Prescott School include:

- International Building Code, 2009
- International Existing Building Code, 2009
- The Massachusetts State Building Code Supplement
- The Massachusetts State Plumbing Code (248 CMR)
- Massachusetts Architectural Access Board (521 CMR)

Summary of Zoning Compliance Issues

The proposed reuse options have a few issues complying with the Groton Zoning By-Laws. The lot would need to be rezoned if intended to be an inn, commercial, retail, or restaurant use. It is recommended to rezone the parcel as part of the Town Center Overlay District. This district promotes mixed-use development, pedestrian friendly walkways, and reduced parking requirements. Prescott School reuse options that propose a public assembly space or restaurant in the existing auditorium or cafeteria cannot meet the high off-street parking requirements of the Zoning By-Laws. This parking requirement would be lessened if the parcel was rezoned as part of the Town Center Overlay District.

Summary of Code Compliance Issues

Accessibility

The Massachusetts State Building Code Supplement and the Massachusetts Architectural Access Board are the strictest codes that govern the renovation of the building. Per the Massachusetts Architectural Access Board (MAAB) 521 Accessibility Code, the whole building will need to be brought up to new construction accessibility criteria because the cost of renovation will be more than thirty-percent of the assessed value of the existing building.

The new options will meet the MAAB 521 Accessibility Code by replacing the stair and adding a ramp at the main east entrance, replacing the existing ramp at the basement level of the west entrance with a code compliant ramp, and replacing the egress stairways at the west of the auditorium with one egress stairway. A new elevator will be installed in secondary spaces to access all three levels of the building. New handrails on the interior stairs will replace the existing non-compliant handrails. The half-wall at the stairs will remain, but a new metal guardrail will be added to meet code requirements.

Other existing non-compliant components such as the three basement concrete stairways and handrails can remain if a variance is granted. The nosing on the existing interior stairways may not meet the MAAB 521 Accessibility Code and can either be replaced with new stairways, or an application can be filed for a variance.

Structural

In a few reuse options, such as 70/30 Senior Center, a masonry bearing wall is proposed to be removed to enlarge a room or make the space open to the public. New structure will need to be introduced that complies with the IBC. Changes in occupancy from a school building to a fire station triggers major structural upgrades for the existing building. The structural capacity of the existing building needs to be designed to resist wind and seismic forces and comply with a higher hazard category in the IBC.

Fire Safety

A new automatic fire extinguishing system is proposed for all reuse options. Adding sprinklers to the building makes the building safer for the users, and also allows the code to be more lenient for other fire safety issues in the building. Because of sprinklers, existing finishes and transoms are allowed to remain, 1-hour fire rating from walls are exempt, and the allowable building areas are increased.

Zoning Compliance Chart, Based on Zoning By-Laws of the Town of Groton

Data Category	Requirement	Proposed
Zoning		
District	Public Use District Public Use District is intended to regulate land in public use or land with public facilities.	Could propose to rezone building in Town Center Overlay District.
Historic District	Groton Historic District #2	
Flood plain district	Yes, 100 year and 500 year	Development will not encroach on floodplain
DEP Wetland	yes	Development will not encroach on wetlands
Allowed use	The Public Use district provides for a variety of public facilities such as municipal buildings and facilities, public utilities, cemeteries and outdoor storage of fuel products are allowed by right, while community clubs, hospitals, subsidized elderly housing, windmills, meteorological towers, large-scale wind energy conversion devices, and parking facilities may be allowed by special permit.	Would need to be rezoned if intended to be commercial, retail, restaurant use. A community club would need a special permit. Buildings in municipal use (such as fire station) would be allowed.
Dimensional Restrictions		
Minimum lot area	No minimum for nonresidential uses.	Existing lot area is 2.81 acres or 122,403 sf
Minimum lot frontage	No minimum for nonresidential uses.	Existing frontage
Front yard setback	50 ft from Main Street	Existing setback is 50 ft from Main Street
Side yard setback	15 ft	Existing building is about 36 ft on north side and 55 ft on south side
Rear yard setback	15 ft	Existing building is about 520 ft from rear yard.
Allowable lot coverage	25% (25% of 122,403 sf = 30,600 sf)	27,000 sf existing building + existing pavement area = About 45,000 sf
Max stories	3 stories	2 stories. Basement level is not considered a story above grade
Max building height	35 ft.	Existing building is 35'-7" tall measured from the grade plane to the highest point of the building.
Min number driveways	A parking area with more than 10 parking spaces shall have a minimum of two access points on a public way	2
Driveway openings and lanes	24 ft min. width	24 ft.

Data Category	Requirement	Proposed
Parking Requirements		
Existing parking spaces	32 parking spaces + 2 accessible spaces.	Basic parking: 49 parking spaces + 3 accessible spaces. Expanded parking: 91 spaces + 3 accessible spaces
Number of parking spaces	The standards below must be met for the additional parking demand created by new buildings, additions or changes of use unless the Planning Board determines that special circumstances dictate a different provision in order to meet all parking needs. Requirements are added for mixed uses unless the Planning Board authorizes a smaller number because of staggered hours of use.	Mixed uses can possibly share parking lot requirements due to accessing building at different times of the day.
Public assembly Off-street required parking	One parking space for each three persons capacity based upon the State Building Code.	For 70/30 Senior Center 533 people / 3 people = 177 parking spaces
Hotels, Motels and Lodger accommodations Off-street required parking	One parking space for each room accommodation therein, plus one parking space for each two employees on the largest shift and loading space for all delivery trucks or sanitary collection vehicles.	For Inn Option 2 30 rooms + 6 employees = 35 parking spaces + loading
Offices Off-street required parking	A minimum of two parking spaces plus one parking space for every 180 square feet of gross floor area.	For 70/30 Senior Center 9,500 gsf / 180 = 53 spaces
Retail Off-street required parking	One space for every 250 square feet of gross floor area, excluding basement storage, but not less than five spaces per enterprise.	For 50/50 Option 1,488 sf / 250 = 6 spaces. Would need 10 spaces for 2 enterprises
Restaurant Off-street required parking	A minimum of five spaces plus one space for every two persons seating capacity based on the State Building Code.	For Inn Option 2 156 people / 2 = 78 spaces
Town Buildings (Fire Station)	Other uses: a number of spaces to be determined by the Planning Board in cases involving site plan review and by the Building Inspector in other cases.	For Fire Station Option 21 spaces in proposed site plan. Parking can be expanded to fit 42 more spaces.
Inn Option 2 Parking	35 spaces for Inn 78 spaces for Restaurant Total = 113 parking spaces	Expanded Site Option contains 94 parking spaces. Does not meet current requirements
Fire Station Option Parking	Need about 10 for everyday use and additional 30 parking spaces for volunteers during emergencies. Total = 40 parking spaces	21 spaces in proposed site plan. Parking can be expanded to fit 42 more spaces. Total = 63 spaces

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Data Category	Requirement	Proposed
70/30 Senior Center Parking	55 spaces for Commercial 177 spaces for Assembly/Senior Center Total = 232 parking spaces	Expanded Site Option contains 94 parking spaces. Does not meet current requirements.
Parking lot and access roads illumination	0.5 footcandle min, 30 footcandle max.	Will meet requirements
Waking illumination	1.0 footcandle min, 30 footcandle max	Will meet requirements
Handicapped parking required	3 min. per MAAB	3 spaces
Van accessible spaces	1 for every 8 accessible parking spaces	1 space
Width of accessible spaces	9 ft. plus access aisle	9 ft. plus access aisle
Size of full spaces	9 ft x 18 ft	9 ft x 18 ft
Maneuvering aisle width	24 ft. min. (2 way traffic)	24 ft.
Parking setback	none	72 ft from Main Street property line
Landscaped area	Min 4 ft wide landscaped area shall be provided along the foundation walls for all nonresidential buildings	Can meet requirements
Landscaped interior parking	15% of the interior of any parking lot having more than 40 spaces shall be maintained with landscaping, including trees, in plots of at least four feet in width. Parking spaces shall be located a min of 20 ft from edge of the right-of-way	Can meet requirements
Trees	60 sf permeable per tree. 1 tree for every 8 spaces. Trees are to be located in paved parking areas.	Can meet requirements
Available land on site (between setbacks and 100 ft wetland buffer zone)	About 40,000 sf of available land at rear of lot	Expanded parking scheme takes up 13,500 sf for 42 extra parking spaces

Code Review	Existing Prescott School Building
International Building Code, 2009	
Gross Square Feet	Basement 10,200 GSF First Floor 10,200 GSF Second Floor 7,000 GSF Total 27,000 GSF
Chapter 3, Use Classification	E- Educational
Chapter 5 Section 502, Grade Plane	The grade plane is 4'-9" below the first floor level, classifying the ground floor as a basement. The grade plane would need to be more than 6'-0" below the upper floor level to be classified as a "Story above Grade." plus a basement level.
Chapter 5 Section 502, Building Height	Building Height is the vertical distance from grade plane to the average height of the highest roof surface. Prescott School is 35'-7" tall.
Chapter 5 Table 503, Allowable Height and Building Areas	Education, Type IIIB construction, Allowable 2 stories and 14,500 sf per story. Prescott school is 2 stories tall and 10,200 gsf per story.
Chapter 6 Section 602.5, Types of Construction	Type III Construction. Exterior walls are noncombustible material and interior building elements are of any material allowable by this code.
Chapter 7 Section 708.2 Shaft Enclosure required.	Openings through a floor/ceiling assembly shall be protected by a shaft enclosure complying with this section. Exceptions: A shaft enclosure is not required in a building equipped with an automatic sprinkler system for a stairway opening that is not a portion of the means of egress
Chapter 9 Table 903.2, Occupancy Related Automatic Sprinkler Thresholds	Educational Fire area > 12,000 sf or below the level of exit discharge. Exception is if each classroom has an exterior door at grade. Existing condition does not meet current code.
Chapter 10 Table 1004.1.1, Maximum floor area allowances per occupant	Educational classroom area = 20 net sf per occupant = 518 occupants Assembly - Concentrated (chairs) = 7 net sf per occupant = 391 occupants Assembly - Unconcentrated (tables and chairs) = 15 net sf per occupant = 153 occupants Business areas = 100 gross sf per occupant = 15 occupants Kitchen = 200 gross sf per occupant = 2 occupants Total = 1,079 occupants
Chapter 10, Section 1005.1 Minimum required egress width	The total width of means of egress in inches shall not be less than the total occupant load served by the means of egress multiplied by 0.3 inches per occupant for stairways and by 0.2 inches per occupant for other egress components. Second Floor = 190 occupants through 2 exits = 95 occupants through 1 exit. Stairway is 58" wide and narrowest hallway is 67" wide. $95 * 0.3 = 28.5$ min stair and $95 * 0.2 = 19$ min hallway
Chapter 10, Section 1007.1 Accessible means of egress required.	Accessible spaces shall be provided with not less than one accessible means of egress. Basement and second floor do not comply.
Chapter 10 Section 1007.3 Stairways	In order to be considered part of an accessible means of egress, an exit stairway shall have a clear width of 48 inches min. between handrails and shall either incorporate an area of refuge within an enlarged floor level landing or shall be accessed from either an area of refuge comply with Section 1007.6 or a horizontal exit. Existing stairways are 52" and 54" wide between railings. Stairways have a horizontal exit to exterior.
Chapter 10 Section 1012.6, Handrail Extensions	Handrails at stairs must extend horizontally at least 12" beyond the top riser and continue to slope for a depth of 1 tread beyond the bottom riser. Existing handrails at stairs are not in compliance.
Chapter 10 Section 1013.1, Guardrails	Guardrails are required along open-side walking surfaces that are located more than 30" measured vertically to the grade below at any point within 36" horizontally to the edge of the open side. The guardrails are considered the half wall curving up one side of the stair.
Chapter 10 Section 1013.1, Height of Guardrails	Guardrails must be at least 42" high. The half wall is only 37.5" tall.

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Chapter 10 Section 1013.3, Opening Limitations	Guardrails must not allow passage of a 4" sphere. Guardrails are solid at
Chapter 10 Section 1014.3 Common path of egress travel	In occupancies other than Groups H-1, H-2, and H-3, the common path of egress travel shall not exceed 75 feet. Existing is 43 feet to an exit corridor.
Chapter 10 Section 1015.1 Exits or exit access doorways from spaces	Two exits or exit access doorways from any space shall be provided where one of the following conditions exists: The occupant load of the space exceeds one of the values in Table 1015.1. E occupancy has a max load of 49 occupants.
Chapter 10 Section 1018.4 Dead Ends	Where more than one exit is required, the exit access shall be arranged such that there are no dead ends in corridors more than 20 feet in length. Exception- In occupancies in Groups B, E, F, I-1, M, R-1, R-2, R-4, S and U, where building is equipped with a sprinkler system, the length of dead end corridors shall not exceed 50 feet. Length of existing dead end corridor is max 22 feet.
Massachusetts Architectural Access Board	Accessibility
521 CMR 3 Jurisdiction	Existing buildings If the work performed amounts to 30% or more of the assessed value of the building, the entire building is required to comply with 521 CMR. Assessed value of Building= \$1,692,600. (Assessed value of Land = \$322,800) Renovation need to be valued at less than \$507,780 to avoid compliance with this item.
521 CMR 20 Accessible route	An accessible route shall provide a continuous unobstructed path connecting accessible spaces and elements inside and outside a facility. Accessible routes may include but are not limited to walks, halls, corridors, aisles, skywalks, and tunnels. Accessible routes may not include stairs, steps, escalators, even if the stairs and steps are required to be accessible under 521 CMR. Accessible route width: An accessible route shall have a min. clear width of 36 inches except at doors and at opening less than 24 inches.
521 CMR 23 Parking and Passenger loading	Total parking in lot: 15-25 cars needs 1 min accessible space 26-50 cars needs 2 min accessible spaces 51-75 cars needs 3 min accessible spaces One in every 8 spaces, but not less than 1 shall be van accessible. Access aisles shall be 5 feet wide and van access aisles shall be 8 feet wide.
521 CMR 24 Ramps	The max. slope for any ramp shall be 1:12. Max rise for any run shall be 30 inches. Clear width shall be 48 inches between railings.
521 CMR 24.5 Handrails	Handrails shall be provided along both sides of ramp segments. Height- one between 34"-38" and one between 18"-20". Handrails shall extend at least 12 inches beyond the top and bottom of the ramp.
521 CMR 25 Entrances	Vestibules: Between any two hinged or pivoted doors, there shall be a min of 48 inches clear, plus the width of the door swinging into the space.
521 CMR 27 Stairs	All stairs shall have a uniform riser height and uniform tread width. The undersides of nosing shall not be abrupt. The radius of curvature at eth edge of the tread shall be no greater than 1/2". Handrail Height shall be between 34"- 38" Handrail Extensions at top of stairs shall extend at least 12 " beyond the top riser and at the bottom, extend at least 12 " plus the width of one tread beyond the bottom riser. The existing interior stairs are uniform in riser height and tread depth, but may not meet code for the nosing. The handrail height is 27" high and does not meet code. Most handrails do not have extensions at top and bottom of stairs.
521 CMR 28 Elevators	In all multi-story buildings and facilities, each level including mezzanines, shall be served by a passenger elevator. Accessible elevators shall be on an accessible route and located within the space with which it is intended to serve.

International Existing Building Code	Chapter 11 Historic Buildings- Historic buildings undergoing a change of occupancy shall comply with Chapter 9 Change of Occupancy and specific requirements of Chapters 5, 6 & 7.
807.2 New Structural Elements	Any new structural element that is added in the course of alteration work must comply with the IBC for new construction.
807.3 Existing Structural Elements Carrying Gravity Loads. Refer to Section 707.4.	Alterations shall not reduce the capacity of existing gravity load-carrying structural elements unless it is demonstrated that the elements have the capacity to carry the applicable design gravity loads required by the IBC.
807.4.1 Evaluation of analysis	An engineering evaluation and analysis that establish the structural adequacy of the altered structure shall be prepared by a registered design professional and submitted to the code official.
Chapter 9 Change of Occupancy, Section 907.3.1 Structural Compliance with the IBC level Seismic Forces	Where a building or portion thereof is subject to a change of occupancy that results in the building being assigned to a higher occupancy category based on the Table 1604.5 of the IBC, the building shall comply with requirements for IBC level of seismic forces.
1103.6 Fire Safety Stairway Enclosures	In buildings of three stories or less, exit enclosure construction shall limit the spread of smoke by the use of light-fitting doors and solid elements. Elements are not required to have a fire-resistance rating.
1103.8 Glazing in Fire-Resistance-Rated Systems	Historic glazing materials are permitted in interior walls required to have a 1-hour fire-resistance rating where the opening is provided with approved smoke seals and the area is provided with an automatic sprinkler system.
1103.9 Stairway Railings	Grand stairways shall be accepted without complying with the handrail and guard requirements. Existing handrail and guards at all stairs shall be permitted to remain, provided they are not structurally dangerous.
1103.10 Guards	Height- repairs to existing guardrails shall maintain the existing level of protection. Openings- the spacing between existing intermediate railings or openings in existing ornamental patterns shall be accepted.
1103.12 Automatic Fire-Extinguishing Systems	Every historic building that cannot be made to conform to the IBC for the occupancy or use and constitutes a fire hazard shall be deemed compliant if provided with an approved automatic fire-extinguishing system.
Chapter 11 Historic Buildings, Section 1105.1 General	Section 1105 Change of Occupancy. Historic buildings undergoing a change of occupancy shall comply with Chapter 9 Change of Occupancy and specific requirements of Chapters 5, 6 & 7.
1105.2 Building Area	The allowable floor area for historic building undergoing a change of occupancy shall be permitted to exceed the allowable areas in Chapter 5 of IBC by 20%.
1105.4 Occupancy separation	Required separation of 1 hour may be omitted when the building is provided with an automatic sprinkler system throughout.
1105.7 Door Swing	When approved by the code official, existing front doors do not need to swing in the direction of exit travel provided that there are other exits that have sufficient capacity to serve the total occupant load.
1105.8 Transoms	In corridor walls required to be fire-rated, existing transoms may remain if fixed in the closed position and wired glass with a steel frame is fixed on one side.
1105.9 Finishes	Where interior finish material are required to have a flame spread index of Class C or better, existing materials shall be surfaced with approved fire-retardant paint or finish. Exception: If the building is equipped with a fire-suppression system, existing materials do not need to be surfaced with fire-retardant paint.

	Inn Option 2
International Building Code, 2009	
Gross Square Feet	Basement 10,200 GSF First Floor 10,200 GSF Second Floor 7,000 GSF Total 27,000 GSF
Chapter 3, Use Classification	R-1 Residential Inn (11,407 sf) A-2 Assembly Restaurant (2,741 sf)
Chapter 5 Table 503, Allowable Height and Building Areas	R-1 Type IIIB construction, Allowable 4 stories and 16,000 sf per story. A-2 Type IIIB construction, Allowable 2 stories and 9,500 sf per story.
Chapter 5 Section 506.3 Automatic Sprinkler system increase.	Where a building is equipped throughout with an approved automatic sprinkler system the building area limitation is permitted to be increased by an additional 200 percent for multi-story buildings and 300 percent for single-story buildings. R-1 now 32,000 allowable sf per floor A-2 now 28,500 allowable sf per floor
Chapter 6 Section 602.5, Types of Construction	Type III Construction. Exterior walls are noncombustible material and interior building elements are of any material allowable by this code.
Chapter 9 Table 903.2, Occupancy Related Automatic Sprinkler Thresholds	Residential – Sprinklers required, no exceptions. A-2 Assembly – Fire Area > 5,000 sf or fire area occupant load > 100 or fire area is above or below the level of exit discharge. The restaurant is less than 5,000 sf, but occupancy load is 156. The fire area is above the level of exit discharge. Sprinklers not required.
Chapter 10 Table 1004.1.1, Maximum floor area allowances per occupant	R-2 Inn = 2 occupants per room = 60 occupants Assembly (Unconcentrated tables and chairs) = 15 net sf per occupant = 156 occupants. Total = 242 occupants
Chapter 10 Section 1015.1 Exits or exit access doorways from spaces	Two exits or exit access doorways from any space shall be provided where one of the following conditions exists: The occupant load of the space exceeds one of the values in Table 1015.1. A has a max occupant load of 49 occupants. R has a max occupant load of 10 occupants.
International Existing Building Code, 2009	
Chapter 4, Section 405 Alteration Level 3	Alterations Level 3 includes the reconfiguration of space, the addition or elimination of any door or window, the reconfiguration or extension of any system, or the installation of any additional equipment. The work area also exceeds 50% of the aggregate area of the building. (Note: Level 2 and 3 are similar and Level 3 requirements sometimes refer back to Level 2 requirements)
Section 807.2 New Structural Elements	Refer to 707.2 Any new structural element that is added in the course of alteration work must comply with the IBC for new construction.
807.3 Existing Structural Elements	Refer to 707.4 Existing structural elements carrying gravity loads. Alterations shall not reduce the capacity of existing gravity load-carrying structural elements unless it is demonstrated that the elements have the capacity to carry the applicable design gravity loads required by the IBC.
807.4.1 Evaluation and Analysis	Evaluation of analysis. An engineering evaluation and analysis that establish the structural adequacy of the altered structure shall be prepared by a registered design professional and submitted to the code official.

	Inn Option 2	
Massachusetts Plumbing Code	Minimum Facilities for Building Occupancy	Proposed Facilities
R-1 Hotel		
1 water closet, 1 lavatory 1 bath/shower per unit	30 room Inn 30 water closets, 30 lavatories 30 bath/shower per unit	30 water closets, 30 lavatories 30 bath/shower per unit
A-3 Restaurant		
Females: 1 water closet per 30 Males: 1 water closet per 60, 50% urinals Lavatory: 1 lavatory per 200, each sex	156 occupants / 2 = 78 women, 78 men Females: 3 water closets Males: 2 water closet, 1 urinal Lavatory: 1 lav, each sex	Females: 3 water closets, inc 1 accessible Males: 2 water closets inc 1 accessible. 2 urinals Lavatory: 2 lavs, each sex

	Central Fire Station
International Building Code, 2009	
Gross Square Feet	Basement Floor 7,300 GSF First Floor 15,450 GSF (Existing 6,965 GSF, New 8,476 GSF) Second Floor 7,500 GSF Total 30,250 GSF
Chapter 3, Use Classification	S-2 Storage Apparatus Bays (6,829 sf) B Business Administration (1,252 sf) A-3 Assembly Day Room, Fitness Room, Training Room (2,596 sf) R-2 Residential Sleeping Areas (3,414 sf)
Chapter 5 Table 503, Allowable Height and Building Areas	S-2 Type II B, Allowable 3 stories and 26,000 sf per story. B Type III B, Allowable 3 stories and 19,000 sf per story. A-3 Type III B, Allowable 2 stories and 9,500 sf per story. R-2 Type III B, Allowable 4 stories and 16,000 sf per story.
Chapter 5 Section 506.3 Automatic Sprinkler system increase.	Where a building is equipped throughout with an approved automatic sprinkler system the building area limitation is permitted to be increased by an additional 200 percent for multi-story buildings and 300 percent for single-story buildings. S-2 now 78,000 allowable sf per floor B now 38,000 allowable sf per floor A-3 now 19,000 allowable sf per floor R-2 now 32,000 allowable sf per floor
Chapter 6 Section 602.5, Types of Construction	Existing Type III Construction. Exterior walls are noncombustible material and interior building elements are of any material allowable by this code. Type II Construction for New Apparatus Bay (8,476 GSF). Exterior and interior walls constructed of noncombustible material.
Chapter 9 Table 903.2, Occupancy Related Automatic Sprinkler Thresholds	S-2 Parking Garages- Fire area greater than 12,000 sf. Exceptions- not if beneath group R-3 Business B- Buildings with floor level greater than 55 ft above fire department vehicle access and occupant load of greater than 30 people. A-3 Assembly – Fire Area > 12,000 sf or fire area occupant load > 300 or fire area is above or below the level of exit discharge. The assembly area is less than 12,000 sf, but occupancy load is 89 occupants. The fire area is at the level of exit discharge. Sprinklers not required. Residential – Sprinklers required, no exceptions.
Chapter 10 Table 1004.1.1, Maximum floor area allowances per occupant	S-2 Apparatus Bay (Parking garages) = 200 gross per occupant = 35 occupants B Business areas = 100 gross = 8 occupants A-3 (Unconcentrated tables and chairs) = 15 net sf per occupant = 359 occupants R-2 Bunks = 2 per room = 12 occupants Total = 380 occupants
Chapter 10 Section 1015.1 Exits or exit access doorways from spaces	Two exits or exit access doorways from any space shall be provided where one of the following conditions exists: The occupant load of the space exceeds one of the values in Table 1015.1. A & B occupancy has a max occupant load of 49 occupants. R has max occupant load of 10 occupants. S has max occupant load of 29 occupants.

	Central Fire Station	
Massachusetts Plumbing Code	Minimum Facilities for Building Occupancy	Proposed Facilities
A-3 Assembly rooms		
Females: 1 water closet per 50 Males: 1 water closet per 100, 50% urinals Lavatory: 1 lavatory per 200, each sex	114 occupants (excluding unassigned rooms) / 2 = 57 women, 57 men Females: 2 water closet Males: 1 water closet, 1 urinal Lavatory: 1 lav, each sex	Females: 5 water closets, inc 1 accessible Males: 2 water closets inc 1 accessible. 3 urinals Lavatory: 2 lavs, each sex
B Office buildings		
Females: 1 water closet per 20 Males: 1 water closet per 25, 33% urinals Lavatory: 1 lavatory per 50, each sex Drinking fountain: 1 per floor	8 occupants / 2 = 4 women, 4 men Females: 1 water closet Males: 1 water closet, 1 urinal Lavatory: 1 lav, each sex Drinking fountain: 1 per floor	Share with Assembly on First Floor Drinking fountain on First Floor for office use.
R-2 Dormitories		
Females: 1 water closet per 6 Males: 1 water closet per 8, 33% urinals Lavatory: 1 lavatory per 8, each sex Shower: 1 per 8, each sex 1 service sink per floor	12 bunk occupants / 2 = 6 women, 6 men Females: 1 water closet Males: 1 water closet, 1 urinal Lavatory: 1 lav, each sex Shower: 1 shower, each sex 1 service sink per floor	Females: 3 water closets, inc 1 accessible Males: 2 water closets inc 1 accessible. 2 urinals Lavatory: 2 lavs, each sex Shower: 2 showers, each sex 1 service sink in laundry room

	70 / 30 Senior Center
International Building Code, 2009	
Gross Square Feet	Basement 10,200 GSF First Floor 10,200 GSF Second Floor 7,000 GSF Total 27,000 GSF
Chapter 3, Use Classification	B Business Commercial Units (9,486 sf) and Senior Center offices (1,064 sf) A-3 Assembly Senior Center program (5,438 sf)
Chapter 5 Table 503, Allowable Height and Building Areas	B Type IIIB construction, Allowable 3 stories and 19,000 sf per story. A-3 Type IIIB construction, Allowable 2 stories and 9,500 sf per story.
Chapter 5 Section 506.3 Automatic Sprinkler system increase.	Where a building is equipped throughout with an approved automatic sprinkler system the building area limitation is permitted to be increased by an additional 200 percent for multi-story buildings and 300 percent for single-story buildings. B now 38,000 allowable sf per floor A-3 now 19,000 allowable sf per floor
Chapter 6 Section 602.5, Types of Construction	Type III Construction. Exterior walls are noncombustible material and interior building elements are of any material allowable by this code.
Chapter 9 Table 903.2, Occupancy Related Automatic Sprinkler Thresholds	Residential – Sprinklers required, no exceptions. Business B- Buildings with floor level greater than 55 ft above fire department vehicle access and occupant load of greater than 30 people. A-3 Assembly – Fire Area > 12,000 sf or fire area occupant load > 300 or fire area is above or below the level of exit discharge. The assembly area is less than 12,000 sf, but occupancy load is 533 (greater than 300). The fire area is at the level of exit discharge. Sprinklers not required.
Chapter 10 Table 1004.1.1, Maximum floor area allowances per occupant	B Business = 100 gross sf per occupant = 95 occupants Assembly (Concentrated chairs) = 7 net sf per occupant = 391 occupants. Assembly (Unconcentrated tables and chairs) = 15 net sf per occupant = 136 occupants. Total = 622 occupants
Chapter 10 Section 1015.1 Exits or exit access doorways from spaces	Two exits or exit access doorways from any space shall be provided where one of the following conditions exists: The occupant load of the space exceeds one of the values in Table 1015.1. A & B has a max occupant load of 49 occupants.

	70 / 30 Senior Center	
Massachusetts Plumbing Code	Minimum Facilities for Building Occupancy	Proposed Facilities
B Office buildings		
Females: 1 water closet per 20 Males: 1 water closet per 25, 33% urinals Lavatory: 1 lavatory per 50, each sex Drinking fountain: 1 per floor	95 occupants / 2 = 48 women, 48 men Females: 3 water closets Males: 2 water closets, 1 urinal Lavatory: 1 lav, each sex Drinking fountain: 1 per floor	Females: 11 water closets, inc 1 accessible Males: 2 water closets inc 1 accessible. 2 urinals Lavatory: 4 lavs, each sex 1 unisex toilet room in basement Drinking fountain on all floors for office use
A-3 Assembly rooms		
Females: 1 water closet per 50 Males: 1 water closet per 100, 50% urinals Lavatory: 1 lavatory per 200, each sex	527 occupants / 2 = 264 women, 264 men Females: 6 water closets Males: 3 water closet, 2 urinals Lavatory: 2 lavs, each sex	Females: 5 water closets, inc 1 accessible Males: 1 accessible water closet. 2 urinals Lavatory: 2 lavs, each sex 1 staff unisex toilet room 1 companion unisex toilet room Share basement and second floor restrooms for max occupancy events.

X. Outline Specifications

DIVISION 1 – GENERAL REQUIREMENTS

Summary

The Prescott School building is located at 145 Main Street in historic Groton, Massachusetts. The three story building contains about 27,000 gross square feet and sits on a 2.81 acre lot. The building fails to meet requirements to continue as a public school and needs many improvements to meet current code requirements. Currently, the Town of Groton is leasing the Prescott building to the Groton-Dunstable Regional School (GDRS) to use as administrative offices. The lease is set to expire in 2015 and the GDRS is unsure whether they need or want to rent space in the Prescott School building after that time.

The Town formed the Prescott School Reuse Committee early in 2010 to assess the current condition of the building and the variety of future uses. Bargmann Hendrie + Archetype, Inc. was contracted by the Town to conduct an assessment of the Prescott School building and property and prepare schematic designs and preliminary specifications for the adaptive reuse of the building.

These specifications will cover three of the multiple reuse options undertaken for the Prescott School building: Inn Option, Fire Station Option, and mixed-use 70% Commercial, 30% Community (Senior Center) Option.

Site and Building Restrictions

Wetlands

The rear of the site is designated as a wetland area and is located in a 100 and 500 year flood plain. The 100 foot Wetland Buffer Zone prohibits activities 100 feet from a freshwater wetland, including the erection of permanent structures, construction of parking lots, driveways or retaining walls, and major regrading. All of the new construction must be outside of the 100 foot buffer zone (see site plan for approximate location of wetland and buffer zone).

National Register of Historic Places

The Prescott School Building was listed on the Massachusetts Register of Historic Places in 1964 when the local Groton historic district was designated. Recently, on March of 2010, the school was included in the in the National Register of Historic Places for its architecture and is one of a limited number of remaining historic Main Street schools in the country.

Structural Considerations

For the Fire Station Option, there will need to be new structural upgrades to meet the IBC 2009 design for seismic and lateral loads. Options include steel bracing or shockcrete to satisfy the new lateral load requirement. A seismic joint between the existing and new construction is also recommended. A premium should be added for structural upgrades.

Description of Work

All Options

- Remove east entry stair and concrete landing. New landing, concrete stairs and ramp.
- Remove corrugated plastic walls and roof and metal guardrail at basement stair enclosure on south elevation. Replace with 3 foot tall brick walls and aluminum roof overhang to match the other stair overhangs at southeast corner of building.
- Remove 2 wood stairs at west side of building. Replace with metal emergency egress stair, guardrails, and railings.
- Remove concrete ramp at west side of building. Replace with concrete ramp and metal railings.
- Remove Kalwall windows at north, south, and west elevations. Replace with new glass windows.
- Install a 3-stop elevator to access all floors.
- Remove handrails from interior stairs and replace with metal guardrails and handrails.
- Remove indicated interior partition walls and glass partition walls in hallways. Replace with similar partition at noted locations.

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- Remove carpet and vinyl asbestos tiles throughout.
- Remove all acoustical drop ceilings. Remove paint from pressed-tin ceilings. Repair or replace in-kind.
- Refinish all wood floors.
- Remove bathroom fixtures and finishes.
- Remove deteriorating plaster and patch with new plaster on existing walls. New interior wall partitions to be GWB.

Inn Option

- New wood stud partition walls with gypsum wall board sheathing.

Fire Station Option

- Remove existing cafeteria/auditorium and add the new apparatus bay structure.

DIVISION 2 – EXISTING CONDITIONS

All Options

- Lead-Containing Paint Considerations
 - Specify minimum requirements for the disturbance, removal, containment, and disposal of lead-containing paint and associated waste generated as a result of renovation activities.
- Asbestos Abatement
 - Remove asbestos tiles throughout.

DIVISION 3 – CONCRETE

All Options

- Cast-in-place concrete
 - Footings for ramps and stairs.
 - East and west exterior ramps.
 - East exterior stair and landing.
 - Exterior pads.

Fire Station Option

- Cast-in-place concrete
 - Foundation walls.
 - Floor Slab.

DIVISION 4 – MASONRY

All Options

- 3 foot tall brick walls at basement stair enclosure on south elevation.
- Walls of ramp at east elevation and west elevation.

Fire Station Option

- Reinforced concrete block apparatus bay walls, 25 feet tall.
- Face brick for apparatus bay walls, 25 feet tall.

DIVISION 5 – METALS

All Options

- New roof over south stair to basement.
- Guardrails and Handrails.
 - New guardrails and handrails at new east entry stair and ramp.
 - New guardrails and handrails at existing interior stairs.

Inn Option

- Stairways
 - New stairs at west emergency egress from first floor.
- Guardrails and Handrails
 - New handrails at west basement ramp.

Fire Station Option

- Structural Steel
 - Wide flange sections at framed floors and roofs.
 - HSS tube columns.
 - HSS tube braces.
- Metal Joists
 - At apparatus bay roof.
- Metal Deck
 - At apparatus bay roof.
 - 3" composite deck at apparatus bay framed floor slab.
- Stairways
 - New stair at interior of apparatus bay.
 - New 2 story stair for training tower.
- Guardrails and Handrails
 - Guardrails and handrails at new apparatus bay interior stairs.
 - Stair balusters at stairway at interior of apparatus bay.

70/30 Option

- Stairways
 - New stairs at west emergency egress from first floor.
- Guardrails and Handrails
 - New handrails at west basement ramp.

DIVISION 6 - WOOD AND PLASTICS AND COMPOSITES

All Options

- Rough Carpentry
 - Dimensional lumber for new partition walls.
- Finish Carpentry
 - Repair/replace missing wood baseboards, dado, and tongue-and-groove beadboard.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

Fire Station Option

- Insulation
 - Roof Insulation: Rigid roof insulation.
- Exterior Wall Air/Vapor Barrier membranes
 - Air and Vapor Barrier: Spray applied air and vapor barrier membrane.
 - Air/Vapor barrier membrane flashing.
- Underslab vapor barrier
- Roofing
 - EPDM fully adhered roofing at apparatus bay roof.
- Firestopping/ firesealing

DIVISION 8 – OPENINGS

Inn Option

- Exterior Doors:
 - 2 Exterior double doors at main entrances: wood stile and rail with glass panels.
 - 1 Exterior single door at basement ramp exit: EFCO Aluminum and glass frame
 - 1 Exterior double door at restaurant egress exit: EFCO Aluminum and glass frame
- Interior Doors:
 - Interior Swing Doors for Inn Rooms: 1 ¾" thick solid core wood door, painted.
 - Standard Heavy Duty Hollow metal doors with welded frames.
 - Inn room closet double doors
- Windows:
 - 4 new restaurant windows: casement or folding window system - 9'x13'.
 - 8 new basement Inn windows: sliding, fiberglass windows.
- Hardware:
 - Heavy Duty Mortise locksets with functions to match use.

Fire Station Option

- Exterior Doors:
 - 2 Exterior double doors at main entrances: wood stile and rail with glass panels.
 - 2 Exterior single doors at apparatus bay exit: EFCO Aluminum and glass framed entrance.
 - 8 Garage doors at apparatus bay: 14' x 14' wood or aluminum commercial garage doors, with solid panels and glass lites.
- Interior Doors:
 - Interior Swing Doors for bunk rooms and restrooms: 1 ¾" thick solid core wood door, painted.
 - Interior program spaces and offices: wood stile and rail with glass panels.
 - Standard Heavy Duty Hollow metal doors with welded frames.
- Hardware:
 - Heavy Duty Mortise locksets with functions to match use.

70/30 Option

- Exterior Doors:
 - 2 Exterior double doors at main entrances: wood stile and rail with glass panels.
 - 1 Exterior single door at basement ramp exit: EFCO Aluminum and glass frame
 - 1 Exterior double door at restaurant egress exit: EFCO Aluminum and glass frame
- Interior Doors:
 - Interior Swing Doors for private rooms and restrooms: 1 ¾" thick solid core wood door, painted.
 - Interior program spaces and offices: wood stile and rail with glass panels.
 - Standard Heavy Duty Hollow metal doors with welded frames.
- Windows:
 - 4 new windows to match original: 9'x13'.
 - 6 new basement windows: 4 sliding, fiberglass windows, 2 fixed windows.
- Hardware:
 - Heavy Duty Mortise locksets with functions to match use.

DIVISION 9 – FINISHES

All Options

- Walls:
 - 5/8" Gypsum wallboard at new partition walls.
 - Patch existing plaster walls with new plaster.
 - 5/8" moisture resistant GWB at all wet walls, extending to the ceiling.
 - Ceramic tile wainscot in toilet rooms, 6' tall at wet walls.

- Ceilings
 - Retain existing pressed-tin decorative ceilings. Replicated tin ceiling if missing on first or second floor. If tin does not exist in basement, use GWB.
 - Use GWB in all restrooms.
- Flooring:
 - Refinish all wood floors.
 - Ceramic mosaic tile in bathrooms.
 - Resilient flooring for basement hallways and storage.
- Painting:
 - Possibility of existing lead paint. Scrape/sandblast existing paint and repaint all wall, ceiling, and stair surfaces.
 - Standard low VOC, such as Benjamin Moore & Co.

Inn Option

- Flooring:
 - Carpet at inn rooms in basement and staff lounge. Area rugs for inn rooms with hardwood on first and second floors.
 - Athletic flooring for fitness room.

Fire Station Option

- Walls:
 - At apparatus bay: painted CMU block. Exterior brick.
- Ceilings
 - At apparatus bay: exposed structure
- Flooring:
 - At apparatus bay: sealed concrete
 - New carpet in basement rooms.

70/30 Option

- Flooring:
 - Carpet at commercial rooms in basement.

DIVISION 10 – SPECIALTIES

All Options

- Interior and Exterior Building Signage.
- Portable fire extinguishers and recessed cabinets.

Inn Option

- Restrooms:
 - Toilet compartments.
 - Dressing compartments.
- Toilet, bath, and laundry accessories.

Fire Station Option

- Restrooms:
 - Toilet compartments.
 - Shower and dressing compartments.
- Toilet and shower accessories.

70/30 Option

- Restrooms:
 - Toilet compartments.
- Toilet, bath, and laundry accessories.

DIVISION 12 – FURNISHINGS

Inn Option

- Restaurant bar and open kitchen bar with solid surface countertops.
- Bathroom vanity cabinets with solid surface countertops.
- Laundry room cabinets with plastic laminate countertops.

Fire Station Option

- Kitchen cabinets: plastic laminate with solid plastic countertops.
- Restroom vanity cabinets with plastic laminate countertops.
- Wood shelves and counter for maintenance area.
- Cubbies for turn out gear storage.

70/30 Option

- Reception and activity rooms: Plastic laminate cabinets with solid plastic countertops
- Restroom vanity cabinets with plastic laminate countertops.
- Kitchen cabinets: plastic laminate with solid plastic countertops.
- Food storage room: plastic laminate shelving and cabinets with solid plastic countertops.

DIVISION 11 – EQUIPMENT

All Options

- Food Service Equipment
 - Commercial cooking and dishwashing equipment.
 - Commercial refrigerator / freezer.
 - Work table.

DIVISION 14 – CONVEYING EQUIPMENT

All Options

- Gearless traction passenger elevator

DIVISION 21 – FIRE SUPPRESSION

All Options

- New sprinkler system in accordance with NFPA 13.
 - Single alarm check valve.
 - 4" backflow preventer.
 - Zoned by floor.
 - Fire department connection.
 - Quick response sprinkler heads.
 - Black steel pipe with grooved or threaded joints. CPVC is acceptable when used in accordance with its listing.
- New 4" fire service.
- Standpipe is not required.

Fire Station Option

- Dry system for the apparatus bays.

DIVISION 22 – PLUMBING

All Options

- Sanitary and Vent Pipe
 - No-hub cast iron
 - DWV copper with soldered joints
- Domestic Water Pipe
 - Type L copper tubing with soldered joints
- Domestic Water Pipe Insulation
 - Fiberglass pipe insulation with all service jacket.
 - ½" for cold water
 - 1" for hot water and hot water recirc.

Inn Option

- Water Heating System:
 - (3) Lochinvar AWN501PM gas fired water heaters
 - (1) Lochinvar RJA200 Locktemp 200 gallon storage tank
 - Storage tank circulation Pump: Grundfos UPS15-35
 - Hot water recirculation system with (2) Grundfos UPS15-55SFC recirc. pumps
 - Hi-Low thermostatic mixing valve, Leonard TM520-RF-O-DT-TC
- Grease Recovery Unit
 - Thermaco Big Dipper W-750-IS point source automatic grease removal system
- Service Sizes
 - New 6" sanitary line from building to street
 - Existing 2" domestic water service to remain
- Inn Bathrooms:
 - Porcelain, one-piece, elongated toilet.
 - Porcelain bathtub.
 - Porcelain sinks
- Restrooms:
 - Commercial wall mounted toilet with flush valve.
 - Porcelain sinks with sensor faucets

Fire Station Option

- Water Heating System
 - State Ultra Force SUF 130 400 NEA gas fired water heater
 - (2) Grundfos UPS15-55 SFC recirc. Pumps
 - Thermostatic mixing valve: Leonard TM-26-E-RF
- Service Sizes
 - New 6" sanitary line from building to street
 - Existing 2" domestic water service to remain
- Restrooms:
 - Commercial wall mounted toilet with flush valve.
 - Porcelain sinks with sensor faucet

70/30 Senior Center

- Water Heating System:
 - Stage Ultra Force SUF100 150 NE gas fired water heater
 - Grundfos model UPS15-35 SUC/TLC recirculation pump
 - Mixing Valve: Leonard TM-26-E-RF
- Grease Recovery Unit
 - Thermaco Big Dipper W-250-IS point source automatic grease removal system
- Service Sizes
 - New 6" sanitary line from building to street

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- Existing 2" domestic water service to remain
- Restrooms:
 - Commercial wall mounted toilet with flush valve
 - Porcelain sinks with sensor facets

DIVISION 23 – HEATING, VENTILATING AND AIR CONDITIONING

All Options

- Ductwork: Sheetmetal
- Duct Insulation: ½" fiberglass duct wrap for supply ducts
- Refrigerant Piping: brazed hard or soft drawn copper
- Refrigerant Piping Insulation: 1½" armaflex
- Hot water piping: Type L copper
- Hot water pipe insulation: 1½" fiberglass pipe insulation with all-service jacket

Inn Option

- VRV Heat Pump System
 - (2) 15 ton units, Mitsubishi PURY-P180TSJMU-A
 - Indoor Units
 - Guest Rooms: ¾ ton ceiling concealed, ducted.
 - Other spaces: ceiling concealed ducted or wall mounted. See system description.
- Ventilation:
 - Panasonic ceiling exhaust fans for all toilet rooms.
 - Fans ducted through duct risers to the roof.
 - Renaire EV130 energy recovery ventilator for corridors.
- Restaurant
 - UL listed upblast kitchen exhaust fan
 - Prefabricated grease duct system with aluminum jacket and ceramic fiber insulation
 - AAON make up air unit with gas heat, DX cooling, hot gas reheat.

Fire Station

- VRV Heat Pump System
 - (2) 15 ton units, Mitsubishi PURY-P180TSJMU-A
 - Indoor Units
 - Ceiling concealed ducted or wall mounted. See system description.
- Ventilation:
 - Panasonic ceiling exhaust fans for all toilet rooms and locker room.
 - Fans ducted through to the roof or sidewall.
 - Renaire EV130 energy recovery ventilator for corridors.
 - 5200 CFM mushroom fan for apparatus bays exhaust
- Miscellaneous
 - Plymovent system for the apparatus bays

70/30 Senior Center

- Air Conditioning: None
- Heating:
 - Convert boiler to hot water
 - Hot Water Circulation Pumps: base mounted, 150 gpm, 3 hp
 - Hot water baseboard or hot water cabinet unit heaters for all spaces
 - New hot water distribution system
- Ventilation: Greenheck ERH roof mounted energy recovery ventilator with hot water heat and DX cooling coil
- Kitchen
 - UL listed upblast kitchen exhaust fan
 - Welded black steel kitchen exhaust duct with ceramic fiber insulation
 - Greenheck MSX make up air unit with hot water coil

DIVISION 26 – ELECTRICAL

All Options

- New power distribution system
- New lighting
- New devices (receptacles, data outlets, telephone, CATV, etc)
- New fire alarm system

Inn Option

- Estimated \$/square foot: \$19
- Power
 - NM cable is acceptable in dwelling unit areas
 - Kitchen equipment will require an additional power panel and possibly fire alarm system interconnection
 - Aluminum panel feeders are acceptable
- Lighting
 - Overall lighting is reduced as table/floor lamps are used to cover guest room portion
 - Switch outlets will be needed for some lighting
- Fire alarm system
 - Standard addressable system

Fire Station Option

- Estimated \$/square foot: \$23
- Power
 - MC cable used as a minimum standard of wiring
 - Copper wiring used throughout
 - A generator system will need to be added to the building
 - Figure in additional wiring for interlocking of dampers to doors, etc. in the bay areas
- Lighting
 - High bay fluorescent fixtures in the bays
 - A lighting control system to automatically turn all lights on during a fire call in
- Fire alarm system
 - Standard addressable system with an additional fire station alerting system

70/30 Option

- Estimated \$/square foot: \$26
- Power
 - MC cable used as a minimum standard of wiring
 - A meter bank could possibly be required if sub-metering is desired
 - Copper wiring used throughout
- Lighting
 - Stage dimming/controls and lighting required?
 - Standard T8 direct/indirect commercial lighting in other areas
- Fire alarm system
 - Voice evacuation addressable system

DIVISION 31 — EARTHWORK

Fire Station Option

- Earthwork: remove existing basement level, excavate larger footprint for foundation and apparatus bay.

DIVISION 32 — EXTERIOR IMPROVEMENTS

Proposed site parking

- No new paving or regrading.

Expanded site

- New paving at expanded parking lot, and regrading near parking lot.

All Options

- Planting and Trees.
- Lawns around building.
- Pavement markings.
- Traffic and Pedestrian signage.

Fire Station

- Asphalt paving at drives and parking areas.
- Precast concrete curbing.
- Landscape grading.

XI. Cost Estimate

Prescott School Reuse Study
Groton, MA

March 6, 2012

Cost Estimator:
Daedalus Projects Incorporated
112 South Street
Boston, MA 02111
(617) 451 2717

Note: Since the start of construction is unknown (could be 2014, 2015, 2016) the cost estimate is based on Spring 2012 construction. The Town can adjust for inflation as they see fit.

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INTRODUCTION

Project Description:

- ADA access and seismic structural upgrades to an historic 27,000gsf three story former school building
- Adaptive reuse for an Inn, Fire Station, or mixed use 70% Commercial and 30% Senior Center
- New paving and landscaping

Project Particulars:

- Existing and Proposed Options Drawings received February 27, 2012 prepared by Bargmann Hendrie + Archetype, Inc.
- Outline Specification dated February 22, 2012 prepared by Bargmann Hendrie + Archetype, Inc.
- MEP Narrative dated February 28, 2012 prepared by Allied Consulting Engineering Services, Inc.
- Detailed quantity takeoff from these documents where possible.
- Daedalus Projects, Inc. experience with similar projects of this nature.
- Discussion and review with Bargmann Hendrie + Archetype, Inc.

Project Assumptions:

- This Project will be performed by a single General Contractor from a pre-selected and competitive bidding
- It has been assumed that no less than 4 bids will be received. Less than 4 bids may result in higher pricing.
- The Total Construction Cost reflects the fair construction value of this project in a competitive market and should not be construed as the prediction of the lowest bid.
- Unit rates are based on current dollars.
- Subcontractor's markups have been included in each unit rate. Markups cover the cost of field overhead, 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.
- General Conditions and Requirements value covers scaffolding, staging and access, temporary protection, cleaning, SubContractor's General Conditions, site office overheads.
- Overhead and profit markup is calculated on a percentage basis of direct construction costs.
- Open Shop wage rates have been used as a basis for labor costs.

INTRODUCTION

Estimate Exclusions:

- Escalation
 - Relocation expenses
 - Specialties, loose furnishings, fixtures and equipment beyond what is noted
 - Site or existing condition surveys and investigations
 - Utility back charges during construction
 - Owner's site representation and project administration
 - Design Professional fees
 - Interest expense
 - Printing and advertising
 - Police details and street/sidewalk permits
 - Testing and commissioning
 - LEED Certification process, commissioning and formal submissions to USGBC
-

MAIN SUMMARY

ELEMENT		INN		FIRE STATION		COMMERCIAL / SENIOR CENTER	
		27,400 GSF		30,250 GSF		27,400 GSF	
		COST	COST/SF	COST	COST/SF	COST	COST/SF
02-EXISTING CONDITIONS		\$442,805	\$16.16	\$483,073	\$15.97	\$442,805	\$16.16
03-CONCRETE		\$96,350	\$3.52	\$233,350	\$7.71	\$96,350	\$3.52
04-MASONRY		\$35,238	\$1.29	\$728,988	\$24.10	\$35,238	\$1.29
05-METALS		\$200,900	\$7.33	\$569,915	\$18.84	\$200,900	\$7.33
06-WOODS, PLASTICS, & COMPOSITES		\$137,887	\$5.03	\$74,649	\$2.47	\$79,017	\$2.88
07-THERMAL & MOISTURE PROTECTION		\$76,000	\$2.77	\$224,685	\$7.43	\$76,000	\$2.77
08-OPENINGS		\$214,000	\$7.81	\$240,000	\$7.93	\$205,000	\$7.48
09-FINISHES		\$645,016	\$23.54	\$348,848	\$11.53	\$433,017	\$15.80
10-SPECIALTIES		\$74,600	\$2.72	\$50,350	\$1.66	\$81,850	\$2.99
11-EQUIPMENT		\$200,000	\$7.30	\$259,200	\$8.57	\$112,800	\$4.12
12-FURNISHINGS		\$75,000	\$2.74	\$60,625	\$2.00	\$81,875	\$2.99
14-CONVEYING EQUIPMENT		\$90,000	\$3.28	\$90,000	\$2.98	\$90,000	\$3.28
21-FIRE SUPPRESSION		\$148,800	\$5.43	\$152,711	\$5.05	\$138,300	\$5.05
22-PLUMBING		\$625,000	\$22.81	\$195,000	\$6.45	\$305,000	\$11.13
23-HVAC		\$959,000	\$35.00	\$847,000	\$28.00	\$685,000	\$25.00
26-ELECTRICAL		\$520,600	\$19.00	\$695,750	\$23.00	\$712,400	\$26.00
32-EXTERIOR IMPROVEMENTS		\$7,885	\$0.29	\$157,885	\$5.22	\$7,885	\$0.29
Trade Cost Details SubTotal		\$4,549,081	\$166.02	\$5,412,027	\$178.91	\$3,783,436	\$138.08
Design and Pricing Contingency	20.00%	\$910,000	\$33.21	\$1,082,000	\$35.77	\$757,000	\$27.63
Total Trade Costs		\$5,459,081	\$199.24	\$6,494,027	\$214.68	\$4,540,436	\$165.71
Markups							
General Conditions & Requirements	10.00%	\$546,000	\$19.93	\$649,000	\$21.45	\$454,000	\$16.57
Sub-Contractor Bonds	0.75%	\$41,000	\$1.50	\$49,000	\$1.62	\$34,000	\$1.24
General Liability Insurance	1.10%	\$67,000	\$2.45	\$79,000	\$2.61	\$55,000	\$2.01
Permit	0.50%	\$31,000	\$1.13	\$36,000	\$1.19	\$25,000	\$0.91
Overhead and Profit	3.50%	\$215,000	\$7.85	\$256,000	\$8.46	\$179,000	\$6.53
Estimated Construction Cost Total		\$6,359,081	\$232.08	\$7,563,027	\$250.02	\$5,287,436	\$192.97
Adjustments for Private versus Public bidding							
100% Private	-5.00%	(\$318,000)	(\$11.61)				
100% Public	0.00%			\$0	\$0.00		
70% Private / 30% Public + (2) projects	10.00%					\$529,000	\$19.31
Adjusted Estimated Construction Cost Total		\$6,041,081	\$220.48	\$7,563,027	\$250.02	\$5,816,436	\$212.28
Potential expanded parking - add 42 spaces		\$125,000	\$4.56			\$125,000	\$4.56

100/0 Inn Option2 Alternate Use 1A Trade Cost Details

ELEMENT		QUANTITY	UNIT	UNIT RATE	COST
7	30 Room Inn	11,407	sf		
8	Restaurant	2,741	sf		
9					
10	02-EXISTING CONDITIONS				
11					
12	<i>All Options</i>				
13	Remove east entry stair and concrete landing	135	SF	\$30.00	\$4,050
14	Remove corrugated plastic walls and roof and metal guardrail at basement stair enclosure, South Elevation	1	LF	\$10,000.00	\$10,000
15	Remove wood stairs, West Elevation	2	FLT	\$2,500.00	\$5,000
16	Remove concrete ramp, East Elevation	65	LF	\$90.00	\$5,850
17	Remove Kalwall windows, West Elevation	10	EA	\$250.00	\$2,500
18					
19	Elevator opening thru' extg bldg floor plate	4	LOC	\$5,000.00	\$20,000
20	Remove handrails from interior stairs	4	FLT	\$2,500.00	\$10,000
21	Remove indicated interior partition walls and glass partition walls in hallways	750	SF	\$5.00	\$3,750
22	Remove carpet and vinyl asbestos tiles throughout	26,260	SF	\$6.75	\$177,255
23	Remove all acoustical drop ceilings. Remove lead-based paint from pressed-tin ceilings	27,400	SF	\$3.00	\$82,200
24	lead-based paint on walls	27,400	GSF	\$3.00	\$82,200
25	Remove bathroom fixtures and finishes	8	RMS	\$5,000.00	\$40,000
26	02-Existing Conditions Total				\$442,805
27					
28					
29	03-CONCRETE				
30					
31	<i>All Options</i>				
32	East entrance stairs	85	LFR	\$75.00	\$6,375
33	landing	90	SF	\$10.00	\$900
34	ramp	465	SF	\$10.00	\$4,650
35	strip footing, ftn walls for above	255	LF	\$225.00	\$57,375
36	West exit ramp	125	SF	\$10.00	\$1,250
37	strip footing, ftn walls for above	48	LF	\$225.00	\$10,800
38					
39	Equipment pads	1	LS	\$5,000.00	\$5,000
40					
41	Elevator pit, within extg bldg floor plate	1	LS	\$10,000.00	\$10,000
42	03-Concrete Total				\$96,350
43					
44					
45					
46					
47					

100/0 Inn Option2 Alternate Use 1A Trade Cost Details

Prescott School

Reuse Study

27,400 GSF

ELEMENT	QUANTITY	UNIT	UNIT RATE	COST
48 04-MASONRY				
49				
50 <i>All Options</i>				
51 Brick wall x 3' high at basement stair enclosure, South elevation	125	SF	\$75.00	\$9,375
52 Brick facing to ramp walls	1,035	SF	\$25.00	\$25,863
53 04-Masonry Total				\$35,238
54				
55				
56 05-METALS				
57				
58 <i>All Options</i>				
59 Roof framing over egress stair, South Elevation	1	LS	\$5,000.00	\$5,000
60 East entrance stairs	16	LF	\$150.00	\$2,400
61 ramp	185	LF	\$250.00	\$46,250
62 West exit ramp	40	LF	\$250.00	\$10,000
63 West egress stair	1	FLT	\$15,000.00	\$15,000
64				
65 Seismic structural upgrades allowance	1	AL	\$100,000.00	\$100,000
66 Guardrails and handrails to etr interior stairs	4	FLT	\$5,000.00	\$20,000
67 Elevator pit ladder, sill angles	1	LS	\$2,250.00	\$2,250
68 05-Metals Total				\$200,900
69				
70				
71 06-WOODS, PLASTICS, & COMPOSITES				
72				
73 <i>All Options</i>				
74 Repair/replace missing baseboard, dado, t&g beadboard	300	LF	\$50.00	\$15,000
75 New baseboard at new walls	1,935	LF	\$25.00	\$48,381
76				
77 Interior wood partitions	21,288	SF	\$3.50	\$74,506
78 06-Woods, Plastics, & Composites Total				\$137,887
79				
80				
81 07-THERMAL & MOISTURE PROTECTION				
82				
83 <i>All Options</i>				
84 Elevator overrun	1	LS	\$7,500.00	\$7,500
85 Firestopping, caulking and sealants	27,400	GSF	\$2.50	\$68,500
86 07-Thermal & Moisture Protection Total				\$76,000
87				
88				
89				

100/0 Inn Option2 Alternate Use 1A Trade Cost Details

ELEMENT	QUANTITY	UNIT	UNIT RATE	COST
90 08-OPENINGS				
91				
92 <i>All Options</i>				
93 Wood stile and rail entrance door	2	PR	\$10,000.00	\$20,000
94 Aluminum glass framed egress door	2	LEAF	\$5,000.00	\$10,000
95				
96 Inn room	30	LEAF	\$1,500.00	\$45,000
97 closet pair	30	PR	\$500.00	\$15,000
98 Remainder of interior doors	20	LEAF	\$1,200.00	\$24,000
99 Restaurant window; 9x13, folding window system	4	EA	\$15,000.00	\$60,000
100 Basement window	8	EA	\$5,000.00	\$40,000
101 08-Openings Total				\$214,000
102				
103				
104 09-FINISHES				
105				
106 Elevator shaft walls	1,400	SF	\$15.00	\$21,000
107 5/8" Gypsum wallboard to new partitions	27,800	SF	\$2.10	\$58,380
108 5/8" MR GWB, bathrooms	13,375	SF	\$2.35	\$31,431
109 Patch etr plastered walls, new plaster	7,500	SF	\$10.00	\$75,000
110 Ceramic tile full height, wet walls	4,015	SF	\$10.00	\$40,145
111 wainscot remainder toilet room walls	4,255	SF	\$10.50	\$44,678
112				
113 Retain pressed-tin decorative ceiling	15,480	SF		incl.
114 replicate pressed-tin where missing; assume 10%	1,720	SF	\$25.00	\$43,000
115 GWB ceilings, Basement	10,200	SF	\$7.50	\$76,500
116 MR GWB ceilings, Bathrooms	2,960	SF	\$10.00	\$29,600
117				
118 Refinish wood flooring	14,502	SF	\$2.50	\$36,255
119 Ceramic floor tiles, Bathrooms	2,960	SF	\$10.00	\$29,600
120 Resilient flooring, Basement hallways and storage	2,180	SF	\$6.50	\$14,170
121 Carpet; Basement Inn rooms, staff lounge	4,195	SF	\$4.50	\$18,878
122 Athletic flooring; fitness	823	SF	\$10.00	\$8,230
123 Area rug; Inn rooms 1st & 2nd	21	EA	\$2,500.00	\$52,500
124				
125 Prep and paint - based on floor area	27,400	GSF	\$1.75	\$47,950
126 exterior cornice	190	LF	\$30.00	\$5,700
127 front entrance	1	LS	\$2,500.00	\$2,500
128 canopy, doors and trim	2	LOC	\$2,500.00	\$5,000
129 canopy	3	LOC	\$1,500.00	\$4,500
130 09-Finishes Total				\$645,016
131				
132				
133				
134				

100/0 Inn Option2 Alternate Use 1A Trade Cost Details

ELEMENT	QUANTITY	UNIT	UNIT RATE	COST
135 10-SPECIALTIES				
136				
137 <i>All Options</i>				
138 Building signage, interiors - based on floor area	27,400	GSF	\$0.25	\$6,850
139 Fire extinguisher	6	EA	\$500.00	\$3,000
140				
141 Bathroom toilet partition	14	STALL	\$2,500.00	\$35,000
142 Bathroom accessories; gang	4	RMS	\$3,500.00	\$14,000
143 suites	30	RMS	\$500.00	\$15,000
144 Room labels	30	RMS	\$25.00	\$750
145 10-Specialties Total				\$74,600
146				
147				
148 11-EQUIPMENT				
149				
150 <i>Food Service</i>				
151 Commercial cooking, dishwashing, fridge, freezer, work table	400	GSF	\$500.00	\$200,000
152 11-Equipment Total				\$200,000
153				
154				
155 12-FURNISHINGS				
156				
157 <i>All Options</i>				
158 Window treatments	1	LS	\$25,000.00	\$25,000
159				
160 Solid surface countertop; open kitchen	80	LF	\$500.00	\$40,000
161 Vanity countertop	20	LF	\$250.00	\$5,000
162 Cabinet w/p-lam countertop, Laundry	1	RMS	\$5,000.00	\$5,000
163 12-Furnishings Total				\$75,000
164				
165				
166 14-CONVEYING EQUIPMENT				
167				
168 <i>All Options</i>				
169 Gearless traction passenger elevator; 3 stop, single door	1	LS	\$90,000.00	\$90,000
170 14-Conveying Equipment Total				\$90,000
171				
172				
173				
174				
175				
176				
177				

100/0 Inn Option2 Alternate Use 1A Trade Cost Details

ELEMENT	QUANTITY	UNIT	UNIT RATE	COST
178 21-FIRE SUPPRESSION				
179				
180 New sprinkler coverage system	27,400	GSF	\$4.50	\$123,300
181 closet sprinkler	30	EA	\$350.00	\$10,500
182 new 4" fire service	1	LS	\$15,000.00	\$15,000
183 21-Fire Suppression Total				\$148,800
184				
185				
186 22-PLUMBING				
187				
188 Fixture	107	FIX	\$5,000.00	\$535,000
189 Kitchen	1	RMS	\$90,000.00	\$90,000
190 22-Plumbing Total				\$625,000
191				
192				
193 23-HVAC				
194				
195 System	27,400	GSF	\$35.00	\$959,000
196 23-HVAC Total				\$959,000
197				
198				
199 26-ELECTRICAL				
200				
201 Allowance provided	27,400	GSF	\$19.00	\$520,600
202 26-ELECTRICAL Total				\$520,600
203				
204				
205 32-EXTERIOR IMPROVEMENTS				
206				
207 Site Plan With Basic Parking				
208 Reconfigure parking space markings	49	SP	\$25.00	\$1,225
209 ADA, sign, hatching	3	SP	\$220.00	\$660
210 New sidewalk	500	SF	\$10.00	\$5,000
211 New grass/lawns	4,000	SF	\$0.25	\$1,000
212 32-EXTERIOR IMPROVEMENTS Total				\$7,885
213				
214				
215				

0/100 Central Fire Station Alternate Use 4B Trade Cost Details

Prescott School
Reuse Study
30,250 GSF

ELEMENT	QUANTITY	UNIT	UNIT RATE	COST
7 Apparatus Bays	6,829	sf		
8				
9 02-EXISTING CONDITIONS				
10				
11 As per Inn Option	1	LS	\$442,805.00	\$442,805
12 Demo structure; Café/Auditorium	80,535	CFT	\$0.50	\$40,268
13 02-Existing Conditions Total				\$483,073
14				
15				
16 03-CONCRETE				
17				
18 East entrance stairs	85	LFR	\$75.00	\$6,375
19 landing	90	SF	\$10.00	\$900
20 ramp	465	SF	\$10.00	\$4,650
21 strip footing, ftn walls for above	255	LF	\$225.00	\$57,375
22				
23 Equipment pads	1	LS	\$5,000.00	\$5,000
24				
25 Elevator pit, in new construction	1	LS	\$7,500.00	\$7,500
26				
27 Slab on grade	6,830	SF	\$10.00	\$68,300
28 strip footing, ftn walls for above	370	LF	\$225.00	\$83,250
29 03-Concrete Total				\$233,350
30				
31				
32 04-MASONRY				
33				
34 As per Inn Option	1	LS	\$35,237.50	\$35,238
35 Face brick w/CMU backup exterior wall system	9,250	SF	\$75.00	\$693,750
36 04-Masonry Total				\$728,988
37				
38				
39 05-METALS				
40				
41 As per Inn Option	1	LS	\$200,900.00	\$200,900
42 Add bracing to existing building	1	AL	\$100,000.00	\$100,000
43 Steel framing, metal decking	6,829	GSF	\$35.00	\$239,015
44 Egress stair	1	FLT	\$10,000.00	\$10,000
45 Training tower stair	2	FLT	\$10,000.00	\$20,000
46 05-Metals Total				\$569,915
47				
48				
49				

0/100 Central Fire Station Alternate Use 4B Trade Cost Details

Prescott School
Reuse Study
30,250 GSF

ELEMENT	QUANTITY	UNIT	UNIT RATE	COST
50 06-WOODS, PLASTICS, & COMPOSITES				
51				
52 As per Inn Option	1	LS	\$63,380.68	\$63,381
54 Interior wood partitions	3,220	SF	\$3.50	\$11,268
55 06-Woods, Plastics, & Composites Total				\$74,649
56				
57				
58 07-THERMAL & MOISTURE PROTECTION				
59				
60 As per Inn Option	1	LS	\$76,000.00	\$76,000
61 Exterior wall system	9,250	SF	\$5.00	\$46,250
62 Roofing	6,829	SF	\$15.00	\$102,435
63 07-Thermal & Moisture Protection Total				\$224,685
64				
65				
66 08-OPENINGS				
67				
68 As per Inn Option	1	LS	\$30,000.00	\$30,000
69				
70 Garage door; 14x14	8	LEAF	\$15,000.00	\$120,000
71 Bunk rooms, restrooms	12	LEAF	\$1,500.00	\$18,000
72 Program spaces; wood stile and rail	20	LEAF	\$1,500.00	\$30,000
73 Remainder of interior doors	35	LEAF	\$1,200.00	\$42,000
74 08-Openings Total				\$240,000
75				
76				
77 09-FINISHES				
78				
79 Elevator shaft walls	1,400	SF	\$15.00	\$21,000
80 5/8" Gypsum wallboard to new partitions	1,900	SF	\$2.10	\$3,990
81 5/8" MR GWB, bathrooms	3,135	SF	\$2.35	\$7,367
82 Patch etr plastered walls, new plaster	6,000	SF	\$10.00	\$60,000
83 Ceramic tile full height, wet walls	940	SF	\$10.00	\$9,395
84 wainscot remainder toilet room walls	1,000	SF	\$10.50	\$10,495
85				
86 Retain pressed-tin decorative ceiling	13,180	SF		incl.
87 replicate pressed-tin where missing; assume 10%	1,720	SF	\$25.00	\$43,000
88 Exposed structure, Apparatus	6,829	SF	\$2.00	\$13,658
89 MR GWB ceilings, Bathrooms	1,230	SF	\$10.00	\$12,300
90				
91 Refinish wood flooring	11,865	SF	\$2.50	\$29,663
92 Ceramic floor tiles, Bathrooms	1,230	SF	\$10.00	\$12,300
93 Carpet; Basement	7,300	SF	\$4.50	\$32,850

0/100 Central Fire Station Alternate Use 4B Trade Cost Details

Prescott School

Reuse Study

30,250 GSF

ELEMENT	QUANTITY	UNIT	UNIT RATE	COST
94 Sealed concrete, Apparatus	6,829	SF	\$5.00	\$34,145
95				
96 Prep and paint - based on floor area	23,420	GSF	\$1.75	\$40,985
97 exterior cornice	190	LF	\$30.00	\$5,700
98 front entrance	1	LS	\$2,500.00	\$2,500
99 canopy, doors and trim	2	LOC	\$2,500.00	\$5,000
100 canopy	3	LOC	\$1,500.00	\$4,500
101 09-Finishes Total				\$348,848
102				
103				
104 10-SPECIALTIES				
105				
106 As per Inn Option	1	LS	\$9,850.00	\$9,850
107				
108 Bathroom toilet partition	8	STALL	\$2,500.00	\$20,000
109 shower	4	STALL	\$1,500.00	\$6,000
110 Bathroom accessories; gang	4	RMS	\$3,500.00	\$14,000
111 unisex	1	RMS	\$500.00	\$500
112 10-Specialties Total				\$50,350
113				
114				
115 11-EQUIPMENT				
116				
117 <i>Food Service</i>				
118 Commercial cooking, dishwashing, fridge, freezer, work table	864	GSF	\$300.00	\$259,200
119 11-Equipment Total				\$259,200
120				
121				
122 12-FURNISHINGS				
123				
124 As per Inn Option	1	LS	\$25,000.00	\$25,000
125				
126 P-lam cabinet w/solid surface countertop; Kitchen	1	RMS	\$10,000.00	\$10,000
127 Wood shelving, counters; Maintenance	1	LS	\$10,000.00	\$10,000
128 Cubbies	1	LS	\$5,000.00	\$5,000
129 Vanity countertop	23	LF	\$250.00	\$5,625
130 Cabinet w/p-lam countertop, Laundry	1	RMS	\$5,000.00	\$5,000
131 12-Furnishings Total				\$60,625
132				
133				
134 14-CONVEYING EQUIPMENT				
135				
136 As per Inn Option	1	LS	\$90,000.00	\$90,000
137 14-Conveying Equipment Total				\$90,000

0/100 Central Fire Station Alternate Use 4B Trade Cost Details

Prescott School

Reuse Study

30,250 GSF

ELEMENT	QUANTITY	UNIT	UNIT RATE	COST
138				
139				
140 21-FIRE SUPPRESSION				
141				
142 New sprinkler coverage system	23,421	GSF	\$4.50	\$105,395
143 dry system; Apparatus	6,829	GSF	\$4.00	\$27,316
144 new 4" fire service	1	LS	\$20,000.00	\$20,000
145 21-Fire Suppression Total				\$152,711
146				
147				
148 22-PLUMBING				
149				
150 Fixture	31	FIX	\$5,000.00	\$155,000
151 Kitchen	1	RMS	\$20,000.00	\$20,000
152 Apparatus	1	RMS	\$20,000.00	\$20,000
153 22-Plumbing Total				\$195,000
154				
155				
156 23-HVAC				
157				
158 System	30,250	GSF	\$28.00	\$847,000
159 23-HVAC Total				\$847,000
160				
161				
162 26-ELECTRICAL				
163				
164 Allowance provided	30,250	GSF	\$23.00	\$695,750
165 26-ELECTRICAL Total				\$695,750
166				
167				
168 32-EXTERIOR IMPROVEMENTS				
169				
170 Site Plan With Basic Parking as per Inn Option	1	LS	\$7,885.00	\$7,885
171 Add more paving, credit parking	15,000	SF	\$10.00	\$150,000
172 32-EXTERIOR IMPROVEMENTS Total				\$157,885
173				
174				
175				

70/30 Senior Center Alternate Use 2B Trade Cost Details

Prescott School
Reuse Study
27,400 GSF

ELEMENT	QUANTITY	UNIT	UNIT RATE	COST
7	11 Commercial Units	9,486	sf	
8	Senior Center	3,761	sf	
9	Shared Multi-Purpose	2,741	sf	
10				
11	02-EXISTING CONDITIONS			
12				
13	As per Inn Option	1	LS \$442,805.00	\$442,805
14	02-Existing Conditions Total			\$442,805
15				
16				
17	03-CONCRETE			
18				
19	As per Inn Option	1	LS \$96,350.00	\$96,350
20	03-Concrete Total			\$96,350
21				
22				
23	04-MASONRY			
24				
25	As per Inn Option	1	LS \$35,237.50	\$35,238
26	04-Masonry Total			\$35,238
27				
28				
29	05-METALS			
30				
31	As per Inn Option	1	LS \$200,900.00	\$200,900
32	05-Metals Total			\$200,900
33				
34				
35	06-WOODS, PLASTICS, & COMPOSITES			
36				
37	As per Inn Option	1	LS \$63,380.68	\$63,381
38				
39	Interior wood partitions	4,468	SF \$3.50	\$15,636
40	06-Woods, Plastics, & Composites Total			\$79,017
41				
42				
43	07-THERMAL & MOISTURE PROTECTION			
44				
45	As per Inn Option	1	LS \$76,000.00	\$76,000
46	07-Thermal & Moisture Protection Total			\$76,000
47				
48				

70/30 Senior Center Alternate Use 2B Trade Cost Details

Prescott School
Reuse Study
27,400 GSF

ELEMENT	QUANTITY	UNIT	UNIT RATE	COST
49 08-OPENINGS				
50				
51 As per Inn Option	1	LS	\$30,000.00	\$30,000
52				
53 Replace kalwall w/new window to resemble original	1,000	SF	\$100.00	\$100,000
54 Private rooms, restrooms	10	LEAF	\$1,500.00	\$15,000
55 Remainder of interior doors	50	LEAF	\$1,200.00	\$60,000
56 08-Openings Total				\$205,000
57				
58				
59 09-FINISHES				
60				
61 Elevator shaft walls	1,400	SF	\$15.00	\$21,000
62 5/8" Gypsum wallboard to new partitions	2,200	SF	\$2.10	\$4,620
63 5/8" MR GWB, bathrooms	5,335	SF	\$2.35	\$12,537
64 Patch etr plastered walls, new plaster	7,500	SF	\$10.00	\$75,000
65 Ceramic tile full height, wet walls	1,600	SF	\$10.00	\$15,995
66 wainscot remainder toilet room walls	1,700	SF	\$10.50	\$17,845
67				
68 Retain pressed-tin decorative ceiling	15,480	SF		incl.
69 replicate pressed-tin where missing; assume 10%	1,720	SF	\$25.00	\$43,000
70 GWB ceilings, Basement	10,200	SF	\$7.50	\$76,500
71 MR GWB ceilings, Bathrooms	1,600	SF	\$10.00	\$16,000
72				
73 Refinish wood flooring	17,450	SF	\$2.50	\$43,625
74 Ceramic floor tiles, Bathrooms	1,600	SF	\$10.00	\$16,000
75 Carpet; Basement commercial rooms	5,610	SF	\$4.50	\$25,245
76				
77 Prep and paint - based on floor area	27,400	GSF	\$1.75	\$47,950
78 exterior cornice	190	LF	\$30.00	\$5,700
79 front entrance	1	LS	\$2,500.00	\$2,500
80 canopy, doors and trim	2	LOC	\$2,500.00	\$5,000
81 canopy	3	LOC	\$1,500.00	\$4,500
82 09-Finishes Total				\$433,017
83				
84				
85 10-SPECIALTIES				
86				
87 As per Inn Option	1	LS	\$9,850.00	\$9,850
88				
89 Bathroom toilet partition	20	STALL	\$2,500.00	\$50,000
90 Bathroom accessories; gang	6	RMS	\$3,500.00	\$21,000
91 unisex	2	RMS	\$500.00	\$1,000
92 10-Specialties Total				\$81,850
93				

70/30 Senior Center Alternate Use 2B Trade Cost Details

ELEMENT	QUANTITY	UNIT	UNIT RATE	COST
94				
95 11-EQUIPMENT				
96				
97 <i>Food Service</i>				
98 Commercial cooking, dishwashing, fridge, freezer, work table	376	GSF	\$300.00	\$112,800
99 11-Equipment Total				\$112,800
100				
101				
102 12-FURNISHINGS				
103				
104 As per Inn Option	1	LS	\$25,000.00	\$25,000
105				
106 P-lam cabinet w/solid surface countertop; Reception	20	LF	\$500.00	\$10,000
107 Activity Rooms	2	RMS	\$10,000.00	\$20,000
108 Kitchen	1	RMS	\$10,000.00	\$10,000
109 P-lam shelving and cabinets, solid surface countertop; Food Storage	1	RMS	\$5,000.00	\$5,000
110 Vanity countertop	28	LF	\$250.00	\$6,875
111 Cabinet w/p-lam countertop, Laundry	1	RMS	\$5,000.00	\$5,000
112 12-Furnishings Total				\$81,875
113				
114				
115 14-CONVEYING EQUIPMENT				
116				
117 As per Inn Option	1	LS	\$90,000.00	\$90,000
118 14-Conveying Equipment Total				\$90,000
119				
120				
121 21-FIRE SUPPRESSION				
122				
123 New sprinkler coverage system	27,400	GSF	\$4.50	\$123,300
124 new 4" fire service	1	LS	\$15,000.00	\$15,000
125 21-Fire Suppression Total				\$138,300
126				
127				
128 22-PLUMBING				
129				
130 Fixture	41	FIX	\$5,000.00	\$205,000
131 Kitchen	1	RMS	\$100,000.00	\$100,000
132 22-Plumbing Total				\$305,000
133				
134				
135				

70/30 Senior Center Alternate Use 2B Trade Cost Details

Prescott School
Reuse Study
27,400 GSF

ELEMENT	QUANTITY	UNIT	UNIT RATE	COST
136 23-HVAC				
137				
138 System, no A/C	27,400	GSF	\$25.00	\$685,000
139 23-HVAC Total				\$685,000
140				
141				
142 26-ELECTRICAL				
143				
144 Allowance provided	27,400	GSF	\$26.00	\$712,400
145 26-ELECTRICAL Total				\$712,400
146				
147				
148 32-EXTERIOR IMPROVEMENTS				
149				
150 Site Plan With Basic Parking	1	LS	\$7,885.00	\$7,885
151 32-EXTERIOR IMPROVEMENTS Total				\$7,885
152				
153				
154				

XII. Development Options and Incentives

There are several development and ownership options to consider. Each has different opportunities with regards to the cost of construction and the availability to utilize various incentive programs. A private developer can reduce costs by applying for historic tax credits, while a public developer (Town) can utilize a Tax Increment Financing strategy and grants such as Community Preservation Act Funding. In broad strokes, the discussion begins with who develops the project: a public entity such as the Town or a private entity.

Public versus Private

Town development of the project would require that the project be completed under Chapter 149 Regulations for public construction. This regulation requires use of prevailing wages and other cost such as an owner's project manager that will ultimately add approximately twenty percent to the cost versus what a private developer would incur.

Ownership

If the Town determines that a private entity is to undertake the development, then a scenario for the transfer of the land must be created. This is common practice to transfer land through a long term lease, say 50 to 100 years or by sale. The renovation cost of the Prescott School building is rather high. Consideration could be given to lowering the purchase price in exchange for creating a more viable and sustainable project and thus, more likely guaranteeing the Town the receipt of annual property taxes from the property. At one extreme, the request for proposal could be based on the quality of the business concept and the development team with a nominal sale price of \$1. For the commercial development, it appears that this would be the only viable method to proceed as the cost to renovate is high, the pro forma will not work with an additional six or seven figure purchase price.

If the Town were to retain ownership and have a developer undertake the renovations, a long term lease would be required, although this should be reviewed by legal counsel. Retained ownership by the town (i.e., no sale or lease transfer) would require that the work be done under the Chapter 149 Regulations. The office space at South Station in Boston is an example of how a private entity can lease and then develop a public structure.

Historic Tax Credits

The Prescott School is a National Register building and thus is eligible for historic tax credits for income producing properties. Credits amounting to 20% of the cost of all construction (all "fixed" work i.e., no furniture) are available from both the state and federal government. Historic tax credits, depending on the funding allocation from the State, will reduce the cost of construction for the private developer since the Town is unable to utilize the tax credits.

Tax Increment Financing

Another way for the Town to help make the project financially feasible is to create a Tax Increment Financing strategy. This allows the Town to reduce the property taxes on the project for the initial years of the project, and gradually increase them as the project becomes more mature and able to generate sufficient revenues to pay taxes. The completion of a public project often results in an increase in the value of surrounding real estate, which generates additional tax revenue.

Community Preservation Act (CPA Funding)

Should the Town decide to renovate the building, Community Preservation Funds could be utilized for portions of the work that are related to the building renovation. Work related to the tenant, senior center, or arts center would not be eligible for CPA funds. This could considerably off-set the cost of construction depending on the availability of CPA funds in Groton.

How to Create an Arts or Senior Center

Financially, the best situation is to transfer ownership of the Prescott School to a private developer who would then renovate the base building. The town would then issue a request for proposal to lease the senior center, or other community program space in a private building, which the new owner of the Prescott School could respond to. Then, the fit-out of the Senior Center would be done as a public project. The fit-out for the Arts Center, being a private non-profit, could be done as a private project. The benefit of this scenario is that the Town creates a development opportunity that consists of base building renovations (elevator, restrooms and other infrastructure) and tenant fit-out (specific renovations required by a tenant).

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MEMORANDUM

Date: January 18, 2012

To: Joel Bargmann, Bargmann Hendrie + Archtype

From: Taya Dixon, Epsilon Associates, Inc.

Subject: Prescott School, 145 Main Street, Groton, MA

This memorandum describes the eligibility of the Prescott School for state and federal historic tax credits and the process for acquiring the credits through the Massachusetts Historical Commission (MHC) and National Park Service (NPS).

Prescott School

The Prescott School, historically known as the Groton High School, is individually listed on the State and National Registers of Historic Places. It is also a contributing resource in the Groton Center Local Historic District, a district administered by the Groton Historic Districts Commission and listed in the State Register of Historic Places. The rehabilitation of the building would be eligible for federal historic tax credits by virtue of it being listed on the National Register of Historic Places. It is also eligible for state historic tax credits as it is listed in both the State and National Registers of Historic Places.

State Historic Tax Credits

The Massachusetts Historic Rehabilitation Tax Credit (MHRTC) is available on a competitive basis for income-producing buildings which are determined a "qualified historic structure" by the MHC and which are substantially rehabilitated following the *Secretary of the Interior's Standards for Rehabilitation* (Standards). Under the Massachusetts tax credit program, up to 20 percent of the total qualified rehabilitation expenditures is returned to the owner in the form of a dollar-per-dollar credit on state income taxes. Currently, each year \$50 million is available in tax credits through this program. Income producing properties include uses such as rental residential, commercial or office. All hard costs associated with work located within the existing building envelope as well as soft costs are eligible as qualified rehabilitation expenditures. Expenses associated with site work and furnishings are not eligible.

The three-part MHRTC application, together with additional supporting information required for the competitive process and photographic documentation, is submitted to the MHC to qualify for consideration in three annual application rounds with deadlines of April 30, August 30 and January

15. Successful certification of the completed project by the MHC and securing the subsequent tax benefits is dependent upon rehabilitation work that meets the Secretary of the Interior's *Standards for Rehabilitation*. The state process is competitive and generally several application rounds are required to reach a project's 20% eligible allocation.

Application Process

The three part State application process begins with an "initial certification" to determine if the structure meets the definition of a qualified historic structure. The Prescott School is considered a "qualified historic structure" as it is listed in the State and National Registers of Historic Places.

The "second certification" of the MHRTC Application requires a detailed description of existing conditions of the building and the proposed work, preservation-related issues such as materials conservation, specialized treatments, and innovative solutions to preservation issues. The application also requires detailed photographs of the existing conditions of the building and site. Supplemental information including pro formas, budgets, compliance with executive orders, letters of support, project plans, etc. is also part of the application. The MHC generally issues

Prescott School Reuse Study
Town of Groton, Massachusetts
March, 2012

partial allocations in each round. This requires owners to resubmit application in subsequent rounds until a 20% allocation is reached. The owner may continue to resubmit until the project reaches 20% or completion of the project, whichever is first.

The "final certification" requires detailed overall and close-up photographs of the completed work. The State Certificate must be issued by the MHC in the same calendar year in which the credit will be taken.

Federal Historic Tax Credits

The federal historic preservation investment tax credits are available for income-producing buildings which are listed in or are eligible for listing in the National Register of Historic Places and which are substantially rehabilitated according to the Standards. Income producing properties include uses such as rental residential, commercial or office. Under this program, 20 percent of the total costs of rehabilitation are returned to the owner in the form of a dollar-per-dollar credit on federal income taxes. All hard costs associated with work located within the existing building envelope as well as soft costs are eligible as qualified rehabilitation expenditures. Expenses associated with site work and furnishings are not eligible.

A three-part Historic Preservation Certification Application (HPCA), together with project plans and photographs, is submitted to the MHC and the NPS. The MHC has a review and comment role in the process, but the NPS has the final decision making authority regarding certification of the completed rehabilitation. Successful certification of the completed project, and obtaining the subsequent tax benefits, is dependent upon rehabilitation work that meets the Standards.

Application Process

The three part federal Historic Preservation Certification Application (HPCA) process generally begins with the "Part 1." However, since the Prescott School is individually listed on the National Register of Historic Places, a Part 1 is not required as it is already a "certified historic structure" for the purposes of the federal historic tax credit.

The "Part 2" of the HPCA requires a detailed description of existing conditions and the proposed work. The application also requires detailed photographs of the existing conditions of the building and site. Supplemental information including total project costs and total qualified rehabilitation expenditures, project plans, etc. is also part of the application. Amendments are generally filed during the pre-construction and construction period to address conditions of the Part 2 approval.

In general, the NPS will issue conditions associated with its Part 2 approval. Generally, these conditions are associated with items that can only be undertaken during construction such as masonry repointing test patches, window mock-ups and rooftop mechanical mock-ups.

The "Part 3" requires detailed overall and close-up photographs of the completed work.

Secretary of the Interiors Standards for Rehabilitation

Both the state and federal historic tax credit programs require projects to be undertaken in a manner consistent with the Standards. Detailed descriptions of the Standards can be found at <http://www.nps.gov/tps/standards/rehabilitation.htm>. In general, the Standards require the project retain character-defining elements of a building. Historically significant features must be retained where possible and replaced in kind where too damaged for repair. For school buildings such as the Prescott School, the MHC and NPS require retention of items such as original stairs, hallways, corridor doors, and exterior windows. If exterior windows are too deteriorated for repair, replacement in an alternative material such as aluminum is allowed provided the replacements are consistent with the character of the original windows. The MHC and NPS have allowed reorganization of demising walls between classrooms. In some instances, the NPS has required original chalkboards to be retained. Large spaces including auditoriums, gymnasiums and cafeterias may not be subdivided. Existing wood window and door trim, baseboard and crown moldings must be retained or replaced to match the existing. Epsilon has not viewed the interior or exterior of the Prescott School, so there may be other historically significant elements of the building that must be retained. These items should be identified early in the planning stages of any project at this site. Careful consideration must also be given to insulating exterior walls and ceilings and the installation of mechanical equipment.

XIII. Appendix

Drawing List for Appendix

Existing Site Plan
Existing Floor Plans
Existing Elevations

Site Plan with Basic Parking
Site Plan with Extended Parking

100 / 0 Inn Option 1: Restaurant in Basement, Event Space on First Floor
100 / 0 Inn Option 2: Restaurant on First Floor, No Event Space

70 / 30 Option 1: Basement Auditorium, First Floor Restaurant
70 / 30 Option 2: Basement Restaurant, First Floor Auditorium
70 / 30 Senior Center
70 / 30 Historical Society
70 / 30 3 Rivers Arts

50 / 50 Basement Floor Generic Community, First and Second Floor Commercial

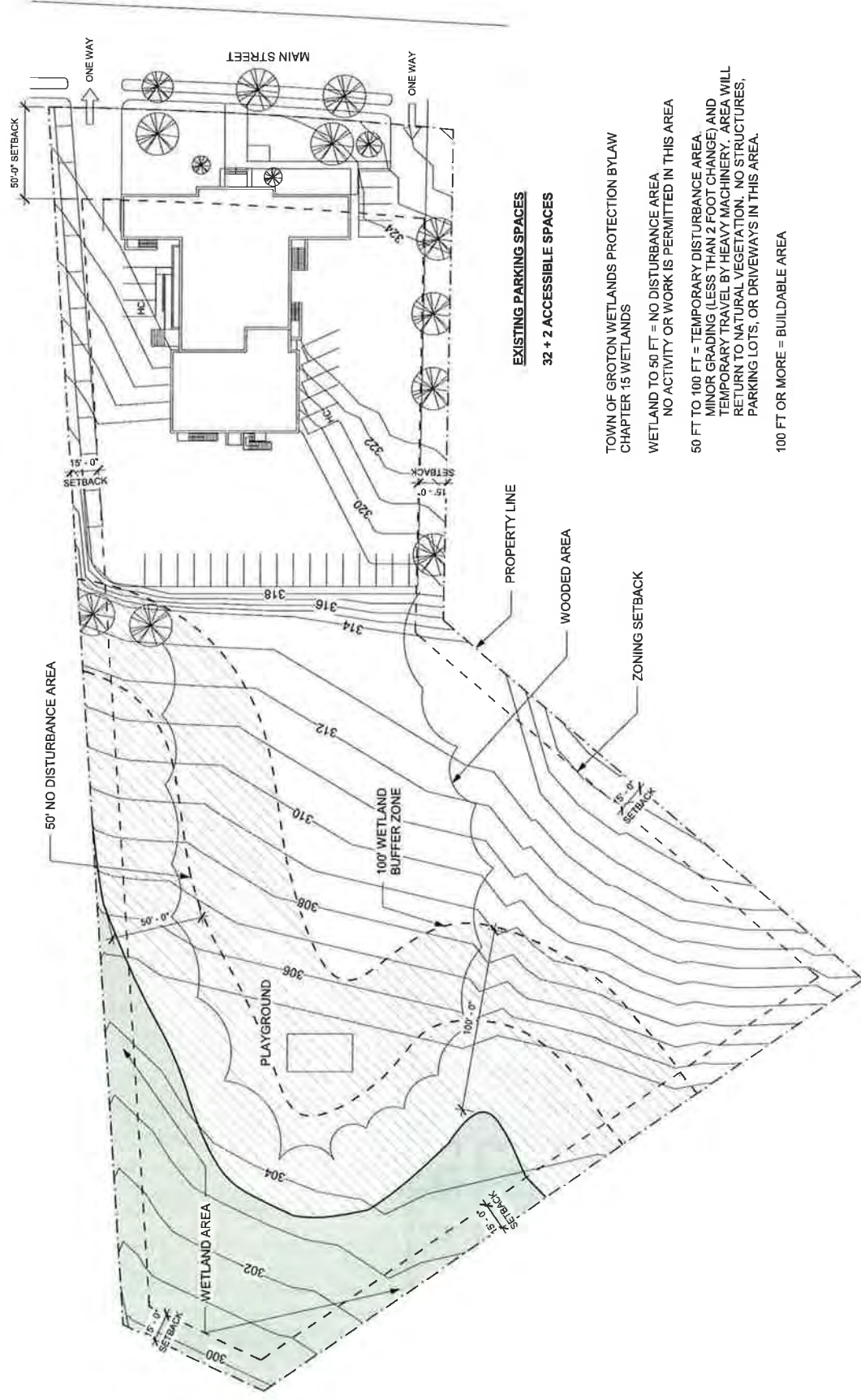
0 / 100 Senior Center & 3 Rivers Arts

Central Fire Station Site Plan
Fire Truck Accessibility Study
0 / 100 Central Fire Station

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PRESCOTT SCHOOL REUSE STUDY

TOWN OF GROTON
173 Main Street, Groton, MA 01450



EXISTING SITE PLAN



TOWN OF GROTON
173 Main Street, Groton, MA 01450



BASEMENT FLOOR	= 10,200 GSF
FIRST FLOOR	= 10,200 GSF
<u>SECOND FLOOR</u>	<u>= 7,000 GSF</u>
TOTAL	= 27,000 GSF

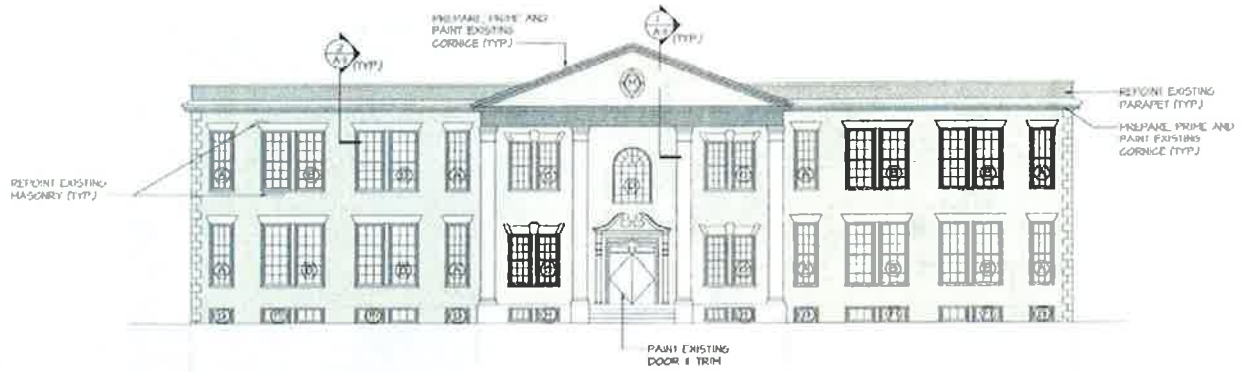
CLASSROOMS	= 518 OCCUPANTS
OFFICES	= 15 OCCUPANTS
GYM/AUDITORIUM	= 391 OCCUPANTS
CAFETERIA	= 153 OCCUPANTS
KITCHEN	= 2 OCCUPANTS
TOTAL	= 1,079 OCCUPANTS

FIRST FLOOR PLAN

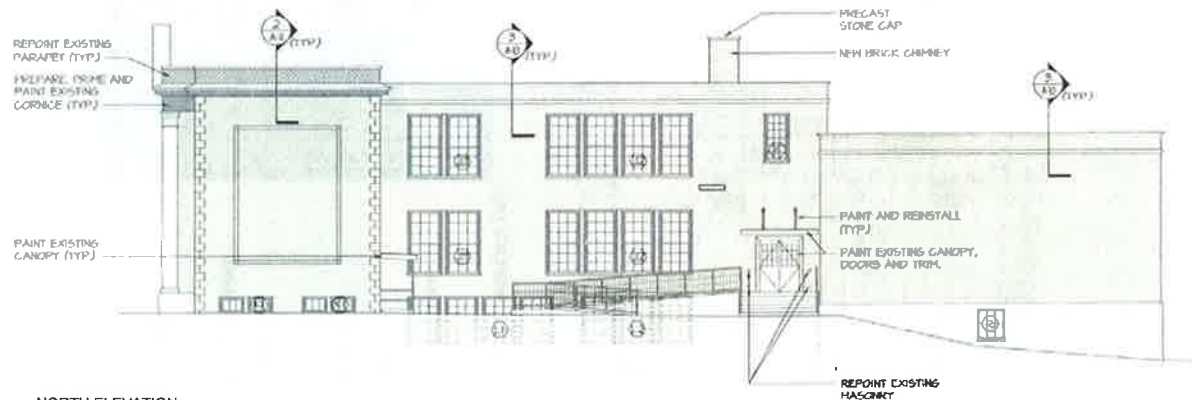


PRESCOTT SCHOOL REUSE STUDY

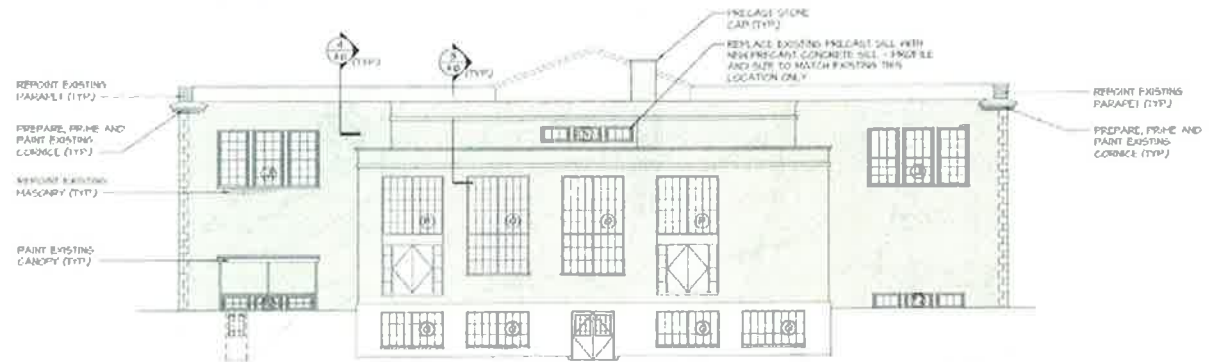
TOWN OF GROTON
173 Main Street, Groton, MA 01450



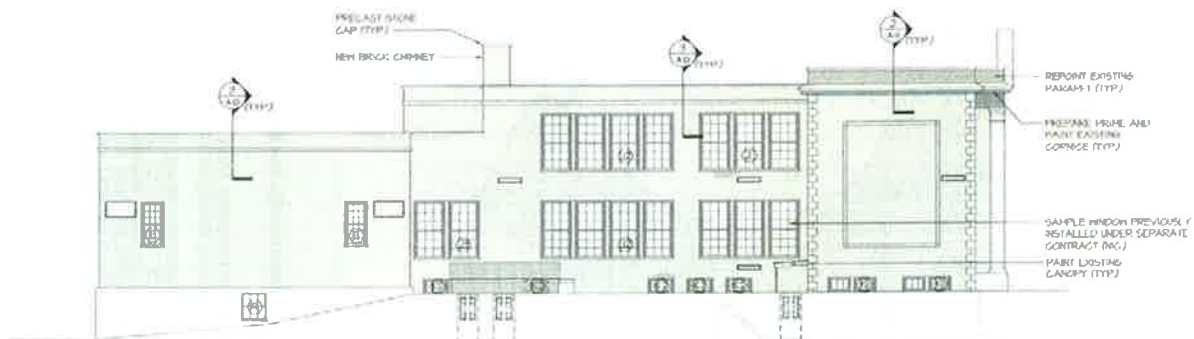
EAST ELEVATION



NORTH ELEVATION



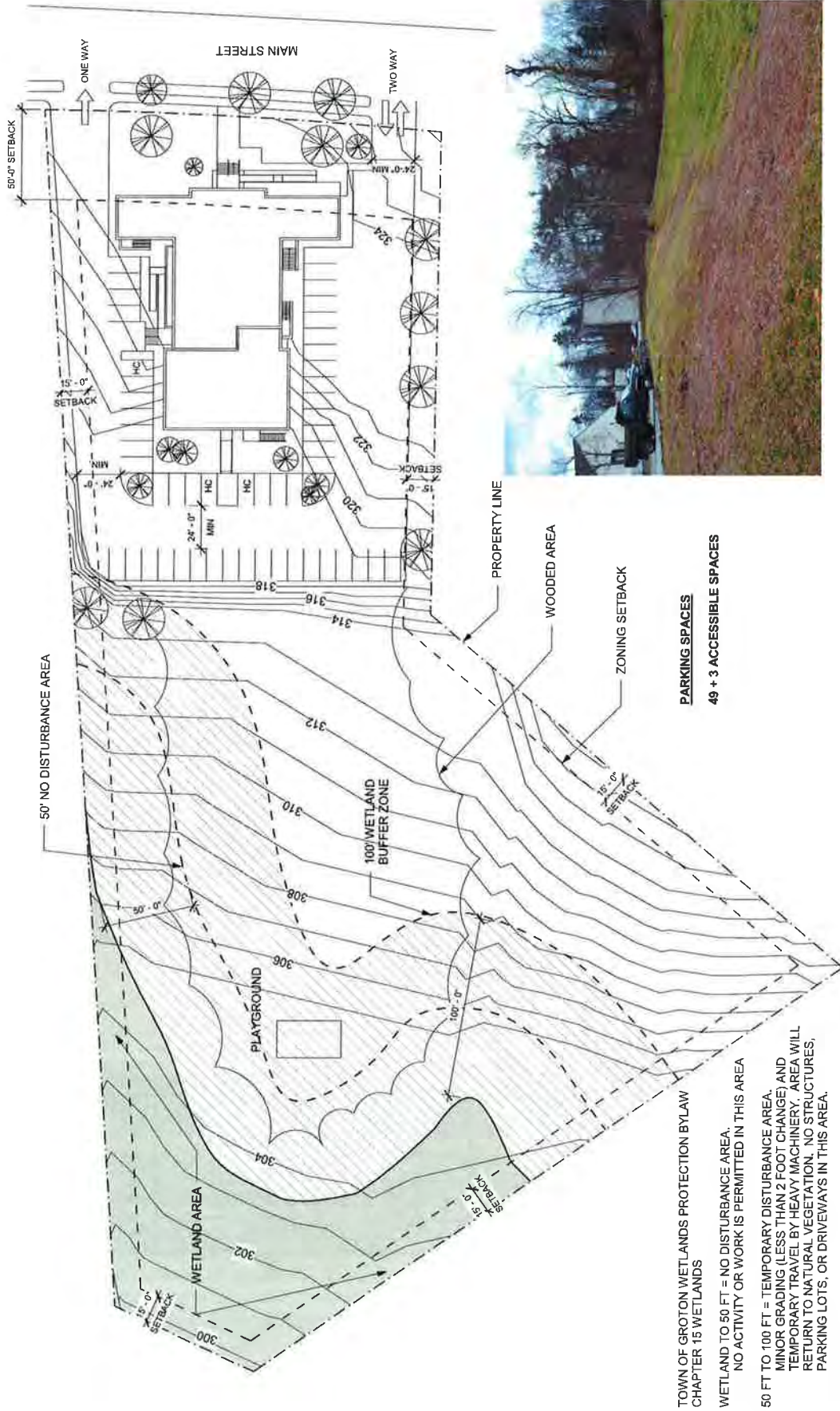
WEST ELEVATION



SOUTH ELEVATION

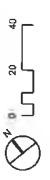
PRESCOTT SCHOOL REUSE STUDY

TOWN OF GROTON
173 Main Street, Groton, MA 01450



VIEW OF SLOPING SITE BEYOND PARKING LOT

SITE PLAN WITH BASIC PARKING



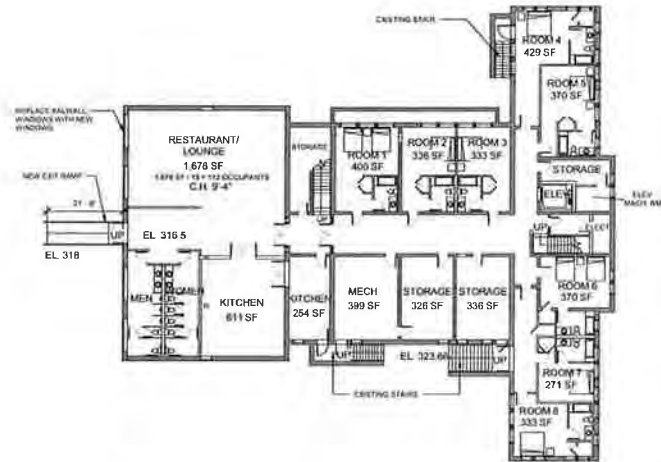
TOWN OF GROTON
173 Main Street, Groton, MA 01450



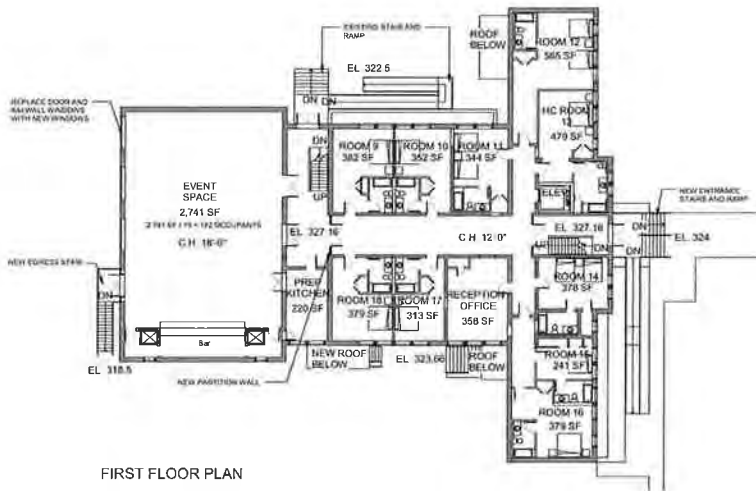
VIEW OF PRESCOTT SCHOOL AND EXISTING PARKING FROM
ENTRANCE OF EXPANDED PARKING LOT

PRESCOTT SCHOOL REUSE STUDY

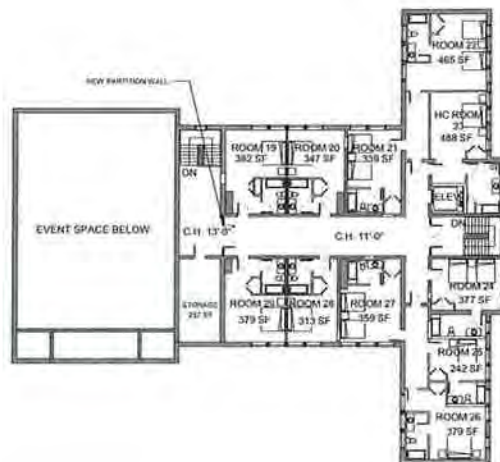
TOWN OF GROTON
173 Main Street, Groton, MA 01450



BASEMENT FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN

100% COMMERCIAL / 0% COMMUNITY (INN OPTION)

GROSS SQUARE FOOTAGE

BASEMENT FLOOR	= 10,200 GSF
FIRST FLOOR	= 10,200 GSF
SECOND FLOOR	= 7,000 GSF
TOTAL	= 27,000 GSF

BUILDING PROGRAM

29 ROOM INN	= 2,950 SF BASEMENT
	4,430 SF FIRST FLOOR
	3,311 SF SECOND FLOOR
	10,691 SF TOTAL
EVENT SPACE	= 2,741 SF TOTAL
RESTAURANT	= 1,678 SF TOTAL

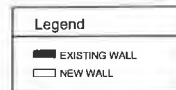
BUILDING OCCUPANCY

INN:	58 OCCUPANTS
EVENT SPACE:	182 OCCUPANTS
RESTAURANT:	112 OCCUPANTS
TOTAL	352 OCCUPANTS

FIXTURE COUNT

INN:	1 TOILET AND LAV PER ROOM
EVENT SPACE:	2 FEMALE TOILETS, 1 LAV 1 MALE TOILET, 1 LAV
RESTAURANT:	2 FEMALE TOILETS, 1 LAV 1 MALE TOILET, 1 LAV
TOTAL:	FEMALE: 4 TOILETS, 2 LAVS MALE: 2 TOILETS, 2 LAVS

NOTE: SQUARE FOOTAGE FOR ROOMS INCLUDE BATHROOM AND CLOSET



100 / 0
INN OPTION 1
ALTERNATIVE USE 1A

RESTAURANT AND EVENT SPACE

100% COMMERCIAL
0% COMMUNITY



TOWN OF GROTON
173 Main Street, Groton, MA 01450



bh a Bergmann Hendrie + Archetype, Inc. 300 A Street Boston, MA 02210 Tel (617) 350-0450 February 24, 2012
P:\2012\BergmannHendrie\2012\BergmannHendrie\111817_040511.doc



PRESCOTT SCHOOL REUSE STUDY

TOWN OF GROTON
173 Main Street, Groton, MA 01450

70% COMMERCIAL / 30% COMMUNITY OPTION 1

GROSS SQUARE FOOTAGE

BASEMENT FLOOR	= 10,200 GSF
FIRST FLOOR	= 10,200 GSF
SECOND FLOOR	= 7,000 GSF
TOTAL	= 27,000 GSF

PROGRAM

COMMERCIAL	
6 COMMERCIAL UNITS	= 3,876 SF TOTAL
1 RETAIL UNIT	= 809 SF TOTAL
RESTAURANT / BAR	= 5,550 SF TOTAL

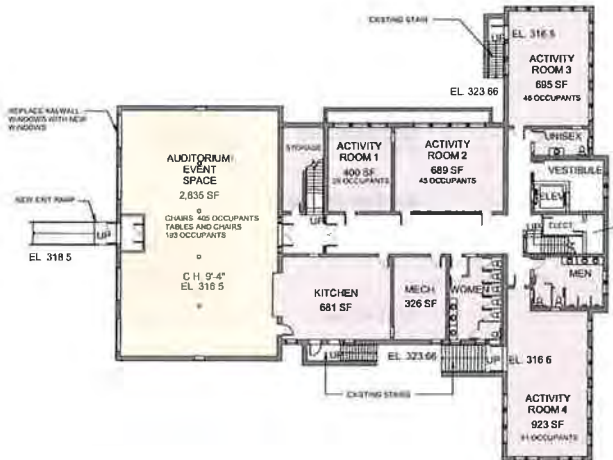
COMMUNITY	
AUDITORIUM / EVENT	= 2,741 SF TOTAL
4 ACTIVITY ROOMS	= 2,707 SF TOTAL
COMMERCIAL KITCHEN	= 681 SF TOTAL

BUILDING OCCUPANCY

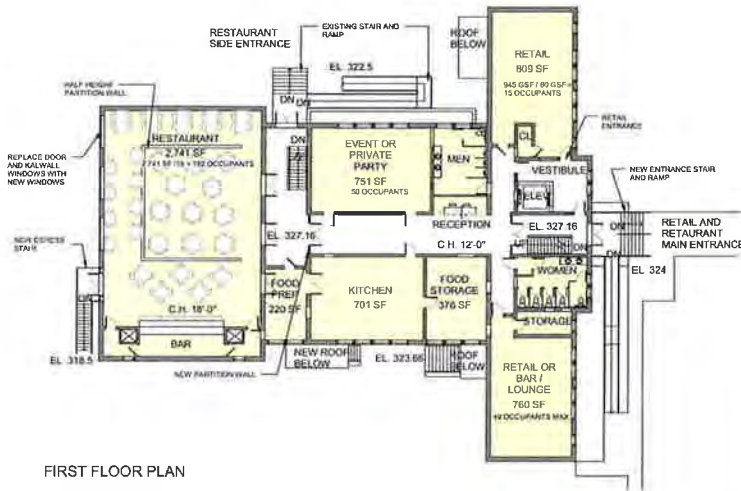
COMMERCIAL:	35 OCCUPANTS
RETAIL:	15 OCCUPANTS
RESTAURANT / BAR:	281 OCCUPANTS
AUDITORIUM:	405 OCCUPANTS MAX
TOTAL:	736 OCCUPANTS

FIXTURE COUNT

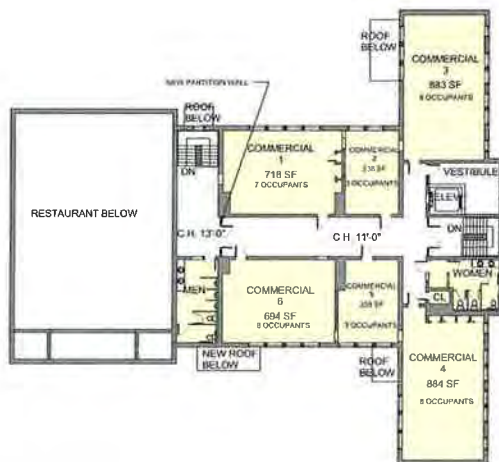
COMMERCIAL:	1 FEMALE TOILET, 1 LAV 1 MALE TOILET, 1 LAV
RETAIL:	1 FEMALE TOILET, 1 LAV 1 MALE TOILET, 1 LAV
RESTAURANT:	5 FEMALE TOILETS, 1 LAV 3 MALE TOILETS, 1 LAV
AUDITORIUM: (HALL)	5 FEMALE TOILETS, 2 LAVS 3 MALE TOILETS, 2 LAVS
TOTAL:	FEMALE: 12 TOILETS, 5 LAVS MALE: 8 TOILETS, 5 LAVS



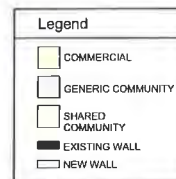
BASEMENT FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN



70 / 30 OPTION 1 ALTERNATIVE USE 2A

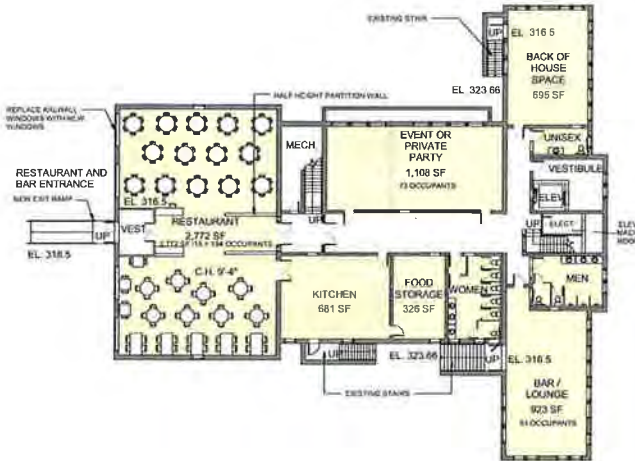
BASEMENT AUDITORIUM
FIRST FLOOR RESTAURANT

70% COMMERCIAL
30% GENERIC COMMUNITY

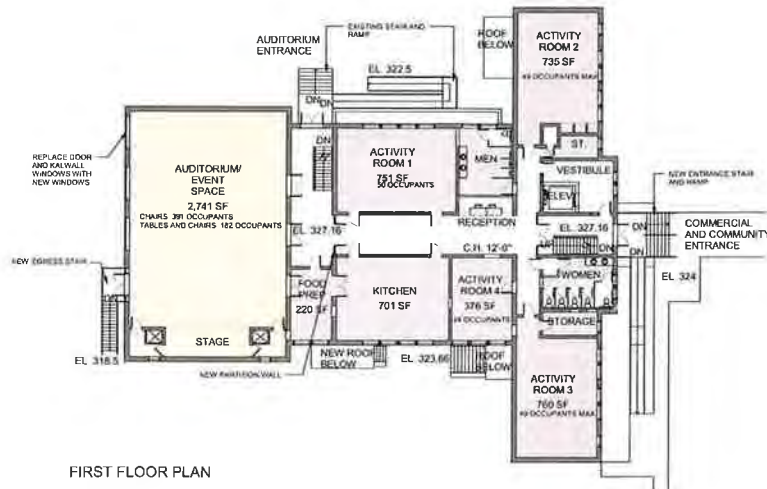


PRESCOTT SCHOOL REUSE STUDY

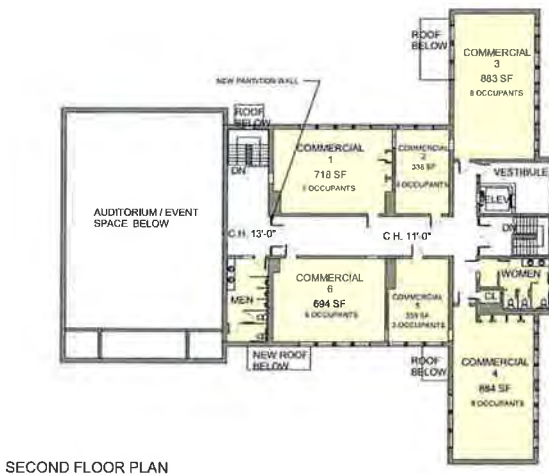
TOWN OF GROTON
173 Main Street, Groton, MA 01450



BASEMENT FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN

70% COMMERCIAL / 30% COMMUNITY OPTION 2

GROSS SQUARE FOOTAGE

BASEMENT FLOOR	= 10,200 GSF
FIRST FLOOR	= 10,200 GSF
SECOND FLOOR	= 7,000 GSF
TOTAL	= 27,000 GSF

PROGRAM

COMMERCIAL	
6 COMMERCIAL UNITS	= 3,876 SF TOTAL
RESTAURANT / BAR	= 6,505 SF TOTAL

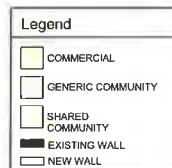
COMMUNITY	
4 ACTIVITY ROOMS	= 2,622 SF TOTAL
KITCHEN	= 701 SF TOTAL
AUDITORIUM/EVENT	= 2,741 SF TOTAL

BUILDING OCCUPANCY

COMMERCIAL:	35 OCCUPANTS
RESTAURANT / BAR:	318 OCCUPANTS
ACTIVITY ROOMS:	172 OCCUPANTS
AUDITORIUM/EVENT:	391 OCCUPANTS MAX.
TOTAL:	916 OCCUPANTS

FIXTURE COUNT

COMMERCIAL:	1 FEMALE TOILET, 1 LAV 1 MALE TOILET, 1 LAV
RESTAURANT:	6 FEMALE TOILETS, 1 LAV 3 MALE TOILETS, 1 LAV
ACTIVITY:	2 FEMALE TOILETS, 1 LAV 1 MALE TOILETS, 1 LAV
AUDITORIUM:	4 FEMALE TOILETS, 1 LAV 2 MALE TOILETS, 1 LAV
TOTAL:	FEMALE: 12 TOILETS, 4 LAVS MALE: 7 TOILETS, 4 LAVS



70 / 30 OPTION 2 ALTERNATIVE USE 2A

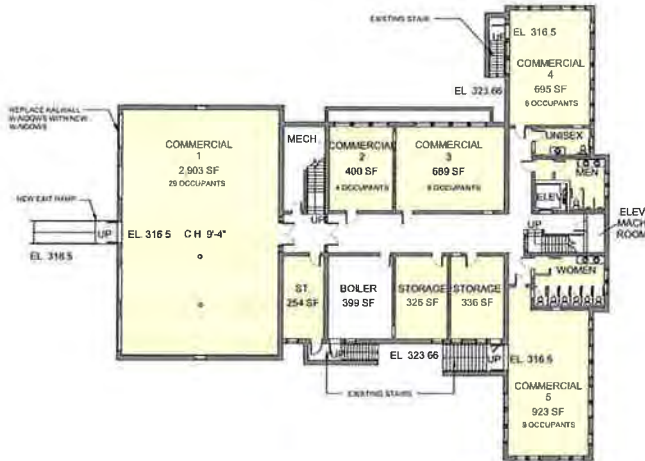
BASEMENT RESTAURANT
FIRST FLOOR AUDITORIUM

70% COMMERCIAL
30% GENERIC COMMUNITY



PRESCOTT SCHOOL REUSE STUDY

TOWN OF GROTON
173 Main Street, Groton, MA 01450



BASEMENT FLOOR PLAN

**70% COMMERCIAL / 30% COMMUNITY
(SENIOR CENTER)**

GROSS SQUARE FOOTAGE

BASEMENT FLOOR	= 10,200 GSF
FIRST FLOOR	= 10,200 GSF
SECOND FLOOR	= 7,000 GSF
TOTAL	= 27,000 GSF

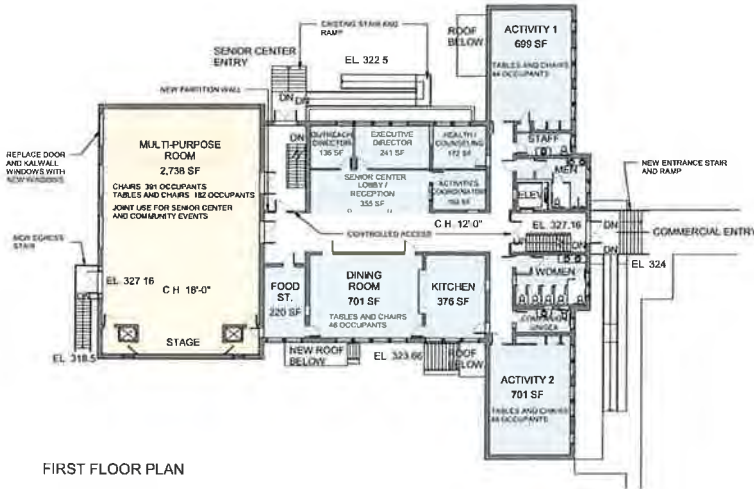
PROGRAM

COMMERCIAL
11 COMMERCIAL UNITS = 9,486 SF TOTAL

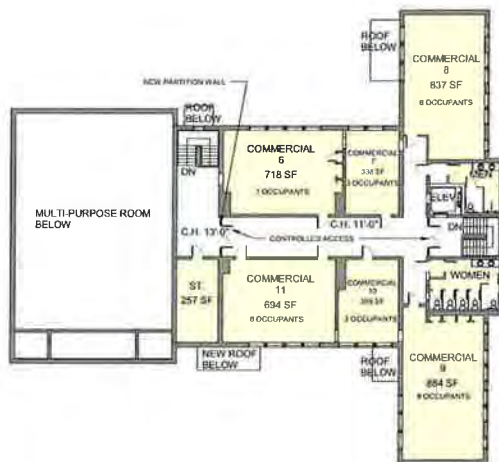
COMMUNITY
SENIOR CENTER = 3,761 SF TOTAL
SHARED MULTI-PURPOSE = 2,741 SF TOTAL

BUILDING OCCUPANCY

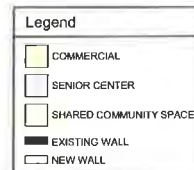
COMMERCIAL:	89 OCCUPANTS
SENIORS:	533 OCCUPANTS
TOTAL:	622 OCCUPANTS



FIRST FLOOR PLAN



SECOND FLOOR PLAN



**70 / 30 SENIOR CENTER
ALTERNATIVE USE 2B**

FIRST FLOOR SENIOR CENTER

70% COMMERCIAL
30% COMMUNITY

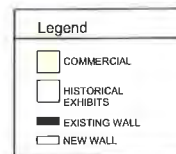


TOWN OF GROTON
173 Main Street, Groton, MA 01450



BASEMENT FLOOR	= 10,200 GSF
FIRST FLOOR	= 10,200 GSF
<u>SECOND FLOOR</u>	<u>= 7,000 GSF</u>
TOTAL	= 27,000 GSF

COMMERCIAL:	35 OCCUPANTS
RETAIL:	15 OCCUPANTS
RESTAURANT / BAR:	281 OCCUPANTS
<u>EXHIBITION:</u>	<u>310 OCCUPANTS</u>
<u>TOTAL:</u>	<u>641 OCCUPANTS</u>

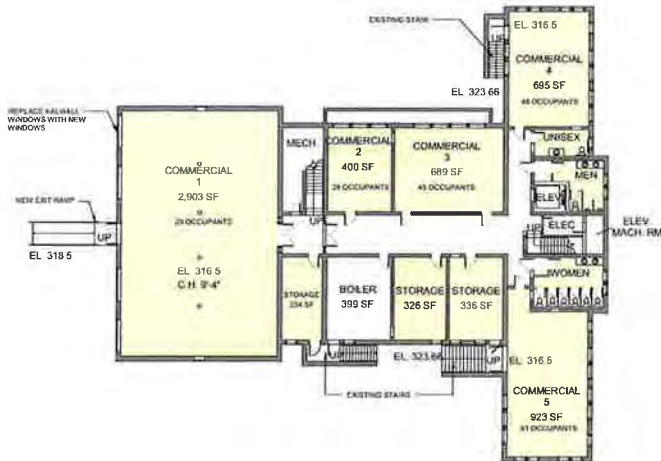


70% COMMERCIAL
30% COMMUNITY



PRESCOTT SCHOOL REUSE STUDY

TOWN OF GROTON
173 Main Street, Groton, MA 01450



BASEMENT FLOOR PLAN

**70% COMMERCIAL / 30% COMMUNITY
(3 RIVERS ARTS)**

GROSS SQUARE FOOTAGE

BASEMENT FLOOR	= 10,200 GSF
FIRST FLOOR	= 10,200 GSF
SECOND FLOOR	= 7,000 GSF
TOTAL	= 27,000 GSF

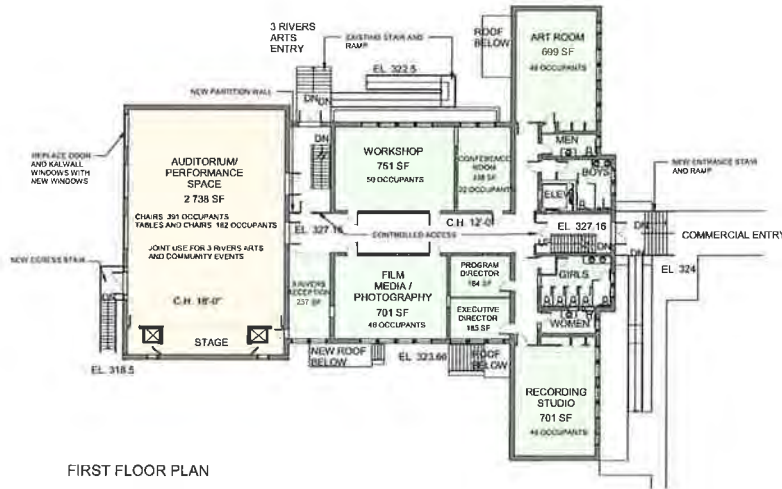
PROGRAM

COMMERCIAL
11 COMMERCIAL UNITS = 9,486 SF TOTAL

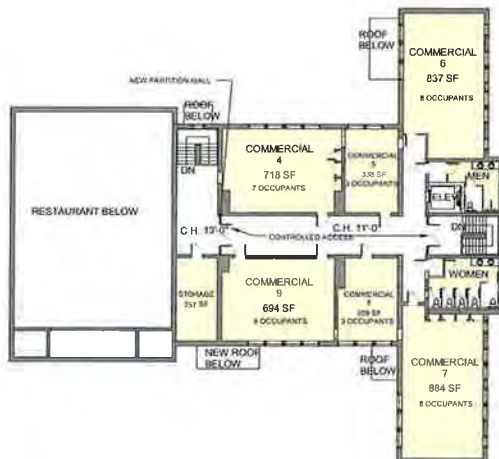
COMMUNITY
3 RIVERS ARTS CENTER = 3,816 SF TOTAL
SHARED AUDITORIUM = 2,741 SF TOTAL

BUILDING OCCUPANCY

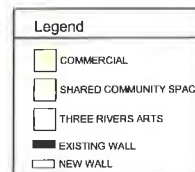
COMMERCIAL:	89 OCCUPANTS
3 RIVERS ARTS:	604 OCCUPANTS
TOTAL:	693 OCCUPANTS



FIRST FLOOR PLAN



SECOND FLOOR PLAN



**70 / 30 3 RIVERS ARTS
ALTERNATIVE USE 2D**

FIRST FLOOR 3 RIVERS ARTS

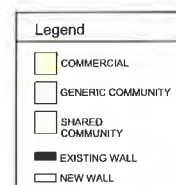
70% COMMERCIAL
30% COMMUNITY



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NOTE: GENERIC COMMUNITY ROOMS CAN BE DESIGNED TO BECOME THE SENIOR CENTER OR THREE RIVERS ARTS CENTER.



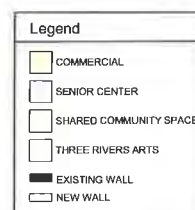
50% COMMERCIAL
50% GENERIC COMMUNITY



TOWN OF GROTON
173 Main Street, Groton, MA 01450



PERFORMANCE / EVENT:	391 OCCUPANTS MAX
SENIOR CENTER:	430 OCCUPANTS
<u>3 RIVERS ARTS:</u>	210 OCCUPANTS MAX
TOTAL:	1,031 OCCUPANTS

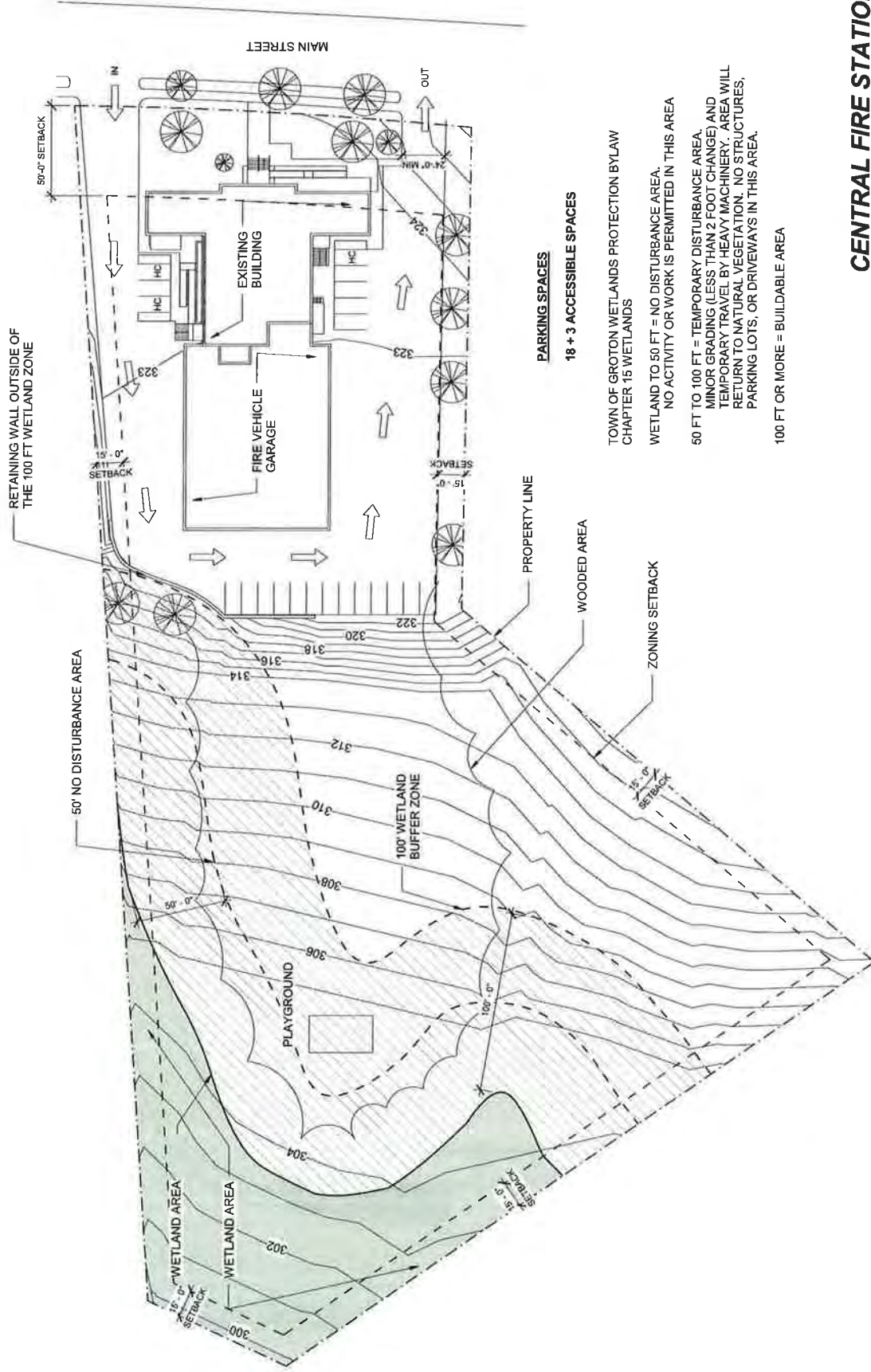


0% COMMERCIAL
100% COMMUNITY

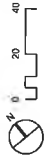


PRESCOTT SCHOOL REUSE STUDY

TOWN OF GROTON
173 Main Street, Groton, MA 01450

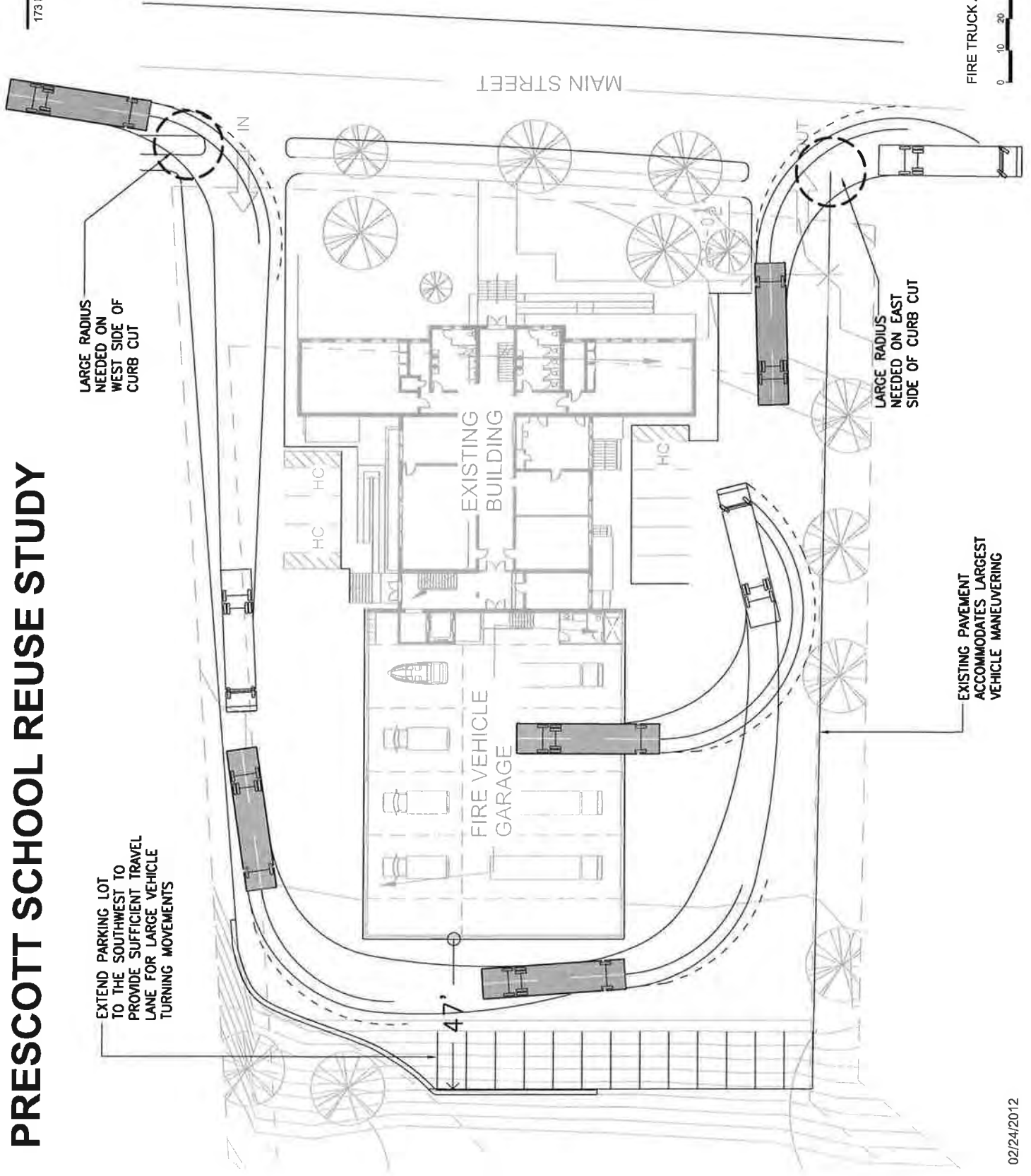


CENTRAL FIRE STATION SITE PLAN WITH BASIC PARKING



PRESCOTT SCHOOL REUSE STUDY

TOWN OF GROTON
173 Main Street, Groton, MA 01450



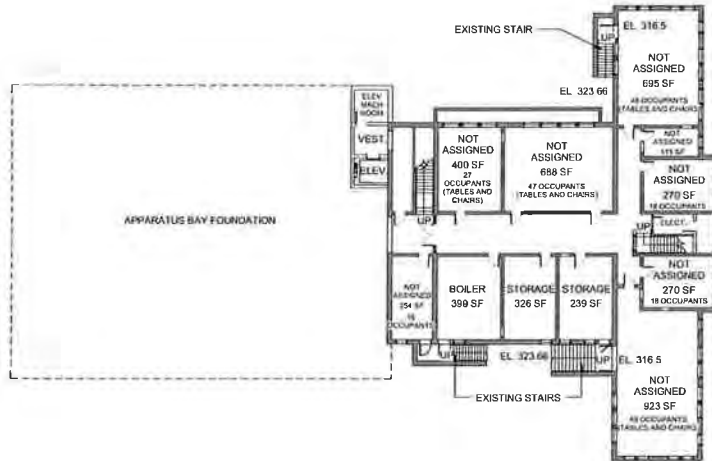
FIRE TRUCK ACCESSIBILITY STUDY



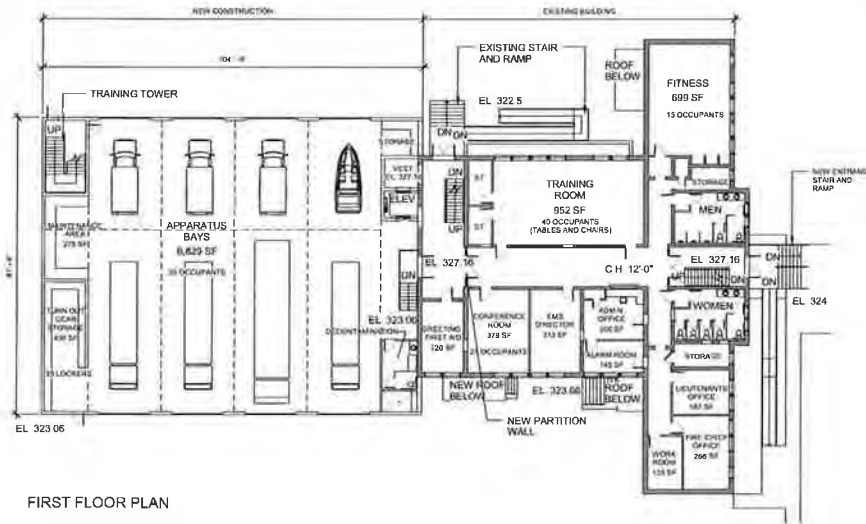
02/24/2012

PRESCOTT SCHOOL REUSE STUDY

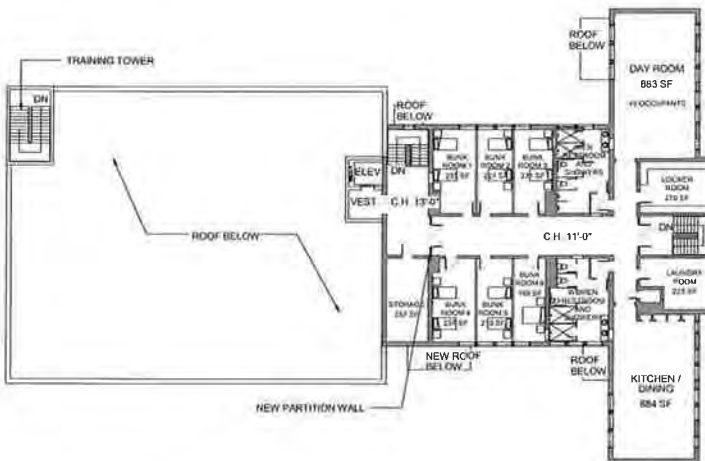
TOWN OF GROTON
173 Main Street Groton, MA 01450



BASEMENT FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN

0% COMMERCIAL / 100% PUBLIC
(FIRE STATION)

GROSS SQUARE FOOTAGE

BASEMENT FLOOR	= 7,300 GSF
FIRST FLOOR	= 15,450 GSF
SECOND FLOOR	= 7,500 GSF
TOTAL	= 30,250 GSF

PROGRAM

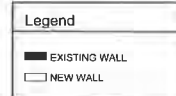
FIRE DEPARTMENT	
APPARATUS BAYS	= 6,829 SF TOTAL
ADMINISTRATION	= 1,252 SF TOTAL
FITNESS ROOM	= 735 SF TOTAL
LIVING QUARTERS	= 4,297 SF TOTAL

FIRE DEPARTMENT AND PUBLIC

UNASSIGNED ROOMS	= 3,645 SF TOTAL
TRAINING ROOM	= 978 SF TOTAL
CONFERENCE ROOM	= 379 SF TOTAL
GREETING/FIRST AID	= 220 SF TOTAL

BUILDING OCCUPANCY

UNASSIGNED ROOMS	221 OCCUPANTS
APPARATUS BAYS	35 OCCUPANTS
OFFICES	8 OCCUPANTS
ASSEMBLY ROOMS	89 OCCUPANTS
FITNESS	15 OCCUPANTS
BUNK ROOMS	12 OCCUPANTS
TOTAL	380 OCCUPANTS



0 / 100
CENTRAL FIRE STATION
ALTERNATIVE USE 4B

0% COMMERCIAL
100% PUBLIC