Planning Study
Roudenbush Community Center

65 Main Street, Westford, Massachusetts

September 5, 2014

GIENAPP DESIGN
ARCHITECTURE

20 Conant Street
Danvers, MA 01923

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EXECUTIVE SUMMARY

At the request of the Town of Westford, Gienapp Design Associates, along with its consultants, has provided a Planning Study for the Roudenbush Community Center (RCC), at 65 Main Street. The building is currently being leased from the Town by Roudenbush Community Center, Inc., a private non-profit corporation that uses the building for all-day childcare, before/after school childcare, and day and evening community programs for all ages.

Prior to commissioning this Planning Study, the Town (through Gienapp Design), performed an Historic Buildings Condition Assessment of three town-owned buildings: a) Roudenbush Community Center, b) the former Frost School, 73 Main Street, and c) the former Nabnasset School, 170 Plain Road. Each of the three buildings requires modernization. Based on the Assessment, the Town selected the Roudenbush building as the higher priority and determined to undertake a limited renovation to repair and modernize the building. In the Spring of 2014, the Town appropriated funds to proceed with Designer Selection and design documents for the renovation.

The purpose of this Planning Study was to determine and report the scope and nature of the proposed renovation of the Roudenbush building.

This Report summarizes the existing conditions of the Roudenbush Community Center observed during the original Historic Building Assessment. The Report also identifies the Proposed Scope of Work of the planned renovation. A cost estimate of the selected scope of work is included.

The structure of the building is sound. The exterior envelope, consisting primarily of wood shingles, painted wood trim and a granite base, is in need of selective repairs. The slate roof is in need of replacement even though it was reworked in the past several years. There are many slate shingles that are broken or missing and many have been recently patched. The rubber roof on the gymnasium is in good condition. Most of the exterior windows were replaced with vinyl windows within the last 10 years. The interior of the building, consisting primarily of plaster walls and ceilings, with either wood or carpeted flooring, is in good condition.

There are two symmetrical monumental stairs in the front lobby of the building that serve as a means of egress from all four occupied levels. There is a third stair between the main building and gymnasium that serves as an egress from only the Second floor. There is a fire escape that provides a second means of egress from the third level of the main building.

The building does not comply with current ADA and MAAB accessibility requirements. An elevator will be required to comply with current standards. The reconfiguration of some interior spaces will be necessary, including upgrading toilet facilities. A variance will be required to provide an accessible entrance only at the lower level side entrance, instead of making all entrances accessible.

The main building is heated by a combination of steam radiators and electric base board. There is no cooling system for the entire building. The Town has replaced the boilers since the original Historic Building Condition Assessment.

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The building's Mechanical systems should be upgraded to meet code requirements for fresh air and energy conservation. In order to minimize duct sizes and therefore minimize the impact to ceilings, it is proposed to use a combination of Heating Ventilation and Air Conditioning systems that provides a ducted fresh air system combined with localized cooling units.

The Electrical system need to be upgraded for better controls and for occupant safety and energy efficiency.

Prior to the original Historic Building Conditions Assessment, the Town commissioned and engineer's design services for a complete Fire Protection System in the building. It is intended incorporate this into the scope of the proposed project. Some dropped ceilings and soffits will be required to conceal ductwork and fire protection piping. In general, exposed mechanical systems in occupied building areas will not be acceptable, with the exception of in the gymnasium.

The selected scope of work has a construction cost estimate of approximately $3.1 million of hard costs. With provision of 20% Design Contingency this is an estimated cost of $3.7M in 2013 dollars. With 4% escalation for 2013-2015, this results in a Total Planning Study Construction Cost of $4.02M.

The selected scope of work for hard cost of $3.1 million does not include approximately $832,000 of recommended (and desirable) work that is not included in the proposed project.

The Planning Study Construction Estimate of $4 million with 30% increase for other project costs results in a proposed project budget of $5.2 million.

It is anticipated to award a contract for Designer services in early Autumn 2014. The design will be developed to seek construction funding, either based on bids or a final construction cost estimate, at the Spring 2015 Town Meeting. It is desired for construction to be completed in 2015.

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EXISTING CONDITIONS

The Roudenbush Community Center is a four-story, Romanesque Revival structure, located in the Westford Center Historic District. The original building was constructed in 1897. The gymnasium addition was constructed in 1925 and was dedicated as a memorial to the Veterans of World War I, in 1928. The main building is a wood framed building sitting on a cut granite foundation. The exterior walls are clad in wood shingles with painted wood trim. The roof is hipped with large gabled dormers at the front and rear, with two smaller hipped dormers on each side elevation. The roof material is slate with copper flashings and features. The cupola is wood shingles and painted trim and features a copper domed spire. The gymnasium is situated at the rear of the building with walls also clad with wood shingles and painted wood trim. The roof of the gymnasium is a low-slope membrane roof on steel framing, pitched to the rear to copper gutter and downspouts. The building consists of 28 rooms. There are two stairs which service all the floors, one on the North side and one on the South. Both are accessed from grade at mid-levels to the Ground and First floors. The Ground floor houses the gymnasium, mechanical spaces and a few offices. There are two main toilet spaces on the Ground level, however they are only accessible via mid-level landings of the North and South stairs. The First floor houses the Main Entry, a classroom, a gallery space, a meeting room and two offices. The Second floor houses two large classrooms and a third larger classroom which has been divided into three spaces. The Third floor houses three offices and two classrooms. There is an open uncovered exterior steel stair at the rear of the building serving as egress from the Third floor down to the roof of the gymnasium and which continues to exterior steel stairs on each side of the gymnasium and leading to grade.

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Since the time of the original Conditions Assessment, there have been some improvements to the building. The boilers in the basement have been updated. The water line to the building has been replaced with a 6 inch line (in anticipation of the sprinkler system). The offices in the Southeast corner on the Ground floor have been updated.

Exterior Envelope:

The wood shingle siding is in good condition with the exception of a few areas which were damaged by the removal of some utility wires at the front left corner of the building. There are other limited areas where the shingles should be replaced.

The foundation is cut granite. There are several locations where the mortar is missing or loose. There are stone sections missing from this foundation that should be restored. The downspouts on the main building are copper and are all in good condition.

The exterior trim is painted wood. There are many areas where the paint is peeling. There are areas where the wood has started to decay due to long periods of weathering exposure.

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The windows are vinyl with insulated glazing. The windows at the gymnasium were installed in 2006, and in 2007 vinyl windows were installed in the rest of the building. There are a few remaining single glazed units in the arched windows at the stair towers on the North and South sides.

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Perimeter drains are clogged, and transitions are missing. The downspouts and gutter on the gymnasium are painted aluminum.

Metal fire escapes have deteriorated; railing heights and stair widths do not meet current codes and should be upgraded and/or replaced.

Many areas of the main roof slate shingles are loose and cracked. There is an absence of flashing in some areas and improper fasteners have been used. There are ongoing failures of the roof, including falling slate.

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The cupola siding and wood trim has deteriorated. The painted wood trim is peeling in many locations. Sections of the wood trim are missing. From a distance, the copper roof and ornamental finial appear to be in acceptable condition. Better access is required to further evaluate.

Site:

Observations of the parking reveal cracking and crumbling due to freeze/thaw cycles and settling due to traffic use. Parking striping is very faded but has been restored since this proto was taken.

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Interior:

The Ground level houses the mechanical rooms and some office spaces. The gymnasium is located at the rear of the building at grade level. There is a ramp connecting the gymnasium to the Ground level. Identical egress stairs are located on each side of the building serving all floors. There is a single user toilet room designated as an 'HP toilet'. It has many attributes for accessibility but is not fully compliant with current codes.

The First level contains some classrooms and meeting rooms as well as the main office immediately off the front lobby.

The Second level contains two large classrooms at the rear and one large classroom at the front. The classroom at the front is divided into three sections, with one section containing kitchen equipment. In the main corridor there is an exposed utility sink and a counter with an under counter dishwasher.

The Third floor is currently being used as storage. Finishes on the walls and ceilings are tongue and groove wood.

With the exception of the Third floor, wall and ceiling finishes are plaster. Second floor classrooms have suspended acoustical tile ceilings.

Located at intermediate landings between the Second and Third floor at each stair, there are very small toilet rooms. Larger toilet rooms are located at the landings of the side entrances at grade level. None are fully accessible. There are no toilet facilities on the Third floor.

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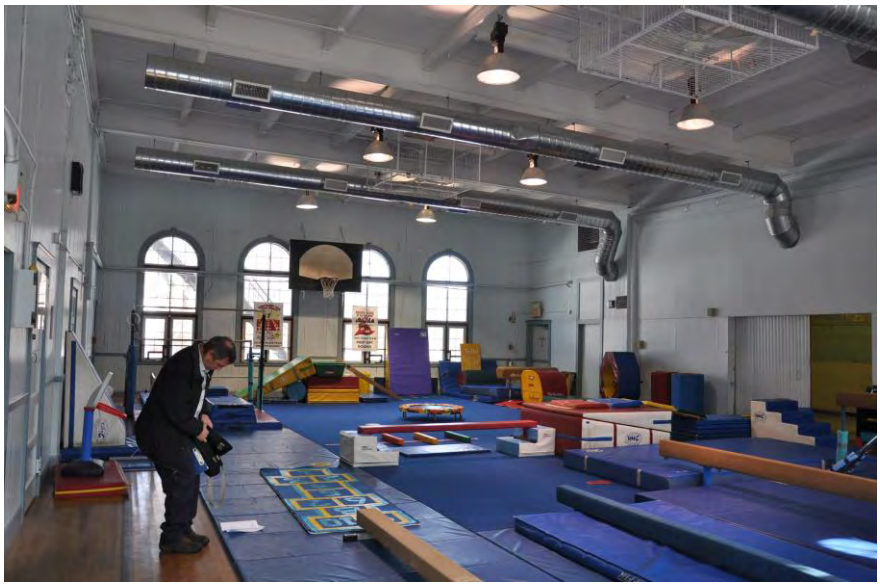
The gymnasium has hardwood flooring, painted gypsum walls and a painted exposed structural ceiling. The roof structure is composed of the main support framing in steel with the purlins and decking in wood. There is exposed, unpainted spiral ductwork. The North and South elevations have floor to ceiling windows. There are two ceiling fans in the room.



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Wall damage in a storage closet.

Classroom at First floor level with wood floors, painted wood wainscoting and trim, plaster walls and ceilings. Light fixtures are linear fluorescent fixtures mounted to the ceiling. There is a steam radiator. There is a sink in the corner of the room. The wood floor shows considerable wear.

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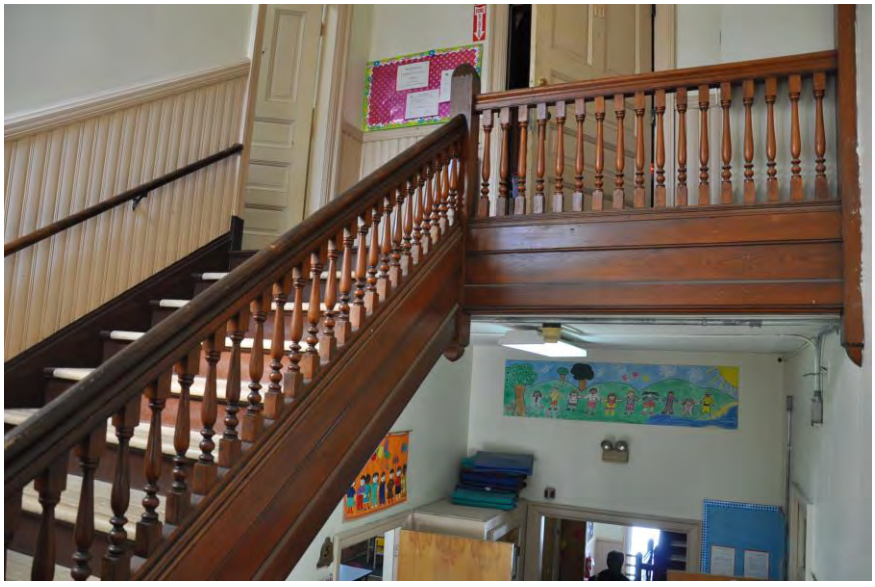
Existing stair railings do not meet current code requirements. Stairs are not enclosed for egress requirements. Rooms open off landings (not permitted by current codes).



View of an abandoned, high velocity HVAC system to third floor. High velocity piping and outlets were installed in ductwork originally part of a gravity ventilation system.

Rooms at Third floor level are currently used as storage. This is primarily due to having no handicapped accessibility, limited HVAC and dependency on a fire escape.

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Accessibility:

Only the Ground floor is accessible (somewhat functional but does not meet current codes). There is an on-grade access through the South entrance to the gymnasium. This provides a no-stair route to the gymnasium and the majority of the Ground floor. The existing route does not have the code-required clearances to provide barrier-free accessibility. There is a single user toilet room near the gymnasium entrance. This toilet room is designated as an accessible toilet room but does not meet current ADA code requirements.

There are on-grade entrances to each side of the main building. However, these entrances lead to the mid-level landing of the stairway and lead only to the toilet room at the mid-level before requiring use of the stair. There was previously a stair-mounted lift on the South stair to provide access from the mid-level landing up to the First floor. However, the lift became unusable, presented safety concerns and was removed. Consequently, the First, Second and Third floors are not accessible without the use of stairs.

Project Goals and Proposed Improvements:

It is not the Town's intention to perform a full renovation of the building. Instead, it is intended to make specific improvements that address the project goals that may be summarized as follows:

1. Bring the building into code compliance for accessibility. This may be accomplished, to some extent, via MAAB variances.
2. Repair the exterior to provide a weather tight building envelop. It is recognized that ongoing maintenance will be required.
3. Modernize the HAVC system for efficiency, to provide fresh air ventilation consistent with good engineering practice, and provide air conditioning for all, or nearly all, of the building.
4. Modernize the plumbing and electrical systems as required by code and good engineering practices.
5. Provide a complete Fire Protection system, whether or not required by Code.
6. Maintain the historical character of the building, and to the extent practical, the existing historical fabric of the building.
7. Maintain the existing program spaces to the extent practical. Minimal program space improvements are required by the tenant, Roudenbush Community Center, Inc.
8. Accomplish usability of the Third floor.
9. Minimize Capital Cost.

The full list of recommended and potential repairs and improvements for the building are reflected on the May 10, 2013 Cost Estimate by North Bay Construction Consultants and bound in the Appendix of this Report.

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For a number of reasons, including cost and disruption, the Town has elected to implement a selected Scope of Work. These items are illustrated in the Planning Study Concept Plans by Gienapp Design, dated September 10, 2014, and bound in this report and itemized in the Summary of Proposed Scope of Work included in the next section of this report.

The overall considerations and recommendations for the project may be described as follows:

<u>Architectural</u>

1. Provide an elevator to serve all levels of the building. This includes a) Ground floor, which has three elevator levels - i) side entrances with toilet rooms, ii) main/lower Ground floor, and iii)Gymnasium via ramp, b) First floor, c) Second floor, and d) Third floor. It is assumed that the small toilet rooms at the mid-level landing between the First and Second floors will be omitted, and that space will not be accessible. It is anticipated the existing interior Ground floor ramp will be reconfigured to connect the main Ground floor level and the gymnasium level as well as to allow space for an elevator machine room.
2. Provide accessible building entrances. As part of the Historic Building Assessment and the Planning Study, several options for accessible entrances were explored. These options included meeting the MAAB (Massachusetts Architectural Access Board) regulations that "all public entrances … be accessible." In order to preserve the historical character of the front of the building, it is the Town's preference to seek a variance to provide an accessible entrance at the south lower level entrance and not provide a lift or ramp to the existing main entrance. Other (non-ramp) accessibility improvements may be made at the main entrance.
3. Two enclosed means of egress stairs shall be provided.

3.1 As illustrated on the Concept Plans, it is anticipated that one of the existing main monumental stairs will be enclosed. Ideally, the enclosure will use deluge curtains and glazing or other techniques to allow visibility of the stair and maintain as much of the character of the lobby and stair as possible.

3.2 A second enclosed egress stair serving the Third floor is required. As illustrated on the Concept Plan, it is proposed that a new stair is created above the gymnasium roof that connects the Third floor to the existing stair that is between the Second and First floors. This will allow removal of the existing exterior fire escape stairways. As currently illustrated, the landing stair of this will enter into the gymnasium space approximately 14' above the gym floor. Allowing 2' for structure, this will result in clear head room under the stair of approximately 12 feet, compared to the existing clear headroom of approximately 16'. This will also require modifying the structure to remove the center beam spanning the gymnasium. The alternative is to widen the proposed addition over the gym to allow a stair with a sufficient run to rise above the gym roof before penetrating through the rear wall of the building and onto the gymnasium roof structure. Both alternatives need to be further evaluated for structural complexity, preserving the appearance of the building, functionality and cost.

4. Provide accessible toilet rooms at all levels. This will be accomplished through a combination of upgrading existing toilet rooms and providing new toilet rooms.
5. Patch and repair existing finishes to remain. Refinish existing wood floors. Paint entire interior.
6. Replace door hardware for accessibility and operation (master key).
7. Remove sinks and equipment that have been installed in means of egress routes. Sinks and similar equipment are recreated (out means of egress) where needed for program requirements.
8. Exterior repairs and improvements

8.1 Exterior trim shall be cleaned and prepared for painting. Selective replacement of 10-20% is required.

8.2 Repair the cupola. It is anticipated that all of the shingle siding will be replaced and most of the trim on the cupola will be replaced. A lift or other access will be required to further evaluate the scope of replacement of the cupola trim. Due to the difficulty of accessing the cupola for future maintenance, it may be preferred to replace the trim with a very low maintenance product such as PVC or Mahogany. The exact material will need to be determined based on maintenance and historic preservation concerns. Upgrade the roof hatch providing access to the cupola floor; replace the waterproof floor/roof covering. Patch and preserve the copper cupola roofing.

8.3 Selected limited areas each of the granite foundation and the brick chimney need to be repointed.

8.4 Further evaluate the condition of, and selectively replace limited areas of the wood shingle siding. It is intended to preserve as much existing siding as is practical.

8.5 Paint the entire exterior.

8.6 Replace the slate roofing with new slate roofing. Copper accessories such as existing ridge caps and finials should either be carefully removed and reinstalled, or new ones should be made to match the existing. New snow guards to be installed. Integral gutter systems should be relined. Entire substrate to have new roofing felt, and ice and water shield at the eaves, rakes and valleys. Any damaged sheathing should be replaced. The existing slate roofing was installed in the last several years (15+/-). However, numerous

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repairs have been required and based on these repairs it appears the general installation was of poor quality and ongoing failures are likely. The primary failure is falling slate. It is possible that some of the existing copper flashings may be acceptable to remain. This should be further evaluated.

8.7 The brick chimney is generally in good/fair condition with limited areas requiring repointing.

9. Most of the windows in the building have been replaced with vinyl windows. It is intended for these to remain. The irregular shaped and smaller decorative units have not been replaced and these windows are candidates for repair and interior storm windows.

Mechanical Systems

The assessment and recommendations for mechanical and electrical systems are described in Consultant Reports in the next section of this Report.

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CONSULTANT REPORTS

Mechanical & Plumbing

Existing Conditions:

Roudenbush Community Center is a 4 story building consisting of a ground, first, second and third floors. The building is primarily heated by a natural gas fired steam boiler located on the ground floor. The boiler is controlled by a wall mounted thermostat located in the first floor hallway. There is a 50 gallon gas fired water heater located on the ground floor providing domestic hot water to kitchenette sinks and toilet rooms.

The ground floor level has a gym in the rear portion of the building. The gym is heated by three gas-fired hot air furnaces with ductwork overhead. There is no outside air ventilation or cooling in the gym. The front part of the ground floor has office areas that are heated by a high velocity ducted heating and cooling unit with supplemental electric baseboard. The high velocity heating and cooling unit has a hot water coil and a Dx coil with a matching air-cooled condenser located outside. There is a hot water Viessman series Atola boiler providing hot water to this hot water coil. The boiler was sized to handle a future heating and cooling unit located on the third floor. The unit has never been connected to the boiler. The ground floor has two toilet rooms (Men's and Women's) and a third, single user handicap toilet. The handicap toilet is in good condition.

The first floor has three classrooms and two office areas, the second floor has three classrooms only, and the third floor has three large rooms used for storage and one small office area. The floors are connected by two stairwells. There are toilet rooms on the stair landings between the second and third floors.

The first, second, and third floors are heated by steam radiators. There is electric baseboard in the toilet room on the first floor and in the third floor office.

Each classroom area on the second floor has one ceiling fan and each storage room on the third floor has one ceiling fan. The first and second floor classrooms have sinks. One first floor classroom has a handicap toilet room with a sink. There are no toilet rooms on the second and third floors except the one on the mid-level stair landings between the floors. There is a "roughed-in" high velocity duct system and air handling unit located on the third floor. The installation began and was abandoned several years ago.

Overall, the plumbing fixtures need to be upgraded.The HVAC system should be upgraded to provide ventilation.

The boilers have been replaced since the original building assessment.

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Recommendations:

- Install a boiler control package with remote temperature sensors and an outdoor air reset (Heat-timer Platinum MPC series). This will allow the boiler to operate more efficiently to match the heating demands of the building.
- Complete renovation of the toilet rooms, including fixtures and ventilation system, to bring the toilet rooms up to code.
- Remove and replace existing HVAC system for the gym and ground floor offices with new systems. For the Gym area a new packaged Dx cooling natural gas heating unit connected to the existing ductwork.
- For ground floor offices provide a new Dx cooling, hot water heating air handling unit.
- Install new ductless split high efficiency ac units for the second and third floors.
- Provide a new 100% outdoor air packaged Dx cooling and natural gas heating unit to provide the code required outdoor CFM per person. This unit would provide ducted fresh air to each classroom.
- Remove existing high velocity duct air handling unit located on the third floor and replace with ducted hot water fan coil units.

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Electrical

Introduction:

Nangle Engineering Inc. (NEI) was retained by Gienapp Design Associates, LLC (GD) to perform observation of existing conditions, and preparation of a narrative describing those observations and recommendations for the Town of Westford's (ToW) property known as the Roudenbush Community Center. Occupants are not detained, and occupants over 6 years of age are generally capable of self preservation.

Observations:

Electric Distribution

The existing facility is served electric power from a public utility (National Grid) via an aerial, three phase, 208Y/120 volt electric service drop. The aerial conductors are fed from a utility pole mounted transformer bank, (with 3 cans at 25 kVA each) 75 kVA rating. The service entrance conductors, meter and socket are rated 400 amperes, 320 amperes continuous. The service disconnecting means is located in the main electric room at the basement level. The electric service was recently upgraded to 400 amperes, and overall, the electric service is in good condition.

The service entrance conductors feed through the class 320 meter socket and feed a main distribution panel (MDP) located in the basement electric room, which then serves two branch circuit panels located in the electric room. The panels are manufactured by Siemens, one main circuit breaker type, one main lug only. Each branch circuit panel has a surge arrestor installed. The branch circuit panels are in good condition. The branch circuit labeling is suspect, as the schedules are incomplete. The branch circuit wiring leaving the BC panels is in good condition, primarily consisting of metal-clad (MC) cables, and a few non-metallic (NM) cables. There is an open wire way above the branch circuit panels.

A former fused load center is in the office, off the gymnasium. The enclosure houses a few splices, and is open. The load center appears to have been gutted and replaced with a modern Square D load center, in good condition, in the nearby storage area at the rear of the gym.

There is a fair amount of storage in the basement electric room, which impedes upon the code-required clear working space. The boiler room has a wooden enclosed load center which impedes upon the code required clear working space.

There is a 100 ampere Siemens load center in one of the second floor classrooms. The code required clear working space for the load center is blocked by a couple of bookcases.

There are two (2) FPE Stab-lok load centers located in the sidewall of the stair to the attic. The panels, being located in a stair, do not have code required clear working space.

There are a number of receptacles located throughout the facility, which are standard duplex type. Some receptacles are fitted with anti-tamper outlet covers – many are not. Generally, there are no receptacles in the toilet rooms. In the basement rest room, the receptacle is not GFCI type. There is no service receptacle at the exterior condensing unit.

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Lighting

Interior lighting is primarily fluorescent. T5, T8 and T12 lamps were noted in the fixtures. Lighting in the gym is HID, and there are a number of PAR lamps (120 volt?) located at the ceiling, presumed to be emergency lighting. 8' T12 lamps were noted in the storage room off the back of the gym. There are a number of down lights in the first floor rear hall. Lighting in 'Avis S. Hooper Lounge' is four (4) five lamp fixtures with incandescent lamps.

Lighting in utility spaces (basement electric room) is a porcelain fixture with incandescent lamp.

Lighting controls are manual switches, generally at the door to the space.

Exterior lighting is HID type fixtures, building mounted. There is no pole mounted lighting. Overall, the exterior lighting is in good condition. There is an incandescent fixture at the front door overhang.

Egress lighting is unit equipment with integral battery located throughout the building. Random testing of the units indicated the units are operational. The maintenance staff had a recently changed batteries, as evidenced by a box of removed batteries on a workbench in the boiler room. Some of the heads were out of alignment. There did not appear to be any exit discharge egress lighting.

There is a steel fire escape on the side of the building, which does not appear to have any lighting.

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Communications

Communications systems consist of copper telephone service, cable television (CATV), and fiber optic (FO) town network. The copper telephone and cable television services are aerial to the front corner of the building, and the FO network service is underground to the side of the building. The network interface and main telephone distribution and PBX equipment is located in a room off of the basement boiler room. A small data network is located in the basement facilities office. The wiring is in good condition, although the workmanship of the equipment and wiring installation is poor.

Fire and Carbon Monoxide Detection and Alarm

The building is not sprinklered.

A fire alarm control panel (FACP) is located in the first floor director's office. The FACP is an FCI FC-72 panel, with five (5) zones. A key box was not noted. A surface mounted, graphic map type remote annunciator is located at the front door vestibule.

Most areas have fire alarm system-connected heat detectors. There are smoke detectors in the common areas such as corridors. Smoke detectors are located in the gym, on the bottom of the beams. Manual stations are located throughout the facility, although not always located in accordance with current code.

Notification appliances consist of audio-visual (A/V) devices, some of which are located too high, and/or not properly located for complete coverage. Generally, there are no notification devices in the toilet rooms, including the accessible toilet room off of the 'Avis S. Hooper Lounge'. There are no A/V devices in the basement staff area.

The water heater and the boiler located in the basement boiler room are natural gas (fossil fuel) burning equipment.

Emergency/Standby Power

The facility has no emergency or standby power (generator) system.

Security

The facility has an intrusion detection control panel located in the main stair. There are motion detectors located in the building. A system control keypad is located in the front entry vestibule.

No video surveillance system was noted.

Other

The facility uses a dual electric grinder pump system for waste disposal.

There is an outdated lift in one of the stairways, to access the first floor only from an entrance at grade.

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Recommendations:

Electric Distribution

The cover should be installed on the wire way above the branch circuit panels as required by code.

The stored material in the electric room impedes upon the code required clear working space of the panels, and should be removed. The former load center in the gym office should be fitted with a blank plate. The wooden cabinet enclosure around the boiler room load center impedes upon the code required clear working space of the panels, and should be removed. The bookcases at the second floor load center impede upon the code required clear working space of the panels, and should be removed.

The FPE load centers in the attic stair should be relocated and replaced since they do not have the code required clear working space, and since they are FPE stab-lok panels, which are notoriously unreliable.

Many of the existing receptacles do not have outlet covers as required by the numerous regulations for child-care occupancies. All existing receptacles located within reach of the child occupants should be changed to tamper-resistant receptacles. This will eliminate the potential for human error leaving a receptacle(s) cover out.

All receptacles in bathrooms or within 6 feet of a sink or other wet area should be replaced with GFCI receptacles.

The circuit labeling at the branch circuit panels should be verified and updated, as required by current code.

A receptacle should be added at the exterior condensing unit, as required by current code.

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Lighting

A number of fixtures are fitted with incandescent lamps. All incandescent lamps should be replaced with LED or compact fluorescent (CF) lamps to comply with energy code and lamp efficacy regulations. Energy will be saved, and maintenance will be reduced as these lamps generally have a longer life.

Manual switches should be replaced with vacancy sensor type switches where practical.

Lamp heads on emergency battery units should be adjusted (aimed) to ensure they provide lighting for the path of egress.

As part of the path of egress, battery-backed egress lighting should be added to the steel fire escape on the rear of the building.

Exterior fixtures should be replaced with LED type fixtures. Incentives from the public utility are available for replacement fixtures which are listed by the Design Lights Consortium (DLC). As with interior lamp replacement, LED exterior fixtures will save energy and reduce maintenance.

Fire and Carbon Monoxide Detection and Alarm

The existing FCI fire alarm control equipment is obsolete, and should be replaced. Replacement parts are difficult to reliably source, and a failure of several zone cards or the 'mother board' would require replacement of the equipment on an emergency basis, and may prevent the use of the facility (or at least a costly fire watch) until the system is restored. If the control equipment is replaced, that will trigger the replacement of the system smoke detectors, due to compatibility.

The existing heat and smoke detectors need to be replaced, as they are beyond their life span.

Since the building is not sprinklered, smoke detectors (in lieu of heat detectors) should be used in more areas to provide earlier warning of fire to the occupants, and for earlier warning of a fire if the building is unoccupied.

Some of the existing notification appliances are mounted too high, and are not strobe type as required by the Americans with Disabilities Act (ADA). The existing notification appliances should be replaced, and be lowered to the height required by the relevant codes. The devices should be replaced with devices which include ADA compliant strobes.

Visual notification appliances should be installed in all toilet rooms, meeting and conference rooms, classrooms, cafeterias, filing and photocopy rooms, employee break rooms, dressing, examination, and treatment rooms, and similar spaces, to comply with requirements of the ADA.

While the facility is not a residential use group, it is without question that children will be sleeping in the facility. Since children have a lower blood volume and tolerance for carbon monoxide (CO), they can be affected by CO long before adults are affected. As the water heater and boiler are fossil-fuel burning equipment (FFBE), carbon monoxide detection must be provided in each room used by children for sleeping, learning or participating in other early education or care activities in accordance with 527 CMR 31.00.

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Security

A video surveillance system should be considered. Color video cameras should be located at building entrances, exits and main corridors to detect and record the activities of unauthorized personnel. Cameras should also be considered for exterior play areas, and drop-off/pick-up areas for surveillance of the children while outside, but on the facility grounds. If vandalism of the facility is a problem, additional cameras should be considered to deter and record such activities. A digital video recorder with at least seven (7) days video storage should be installed, so that video can be retrieved.

Emergency/Standby Power

As the building has a grinder pump disposal system, a standby power system should be considered to power this equipment to prevent damaging sanitary waste water back-ups. If a standby power system is installed, it should also power the heating equipment, so that heat can be maintained during a prolonged power outage to prevent freezing of the plumbing.

Communications

The wiring of the data system should be re-terminated and 'cleaned-up', including proper cable management, support, and labeling. The network equipment in the basement facilities office should be properly mounted in a shelf or rack.

Fire Protection

The following summary of the Roudenbush Community Center Sprinkler retrofit project by Fernandez and Associates was written prior to the 2013 Historic Building Condition Assessment and consequently, prior to the Planning Study. The ultimate result of the Fernandez's work was 90% Construction Documents whic were not issued to bid or implemented. A copy of the documents are included in the Appendix of this report. Since the completion of the Fernandez and Associates work, the Town has installed a new water meter and gate valve on the existing 6" water main in anticipation of the future fire protection instillation.

GIENAPP DESIGN ARCHITECTURE

SUMMARY OF PROPOSED SCOPE OF WORK

Based upon the Conditions Assessment and cost of work, the Town has elected to undertake a repair project with a Scope of Work summarized as follows and illustrated on the Planning Study Concept Plans:

General Building

- Add walls to create enclosed stairs
- Add toilets to the second and third floors
- Add walls to create two means of egress as required
- Provide second means of egress from 3rd floor
- Existing vinyl windows to remain

Accessibility

- Change the South stair to accommodate a new elevator
- Provide compliant accessible entrance at South grade level entrance
- Add 5 stop elevator servicing all floors (four floor levels plus entry level)
- Modify toilets, ramp and corridors to make the building accessible
- Change over all door hardware for accessibility requirements

Exterior

- Replace the slate roof with a new slate roof
- Remove the exterior steel stair fire escape
- Replace the siding finishes on the cupola
- Scrape and repaint all wood trim, repair as necessary
- Repoint all foundation masonry
- Replace damaged shingle siding with new, repaint siding
- Paint exterior

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Interior

- Remove counters and equipment from corridors
- Remove items from service clearance areas

Fire/Sprinkler/Plumbing

- Remove sinks in corridors
- Update toilets for accessibility and efficiency
- Provide a Fire Protection system to the building
- Update Fire Alarm system

Electrical

- Replace wall outlets to tamper resistant outlets
- Replace outlets in wet locations for GFCI outlets
- Replace covers to the branch circuit panels
- Provide emergency/stand by power
- Provide Carbon Monoxide monitoring system

Heating Ventilation and Air Conditioning

- Replace HVAC unit on the third floor
- Provide DX unit for heating and cooling for the building
- Provide new systems for the ventilation and cooling
- Utilize existing (recently new) boilers for heating

COST ESTIMATE FOR THE PROPOSED SCOPE OF WORK

The Construction Cost Estimate for the Proposed Scope of Work will be further developed as part of the Designer Services during final design.
The current construction cost estimate is based on a modification of the construction cost estimate developed as part of the 2013 Historic Building Assessment. An edited version of that cost estimate, edited to omit work not included in the Proposed Scope of Work follows. The Construction Cost Estimate may be summarized as follows:

Total Direct Cost (Trade Work)		$2,419,000	
General Requirements 15%		$363,000	
Overhead and Profit		$315,000	
Total Direct Cost and OHP		*$3,097,000*	
Design Contingency - 20%		$619,400	
Total with Contingency		*$3,716,400*	
Escalation (2 years @ 4%/year 2013-2015)		$303,258	
Total Construction Cost with Escalation		***$4,019,658***	
	-7.50%	***+7.5%***	
Range	***$3,718,184***	***$4,321,133***	

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NORTH BAY
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Project: Planning Study, Roudenbush Community Center, 65 Main Street, Westford, MA
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ORDER OF MAGNITUDE COST ESTIMATE - CAPITAL PLAN

Values in this Estimate are based on the values from the May 10, 2013 estimate prepared by North Bay Construction Consultants for the Historic Building Assessment. This is an excerpt create by Gienapp Design of the complete estimate that was prepared for three

DIV.	ELEMENT	QTY	UNIT	UNIT COST	COST	SUBTOTAL	SUBTOTAL
02	**DEMOLITION AND SITEWORK**						**$ 66,748**
02 41	**Demolition**					**$ 40,248**	
	Remove South Stair, Treads, Risers and Railings to accommodate installation of new elevator. See attached drawings for extent.	800	SF	$ 10.00	$ 8,000.00		$ 8,000.00
	Remove existing doors, walls and ceilings to accommodate reconfigured space for new elevator common corridor to new egress stair and new toilet rooms - See attached drawings for extent.	1,100	SF	$ 8.00	$ 8,800.00		$ 8,800.00
	Remove existing rear dormer and wall to accommodate new stair tower	200	SF	$ 15.00	$ 3,000.00		$ 3,000.00
	Remove existing cedar shingles to sheathing at cupola	500	SF	$ 7.00	$ 3,500.00		$ 3,500.00
	Remove small toilet rooms at mid landing between 2nd & 3rd Floors	50	SF	$ 20.00	$ 1,000.00		$ 1,000.00
	Remove existing abandoned high velocity HVAC system, including ductwork, equipment and piping at Third Floor	1	LS	$ 7,500.00	$ 7,500.00		$ 7,500.00
	Remove fire escapes	1	LS	$ 8,448.00	$ 8,448.00		$ 8,448.00
	Sitework					**$ 1,500**	
	Perimeter drainage, clean	1	LS	$ 1,500.00	$ 1,500.00		$ 1,500.00
02 81	**Hazardous Materials**					**$ 25,000**	
	Abatement allowance	1	LS	$ 25,000.00	$ 25,000.00		$ 25,000.00

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DIV.	ELEMENT	QTY	UNIT	UNIT COST	COST	SUBTOTAL		SUBTOTAL
03	**CONCRETE**							**$ 11,850**
03 30	**Cast-In-Place Concrete**					**$ 11,850**		
	Footings, elevator pit	2	CY	$ 900.00	$ 1,800.00		$ 1,800.00	
	Foundation, elevator pit	4	CY	$ 900.00	$ 3,600.00		$ 3,600.00	
	Slab, elevator pit	1	LS	$ 900.00	$ 900.00		$ 900.00	
	Concrete Cutting	1	LS	$ 1,500.00	$ 1,500.00		$ 1,500.00	
	Concrete placement at metal pan stairs	3	FLTS	$ 1,350.00	$ 4,050.00		$ 4,050.00	
04	**MASONRY**							**$ 3,500**
	Repoint select areas of granite foundation	100	SF	$ 35.00	$ 3,500.00		$ 3,500.00	
05	**METALS**							**$ 151,020**
05 12	**Structural Steel Framing**					**$ 13,500**		
	Reinforce gymnasium roof structure to carry loads from new stair tower	250	SF	$ 54.00	$ 13,500.00		$ 13,500.00	

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DIV.	ELEMENT	QTY	UNIT	UNIT COST	COST	SUBTOTAL	SUBTOTAL
05 50	**Miscellaneous Metals**					**$ 137,520**	
	New metal pan stairs at new egress stair, treads, risers, stringers	210	SF	$ 235.00	$ 49,350.00		$ 49,350.00
	Metal pan stairs, landing	315	SF	$ 190.00	$ 59,850.00		$ 59,850.00
	New railings at new stairs	96	LF	$ 295.00	$ 28,320.00		$ 28,320.00
06	**WOOD, PLASTICS AND COMPOSITES**						**$ 265,575**
06 05	**Carpentry**					**$ 265,575**	
	New floor framing at demolished interior West stair	400	SF	$ 10.50	$ 4,200.00		$ 4,200.00
	New wood trim, baseboard & door casing at new toilet rooms and reconfigured rooms - match existing style	1,250	LF	$ 7.50	$ 9,375.00		$ 9,375.00
	North façade - repair cedar shingle siding at select areas	500	SF	$ 15.00	$ 7,500.00		$ 7,500.00
	North façade - repair wood siding and trim at select areas around building	1,000	SF	$ 12.00	$ 12,000.00		$ 12,000.00
	Install new cedar shingles at existing cupola	500	SF	$ 28.00	$ 14,000.00		$ 14,000.00
	Repair and replace window trim / sills at select windows	30	EA	$ 800.00	$ 24,000.00		$ 24,000.00
	Miscellaneous interior trim repair	1,000	LF	$ 7.50	$ 7,500.00		$ 7,500.00
	Wall framing, sheathing and siding at new stair tower	1,400	SF	$ 45.00	$ 63,000.00		$ 63,000.00

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DIV.	ELEMENT	QTY	UNIT	UNIT COST	COST	SUBTOTAL	SUBTOTAL
	Improve guards, etc at Gym -- Allowance	1	LS	$ 20,000.00	$ 20,000.00		$ 20,000
	Floor infill at shafts	200	SF	$ 20.00	$ 4,000.00		$ 4,000
	Repair and replace exterior trim	1	LS	$ 100,000.00	$ 100,000.00		$ 100,000.00
7	**THERMAL AND MOISTURE PROTECTION**						**$ 349,120**
07 11	**Roofing**					**$ 305,450**	
	Replace entire roof down to existing sheathing. Re-use existing slate shingles and provide new slate shingles to match	7,500	SF	$ 35.00	$ 262,500.00		$ 262,500.00
	New underlayment entire roof	7,500	SF	$ 2.50	$ 18,750.00		$ 18,750.00
	Ice and water shield 36" at eaves, rakes and valleys	4,500	SF	$ 1.10	$ 4,950.00		$ 4,950.00
	New slate roof at rear addtion to egress stair	550	SF	$ 35.00	$ 19,250.00		$ 19,250.00
07 21	**Thermal Insulation**					**$ 6,170**	
	Rigid insulation at new egress stair tower	550	SF	$ 5.00	$ 2,750.00		$ 2,750.00
	Batt insulation, walls, new construction	1,800	SF	$ 1.90	$ 3,420.00		$ 3,420.00
07 84	**Firestopping and joint sealants**					**$ 37,500**	
	Through walls and floors	1	LS	$ 2,500.00	$ 2,500.00		$ 2,500.00
	Exterior sealants	1	LS	$ 25,000.00	$ 25,000.00		$ 25,000.00
	Interior sealants	1	LS	$ 10,000.00	$ 10,000.00		$ 10,000.00

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DIV.	ELEMENT	QTY	UNIT	UNIT COST	COST	SUBTOTAL		SUBTOTAL
08	**OPENINGS**							**$ 109,400**
08 41	**Windows**					**$ 3,200**		
	Windows at new stair tower	40	SF	$ 80.00	$ 3,200.00		$ 3,200.00	
08 12	**Doors, Frames and Hardware**					**$ 106,200**		
	Update all existing door hardware to meet ADA codes	40	EA	$ 900.00	$ 36,000.00		$ 36,000.00	
	New doors, frames and hardware	27	EA	$ 2,600.00	$ 70,200.00		$ 70,200.00	
09	**FINISHES**							**$ 300,488**
09 21	**Gysum Wallboard Systems**					**$ 136,348**		
	New GWB ceilings at demolished interior West stair	400	SF	$ 8.00	$ 3,200.00		$ 3,200.00	
	Gypsum wall board at new reconfigured rooms	12,500	SF	$ 7.00	$ 87,500.00		$ 87,500.00	
	GWB, metal studs, exterior sheathing, stair tower	2,400	SF	$ 12.00	$ 28,800.00		$ 28,800.00	
	Shaft wall, Gyp, Elevator	1,296	SF	$ 13.00	$ 16,848.00		$ 16,848.00	
09 48	**Acoustical Ceilings**					**$ 25,600**		
	New suspended ceilings at reconfigured rooms	3,000	SF	$ 7.20	$ 21,600.00		$ 21,600.00	
	Repair suspended ceilings as needed	1,000	SF	$ 4.00	$ 4,000.00		$ 4,000.00	
09 68	**Flooring**					**$ 8,000**		
	Ceramic tile floors at toilet rooms	400	SF	$ 20.00	$ 8,000.00		$ 8,000.00	

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DIV.	ELEMENT	QTY	UNIT	UNIT COST	COST	SUBTOTAL		SUBTOTAL
09 91	**Painting and Finishing**					**$ 130,540**		
	Prime and paint (two coats) walls at new toilet rooms and reconfigured walls	12,500	SF	$ 2.50	$ 31,250.00		$ 31,250.00	
Note 1	Paint all walls, wood trim & ceilings throughout	4,500	SF	$ 2.50	$ 11,250.00		$ 11,250.00	
	Paint shaftwall	1,296	SF	$ 2.50	$ 3,240.00		$ 3,240.00	
	Paint new stair tower walls, ceilings	2,400	SF	$ 2.00	$ 4,800.00		$ 4,800	
	Exterior: scrape, prime, and paint	1	LS	$ 80,000.00	$ 80,000.00		$ 80,000.00	
10	**SPECIALTIES**							**$ 15,060**
	Handicap signage	17,000	SF	$ 0.15	$ 2,550.00		$ 2,550.00	
	New egress signage	17,000	SF	$ 0.18	$ 3,060.00		$ 3,060.00	
	Fire protection specialties	8	EA	$ 375.00	$ 3,000.00		$ 3,000.00	
	Access panels	1	LS	$ 450.00	$ 450.00		$ 450.00	
	Toilet accessories at new toilet rooms	5	EA	$ 1,200.00	$ 6,000.00		$ 6,000.00	
11	**EQUIPMENT**							**$ -**

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DIV.	ELEMENT	QTY	UNIT	UNIT COST	COST	SUBTOTAL	SUBTOTAL
12	**FURNISHINGS**						**$ -**
14	**CONVEYING EQUIPMENT**						**$ 210,000**
	Install new five-stop elevator to serve the Basement level, West entrance grade landing, First, Second and Third Floors.	1	LS	$ 210,000.00	$ 210,000.00	$ 210,000.00	
15	**MECHANICAL**						**$ 783,223**
	Fire Protection					**$ 110,500**	
Note 2	New fire protection system	17,000	SF	$ 6.50	$ 110,500.00	$ 110,500.00	
	Plumbing					**$ 92,200**	
	Demolition and disconnects	17,000	SF	$ 0.50	$ 8,500.00	$ 8,500.00	
	Install new accessible toilets as shown on plans	3	EA	$ 25,000.00	$ 75,000.00	$ 75,000.00	
	Gas piping	200	LF	$ 43.50	$ 8,700.00	$ 8,700.00	

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DIV.	ELEMENT	QTY	UNIT	UNIT COST	COST	SUBTOTAL		SUBTOTAL
	HVAC					**$ 580,523**		
	Selective HVAC Demolition	1	LS	$ 34,000.00	$ 34,000.00		$ 34,000.00	
Note 3	Provide a new 100% outdoor air packaged dx cooling and natural gas heating unit	1	LS	$ 231,887.50	$ 231,887.50		$ 231,887.50	
	Remove and replace existing HVAC system for the gym and ground floor offices with new systems. For the Gym area a new packaged Dx cooling natural gas heating unit connected	1	LS	$ 149,835.00	$ 149,835.00		$ 149,835.00	
	Install new ductless split high efficiency ac units for the second and third floors.	4	EA	$ 9,000.00	$ 36,000.00		$ 36,000.00	
	Testing, adjusting, balancing	80	HRS	$ 110.00	$ 8,800.00		$ 8,800.00	
	Air distribution and grilles	10,000	LBS	$ 12.00	$ 120,000.00		$ 120,000.00	
16	**ELECTRICAL**							**$ 152,600**
16 00	The cover should be installed on the wireway above the branch circuit panels as required by code	1	LS	$ 1,000.00	$ 1,000.00		$ 1,000.00	
	The former loadcenter in the gym office should be fitted with a blank plate.	1	EA	$ 500.00	$ 500.00		$ 500.00	
	The FPE loadcenters in the attic stair should be relocated and replaced	1	LS	$ 1,000.00	$ 1,000.00		$ 1,000.00	

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DIV.	ELEMENT	QTY	UNIT	UNIT COST	COST	SUBTOTAL	SUBTOTAL
	Replace ungrounded type receptacles with grounding type receptacles	17,000	SF	$ 3.44	$ 58,480.00		$ 58,480.00
	New GFCI receptacles to be installed within 6 feet of a sink or other wet areas	10	EA	$ 212.00	$ 2,120.00		$ 2,120.00
	Install hookup for portable emergency generators	1	EA	$ 4,000.00	$ 4,000.00		$ 4,000.00
	Replace existing fire alarm control equipment	17,000	SF	$ 4.00	$ 68,000.00		$ 68,000.00
	Replace existing heat and smoke detectors	Included					
	Replace notification appliances, strobes, pull boxes etc. Mount at heights to meet ADA & relevant codes	Included					
	Visual notification appliances to be installed in toilet rooms, meeting, conference, classrooms and similar space to comply with ADA requirements	Included					
	Install carbon monoxide detectors in each room used by children	Included					
16 00	Elevator power allowance	1	LS	$ 7,500.00	$ 7,500.00		$ 7,500.00
	Mechanical starters, feeds and disconnects	1	LS	$ 10,000.00	$ 10,000.00		$ 10,000.00

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Project: Planning Study, Roudenbush Community Center, 65 Main Street, Westford, MA
Date: September 5, 2014

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DIV.	ELEMENT	QTY	UNIT	UNIT COST	COST	SUBTOTAL		SUBTOTAL
	TOTAL DIRECT COSTS						**$**	**2,418,584**
	GENERAL REQUIRMENTS (15%)						$	362,788
	OVERHEAD AND PROFIT (13%)						$	314,416
	TOTAL - DIRECT COST AND OH&P						***$***	***3,095,787***
	DESIGN CONTINGENCY (20%)						$	619,157.4
	TOTAL - DIRECT COST, OH&P and CONTINGENCY						*$*	*3,714,944*
	ESCALATION - 2 YEARS; 4% PER YEAR 2013-2015						$	303,139
	TOTAL PLANNING STUDY CONSTRUCTION COST ESTIMATE WITH ESCALATION						***$***	***4,018,084***

Note 1 Some of the office spaces on the Ground level have been up dated since the start of this Conditions Assessment

Note 2 New water lines have been installed since the start of this Conditions Assessment. A separate water line was installed for the sprinkler system

Note 3 The boilers have been replaced since the start of this Conditions Assessment

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IMPLEMENTATION

It is the Town's intention to proceed with design and construction of the Proposed Scope of Work in 2014 and 2015.
In the Spring of 2014 the Town appropriated funding for final design services.
The preliminary schedule may be summarized as follows:

Fall of 2014	Town issues Request for Qualifications for Design Services and awards contract for final design.
Winter 2014-2015	Designer provides design services including completion of Construction Documents for Bidding
Late winter 2014-2015	Project is issued for Bidding and Bids received.
Spring 2015	Town seeks construction funding at Spring Town Meeting based on bids received
Late Spring 2015	Town awards Contract for Construction to allow project start-up and procurement
Summer (May or June) 2015	On-site construction commences in designated areas. Full construction cannot proceed until daycare programs release at end of school year.
Autumn 2015	Construction Completion. Exact date to be determined as well as if partial occupancy can be achieved for start of school in September 2015

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APPENDIX - A

COST ESTIMATE FROM THE HISTORIC BUILDING ASSESSMENT

Excerpt of Roudenbush building section, only, of the Construction Cost Estimate from the 2013 Historic Building Condition Assessment

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NORTH BAY
CONSTRUCTION CONSULTANTS

Project: Westford Facilities Study
Date: May 10, 2013

ORDER OF MAGNITUDE COST ESTIMATE - 10 YEAR CAPITAL PLAN

This is from the Cost Estimate from the 2013 Historic Building Condition Assessment of the three buildings. It is an excerpt of the secton pertaining only to the Roudenbush Community Center at 65 Main Street. The other two buildings are omitted

DIRECT COST DETAIL - 65 Main Street

DIV.	ELEMENT	QTY	UNIT	UNIT COST	COST	SUBTOTAL	A - 1-3 YEARS	B - 4-6 YEARS	C - 7-10 YEARS	TOTAL
02	**DEMOLITION AND SITEWORK**									**$ 368,548**
02 41	**Demolition**					**$ 259,048**				
	Repair paving at parking & drives, scarify and existing paving, regrade as necessary and resurface with new bituminous asphalt paving. New curbing Re-stripe. (Regrade to maintain slope away from building perimeter.	30,000	SF	$ 4.50	$ 135,000.00			$ 135,000		
	Concrete pavers w/ sub base at main entrance	2,000	SF	$ 30.00	$ 60,000.00		$ 60,000			
	Regrade pavement at East & West side of gym to allow minimum of 8" clear from grade to siding	200	SF	$ 9.00	$ 1,800.00			$ 1,800		
	Remove South Stair, Treads, Risers and Railings to accommodate installation of new elevator. See attached drawings for extent.	800	SF	$ 10.00	$ 8,000.00		$ 8,000			
	Remove existing granite steps & platform at Main Entrance save for reuse.	200	SF	$ 10.00	$ 2,000.00		$ 2,000			
	Remove bituminous paving in front of Main Entrance to accommodate new ramp & reconstructed stairs.	2,000	SF	$ 2.00	$ 4,000.00		$ 4,000			
	Remove existing doors, walls and ceilings to accommodate reconfigured space for new elevator common corridor to new egress stair and new toilet rooms - See attached drawings for extent.	1,100	SF	$ 8.00	$ 8,800.00		$ 8,800			
	Remove existing rear dormer and wall to accommodate new stair tower	200	SF	$ 15.00	$ 3,000.00		$ 3,000			
	Remove wood finishes at Third floor walls, ceilings, prepare for installation of new wall and ceiling finishes (GWB)	2,000	SF	$ 8.00	$ 16,000.00		$ 4,000	$ 12,000		
	Remove existing cedar shingles to sheathing at cupola	500	SF	$ 7.00	$ 3,500.00		$ 3,500			
	Remove small toilet rooms at mid landing between 2nd & 3rd Floors	50	SF	$ 20.00	$ 1,000.00		$ 500		$ 500	
	Remove existing abandoned high velocity HVAC system, including ductwork, equipment and piping at Third Floor	1	LS	$ 7,500.00	$ 7,500.00			$ 7,500		
	Remove fire escapes	1	LS	$ 8,448.00	$ 8,448.00		$ 8,448			

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DIRECT COST DETAIL - 65 Main Street

DIV.	ELEMENT	QTY	UNIT	UNIT COST	COST	SUBTOTAL	A - 1-3 YEARS	B - 4-6 YEARS	C - 7-10 YEARS	TOTAL
	Sitework					**$ 84,500**				
	Bulk excavation, ramp foundation, and footings	1	LS	$ 38,000.00	$ 38,000.00		$ 38,000			
	Hand excavate for inteior elevator, foundation, footings	1	LS	$ 9,000.00	$ 9,000.00		$ 9,000			
	Regrade	4,000	SF	$ 1.00	$ 4,000.00			$ 4,000		
	New landscaping at front entry, planting and lawn	1,600	SF	$ 20.00	$ 32,000.00				$ 32,000	
	Perimeter drainage, clean	1	LS	$ 1,500.00	$ 1,500.00			$ 1,500		
02 81	**Hazardous Materials**					**$ 25,000**				
	Abatement allowance	1	LS	$ 25,000.00	$ 25,000.00		$ 12,500	$ 12,500		
03	**CONCRETE**									**$ 74,350**
03 30	**Cast-In-Place Concrete**					**$ 74,350**				
	New concrete ramp, frost wall, footings	500.00	SF	$ 125.00	$ 62,500.00		$ 62,500			
	Footings, elevator pit	2	CY	$ 900.00	$ 1,800.00		$ 1,800			
	Foundation, elevator pit	4	CY	$ 900.00	$ 3,600.00		$ 3,600			
	Slab, elevator pit	1	LS	$ 900.00	$ 900.00		$ 900			
	Concrete Cutting	1	LS	$ 1,500.00	$ 1,500.00		$ 1,500			
	Concrete placement at metal pan stairs	3	FLTS	$ 1,350.00	$ 4,050.00			$ 4,050		
04	**MASONRY**									**$ 20,100**
	Repoint select areas of granite foundation	100	SF	$ 35.00	$ 3,500.00		$ 1,750	$ 1,750		
	New granite curbing cheek walls at new main entrance stair and ramp.	20	LF	$ 350.00	$ 7,000.00		$ 7,000			
	Reinstall granite treads and risers at main entrance.	20	SF	$ 480.00	$ 9,600.00		$ 9,600			

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DIRECT COST DETAIL - 65 Main Street

DIV.	ELEMENT	QTY	UNIT	UNIT COST	COST	SUBTOTAL	A - 1-3 YEARS	B - 4-6 YEARS	C - 7-10 YEARS	TOTAL
05	**METALS**									**$ 208,845**
05 12	**Structural Steel Framing**					**$ 13,500**				
	Reinforce gymnasium roof structure to carry loads from new stair tower	250	SF	$ 54.00	$ 13,500.00		$ 13,500			
05 50	**Miscellaneous Metals**					**$ 195,345**				
	New metal pan stairs at new egress stair, treads, risers, stringers	210	SF	$ 235.00	$ 49,350.00		$ 49,350			
	Metal pan stairs, landing	315	SF	$ 190.00	$ 59,850.00		$ 59,850			
	New railings at new stairs	96	LF	$ 295.00	$ 28,320.00		$ 28,320			
	New handrails along walls at existing interior stair	90	LF	$ 205.00	$ 18,450.00			$ 18,450		
	Install new handrails at reconfigured main entry stairs and new ramp	175	LF	$ 225.00	$ 39,375.00		$ 39,375			
06	**WOOD, PLASTICS AND COMPOSITES**									**$ 265,575**
06 05	**Carpentry**					**$ 265,575**				
	New floor framing at demolished interior West stair	400	SF	$ 10.50	$ 4,200.00		$ 4,200			
	New wood trim, baseboard & door casing at new toilet rooms and reconfigured rooms - match existing style	1,250	LF	$ 7.50	$ 9,375.00		$ 9,375			
	North façade - repair cedar shingle siding at select areas	500	SF	$ 15.00	$ 7,500.00		$ 2,500	$ 2,500	$ 2,500	
	North façade - repair wood siding and trim at select areas around building	1,000	SF	$ 12.00	$ 12,000.00		$ 4,000	$ 4,000	$ 4,000	
	Install new cedar shingles at existing cupola	500	SF	$ 28.00	$ 14,000.00		$ 14,000			
	Repair and replace window trim / sills at select windows	30	EA	$ 800.00	$ 24,000.00		$ 24,000			
	Miscellaneous interior trim repair	1,000	LF	$ 7.50	$ 7,500.00			$ 3,750	$ 3,750	
	Wall framing, sheathing and siding at new stair tower	1,400	SF	$ 45.00	$ 63,000.00		$ 63,000			
	Improve guards, etc at Gym -- Allowance	1	LS	$ 20,000.00	$ 20,000.00			$ 20,000		
	Floor infill at shafts	200	SF	$ 20.00	$ 4,000.00			$ 4,000		
	Repair and replace exterior trim	1	LS	$ 100,000.00	$ 100,000.00		$ 33,333	$ 33,333	$ 33,333	

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DIRECT COST DETAIL - 65 Main Street

DIV.	ELEMENT	QTY	UNIT	UNIT COST	COST	SUBTOTAL	A - 1-3 YEARS	B - 4-6 YEARS	C - 7-10 YEARS	TOTAL
7	**THERMAL AND MOISTURE PROTECTION**									**$ 349,120**
07 11	**Roofing**					**$ 305,450**				
	Replace entire roof down to existing sheathing. Re-use existing slate shingles and provide new slate shingles to match	7,500	SF	$ 35.00	$ 262,500.00		$ 262,500			
	New underlayment entire roof	7,500	SF	$ 2.50	$ 18,750.00		$ 18,750			
	Ice and water shield 36" at eaves, rakes and valleys	4,500	SF	$ 1.10	$ 4,950.00		$ 4,950			
	New slate roof at rear addtion to egress stair	550	SF	$ 35.00	$ 19,250.00		$ 19,250			
07 21	**Thermal Insulation**					**$ 6,170**				
	Rigid insulation at new egress stair tower	550	SF	$ 5.00	$ 2,750.00		$ 2,750			
	Batt insulation, walls, new construction	1,800	SF	$ 1.90	$ 3,420.00		$ 3,420			
07 84	**Firestopping and joint sealants**					**$ 37,500**				
	Through walls and floors	1	LS	$ 2,500.00	$ 2,500.00		$ 2,500			
	Exterior sealants	1	LS	$ 25,000.00	$ 25,000.00		$ 25,000			
	Interior sealants	1	LS	$ 10,000.00	$ 10,000.00		$ 10,000			
08	**OPENINGS**									**$ 109,400**
08 41	**Windows**					**$ 3,200**				
	Windows at new stair tower	40	SF	$ 80.00	$ 3,200.00		$ 3,200			
08 12	**Doors, Frames and Hardware**					**$ 106,200**				
	Update all existing door hardware to meet ADA codes	40	EA	$ 900.00	$ 36,000.00		$ 36,000			
	New doors, frames and hardware	27	EA	$ 2,600.00	$ 70,200.00		$ 70,200			

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DIRECT COST DETAIL - 65 Main Street

DIV.	ELEMENT	QTY	UNIT	UNIT COST	COST	SUBTOTAL	A - 1-3 YEARS	B - 4-6 YEARS	C - 7-10 YEARS	TOTAL
09	**FINISHES**									**$ 360,171**
09 21	**Gysum Wallboard Systems**					**$ 136,348**				
	New GWB ceilings at demolished interior West stair	400	SF	$ 8.00	$ 3,200.00		$ 3,200			
	Gypsum wall board at new reconfigured rooms	12,500	SF	$ 7.00	$ 87,500.00		$ 87,500			
	GWB, metal studs, exterior sheathing, stair tower	2,400	SF	$ 12.00	$ 28,800.00		$ 28,800			
	Shaft wall, Gyp, Elevator	1,296	SF	$ 13.00	$ 16,848.00		$ 16,848			
09 48	**Acoustical Ceilings**					**$ 25,600**				
	New suspended ceilings at reconfigured rooms	3,000	SF	$ 7.20	$ 21,600.00			$ 21,600		
	Repair suspended ceilings as needed	1,000	SF	$ 4.00	$ 4,000.00		$ 4,000			
09 68	**Flooring**					**$ 67,683**				
	Remove carpeting, refinish all wood floors	5,056	SF	$ 5.50	$ 27,808.00				$ 27,808	
	Refinish, repair ex wood floor	7,500	SF	$ 4.25	$ 31,875.00			$ 15,938	$ 15,938	
	Ceramic tile floors at toilet rooms	400	SF	$ 20.00	$ 8,000.00		$ 8,000			
09 91	**Painting and Finishing**					**$ 130,540**				
	Prime and paint (two coats) walls at new toilet rooms and reconfigured walls	12,500	SF	$ 2.50	$ 31,250.00		$ 31,250			
	Paint all walls, wood trim & ceilings throughout	4,500	SF	$ 2.50	$ 11,250.00		$ 3,750	$ 3,750	$ 3,750	
	Paint shaftwall	1,296	SF	$ 2.50	$ 3,240.00		$ 3,240			
	Paint new stair tower walls, ceilings	2,400	SF	$ 2.00	$ 4,800.00		$ 1,600	$ 1,600	$ 1,600	
	Exterior: scrape, prime, and paint	1	LS	$ 80,000.00	$ 80,000.00		$ 40,000	$ 20,000	$ 20,000	

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NORTH BAY
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DIRECT COST DETAIL - 65 Main Street

DIV.	ELEMENT	QTY	UNIT	UNIT COST	COST	SUBTOTAL	A - 1-3 YEARS	B - 4-6 YEARS	C - 7-10 YEARS	TOTAL
10	**SPECIALTIES**									**$ 15,060**
	Handicap signage	17,000	SF	$ 0.15	$ 2,550.00		$ 2,550			
	New egress signage	17,000	SF	$ 0.18	$ 3,060.00		$ 3,060			
	Fire protection specialties	8	EA	$ 375.00	$ 3,000.00		$ 3,000			
	Access panels	1	LS	$ 450.00	$ 450.00		$ 450			
	Toilet accessories at new toilet rooms	5	EA	$ 1,200.00	$ 6,000.00		$ 6,000			
11	**EQUIPMENT**									**$ -**
12	**FURNISHINGS**									**$ -**
14	**CONVEYING EQUIPMENT**									**$ 210,000**
	Install new five-stop elevator to serve the Basement level, West entrance grade landing, First, Second and Third Floors.	1	LS	$ 210,000.00	$ 210,000.00		$ 210,000			

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NORTH BAY
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DIRECT COST DETAIL - 65 Main Street

DIV.	ELEMENT	QTY	UNIT	UNIT COST	COST	SUBTOTAL	A - 1-3 YEARS	B - 4-6 YEARS	C - 7-10 YEARS	TOTAL
15	**MECHANICAL**									**$ 813,223**
	Fire Protection					**$ 110,500**				
	New fire protection system	17,000	SF	$ 6.50	$ 110,500.00		$ 110,500			
	Plumbing					**$ 122,200**				
	Demolition and disconnects	17,000	SF	$ 0.50	$ 8,500.00		$ 8,500			
	Install new accessible toilets as shown on plans	3	EA	$ 25,000.00	$ 75,000.00		$ 75,000			
	Upgrade existing plumbing fixtures at existing toilet rooms to remain	4	EA	$ 7,500.00	$ 30,000.00			$ 30,000		
	Gas piping	200	LF	$ 43.50	$ 8,700.00		$ 8,700			
	HVAC					**$ 580,523**				
	Selective HVAC Demolition	1	LS	$ 34,000.00	$ 34,000.00			$ 34,000		
	Provide a new 100% outdoor air packaged dx cooling and natural gas heating unit	1	LS	$ 231,887.50	$ 231,887.50			$ 231,888		
	Remove and replace existing HVAC system for the gym and ground floor offices with new systems. For the Gym area a new packaged Dx cooling natural gas heating unit connected	1	LS	$ 149,835.00	$ 149,835.00			$ 149,835		
	Install new ductless split high efficiency ac units for the second and third floors.	4	EA	$ 9,000.00	$ 36,000.00			$ 36,000		
	Testing, adjusting, balancing	80	HRS	$ 110.00	$ 8,800.00			$ 8,800		
	Air distribution and grilles	10,000	LBS	$ 12.00	$ 120,000.00			$ 120,000		

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DIRECT COST DETAIL - 65 Main Street

DIV.	ELEMENT	QTY	UNIT	UNIT COST	COST	SUBTOTAL	A - 1-3 YEARS	B - 4-6 YEARS	C - 7-10 YEARS	TOTAL
16	**ELECTRICAL**									**$ 273,700**
	The cover should be installed on the wireway above the branch circuit panels as required by cod	1	LS	$ 1,000.00	$ 1,000.00		$ 1,000			
	The former loadcenter in the gym office should be fitted with a blank plate.	1	EA	$ 500.00	$ 500.00			$ 500		
	The FPE loadcenters in the attic stair should be relocated and replaced	1	LS	$ 1,000.00	$ 1,000.00			$ 1,000		
	Replace ungrounded type receptacles with grounding type receptacles	17,000	SF	$ 3.44	$ 58,480.00			$ 58,480		
	Replace incandescent lamps with LED or compact fluorescent (CF) lamps	17,000	SF	$ 1.20	$ 20,400.00			$ 20,400		
	Replace manual switches with vacancy sensor switches where practical	17,000	SF	$ 1.10	$ 18,700.00			$ 18,700		
	Exterior fixtures should be replaced with LED type fixtures	6	EA	$ 1,000.00	$ 6,000.00				$ 6,000	
	New GFCI receptacles to be installed within 6 feet of a sink or other wet areas	10	EA	$ 212.00	$ 2,120.00		$ 2,120			
	Install hookup for portable emergency generators	1	EA	$ 4,000.00	$ 4,000.00			$ 4,000		
	Replace existing fire alarm control equipment	17,000	SF	$ 4.00	$ 68,000.00		$ 68,000			
	Replace existing heat and smoke detectors	Included								
	Replace notification appliances, strobes, pull boxes etc. Mount at heights to meet ADA & relevant codes	Included								
	Visual notification appliances to be installed in toilet rooms, meeting, conference, classrooms and similar space to comply with ADA requirements	Included								
	Install carbon monoxide detectors in each room used by children	Included								
	Upgrade: Replace light fixtures at areas no renovated	9,500	SF	$ 8.00	$ 76,000.00				$ 76,000	

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DIRECT COST DETAIL - 65 Main Street

DIV.	ELEMENT	QTY	UNIT	UNIT COST	COST	SUBTOTAL	A - 1-3 YEARS	B - 4-6 YEARS	C - 7-10 YEARS	TOTAL
	Elevator power allowance	1	LS	$ 7,500.00	$ 7,500.00		$ 7,500			
	Mechanical starters, feeds and disconnects	1	LS	$ 10,000.00	$ 10,000.00			$ 10,000		
	RECOMMENDED OPTIONS									**$ -**
16.15	Install video surveillance system	By Tenant, See project budget								
	TOTAL DIRECT COSTS						**$ 1,788,289**	**$ 1,052,623**	**$ 227,179**	**$ 3,068,092**
	GENERAL REQUIRMENTS (15%)									$ 460,213.73
	OVERHEAD AND PROFIT (13%)									$ 398,851.90
	TOTAL - DIRECT COST AND OH&P									**$ 3,927,157.12**
	DESIGN CONTINGENCY (20%)									$ 785,431.42
	ESCALATION - 1 YEAR (4% PER YEAR)									$ 157,086.28
	TOTAL SCHEMATIC DESIGN ESTIMATE									**$ 4,869,674.83**
	TOTAL SF									17,000.00
	COST PER SF									$ 286.45

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APPENDIX – B

Planning Study Concept Plan

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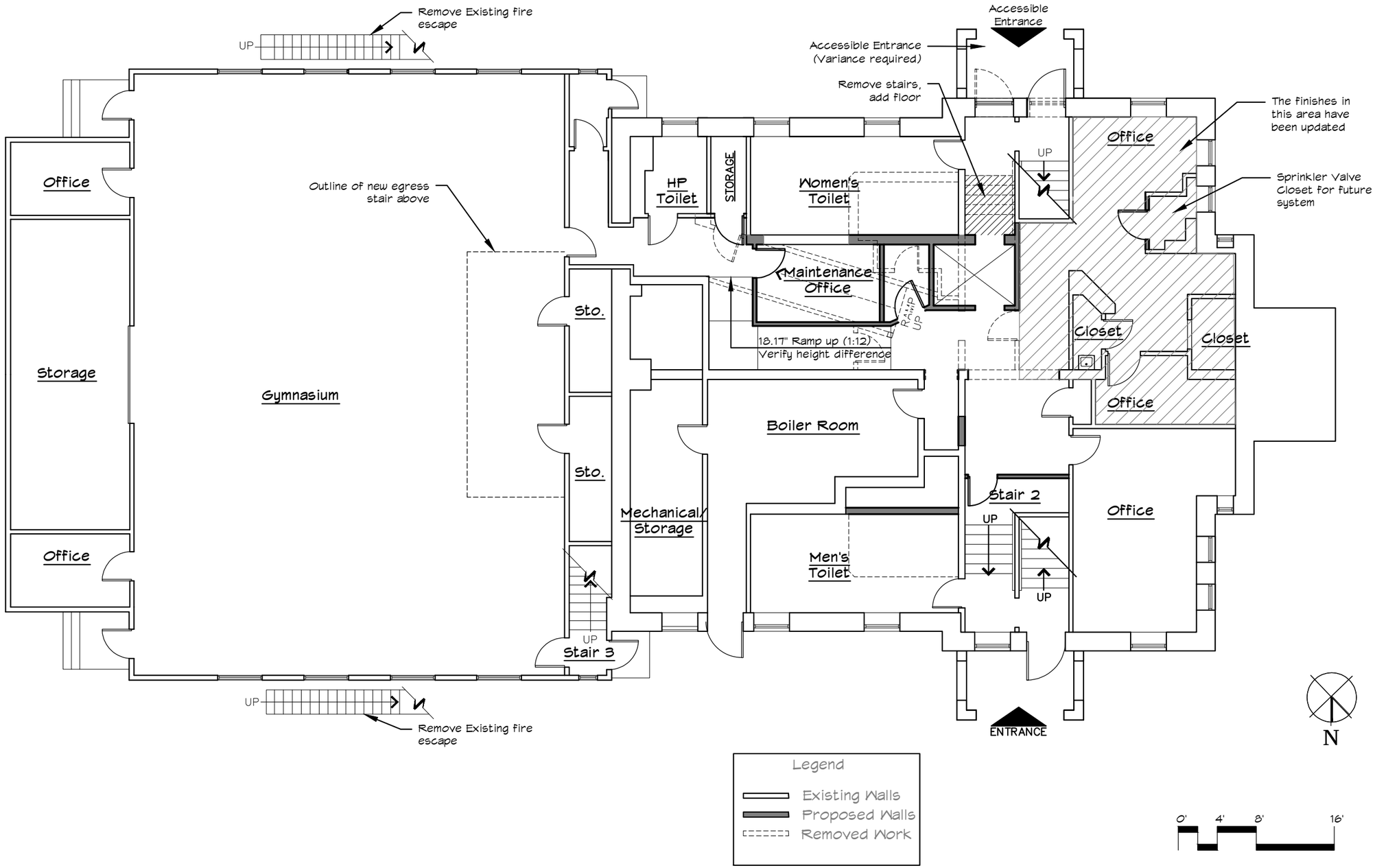

Planning Study Concept- Ground Plan

Scale $\frac{3}{32}$" = 1'-0"

Westford, MA

Roudenbush Community Center Study

September 5, 2014

Project #530.2

GIENAPP DESIGN ARCHITECTURE

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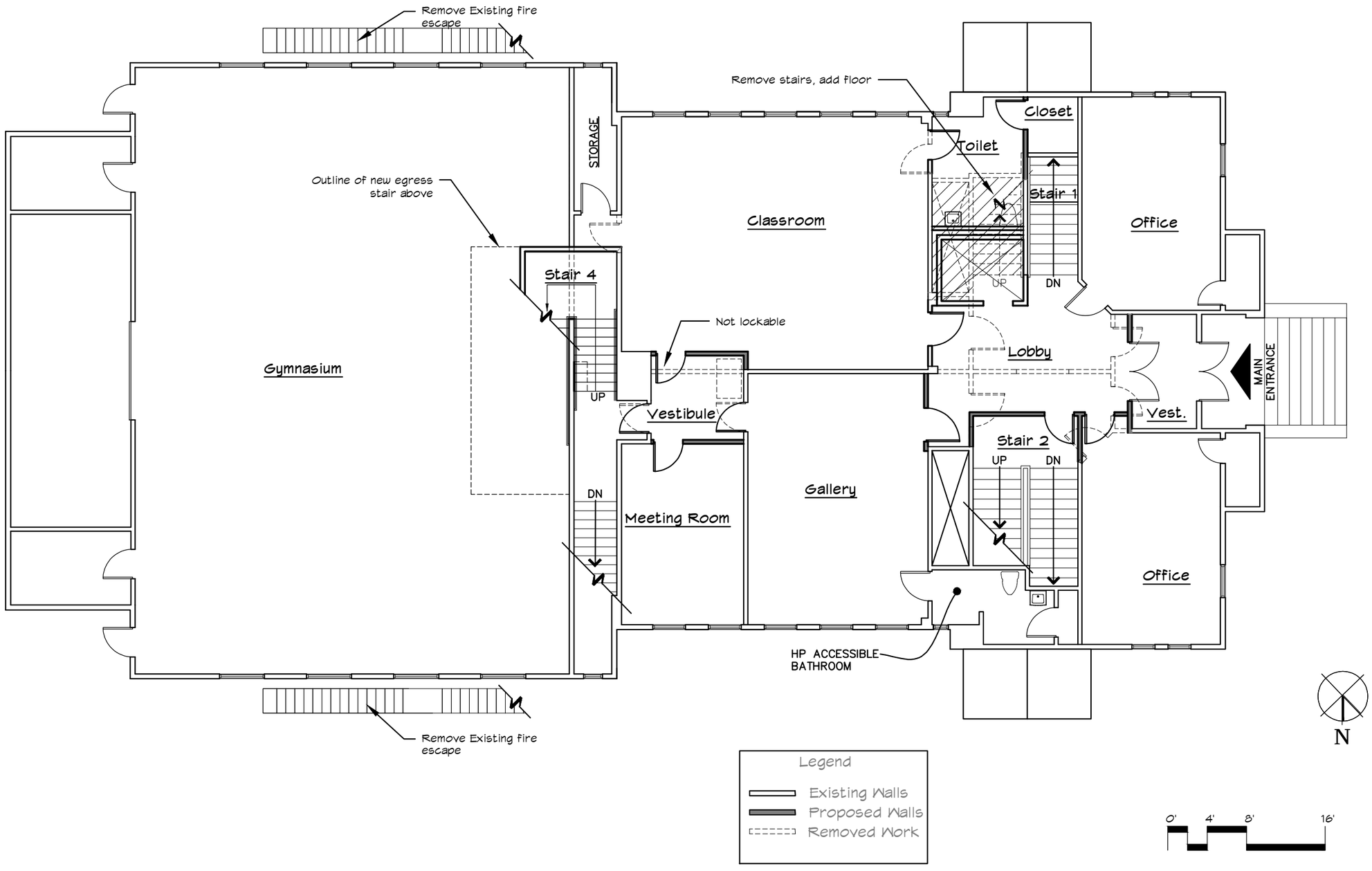

Planning Study Concept- First Floor Plan

Scale $\frac{3}{32}$" = 1'-0" Westford, MA

Roudenbush Community Center Study

Project #530.2

September 5, 2014

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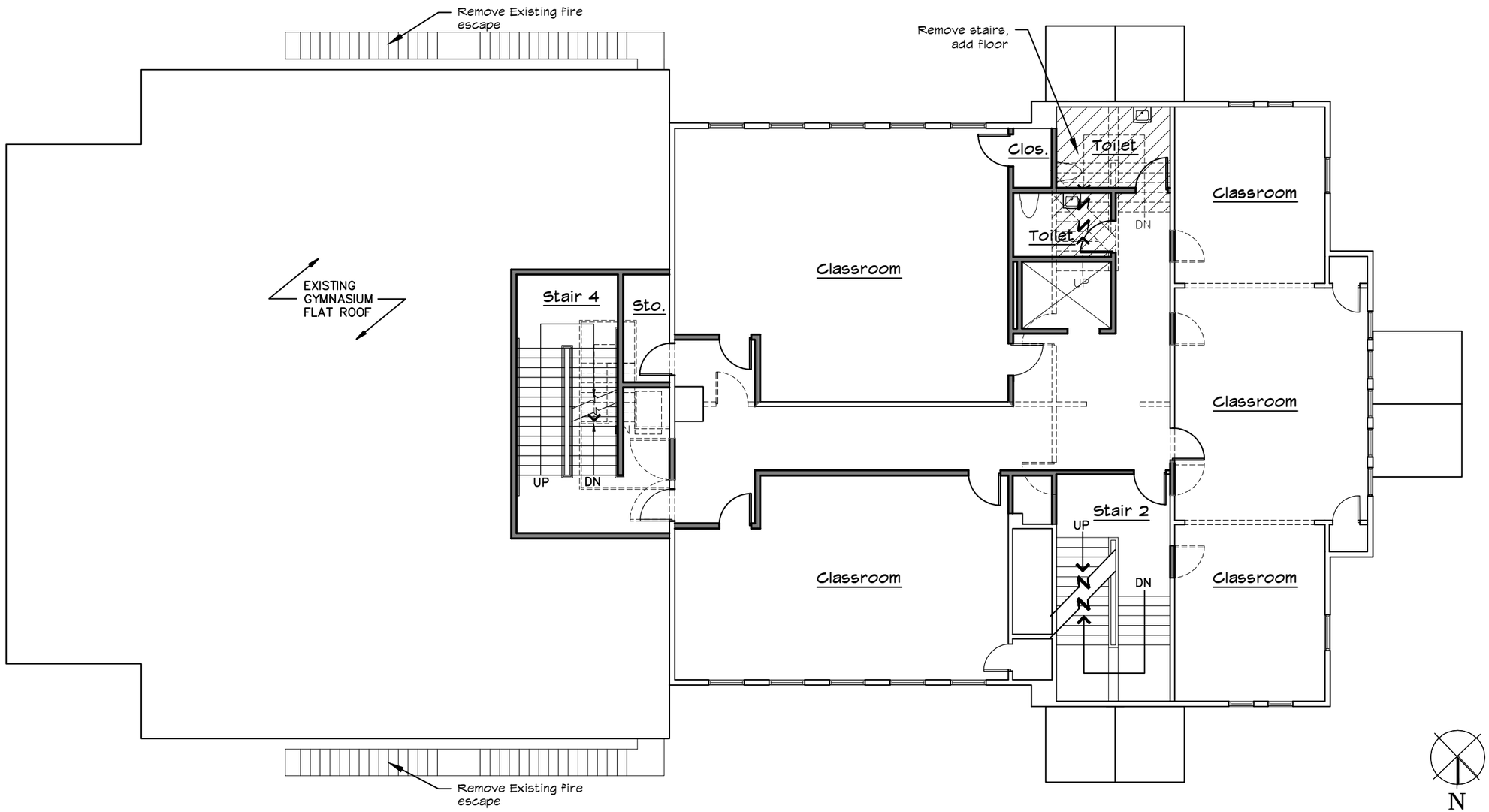
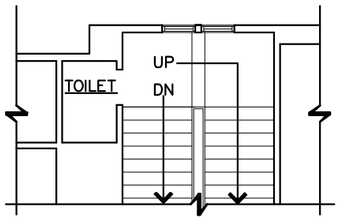
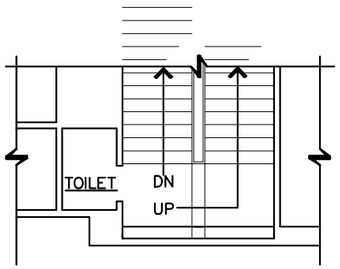
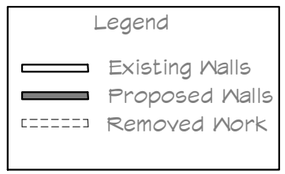




PARTIAL THIRD FLOOR PLAN



PARTIAL THIRD FLOOR PLAN



Planning Study Concept- Second Floor Plan

Scale $\frac{3}{32}$" = 1'-0" Westford, MA

Roudenbush Community Center Study

Project #530.2

September 5, 2014

GIENAPP DESIGN ARCHITECTURE

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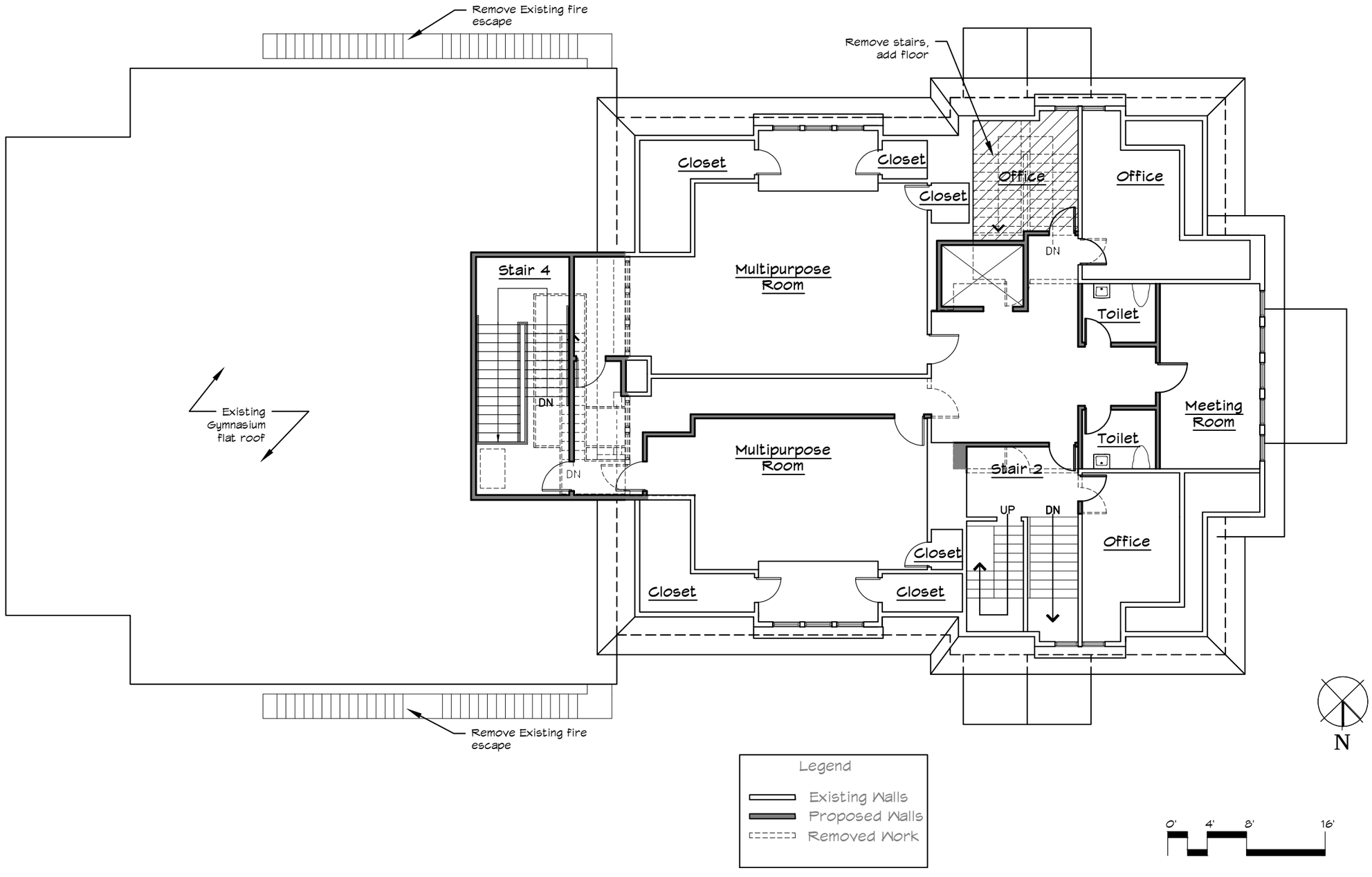

Planning Study Concept- Third Floor Plan

Scale $\frac{3}{32}$" = 1'-0" Westford, MA

Roudenbush Community Center Study

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APPENDIX - C

Fire Protection and Pre Bid Construction Documents

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November 2012
This is a summary of a stand-alone Fire Protection analysis performed before an independent at the 2013 Historical Building Condition Assessment for this 2014 Planning Study

Roudenbush Community Center Sprinkler Retro-fit Project

Option 1 – Sprinkler Installation with fire alarm divided into two phases

Phase 1

- Install new fire alarm panel and fire alarm remote annunciator.
- Install new addressable photo-electric smoke detector in the room where the fire alarm control panel is located.
- Install new addressable monitor modules for new sprinkler tamper, pressure and flow switches.
- Install new addressable monitor modules for monitoring existing building fire alarm zones.
- Install new radio master box.
- Make connections to existing outside red beacon.
- Provide acceptance test with Westford Fire Department.
- Decommission/removal of existing FCI 72 fire alarm control panel and remote annunciator.
- Build soffits to enclose new sprinkler riser and sprinkler piping where marked on the drawings.
- Patch and paint to match existing.
- Paint sprinkler piping to match wall.

Phase 2

- Install new addressable pull stations, photo-electric smoke detectors and horn strobes throughout the building.
- Provide acceptance test with Westford Fire Department.
- Decommission/removal of existing FCI 72 fire alarm smoke detectors, pull stations, horn/strobes, conduit and wiring.
- Patch and paint where existing equipment was removed.

Option 2 – Fire Alarm Installation with Sprinkler divided into two phases

Phase 1

- Install new addressable pull stations, photo-electric smoke detectors and horn strobes throughout the building.
- Install new addressable monitor modules for new sprinkler tamper, pressure and flow switches.
- Install new radio master box.
- Make connections to existing outside red beacon.
- Provide acceptance test with Westford Fire Department.
- Decommission/removal of existing FCI 72 fire alarm panel, cabinets, remote annunciator, smoke detectors, pull stations, horn/strobes, conduit and wiring.
- Patch and paint where existing equipment was removed.
- Install sprinkler riser and control valves.
- Build room in basement and fourth floor.

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FIRE PROTECTION ENGINEERS

Phase 2

- Install sprinkler mains, branch lines and sprinkler heads throughout the building.
- Build soffits to enclose new sprinkler piping where marked on the drawings.
- Paint sprinkler piping to match wall.
- Provide acceptance test with Westford Fire Department.

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FIRE PROTECTION ENGINEERS

Roudenbush Community Center Sprinkler Retro-fit Project
Opinion of Probable Cost

November 15, 2012

Task	Description	Construction Budget Range
1	Sprinkler System Installation (includes risers, piping dry-pipe valve with compressor, wet-alarm valve, backflow preventer, sprinkler heads, flow switches, tamper switches, pressure switches and fire department Storz connection)	$84,000.00 - $94,000.00
2	Architectural (includes construction of two rooms, soffits and riser chase)	$14,000.00 - $18,000.00
3	Mechanical/Electrical (includes removal of abandoned duct work and unit on the fourth floor, provide power to dry-pipe compressor and a couple of light on the fourth floor)	$4,000.00 - $6,000.00
4	Painting (includes sprinkler piping, new soffits, new walls, penetration patches and new pipe chase)	$10,000.00 - $15,000.00
5	Fire Alarm System - Phase 1 (includes new addressable fire alarm panel, monitor modules for sprinkler zones and existing fire alarm zones, new radio master box, remote annunciator and removal of existing fire alarm control panel and remote annunciator)	$26,000.00 - $30,000.00
6	Fire alarm System - Phase 2 (includes new fire alarm pull stations, smoke detectors, heat detectors and horn/strobe units to meet current code as well as removal of existing fire alarm devices, conduit and wiring)	$22,000.00 - $26,000.00
Total Project Cost		$160,000.00 - $189,000.00

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SPRINKLER RETRO-FIT PROJECT

Roudenbush Community Center

65 Main Street
Westford, MA

November 15, 2012

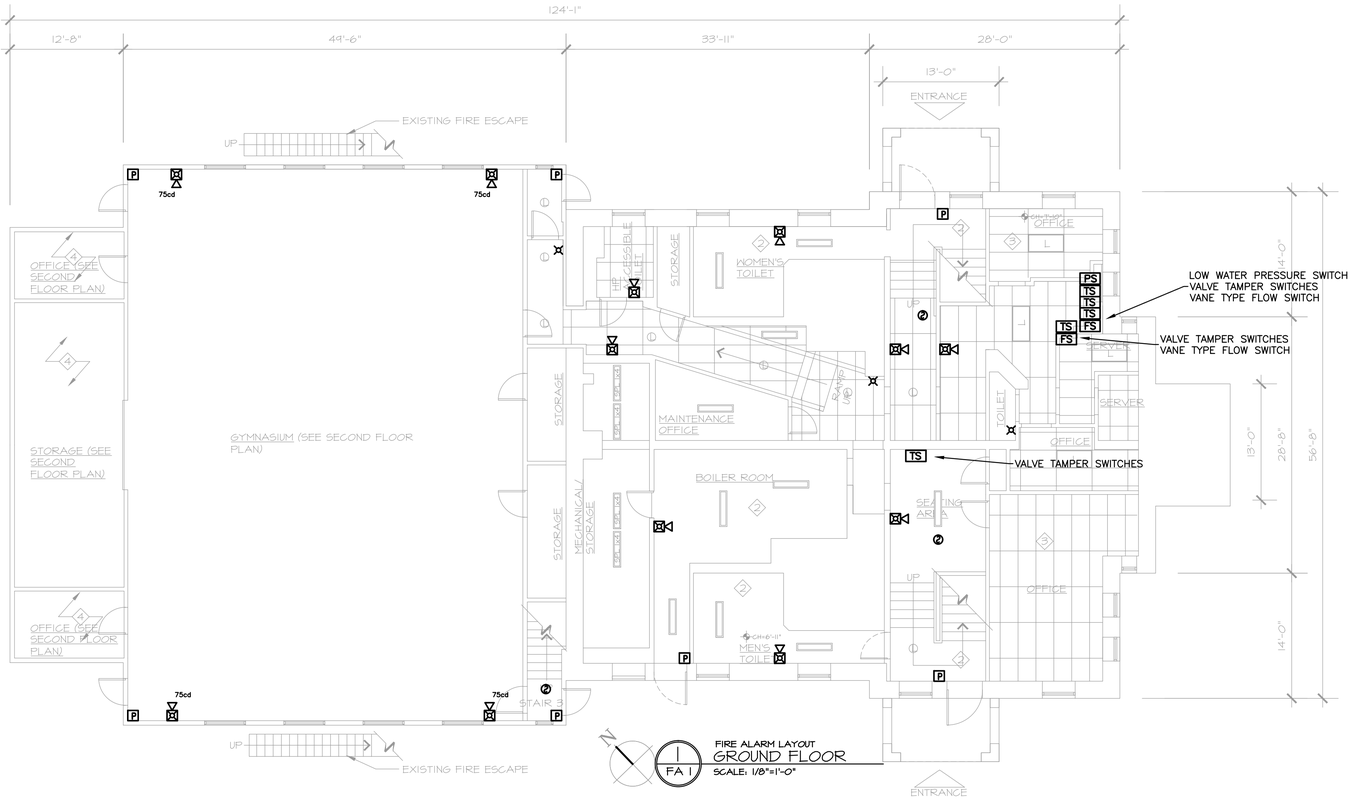
FIRE PROTECTION ENGINEERS

FERNANDEZ & ASSOCIATES
Fire Protection Engineers

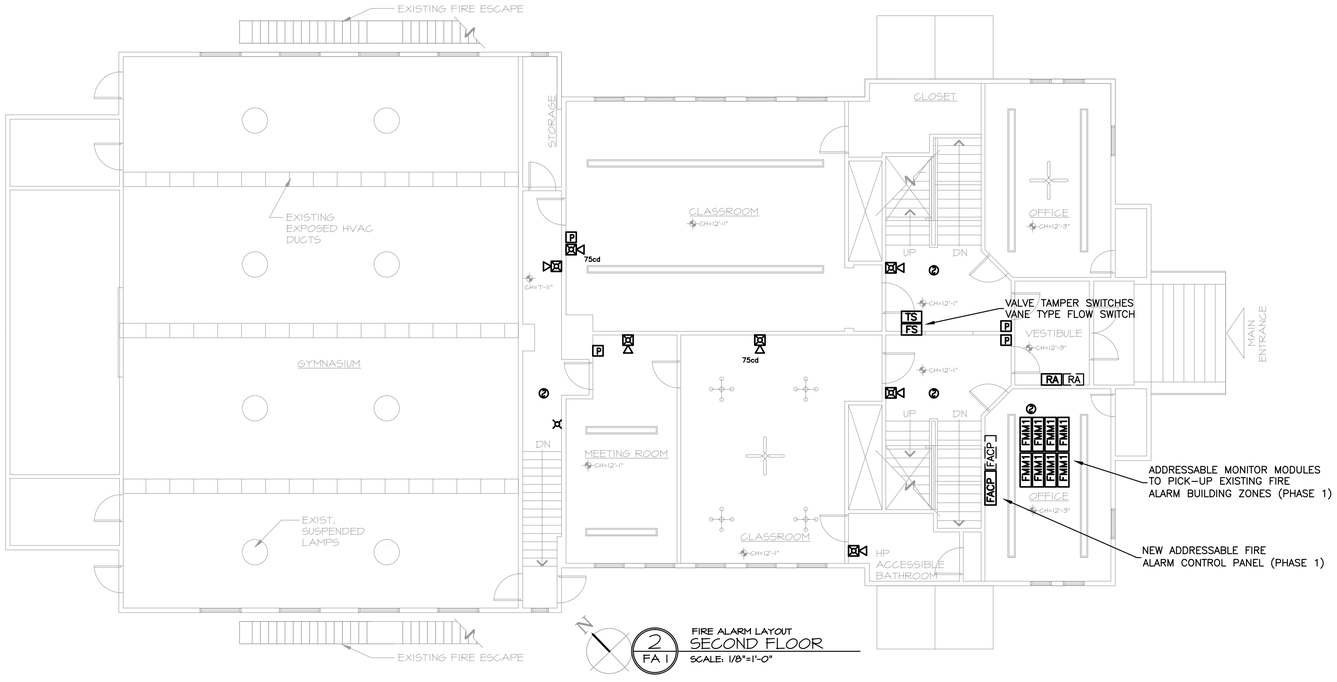
63 Larkin Road
Byfield, Massachusetts 01922

Telephone 978-499-0172
Fax 978-465-2371

Website: www.fernandezassoc.com



1 FA 1 FIRE ALARM LAYOUT GROUND FLOOR
SCALE: 1/8"=1'-0"



2 FA 1 FIRE ALARM LAYOUT SECOND FLOOR
SCALE: 1/8"=1'-0"

LEGEND

NEW

- ADDRESSABLE PHOTO-ELECTRIC SMOKE DETECTOR
- P — ADDRESSABLE MANUAL PULL STATION
- COMBINATION HORN/STROBE UNIT (15/75 cd)
- STROBE UNIT (15/75 cd)
- 75cd — COMBINATION HORN/STROBE UNIT (75 cd)
- FACP — ADDRESSABLE FIRE ALARM CONTROL PANEL
- FMM1 — ADDRESSABLE MONITOR MODULE
- FCM1 — ADDRESSABLE CONTROL MODULE
- FRM1 — ADDRESSABLE RELAY MODULE
- FCPS — 10 AMP REMOTE POWER SUPPLY
- RA — REMOTE ANNUNCIATOR
- RN — MASTER BOX
- FS — WET-PIPE VANE TYPE FLOW SWITCH
- TS — VALVE TAMPER SWITCH
- LAA — DRY-PIPE LOW AIR PRESSURE SWITCH
- PS — SPRINKLER PRESSURE SWITCH

NOTES:

1. INSTALLATION TO BE IN ACCORDANCE WITH NFPA-72, 2010 EDITION, AMERICANS WITH DISABILITY ACT, MASSACHUSETTS STATE BUILDING CODE (8th EDITION) & LOCAL CODES, STANDARDS AND ORDINANCES.
2. NEW ADDRESSABLE PULL STATIONS TO BE INSTALLED AT MAXIMUM HEIGHT OF 48 INCHES ABOVE FINISHED FLOOR. (PHASE 2)
3. INSTALL NEW WALL MOUNTED HORN/STROBES AND STROBE ONLY UNITS AT MAXIMUM HEIGHT OF 80 INCHES ABOVE FINISHED FLOOR OR 6 INCHES BELOW THE CEILING, WHICHEVER IS LOWEST. (PHASE 2)
4. INSTALL NEW ADDRESSABLE FIRE ALARM CONTROL PANEL, LCD ENGLISH READOUT REMOTE ANNUNCIATOR AND ADDRESSABLE MONITOR MODULES ON PHASE 1.
5. MEET OTHER REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
6. FLOW, PRESSURE AND TAMPER SWITCHES TO BE FURNISHED AND INSTALLED BY SPRINKLER CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR.
7. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL CONDUIT, WIRING AND MAKE WIRING CONNECTIONS FOR DRY-PIPE SPRINKLER SYSTEM AIR COMPRESSOR TO 120 VAC SOURCE. COORDINATE SOURCE LOCATION WITH BUILDING OWNER.
8. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL CONDUIT, WIRING AND MAKE WIRING CONNECTIONS TO ADDRESSABLE MONITOR MODULES FOR EXISTING FIRE ALARM ZONES AND NEW SPRINKLER FLOW, PRESSURE AND TAMPER SWITCHES.

FIRE PROTECTION ENGINEERS
FERNANDEZ & ASSOCIATES
Fire Protection Engineers
63 Larkin Road
Byfield, Massachusetts 01922
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Website: www.fernandezassoc.com

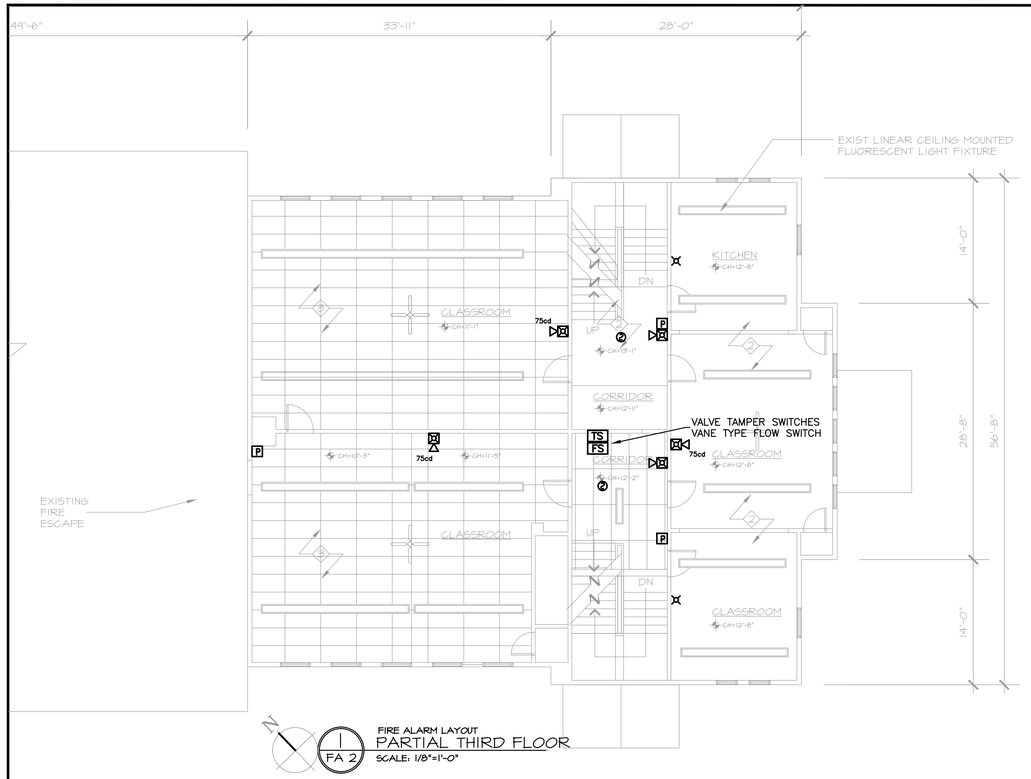
NO.	REVISIONS	DATE

JOB NO.	545
DRAWN BY	LFF
DESIGNED BY	LFF
SCALE	1/8" = 1' - 0"
DATE	11-15-12

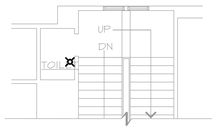
PROJECT
Roudenbush Community Center
65 Main Street
Westford, Mass.

TITLE
Fire Alarm Layout

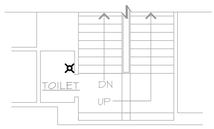
DRAWING NO.
FA 1



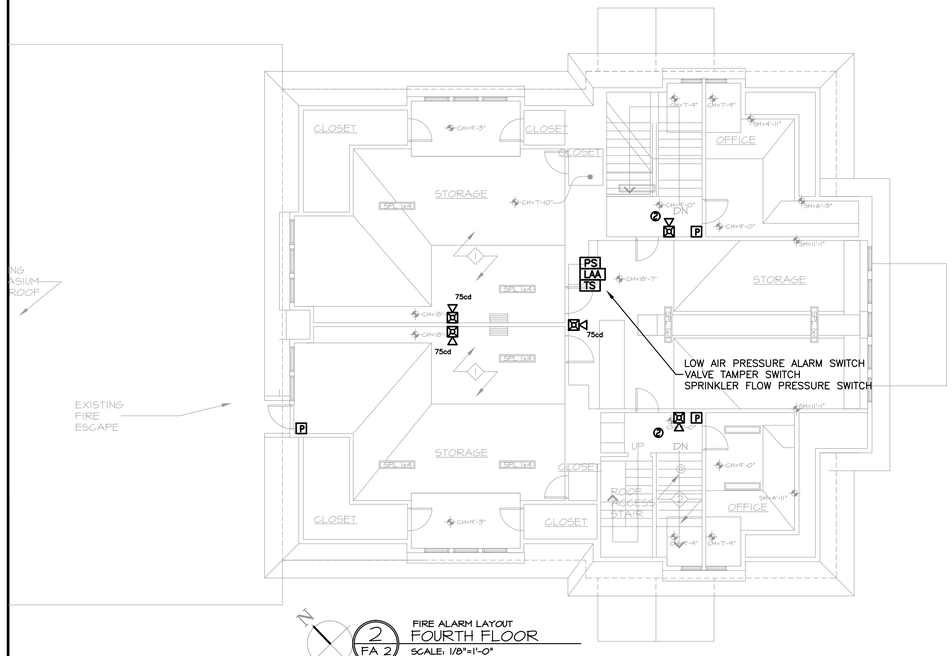
1 FA 2 FIRE ALARM LAYOUT
PARTIAL THIRD FLOOR
SCALE: 1/8"=1'-0"



3 FA 2 FIRE ALARM LAYOUT
PARTIAL THIRD FLOOR
SCALE: 1/8"=1'-0"



4 FA 2 FIRE ALARM LAYOUT
PARTIAL THIRD FLOOR
SCALE: 1/8"=1'-0"



2 FA 2 FIRE ALARM LAYOUT
FOURTH FLOOR
SCALE: 1/8"=1'-0"

LEGEND

NEW

- ADDRESSABLE PHOTO–ELECTRIC SMOKE DETECTOR
- P — ADDRESSABLE MANUAL PULL STATION
- COMBINATION HORN/STROBE UNIT (15/75 cd)
- STROBE UNIT (15/75 cd)
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- FS — WET–PIPE VANE TYPE FLOW SWITCH
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- LAA — DRY–PIPE LOW AIR PRESSURE SWITCH
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NOTES:

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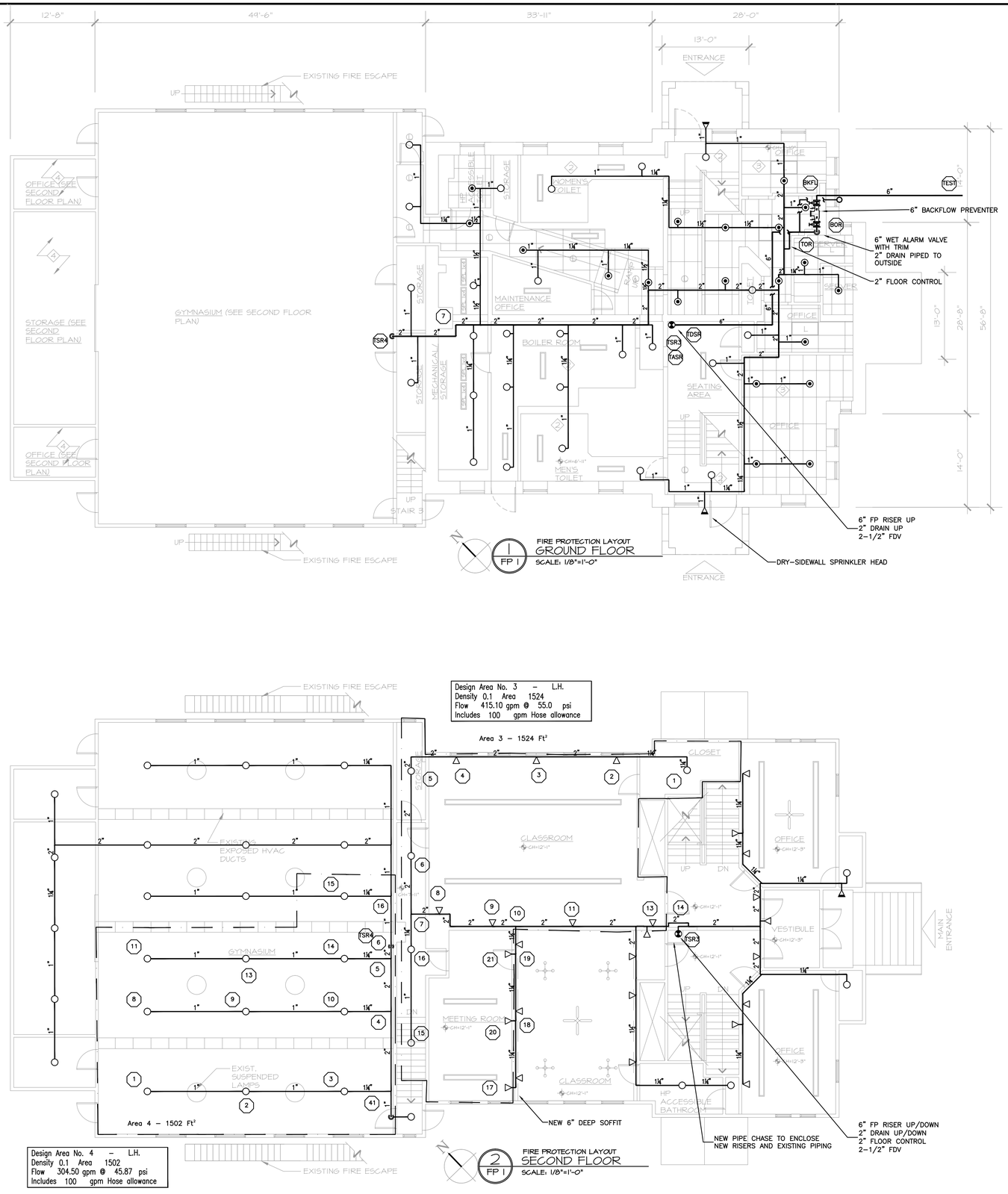
PROJECT
Roudenbush Community Center
65 Main Street
Westford, Mass.

TITLE
Fire Alarm Layout

DRAWING NO.
FA 2



LEGEND

- QUICK RESPONSE PENDENT SPRINKLER HEAD WITH QUICK RESPONSE UPRIGHT SPRINKLER HEAD LOCATED ABOVE THE CEILING AT THE SAME LOCATION. (K=5.6)
- QUICK RESPONSE UPRIGHT SPRINKLER HEAD (K=5.6)
- QUICK RESPONSE SIDEWALL SPRINKLER HEAD (K=5.6)
- QUICK RESPONSE DRY-SIDEWALL SPRINKLER HEAD (K=5.6)
- DOUBLE CHECK VALVE ASSEMBLY
- CHECK VALVE
- RISER
- ELBOW UP/DOWN
- SPRINKLER PIPE
- 4" STORZ CONNECTION
- ? HYDRAULIC REFERENCE POINT

NOTES:

1. INSTALLATION TO BE IN ACCORDANCE WITH NFPA-13, 2007 EDITION AND THE MASSACHUSETTS STATE BUILDING CODE (8th EDITION), AND LOCAL STANDARDS AND ORDINANCES.
2. WET-PIPE SPRINKLER SYSTEM TO BE A HYDRAULICALLY DESIGNED SYSTEM. BASED ON LIGHT HAZARD OCCUPANCY REQUIREMENTS, DENSITY 0.1 GPM/SF OVER 1,500 SF. MAX. 176 SF COVERAGE PER HEAD WITH A 100 GPM HOSE STREAM.
3. ALL HANGERS TO BE IN ACCORDANCE WITH NFPA-13, 2007 EDITION AND THE MASSACHUSETTS STATE BUILDING CODE SEISMIC REQUIREMENTS.
4. DRY-PIPE ATTIC SPRINKLER SYSTEM TO BE HYDRAULICALLY DESIGNED. BASED ON LIGHT HAZARD OCCUPANCY REQUIREMENTS, DENSITY 0.10 GPM/SF OVER 1,950 SF. MAX. 168 SF COVERAGE PER HEAD WITH A 100 GPM HOSE STREAM.
5. MEET ALL OTHER REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
6. FLOW, PRESSURE AND TAMPER SWITCHES FURNISHED AND INSTALLED BY FIRE PROTECTION CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR.
7. ALL DRAINS AND DRY-PIPE SPRINKLER TO BE GALVANIZED PIPING WITH GALVANIZED FITTINGS.
8. OWNER TO PROVIDE ADEQUATE HEATING TO ALL AREAS WHERE THE WET-PIPE SPRINKLER SYSTEM IS INSTALLED AND THE VALVE ROOM FOR THE DRY-PIPE SPRINKLER SYSTEM.
9. WET-PIPE SPRINKLER SYSTEM IN MECHANICAL AND STORAGE AREAS TO BE HYDRAULICALLY DESIGNED. BASED ON ORDINARY HAZARD GROUP 2 REQUIREMENTS, DENSITY 0.20 GPM/SF OVER 1,500 SF. MAX. 120 SF COVERAGE PER HEAD WITH A 250 GPM HOSE STREAM.
10. FIRE PROTECTION CONTRACTOR TO FURNISH AND INSTALL 2-1/2" FIRE DEPARTMENT HOSE VALVES ON THE STANDPIPE/SPRINKLER RISER. VALVES TO BE PROVIDED WITH 2-1/2"x1-1/2" REDUCER AND CAP.
11. FIRE PROTECTION CONTRACTOR TO FURNISH AND INSTALL 2" FLOOR CONTROL ASSEMBLY CONSISTING OF SHUT-OFF VALVE, CHECK VALVE, FLOW SWITCH AND INSPECTOR'S TEST/DRAIN VALVE AT EACH FLOOR.

FLOW TEST DATA

STATIC PRESSURE	64 psi
RESIDUAL PRESSURE	60 psi
FLOW	1130 gpm

TEST CONDUCTED ON 8/2/12 AT 10:00 PM BY STEVE NARDELLI, CET AND WITNESSED BY WESTFORD WATER DEPARTMENT ON HYDRANTS LOCATED ON MAIN STREET NEAR 65 MAIN STREET.

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NO.	REVISIONS	DATE

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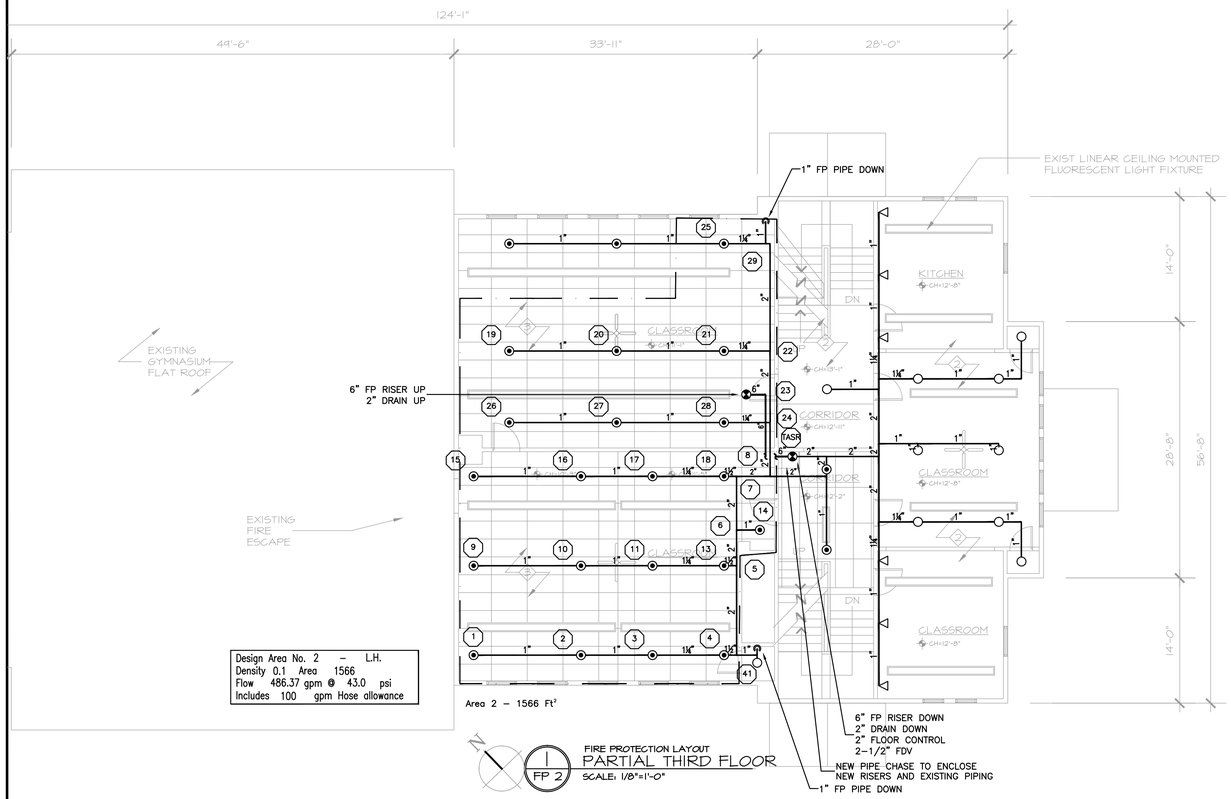
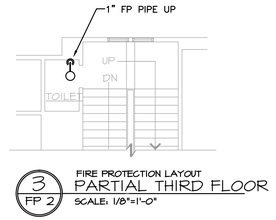
PROJECT
Roudenbush Community Center
65 Main Street
Westford, Mass.

TITLE
Fire Protection Layout

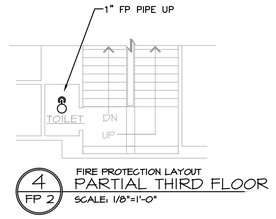
DRAWING NO.
FP 1



1 FP 2 FIRE PROTECTION LAYOUT
PARTIAL THIRD FLOOR
SCALE: 1/8"=1'-0"



3 FP 2 FIRE PROTECTION LAYOUT
PARTIAL THIRD FLOOR
SCALE: 1/8"=1'-0"



4 FP 2 FIRE PROTECTION LAYOUT
PARTIAL THIRD FLOOR
SCALE: 1/8"=1'-0"

LEGEND

- QUICK RESPONSE PENDENT SPRINKLER HEAD WITH QUICK RESPONSE UPRIGHT SPRINKLER HEAD LOCATED ABOVE THE CEILING AT THE SAME LOCATION. (K=5.6)
- QUICK RESPONSE UPRIGHT SPRINKLER HEAD (K=5.6)
- QUICK RESPONSE SIDEWALL SPRINKLER HEAD (K=5.6)
- QUICK RESPONSE DRY-SIDEWALL SPRINKLER HEAD (K=5.6)
- DOUBLE CHECK VALVE ASSEMBLY
- CHECK VALVE
- RISER
- ELBOW UP/DOWN
- SPRINKLER PIPE
- 4" STORZ CONNECTION
- HYDRAULIC REFERENCE POINT

NOTES:

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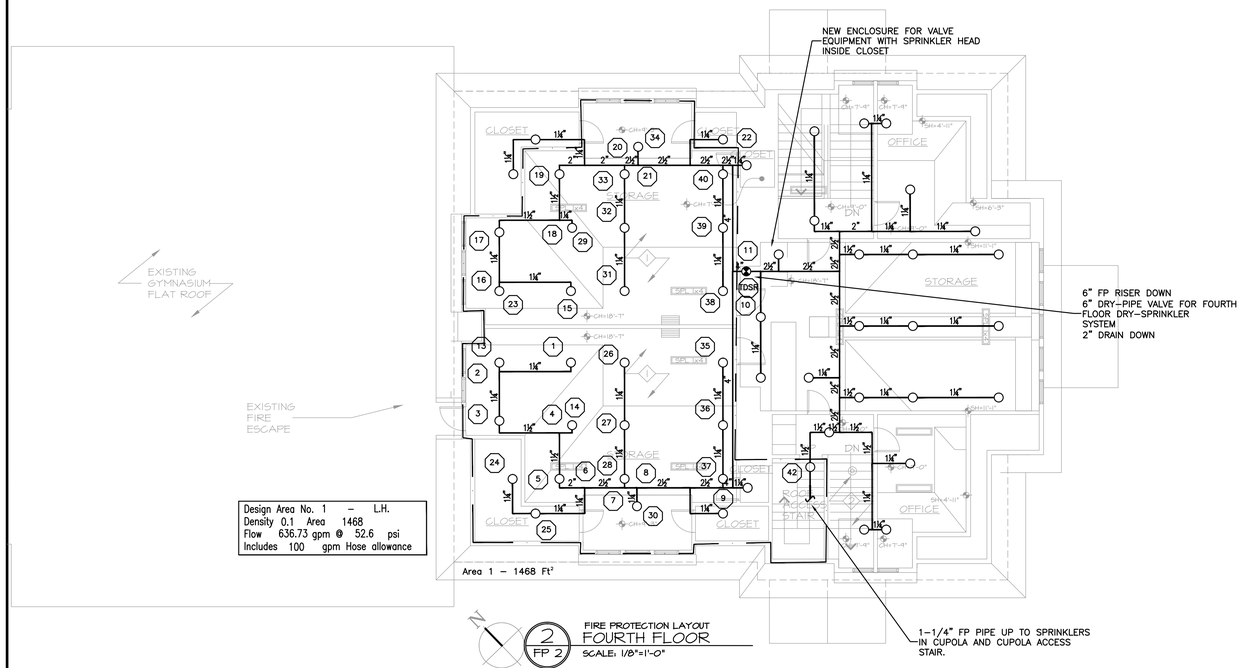
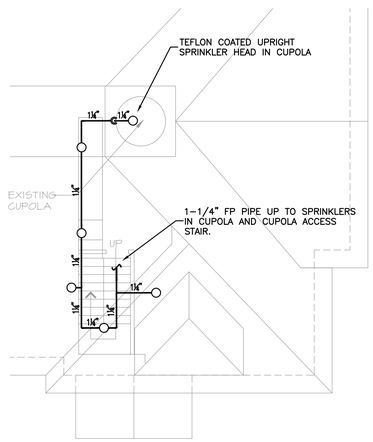


2 FP 2 FIRE PROTECTION LAYOUT
FOURTH FLOOR
SCALE: 1/8"=1'-0"



5 FP 2 FIRE PROTECTION LAYOUT
STAIR TO CUPOLA
SCALE: 1/8"=1'-0"

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NO.	REVISIONS	DATE

JOB NO.	545
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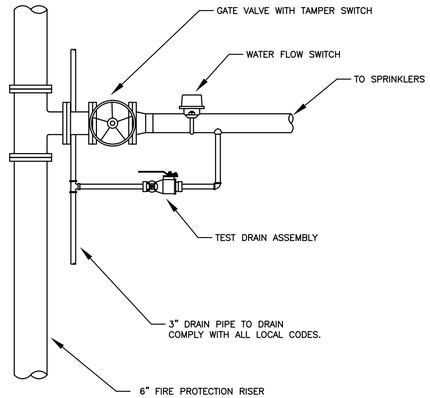
PROJECT
Roudenbush Community Center
65 Main Street
Westford, Mass.

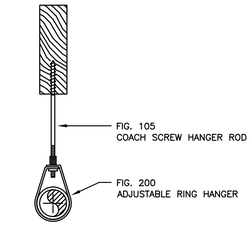
TITLE
Fire Protection Layout

DRAWING NO.
FP 2



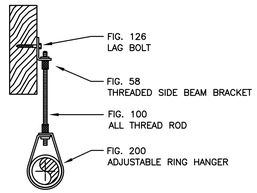
FLOOR CONTROL STATION W/ DRAIN

SCALE: N.T.S.



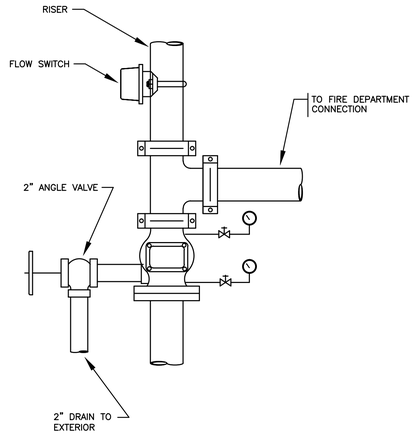
COACH SCREW ROD AND RING

SCALE: N.T.S.



THREADED SIDE BEAM BRACKET, ROD & RING WOOD CONSTRUCTION

SCALE: N.T.S.



ALARM CHECK VALVE DETAIL

SCALE: N.T.S.

TYPICAL DRUM DRIP DETAIL

SCALE: N.T.S.

TYPICAL DETAIL OF PIPE SUPPORT

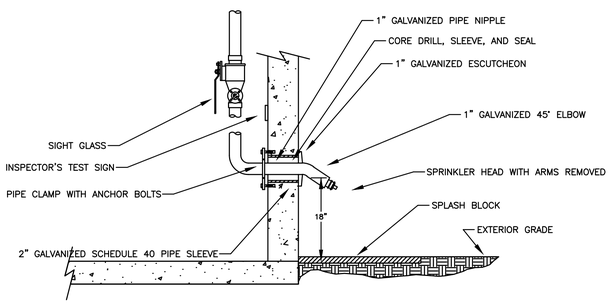
SCALE: N.T.S.

LONGITUDINAL EARTHQUAKE BRACE THREADED BRACE PIPE

SCALE: N.T.S.

FAST CLAMP RISER BRACE

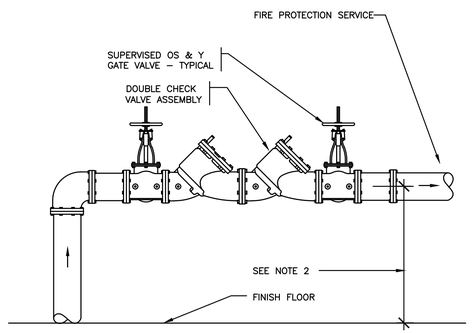
SCALE: N.T.S.



NOTE: IF SPRIMKLER HEADS ARE LARGER THAN 1/2" ORIFICE, HEAD MUST BE ADDED TO END OF INSPECTOR'S TEST

TYPICAL DETAIL OF INSPECTOR'S TEST

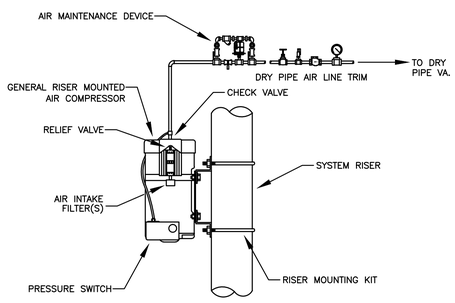
SCALE: N.T.S.



NOTES:
1. SUPPORT PIPING AND FITTINGS AS REQUIRED TO CONFORM TO MANUFACTURERS REQUIREMENTS.
2. INSTALL DCVA 3' TO 4' AFF WITH CLEAR SPACE OF 3' IN FRONT, 1' AT EACH END AND 1' FROM WALL (MINIMUM).

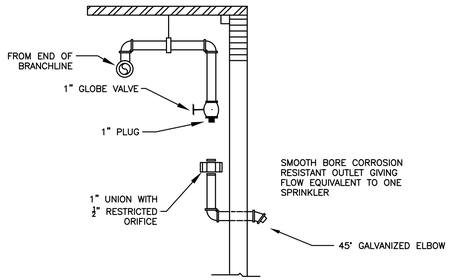
TYPICAL DETAIL OF DOUBLE CHECK VALVE ASSEMBLY

SCALE: N.T.S.



RISER MOUNTED AIR COMPRESSOR

SCALE: N.T.S.



NOTE: TO MINIMIZE CONDENSATION OF WATER IN THE DROP TO THE TEST CONNECTION, PROVIDE A NIPPLE-UP OFF THE BRANCHLINE.

DRY INSPECTORS TEST CONNECTION

SCALE: N.T.S.

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PROGRESS PRINT
NOT FOR CONSTRUCTION
08/06/2012
25 % REVIEW

IT IS A VIOLATION UNDER APPLICABLE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY.

NO.	REVISIONS	DATE

JOB NO.	545
DRAWN BY	LFF
DESIGNED BY	LFF
SCALE	Not To Scale
DATE	11-15-12

PROJECT
Roudenbush Community Center
65 Main Street
Westford, Mass.

TITLE
Fire Protection Details

DRAWING NO.
FP 3

GENERAL NOTES AND MISCELLANEOUS ITEMS

BUILDING CODE Work of all trades shall conform to the latest edition of the applicable building code, as well as all state and local codes and ordinances.

VERIFICATION Verify and check all dimensions and conditions in the field prior to commencing construction. All discrepancies shall be brought to the attention of the Architect immediately. The Contractor is responsible for fitting new construction to existing conditions.

INTENT It is not the intent of these drawings to show every detail or condition. All work is to be included for a complete job, that can be inferred from the information provided and based upon information obtained during a thorough site visit prior to submission of bids.

DIMENSIONS Dimensions are to face of gypsum board, masonry and/or existing construction existing walls unless noted otherwise.

PERMITS The Contractor is to obtain all necessary permits for the work.

PROJECT MANUAL There is a separately bound project manual from Fernandez Associates for this project with additional Division 1 General Requirements and specifications.

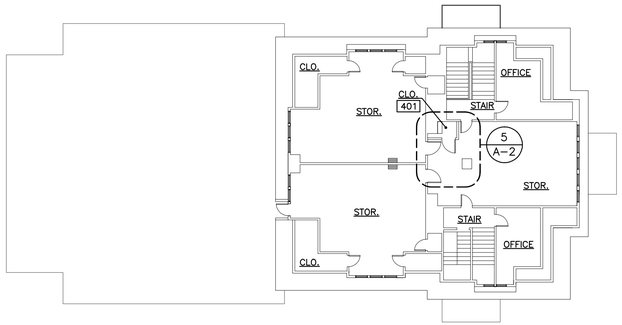
SUSPECT MATERIAL
If material is encountered in the work area that is suspect, notify the Owner prior to proceeding further.

DEMOLITION, PATCHING AND RESTORATION OF FINISHES
1) The extent of required demolition is shown on drawings, project specifications and as specified herein.
2) Review fire protection, mechanical and electrical drawings for other demolition. Coordinate all removal activities for a complete project.
3) Remove upper window sash in existing double hung window in Ground Floor Closet G01 where new metal-faced insulated panel is to be installed around the new piping out to the Fire Department connection valve.
4) Remove shelving and low wood shelf in Ground Floor Closet G01. Patch flooring.
5) Remove existing acoustical ceilings in the project areas as required for new partitions, pipe enclosures or other work shown, or where otherwise indicated on the drawings.
6) Remove and reinstall existing acoustical ceiling tiles and grid as required for installation of new sprinkler system. Review fire protection drawings and coordinate extent of ceilings to be removed with the sprinkler contractor.
7) Perform any demolition necessary to fit the new work, whether or not indicated. Carefully review the project site prior to submitting your bid to determine the scope of the demolition work.
8) Protect existing furniture, equipment and furnishings during the construction period.
9) After removals, patch penetrations and openings through existing drywall or plaster using matching materials.
10) Where items have been removed, which penetrated concrete slabs, fill the holes completely (full depth of slabs) with cementitious material keyed into the adjacent construction. Patch existing flooring with new flooring, neatly.
11) Any existing work or finishes in the building that become damaged due to the Contractor's activities shall be made good by the Contractor. Restore all existing construction and finishes affected by the work of this project.
12) Wherever new construction abuts existing construction the new finishes are to meet the existing finishes neatly at an architectural feature. The Contractor shall be responsible for patching and finishing work in other areas not being finished as part of this project which are affected by construction activities.
13) Perform all required patching to complete the work and restore continuity and integrity of existing construction
14) All abandoned openings and cored holes are to be filled with fire-rated material in an approved manner.
    a) Larger openings: Fill with cementitious material, full depth of slabs and key into existing adjacent construction. Review actual condition(s) with Architect prior to proceeding. Structural reinforcing may be required.
    b) Cored holes: Follow procedure noted above or provide UL listed fire-rated material specifically manufactured for this purpose. Submit product literature.
15) Perform demolition in such manner as to eliminate hazards to persons and property; to minimize interference with use of adjacent areas, utilities and structures or interruption of use of such utilities; and to provide free passage to and from such adjacent areas of structures.
16) Provide safeguards, including warning signs, barricades, temporary fences, warning lights, and other similar items that are required for protection of all personnel during demolition and removal operations.
17) Protect persons and property from falling debris.
18) Dispose of all rubbish and debris in accordance with all applicable rules and regulations.
19) On completion of work of this section and after removal of all debris, site shall be left in clean condition. Clean-up shall include off-site disposal of all items and materials not required to remain property of the Owner as well as all debris and rubbish resulting from demolition operations.

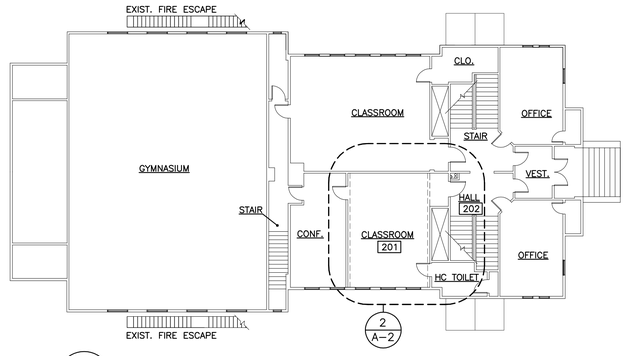
CORED HOLES
1) The scope of work shall include, but may not be limited to the following:
    a) Review mechanical, electrical, and fire protection drawings.
    b) Provide cored holes for new sprinkler mains, piping, risers, and as required to complete the work of this contract.
2) Locations of all proposed openings through floors and load bearing walls shall be reviewed with the Architect in advance.
3) Holes shall be large enough for both piping and sleeves.
4) Protect existing facilities from dust, dirt and moisture. The Owner's existing equipment, furnishings and utilities utilities must be protected. Coordinate and schedule this this work with Owner. Review planned procedures and precautions with the Owner prior to proceeding.
5) During the performance of this work all safeguards shall be taken against dust, water and mechanical damage.
6) Openings shall be temporarily firestopped until filled.
7) DO NOT CUT BEAMS OR JOISTS. SHIFT HOLE LOCATIONS AS NECESSARY.
8) Scheduling of coring and sawcutting is to be carefully coordinated with Verizon.

THE CONTRACTOR SHALL MAKE A THOROUGH REVIEW OF ALL DRAWINGS AND SPECIFICATIONS AND SHALL MAKE A SITE VISIT BEFORE SUBMITTING HIS BID, IN ORDER TO FULLY DETERMINE THE SCOPE OF WORK FOR DEMOLITION, REMOVAL AND REPLACEMENT OF CEILINGS, NEW OPENINGS, CUTTING, PATCHING AND RESTORATION OF FINISHES.

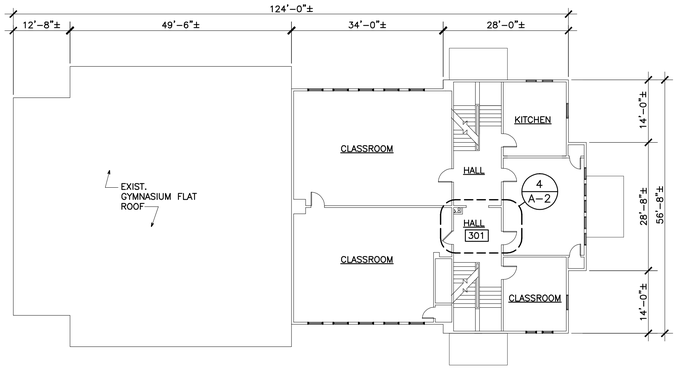
(SPECIFICATIONS ARE CONTINUED DRAWING A-3)



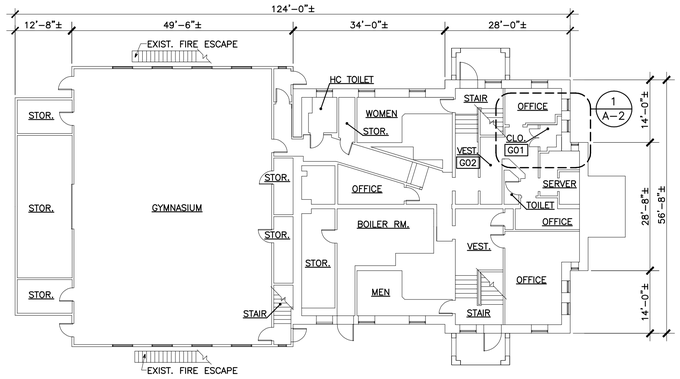
FOURTH FLOOR PLAN 1/16" = 1'-0"



SECOND FLOOR PLAN 1/16" = 1'-0"



THIRD FLOOR PLAN 1/16" = 1'-0"



GROUND FLOOR PLAN 1/16" = 1'-0"

WORKING IN THE BUILDING

PHASING AND SCHEDULING
1) This project is a sprinkler retro-fit of the Roudenbush Community Center in Westford, MA. The building will be occupied during construction.
2) Close cooperation and coordination with the Owner's building management and visitors will be necessary.
3) The following concerns obviously impact the building's ability to function:
    a) Power, communications and air conditioning..
    b) Noise.
    c) Dirt, dust and water.
    d) Distraction and disruption.
    e) Odors.
    All of the above issues must be addressed to the Owner's satisfaction during the construction period.

PRIME CONTRACTOR / SUPERVISION
1) The Fire Protection Contractor will be the "prime" contractor for this project and hence is responsible for all trades including the work normally handled by the general contractor.
2) The Owner is expecting this to be a very well run, well coordinated project.
3) Supervision: A superintendent is to be assigned to this project full time, to perform all of the duties normally performed by the prime contractor's superintendent.

COORDINATION
Do not begin any work that could affect the function and operation of the building and telephone equipment without gaining the approval of the Owner. Careful coordination of activities affecting the power, fire alarm, sprinkler, utilities and systems will be necessary.

OWNER PERFORMING WORK Some of the Owner's personnel may be performing work at the project site during the construction period. Cooperate and coordinate with the Owner's personnel and other contractors.

SECURITY Maintaining security is important for all departments, particularly when the building is unoccupied. Address security to the satisfaction of the Owner.

ODORS Activities producing odors must be carefully controlled. Review existing ventilation systems. Make sure odors are properly ventilated and do not get into the ductwork serving occupied areas. Activities that involve odors include, but may not be limited to:
a) Welding (if any).
b) Painting,
c) Vinyl base.

DUST PROTECTION - GENERAL
1) Provide dust partitions and/or barriers where required to adequately protect the premises from dust and other hazards.
    a) Plastic used for dust curtains and on dust partitions shall be fire-retardant reinforced polyethelene or vinyl.
    b) Fire treated plywood barriers, framing, and temporary doors.
    c) Provide continuous seal at all perimeters.
2) Protect tables, chairs, furniture and belongings in the areas directly below sprinkler work.
3) Maintain paths of egress and ingress during construction activities for the Owner's personnel and visitors. Carefully work with the Owner to coordinate acceptable paths of travel and access for construction personnel and separate paths for usage. Dust curtains and/or barriers with temporary doors will be required to accomplish the foregoing. Include costs for reasonable accommodation in your bid.
4) The Contractor shall damp mop as required to control dust. In traffic areas, place cones to mark wet areas. Do not create a safety hazard. Also provide sticky mats at all passageways from work areas.
5) When drilling holes for anchors, cutting openings or removing ceilings, protect equipment and furniture and immediately vacuum any dust generated. Have a dedicated shop vacuum available for this work. Take special precautions while core drilling to protect each area from dust, moisture and mechanical damage.
6) Review proposed method(s) of protection with the Owner's Project Manager and Engineer prior to commencing work.

PIPE ROUTE
INVESTIGATE PROPOSED PIPE ROUTE FOR NEW SPRINKLER PIPING TO VERIFY FEASIBILITY PRIOR TO COMMENCING PIPING INSTALLATION. NOTIFY ARCHITECT AND/OR ENGINEER OF ANY POTENTIAL CONFLICTS.

FIRE PROTECTION ENGINEERS
FERNANDEZ & ASSOCIATES
FIRE PROTECTION ENGINEERS
63 Larkin Road
Byfield, Massachusetts 01922
Telephone 978-499-0172
Fax 978-465-2371
Website: www.fernandezassoc.com

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95 % REVIEW

IT IS A VIOLATION UNDER APPLICABLE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY.

ARCHITECTURAL CONSULTANT
JR&A
JUNIPER RUSSELL AND ASSOCIATES, INC.
421 WATERTOWN STREET
NEWTON, MASSACHUSETTS 02458
(617) 964-8889 http://www.juniperrussell.com

Written dimensions on these drawings shall take precedence over scaled dimensions. The General Contractor shall verify and be responsible for all dimensions and conditions on the job and shall notify the Architect of any variations from the dimensions and conditions shown on these drawings.

This drawing shall not be used for construction purposes until signed by the Architect

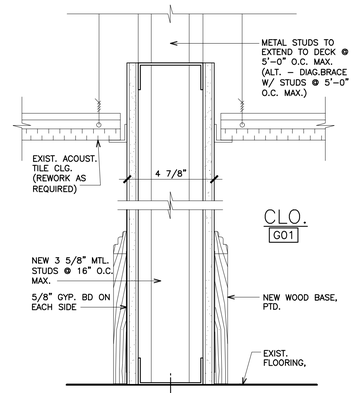
NO.	REVISIONS	DATE

JOB NO.	545
DRAWN BY	LFF
DESIGNED BY	LFF
SCALE	1/8" = 1' - 0"
DATE	08-27-12

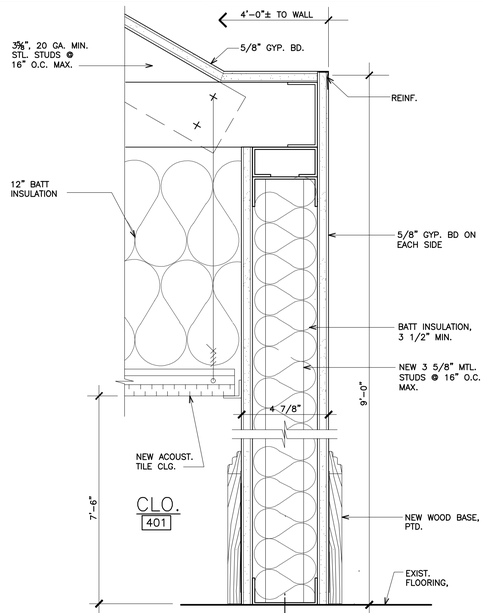
PROJECT
Roudenbush
Community Center
65 Main Street
Westford, Mass.

TITLE
KEY PLANS, NOTES

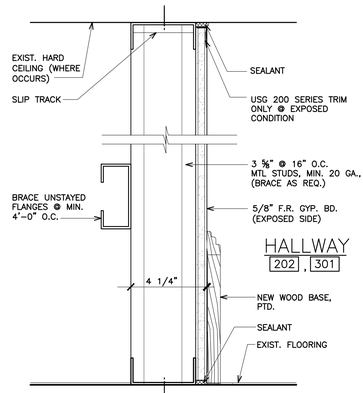
DRAWING NO.
A-1
(1 OF 3)



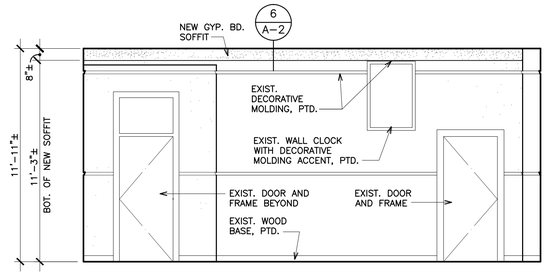
8 SECTION 3" = 1'-0"
NEW PARTITION



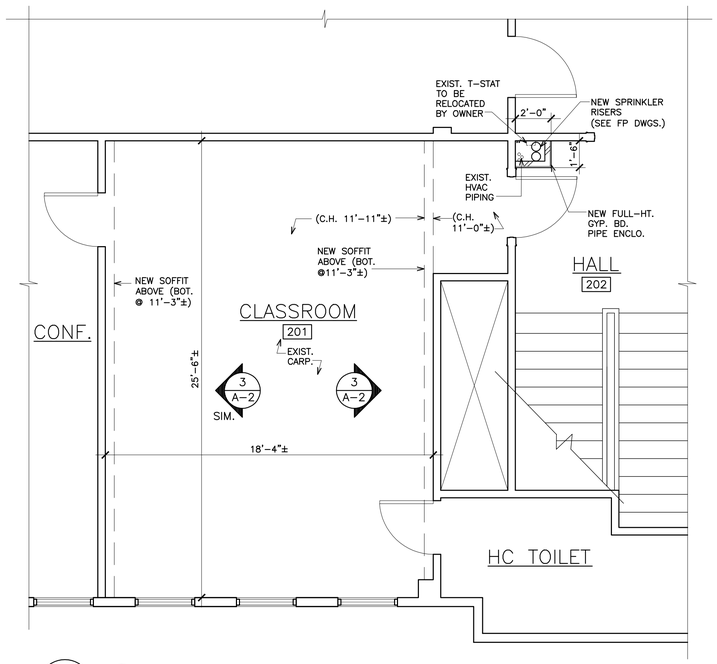
9 SECTION 3" = 1'-0"
NEW PARTITION



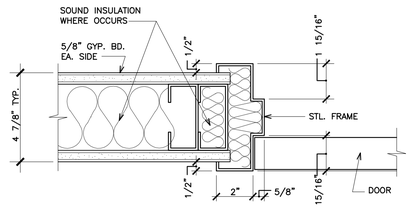
10 SECTION 3" = 1'-0"
PIPE ENCLO. (FULL-HT)



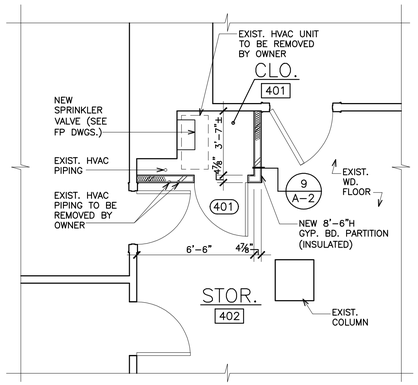
3 ELEVATION 1/4" = 1'-0"
CLASSROOM 201



2 PART. SECOND FLOOR PLAN 1/4" = 1'-0"

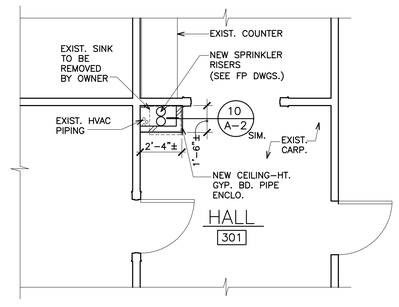


7 PLAN 3" = 1'-0"
HEAD SIM.

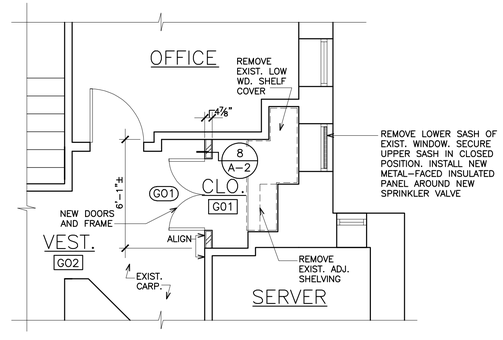


5 PART. FOURTH FLOOR PLAN 1/4" = 1'-0"

6 SECTION 3" = 1'-0"



4 PART. THIRD FLOOR PLAN 1/4" = 1'-0"



1 PART. GROUND FLOOR PLAN 1/4" = 1'-0"

FIRE PROTECTION ENGINEERS
FERNANDEZ & ASSOCIATES
FIRE PROTECTION ENGINEERS
63 Larkin Road
Byfield, Massachusetts 01922
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Website: www.fernandezassoc.com

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Written dimensions on these drawings shall take precedence over scaled dimensions. The General Contractor shall verify and be responsible for all dimensions and conditions on the job and shall notify the Architect of any variations from the dimensions and conditions shown on these drawings.

This drawing shall not be used for construction purposes until signed by the Architect

NO.	REVISIONS	DATE

JOB NO.	545
DRAWN BY	LFF
DESIGNED BY	LFF
SCALE	1/8" = 1' - 0"
DATE	08-27-12

PROJECT
Roudenbush Community Center
65 Main Street
Westford, Mass.

TITLE
PARTIAL PLANS, ELEVATIONS, DETAILS

DRAWING NO.
A-2 (2 OF 3)

(SPECIFICATIONS – CONTINUED FROM DRAWING A–1)

EXISTING FIRE–RATED PARTITIONS The Contractor shall inspect all existing fire–rated partitions identified on the drawings and shall notify the Architect of any areas which are incomplete or require firestopping.

FIRESTOPPING
1) Firestopping: Firestop all new penetrations through existing walls, floors and fire rated partitions.
2) All materials shall be UL or FM approved materials.
3) Firestopping shall be performed in accordance with all Owner's standards and guidelines and as required by code.

SEALANTS
1) Seal all new penetrations through the building envelope, inside and outside. Seal around all new door frames and other projections.
2) Use sealant materials recommended by the manufacturer for the application. Install materials in accordance with the manufacturer's instructions.

WOOD BASE
1) Baseboards: Clear poplar or other suitable hardwood. Match height and simplified profile of existing baseboards (as readily feasible without milling special stock).
2) Miscellaneous trim: Clear poplar or other suitable hardwood.

ACOUSTICAL CEILINGS – NEW
1) Provide new acoustical ceilings and/or tiles where scheduled or indicated.
2) Suspension:
   a) Exposed 2'–0"x 4'–0" exposed tee runner type with a flat, baked enamel factory finish.
   b) Acceptable products: Armstrong Prelude or similar product manufactured by Chicago Metallic, or Donn Products when approved by the Architect.
   c) Grade: Intermediate duty or better, complying with ASTM C 635.
   d) Ceiling grid secondary members shall be easily removable without prior instruction.
   e) Provide all appropriate matching accessories, runners, closers as required.
3) Acoustic tiles:
   a) Lay–in boards, 2'–0" x 4'–0", 5/8" thick, regular edge, white finish, Class A, non–combustible, maximum flame spread of 25.
   b) Typical ceiling tiles: Armstrong "Minaboard Cortega", or approved equal.
4) Submit manufacturer's literature and samples of each type of acoustical material and suspension system member.
5) For maintenance provide the Owner with 3 unopened cartons of each type of material supplied.
6) Install acoustical ceiling system in accordance with the manufacturer's instructions.

ACOUSTICAL CEILINGS – EXISTING
1) Perform all required ceiling work to accommodate the new work and any rearrangements, including, but not limited to accommodating:
   a) New partitions
   b) Sprinkler work.
   c) Lighting rearrangements.
   d) Installation of new wiring and other devices and equipment.
2) Existing ceiling components may be reused if in good condition and if clean. Replace any damaged, stained or dirty ceiling components. (Angled cuts in ceiling tile(s) at sprinkler head locations are not acceptable.
3) Ceiling grid and tiles at the time of acceptance shall be free of dirt and finger marks. Where existing components are being reused take care when handling. Cleaning of grid components may be necessary in areas. Carry any applicable costs.

GYPSUM WALLBOARD SYSTEMS
1) Scope: Provide all labor, materias, products, equipment and services required to supply and install the gypsum wallboard systems required and/or indicated on the Drawings and specified herein.
2) Quality Assurance:
   a) Comply with GA–216 for gypsum board materials.
   b) Comply with ASTM C754 for gypsum board metal supports.
   c) Allowable Tolerances: 1/8 in. offsets between planes of board faces and 1/4 in. in 8ft. for plumb, level, warp and bow.
3) Submittals: Submit manufacturer's product literature and technical data on all materials.
4) Metal Framing:
   a) Acceptable Manufacturers: Clark–Dietrich Metal Framing, Marino/Ware Corporation, Super Stud Building Products.
   b) Metals studs shall be 3 5/8" at 16" o.c. USE MIN. 20 GAGE STUDS.
   c) Studs and Runners:
      1. Roll–formed channel–type, non–loadbearing, sheet steel
      2. Do not exceed stud manufacturer's published height limitations. for deflection criteria of L/240..
      3. Hot–dip galvanize in accordance with ASTM A 446 or A 525.
      4. Flange min. 1 1/4 in. width.
   d) Brace unstayed flanges at min. 4'–0" o.c.
   e) Fasteners:
      1. Metal framing to structure: Power driven screw fasteners
      2. Metal to metal: 3/8 in., type S or S–12, pan head screws.
   f) Accessories: Inserts, clips, bolts, nails, or other screws as recommended by system manufacturer.
5) Gypsum Wallboard:
   a) Acceptable Manufacturers: United States Gypsum Co., National Gypsum/Gold Bond Building Products, Georgia–Pacific Corporation.
   b) Fire Rated Gypsum Board: 5/8 in. thick, ASTM C 36, Type X FS SS–L–30, UL listed; ends square cut; tapered edges.
   c) Related Materials:
      1. As recommended by the manufacturer.
      2. Type S for gypsum board to sheet metal application.
      3. Type G for gypsum board to gypsum board application.
   d) Corner beads:
      1. Heavy gage, hot–dipped galvanized steel reinforcement.
      2. 1 1/4 in. x 1 1/4 in.
      3. Acceptable product: USG "Dur–A–Bead No. 103".
   e) Casing beads:
      1. Metal or plastic, flanges for embedment in joint compound.
      2. "L" rim, NO "J" trim.
      3. Acceptable product USG "200–A Series" where exposed in completed work.
      4. Apply gypsum board to ceilings with long dimension at right angles to framing; back block ends and edges of gypsum board.
   g) Double layer application:
      1. For double layer applications, use gypsum backing board for the first layer, place perpendicular to framing or furring members.
      2. Place second layer parallel to framing.
      3. Ensure joints of second layer do not occur over joints of first layer.
      4. Secure second layer to first layer with adhesive in accordance with manufacturer's recommendations.
   h) Where gypsum board meets another material at exposed locations provide metal trim USG 200 Series or Bead–X equivalent.
   i) Thermal Insulation:
      a) Unfaced fiberglass batts: R–11, 3 ½"min. thickness, Owens Corning or equivalent.
   j) Acoustical Accessories:
      a) Acoustical Insulation – Acceptable Products:
         1. USG Thermafiber Sound Attenuation Blanket
         2. Owens Corning Fiberglass Corp. Noise Barrier Batt.
      b) Acoustical Sealant:
         1. Type: Acrylic.
         2. Acceptable product: "Acoustical Sealant", Tremco or USG.
      c) Place acoustical insulation in partitions and soffits tight within spaces, around cut openings, behind and around sprinkler pipes.
      d) Place acoustical sealant within partitions in accordance with manufacturer's recommendations and as shown on drawings.
      e) Caulk all penetrations through sound rated partitions.
      f) Place acoustical sealant around perimeter of partitions, located underboard and in concealed position.

PLASTER AND PLASTER PATCHING
1) Many of the existing walls and ceilings appear to be wire lath or plaster finish on either studs, masonry or terra cotta construction. The scope of work of this project includes all opening–up, patching and infilling existing plaster construction. This work includes but may not be limted to the following:
   a) Remove or open up existing plaster construction to accommodate new installations such as sprinkler piping and heads, fire alarm and electrical conduit and devices.
   b) Patch all existing plaster after installation of new work.
   c) Infilling is required where new openings are being cut in existing construction or where old items such as recessed such as recessed cabinets, piping and electrical conduit and devices are being removed.
   d) After infill of walls and ceilings has been accomplished, the existing plaster finish is to be patched with wire lath and plaster.
      1. All finished patch work shall be sound, smooth, even and not detectable. Joining between new and existing plaster finish shall be accomplished in a manner where cracking will not occur.
      2. When all patching has been completed, all patched plaster on exposed furred walls and ceilings are to be skimcoated.
      3. This finish work is to be performed by experienced craftsmen.

PAINTING
1) Scope:
   a) Painting and finishing interior work as scheduled in the Room Finish Schedule shown on the Drawings.
   b) Paint all new new exposed sprinkler piping installed under this contact.
   c) Paint various systems specified elsewhere in the mechanical and electrical specification.
   d) Paint all gypsum board partitions, ceilings, soffits and bulkheads affected by the work of this project.
   e) Paint new construction which obviously requires a painted finish.
   f) Restore existing finishes affected by construction activities.
2) Submittals:
   a) Schedule of paints for each application.
   b) Manufacturer's data for each type of primer and paint material.
   c) Surface preparation requirements for each type of material.
   d) Application instructions for each material.
3) Preparation: Prepare surfaces for painting in accordance with paint manufacturer's instructions for the application. Patch and fill as required.
4) Paint shall be best quality material as manufactured by Benjamin–Moore, Sherwin Williams, or approved equal.
5) New construction shall have one prime coat and two finish coats. One finish coat may be omitted on existing interior surfaces. Touch–up and patch work shall smoothly blend in with adjacent finishes.
6) Odors are a serious concern to the Owner. Carefully control odors and ventilate each area. Do not allow odors to enter the duct system serving occupied areas of the building. All painting is to be performed on off–hours. Include any applicable premium time charges in your bid.
7) Interior Paint Schedule:
   Gypsum Board, Plaster, Concrete, Concrete Block:
   Type and Finish: Latex enamel, eggshell.
   System: 1 coat zero–VOC primer (block filler at CMU), 2 coats zero–VOC interior latex paint.
   Ferrous Metal
   Type and Finish: Low–VOC acrylic enamel, semi–gloss.
   System: 1 coat suitable low–VOC acrylic metal primer (omit on shop primed surfaces), 2 coats of low–VOC interior latex paint.
   Galvanized Metal:
   Type and Finish: Acrylic enamel, semi–gloss.
   System: 1 coat suitable primer. (omit on shop primed surfaces), 2 coats of acrylic enamel paint.
   Wood – Paint Finish:
   Type and Finish: Latex enamel, semi–gloss.
   System: 1 coat zero–VOC primer.
   2 coats zero–VOC interior latex paint.
8) Exterior Paint Schedule:
   Ferrous Metal (if any):
   Type: Alkyd Enamel.
   Finish: Gloss.
   System: 1 coat rust inhibitive primer. 2 coats of enamel alkyd paint.
   Galvanized Metal (if any):
   Type: Acrylic Enamel.
   Finish: Gloss.
   System: 1 coat galvanized metal primer. (Omit on shop primed surfaces). 2 coats of acrylic enamel paint.

INSULATED METAL FACED PANEL
1) Panel shall be manufactured for the specific purpose of being installed in exterior windows.
2) Panel Construction – For bidding purposes, assume the following:
   a) Panel is to be installed in place of existing sash with manufacturer's trims and accessories. Seal perimeter.
   b) Thickness: 3" (field verify).
   c) Two sheets of aluminum bonded to stabilizer substrates with an insulated core.
3) Aluminum Faces: .08 inch min. thickness.
4) Match finish of existing window frame as close as possible.
5) Substrates: High density impact resistant hardboard (Mapeshield).
6) Cores: 2–lb min. density polystyrene.
7) Tolerances: 8% of panels dimension length and width – (±) 1/16 inch thickness.
8) Provide accessories and related materials as recommended by the manufacturer to complete the installation. Seals shall be silicone.
9) Manufacturer: Mapes Industries, Lincoln, Nebraska.
10) Location:
   a) Existing exterior window where lower sash is to be removed and new piping for Fire Department connection valve is being installed (Refer to the Partial Ground Floor Plan on Drawing A–2 and Fire Protection Drawings).

DOOR, FRAME AND HARDWARE SCHEDULE AND SPECIFICATIONS

NEW INTERIOR WOOD DOORS
1 3/4" flush solid core wood doors with architectural grade birch veneers, ready for painting. Submit product data.

NEW INTERIOR STEEL DOOR FRAMES
1) Typical door frames shall be 16 gage min.
2) Door frames may be knockdown at openings no more than 3'–4" in width, however corners shall be tight and sealed.
3) At wider frames use welded frames, min. 14 ga. steel or use 16 ga. and reinforce the head with wood to prevent sag.
4) Frames shall come complete with silencers.
5) Submit product data.

FINISH HARDWARE
1) Match building standard for finish.
2) Locksets:
   a) ANSI Grade 1, Heavy Duty.
   b) Cylindrical Locks:
      1. Key in lever handle.
      2. Arrow H Series.
      3. Lever: Arrow Sierra SR.
      4. Cylinders: Best, compatible with Owner's keying system.
3) Butt hinges, ball bearing.
4) Submit product data.

SCHEDULE

G01 FROM CLO. G01 New Pair 2'–0" X 7'–0" wood doors in new steel frame. Provide 12"x24" wood louvers in the top and bottom of each leaf.
HARDWARE 3 pair hinges, 2 magnetic catches, 2 wire pulls, 2 door stops.

401 INTO STOR 401 New 3'–0" X 7'–0" wood door in new steel frame and new hardware.
HARDWARE Cylindrical lock with storeroom function, hinges, door stop.

ROOM FINISH SCHEDULE

NOTES
1) Restore existing finishes, whether or not indicated in the schedule.
2) Any existing work or finishes in the building that become damaged due to the Contractor's activities are to be made good by the Contractor. Restore all existing construction and finishes affected by the work of this project.
3) Wherever new construction abuts existing construction the new finishes are to meet the existing finishes neatly at an architectural feature. The Contractor shall be responsible for patching and finishing work in other areas not being finished as part of this project which are affected by construction activities.

ABBREVIATIONS

E	Existing to remain.
WB	New 8 1/2" clear hardwood base, match existing profile as closely as possible. Paint or stain to match existing.
PT	Paint
ES	Existing exposed structure or plaster on structure.
ACT–N	New acoustic tile ceiling.
ACT	Acoustic tile ceiling, remove, reinstall and rework existing required for the new fire protection work, sprinkler heads and relocations.
*	New construction only and/or where indicated.

GROUND FLOOR

NO.	NAME	FLOOR	BASE	WALLS	CEILING
G01	CLO.	E	WB*	PT	ACT
G02	VEST.	E	WB*	PT*	ACT

SECOND FLOOR

NO.	NAME	FLOOR	BASE	WALLS	CEILING
201	CLASSROOM	E	E	PT*	ES
202	HALL	E	WB*	PT*	ES

THIRD FLOOR

NO.	NAME	FLOOR	BASE	WALLS	CEILING
301	HALL	E	WB*	PT*	E

FOURTH FLOOR

NO.	NAME	FLOOR	BASE	WALLS	CEILING
401	CLO.	E	WB*	PT*	ACT–N
402	STOR.	E	B*	PT*	E

THE CONTRACTOR SHALL THOROUGHLY REVIEW ALL DRAWINGS AND SPECIFICATIONS AND SHALL MAKE A SITE VISIT BEFORE SUBMITTING HIS BID, IN ORDER TO FULLY DETERMINE THE SCOPE OF THE NEW WORK AND WORK AFFECTING THE EXISTING CONSTRUCTION AND FINISHES.

FIRE PROTECTION ENGINEERS

FERNANDEZ & ASSOCIATES
FIRE PROTECTION ENGINEERS
63 Larkin Road
Byfield, Massachusetts 01922
Telephone 978-499-0172
Fax 978-465-2371
Website: www.fernandezassoc.com

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11/14/2012
95 % REVIEW

ARCHITECTURAL CONSULTANT
JR&A
JUNIPER RUSSELL AND ASSOCIATES, INC.
421 WATERTOWN STREET
NEWTON, MASSACHUSETTS 02458
(617) 964–8889 http://www.juniperrussell.com

Written dimensions on these drawings shall take precedence over scaled dimensions. The General Contractor shall verify and be responsible for all dimensions and conditions on the job and shall notify the Architect of any variations from the dimensions and conditions shown on these drawings.

This drawing shall not be used for construction purposes until signed by the Architect

NO.	REVISIONS	DATE

JOB NO.	545
DRAWN BY	LFF
DESIGNED BY	LFF
SCALE	AS NOTED
DATE	10–30–12

PROJECT
Roudenbush Community Center
65 Main Street
Westford, Mass.

TITLE
SPECIFICATIONS, NOTES AND SCHEDULES

DRAWING NO.
A–3
(3 OF 3)

FERNANDEZ & ASSOCIATES
Fire Protection Engineers

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Byfield, Massachusetts 01922

Telephone 978-499-0172
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Website: www.fernandezassoc.com

NANGLE ENGINEERING INCORPORATED
32 PRINCE STREET
DANVERS, MA 01923
TEL (978) 777-7650

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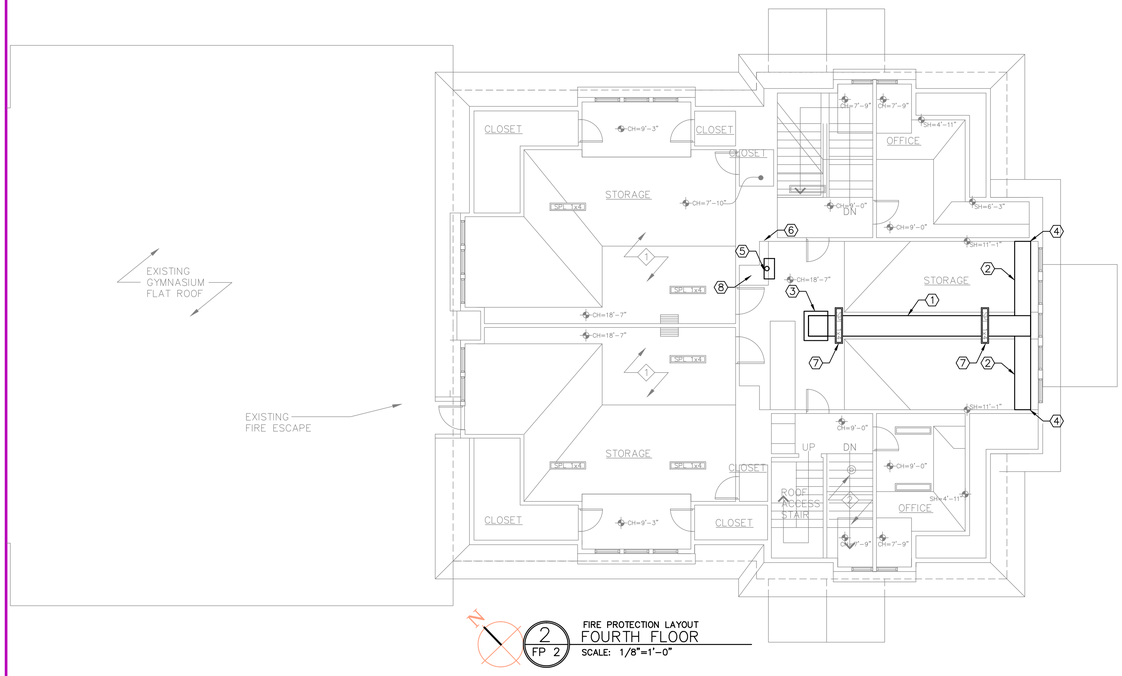
08/27/2012



2 FP 2 FIRE PROTECTION LAYOUT
FOURTH FLOOR
SCALE: 1/8"=1'-0"

KEYED NOTES:

1. REMOVE AND DISPOSE OF EXISTING 28"X24" DUCTWORK AT CEILING, INCLUDING ALL FLEX DUCT WITHIN.
2. REMOVE EXISTING 24"X20" SLOPED DUCT DROP FROM MAIN DUCT AT CEILING TO WALL PENETRATION, INCLUDING ALL FLEX DUCT WITHIN.
3. PROVIDE R-30 INSULATION AT EXISTING CEILING OPENING WHERE DUCTWORK IS REMOVED. PATCH OPENING IN WOOD CEILING WITH WOOD BOARDS SALVAGED FROM INSIDE PROPOSED FIRE PROTECTION CLOSET.
4. PROVIDE R-30 INSULATION AT EXISTING WALL OPENING WHERE DUCTWORK IS REMOVED. PATCH OPENING IN WOOD WALL WITH WOOD BOARDS SALVAGED FROM INSIDE PROPOSED FIRE PROTECTION CLOSET.
5. REMOVE AND DISPOSE OF EXISTING BLOWER UNIT AND COOLING MODULE (UNICO MODEL MC4260C-A/MB42602) AND 12" ROUND DUCTWORK. TO MAKE ROOM FOR PROPOSED FIRE PROTECTION CLOSET.
6. WHERE BOARDS ARE REMOVED FOR PROPOSED FIRE PROTECTION CLOSET, INSULATE EXPOSED CAVITY AND COVER WITH ½" GYPSUM WALLBOARD, TAPED, JOINTED, PRIMED AND PAINTED.
7. DISCONNECT AND REMOVE EXISTING CHAIN MOUNTED LIGHT FIXTURE FROM DUCT. PULL WIRING BACK INTO ATTIC. PROVIDE BOX AT CEILING TO TERMINATE/CONNECT TO EXISTING WIRING. PROVIDE REPLACEMENT FIXTURES, CHAIN MOUNTED, COLUMBIA K4232EU OR EQUAL.
8. IN PROPOSED FIRE PROTECTION CLOSET, PROVIDE LIGHT FIXTURE (SEE NOTE 7) AND WALL SWITCH INSIDE OF CLOSET. CONNECT TO EXISTING 4TH FLOOR LIGHTING CIRCUIT.

NO.	REVISIONS	DATE

JOB NO.	545
DRAWN BY	GPN
DESIGNED BY	GPN
SCALE	1/8" = 1' - 0"
DATE	10-22-12

PROJECT
Roudenbush Community Center
65 Main Street
Westford, Mass.

TITLE
MECHANICAL/ ELECTRICAL

DRAWING NO.
M/E-1

GIENAPP
DESIGN
ARCHITECTURE

APPENDIX – D

Planning Study Concept Plans

In 2012 the Town commissioned Boston Bay Architects to provide Existing Conditions Plans.

Their drawings are in this appendix.

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ARCHITECTURE

GIENAPP
DESIGN
ARCHITECTURE

PROJECT: Roudenbush Community Center
Existing Condition Floor Plans

65 Main Street
Westford MA 01886
(978) 692-5511

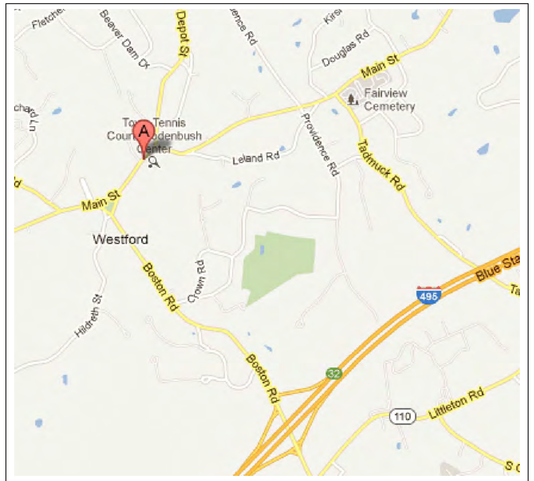
OWNER:

Town of Westford
55 Main Street
Westford, MA 01886
(978) 692-5500

ARCHITECT:

Boston BayArchitects, Inc.
214 Lincoln Street
Unit 305
Boston, MA 02134
Tel: (617)782-0255
Fax: (617)782-0277
e-mail: info@bostonbayarchitects.com
web-site: www.bostonbayarchitects.com

LIST OF DRAWINGS



locus map

August 22, 2012

T-1

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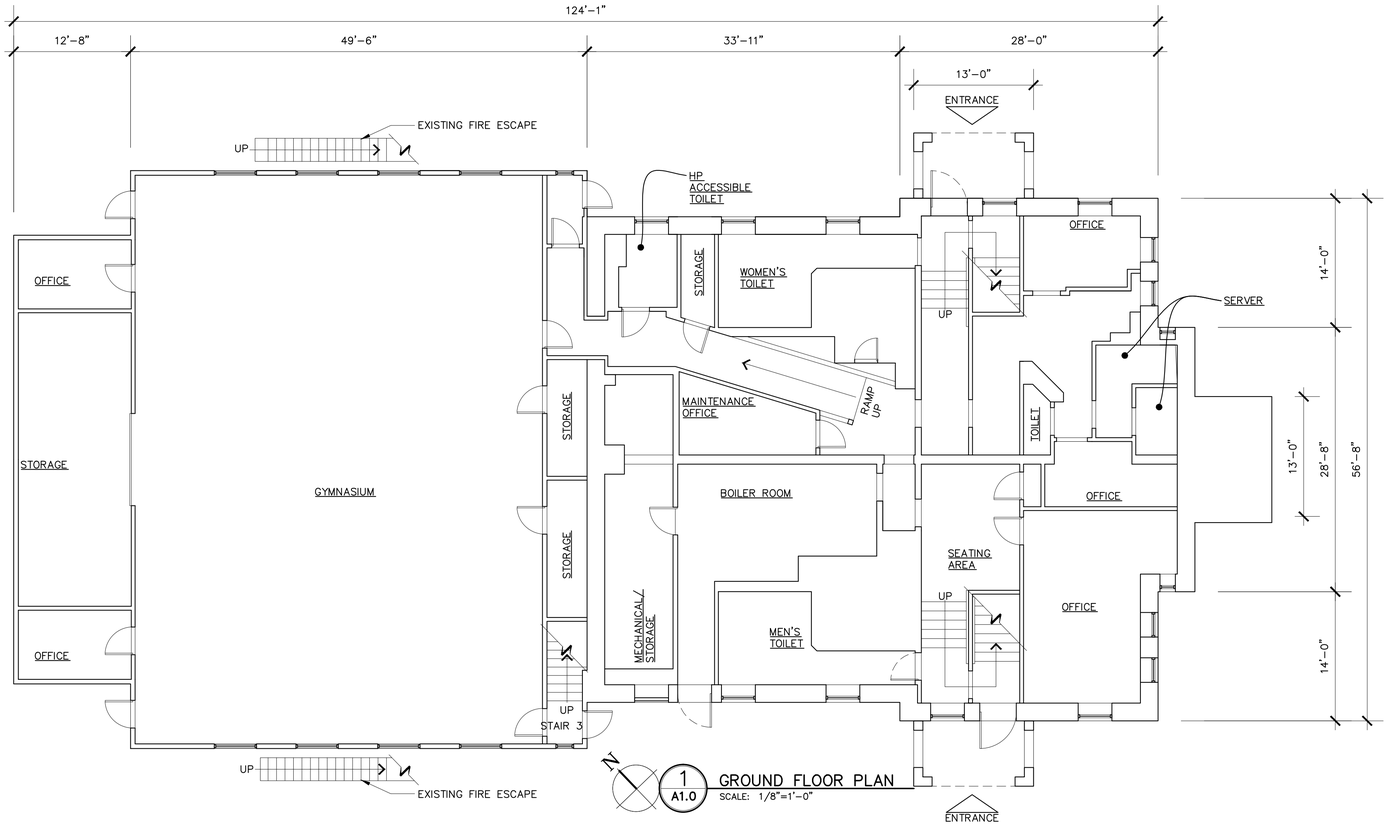

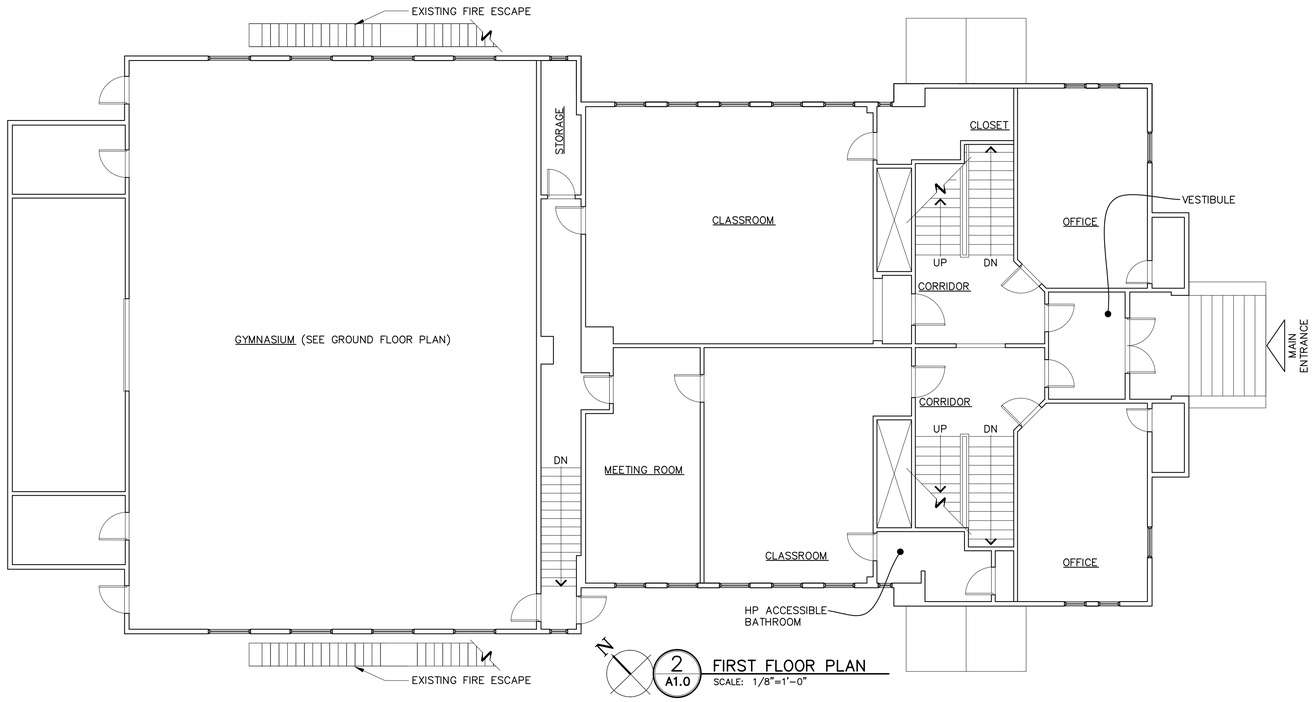

GENERAL NOTES:

1. EXTERIOR DIMENSIONS ARE TO FACE OF THE EXISTING FOUNDATION UNLESS OTHERWISE NOTED. INTERIOR DIMENSIONS ARE TO THE FACE OF FINISH UNLESS OTHERWISE NOTED. ALL EXISTING CONDITIONS AND DIMENSIONS SHOULD BE VERIFIED IN THE FIELD.
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ARCHITECTS SEAL:

REVISIONS/SUBMISSION

⚠ REVISED 08/22/12

CLIENT:

TOWN OF WESTFORD
55 MAIN STREET
WESTFORD, MA 01886

PROJECT:

ROUDENBUSH COMMUNITY CENTER
55 MAIN STREET
WESTFORD, MA 01886

EXISTING CONDITION FLOOR PLANS

DRAWING TITLE:

EXISTING CONDITION FLOOR PLANS

DRAWN BY:	BP
CHECKED BY:	RA
SCALE:	1/8"=1'-0"
DATE:	07/06/12
JOB NO:	

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A1.0

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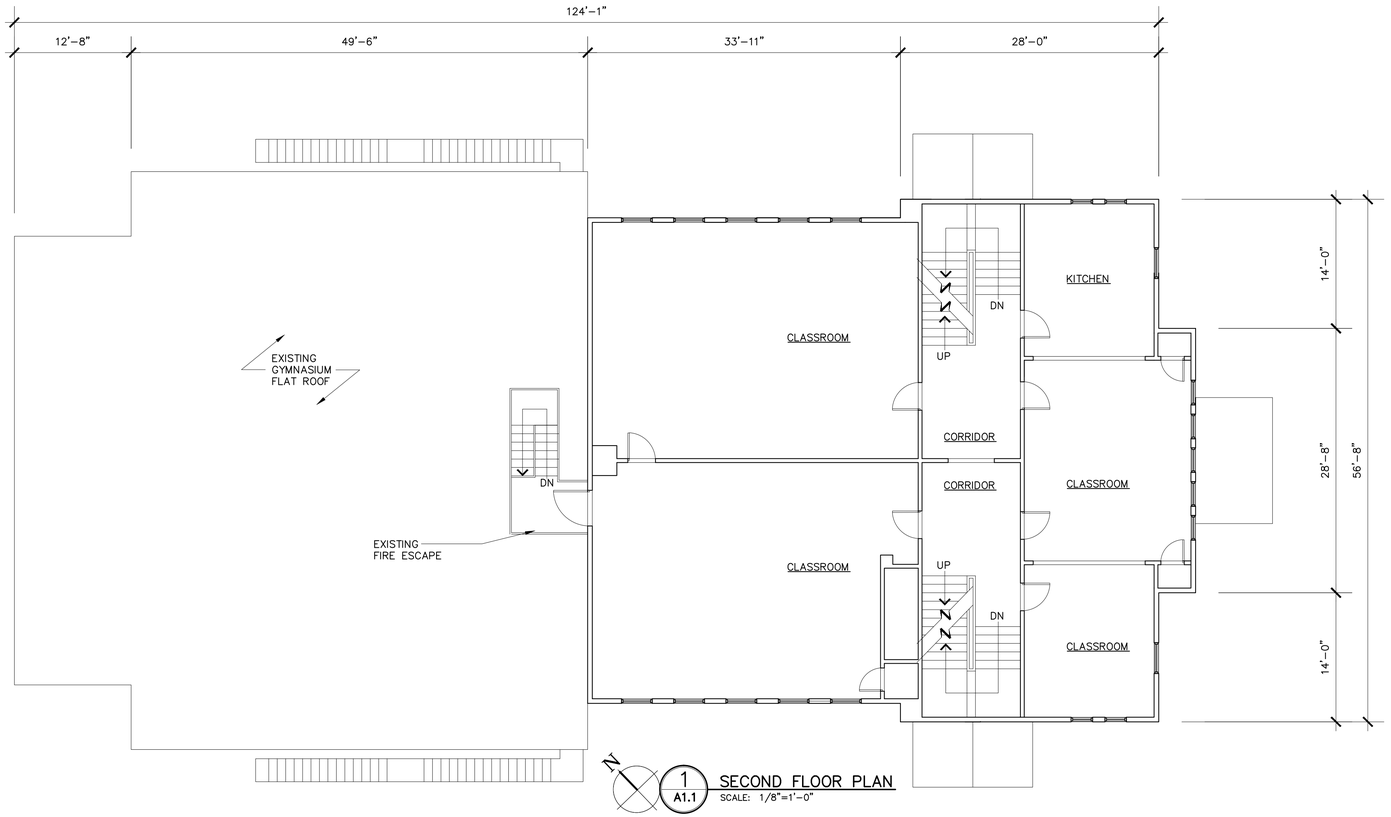
GIENAPP
DESIGN
ARCHITECTURE



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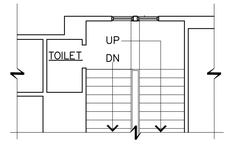
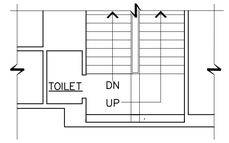


3 A1.1 PARTIAL THIRD FLOOR PLAN
SCALE: 1/8"=1'-0"



4 A1.1 PARTIAL THIRD FLOOR PLAN
SCALE: 1/8"=1'-0"

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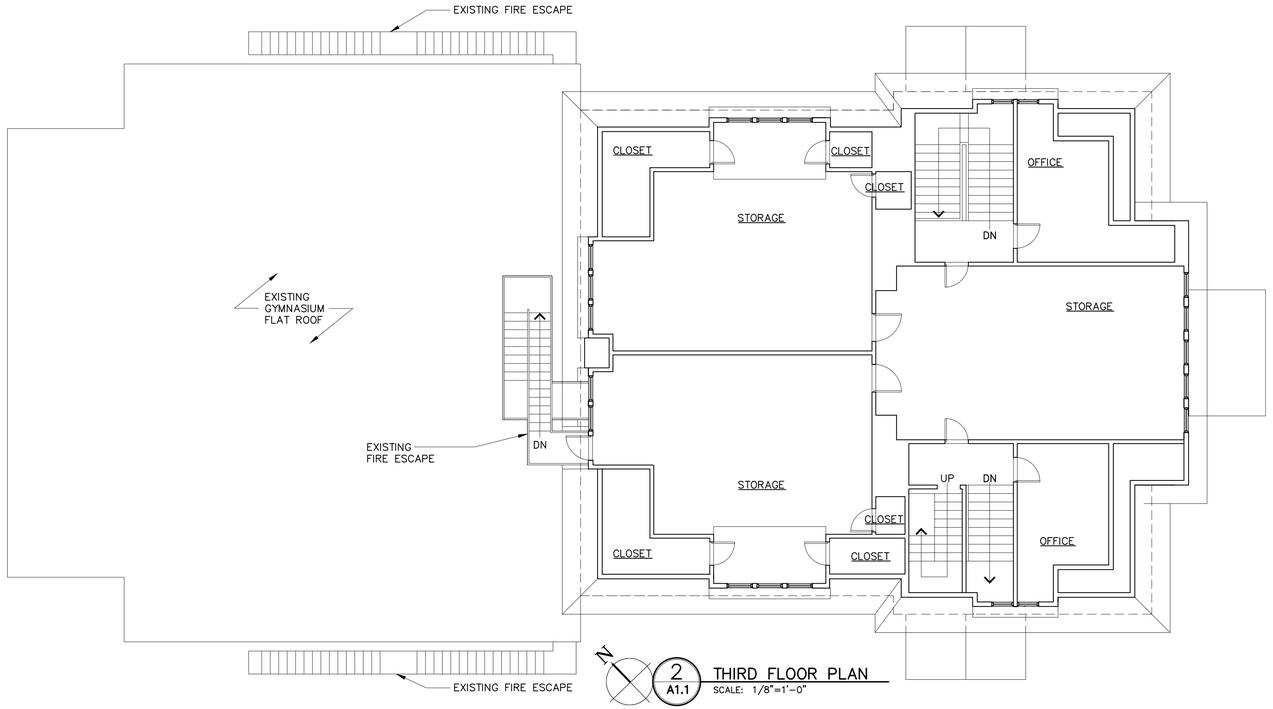

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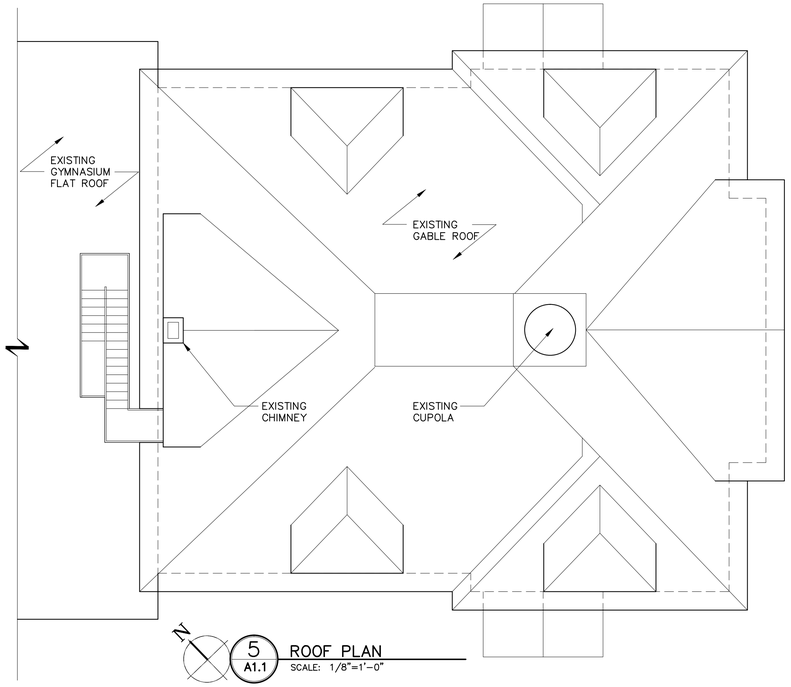
SCALE: 1/8"=1'-0"



5 A1.1 ROOF PLAN
SCALE: 1/8"=1'-0"

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ARCHITECTS SEAL:

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CLIENT:

TOWN OF WESTFORD
55 MAIN STREET
WESTFORD, MA 01886

PROJECT:

ROUDENBUSH COMMUNITY CENTER
55 MAIN STREET
WESTFORD, MA 01886

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DRAWING TITLE:

EXISTING CONDITION FLOOR PLANS

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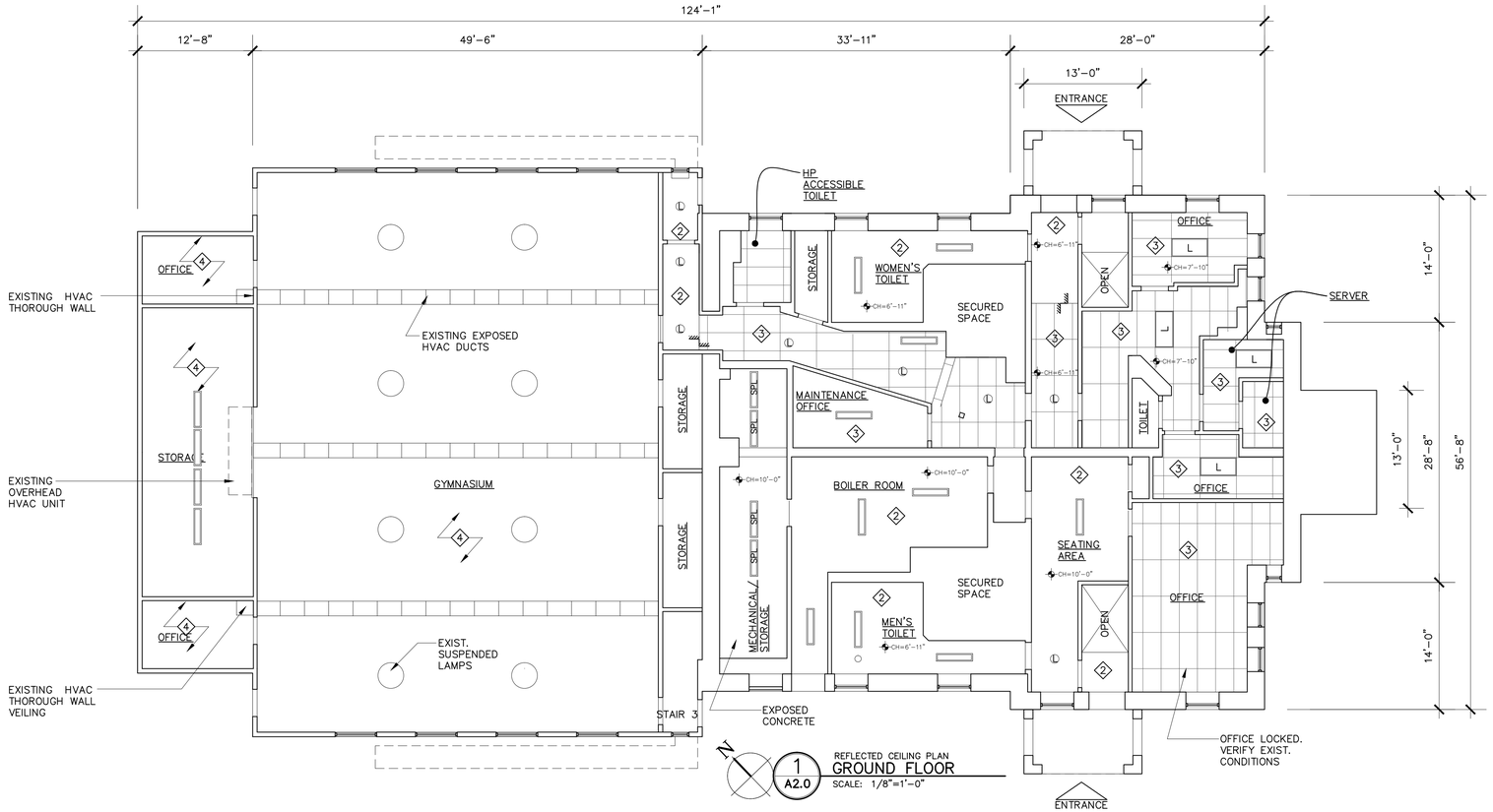

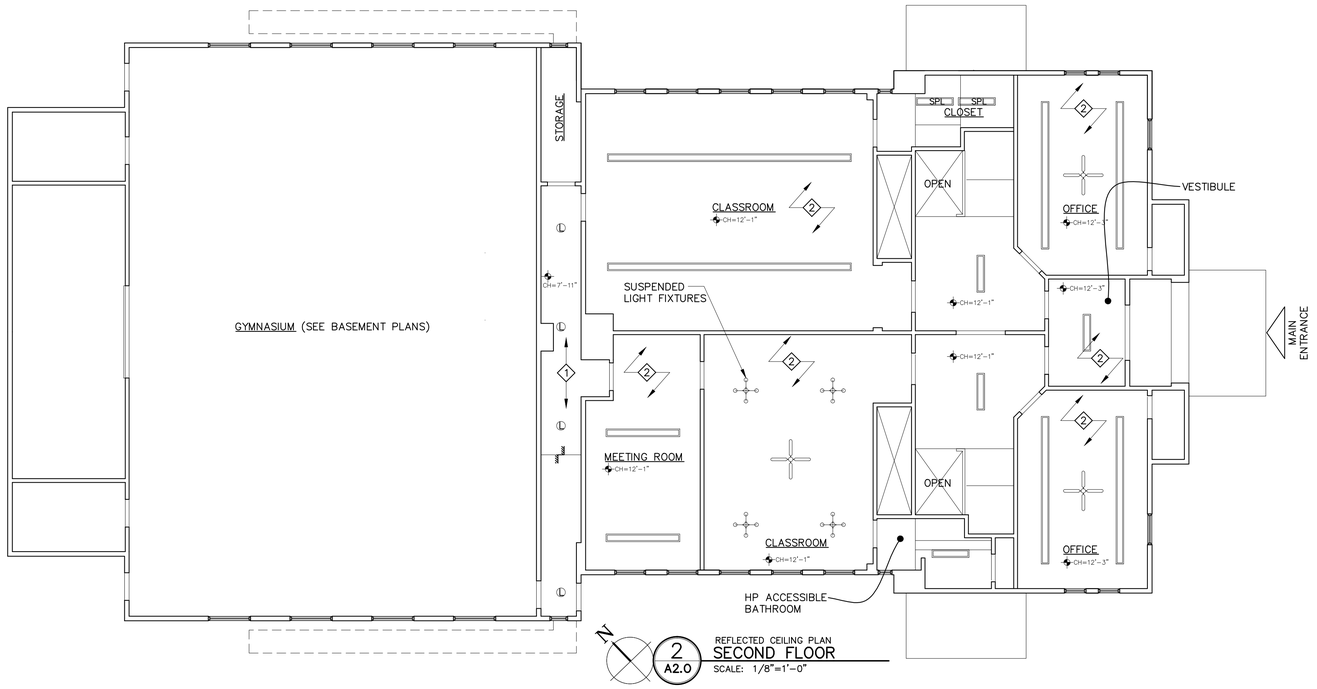

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LEGEND

1	EXISTING WOOD BEAD FINISH
2	EXISTING PAINTED PLASTER FINISH
3	EXISTING 2X4 ACOUSTICAL CEILING TILE
	EXIST. CEILING MOUNTED 1X FLUORESCENT FIXTURE
SPL	EXIST. PENDANT MOUNTED 1X4 FLUORESCENT FIXTURE
	CEILING MOUNTED LIGHT FIXTURE
	EXISTING SUSPENDED CEILING FAN
	CHANGE IN CEILING ELEVATION
CH='X'-X"	SPRING HEIGHT OF CEILING ABOVE EXIST FINISHED FLOOR
CH='X'-X"	CEILING HEIGHT ABOVE EXIST FINISHED FLOOR

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PROJECT:
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WESTFORD, MA 01886

EXISTING CONDITION FLOOR PLANS

DRAWING TITLE:
EXISTING CONDITION REFLECTED CEILING PLANS

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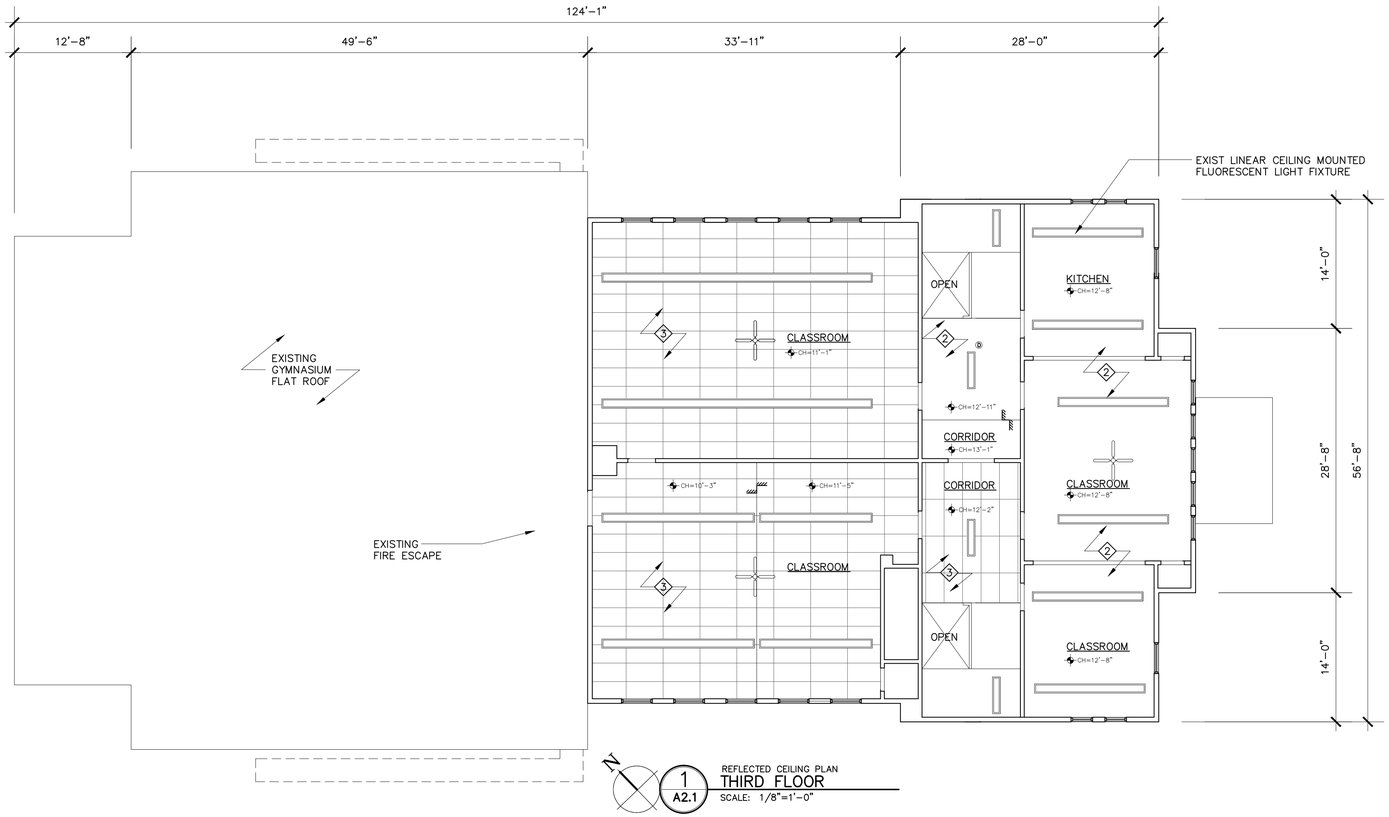
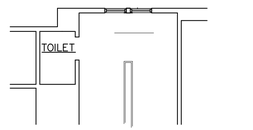
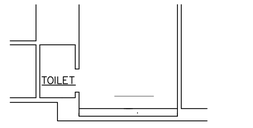




3 A2.1
REFLECTED CEILING PLAN
PARTIAL THIRD FLOOR
SCALE: 1/8"=1'-0"



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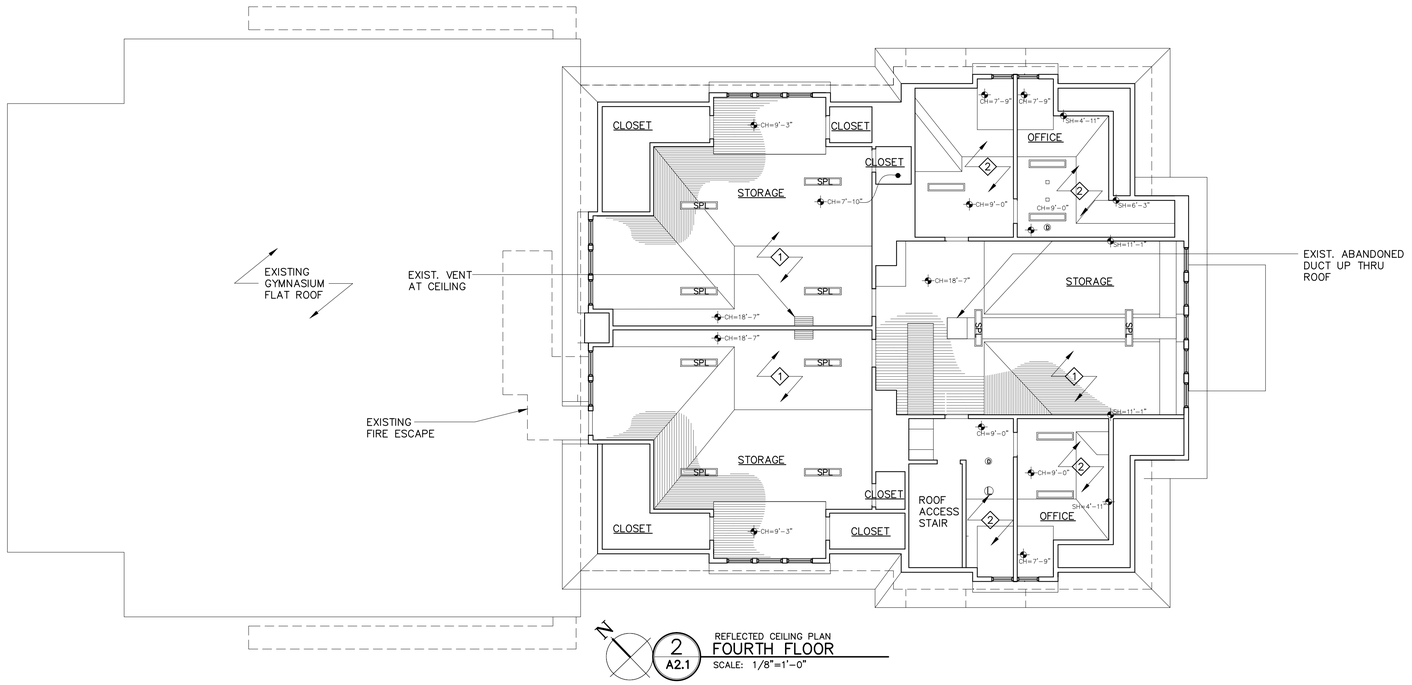
REFLECTED CEILING PLAN
PARTIAL THIRD FLOOR
SCALE: 1/8"=1'-0"



2 A2.1
REFLECTED CEILING PLAN
FOURTH FLOOR
SCALE: 1/8"=1'-0"

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DRAWING TITLE:

EXISTING CONDITION REFLECTED CEILING PLANS

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DATE:	07/06/12
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Architects & Planners
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Planning Study
Roudenbush Community Center
Westford, Massachusetts