

CENTRAL FIRE STATION BUILDING ASSESSMENT

14 WASHINGTON STREET, AYER, MA
JUNE 20, 2012



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EXECUTIVE SUMMARY

CENTRAL FIRE STATION
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This existing conditions study has been developed for the Central Fire Station in Ayer. A general assessment of the building was conducted with the goal of identifying needed repairs that would help preserve the historical structure and recommending improvements that would make it suitable for re-use by currently unidentified occupancies.

The original facility, built in 1934-35, has been expanded several times through the years, with the most recent additions in the 1970's and in 1996 as the least similar to the original design. One on the north side and one on the south side, these additions are constructed of inexpensive and poor quality materials. Demolition of these additions is recommended to unveil the original structure. Earlier additions integrate better with the original structure and can be retained.

Recommended repairs focus on stabilizing the exterior envelope to ensure the building does not succumb to irreversible age-related deterioration. Exterior brick walls require significant re-pointing and repairs. The unsupported heights of the gable end parapet walls are structurally precarious and should be re-built with reinforcing. Cast stone copings should be replaced at the same time. And the entire exterior masonry should be thoroughly cleaned.

Original state roofing is in poor condition and must be removed when gable end parapets are re-built. In lieu of re-stalling the slate and patching in missing ones that may not match in color, new laminated asphalt shingles are recommended. Existing asphalt roofing on the cross gable section of the building is well worn and should be replaced with the same laminated asphalt shingles. Flat roof sections should be re-roofed with EPDM. Existing copper flashings are deteriorated and should be replaced. The copper roofing of the cupola is also recommended for replacement.

Existing cornice trims, including gutters, are wood and leaders and leader boxes are copper. Wood trims are deteriorated beyond repair. New cedar, PVC, or polyurethane trims, custom milled or formed to match original profiles, are recommended for easier future maintenance. In lieu of wood gutters, that are very difficult to maintain, new copper gutters are a better choice to match recommended new copper leaders and leader boxes.

The original wood window sashes have been removed and replaced with residential quality vinyl replacement windows, installed within original wood window frames and casings. All wood components are

in poor condition and should be demolished. Replacement units, that replicate historical details, are recommended to fit into existing masonry openings. Wood window sills, with horns that extend beyond the masonry openings, should be replaced with new cast stone sills to improve durability.

Thermal performance of the building can be improved by adding insulation in the attic, above flat roofs, and on the interior side of exterior walls.

Original vehicular areas lack interior finishes and those in occupied spaces are well worn and require complete replacement.

Required improvements to meet current codes is dependent on the proposed use classification. For the purposes of developing a baseline of code-related improvements, it is assumed that the use classification will remain unchanged as Business (B). At a minimum, a handicapped accessible entrance will be required. Based on a B use, a minimum number of men's, women's, and handicapped toilet facilities are proposed. Although the specific design of the heating, ventilating and air conditions (HVAC) systems is dependent on occupancy, a basic functional system is proposed.

EXISTING CONDITIONS

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Introduction

The Central Fire Station has stood unoccupied and unattended since the completion of the new fire station in Ayer. Its fate is still in limbo as there has been no decision on how and even if it should be re-used. In the meantime, the building has continues to deteriorate. The charge of this study was to recommend repairs that would stabilize the building and identify improvements that would make it suitable for potential new uses. The results of the study, as hereby documented, was informed by site visits, reviews of existing

documents and drawings, discussions with Fire Department personnel, and direction and guidance provided by the Fire Station Re-use Committee.

Site

The Central Fire Station is located on Washington Street, a block north of Main Street, and in close proximity to the Town Hall. (See Figure 1.) This downtown location should be convenient for many commercial and public uses of the building. There is no on-site parking because the property is only 0.23 acres and building

occupies most of that area. Luckily, there are curbside parking spaces and private and municipal lots available nearby.

Neighbors to the north and west are residential properties that are demarcated by chain link fencing. On the south side, closest to Main Street, there is a large parking lot belonging to a commercial neighbor. The site slopes moderately up from the southwest corner to the northeast corner. There is no landscaping except for a very narrow weedy strip on the south side. The front or east side is paved to the street, providing an apron for the emergency vehicles that used to be parked inside.

History

Built in 1934-35 with funding from the U.S. Works Progress Administration (WPA), the original building is approximately 2,660 gross square feet (GSF). It provided two apparatus bays. The front section of the garage has a small second floor room and a gable roof. The remainder of the garage had a flat roof. To the north of the garage, near the street, is a small 1-story wing, with a gable roof, that provides an entrance, a stairway, and a toilet room. This is the only section of the building that contains a basement, where the boiler is located. On the south side of the original garage, toward the front, there is another 1-story wing, with a gable roof, that contains a single room and is a little bigger than the wing on the north side. Although not strictly symmetrical, these two wings are similarly designed and flank the apparatus bays for a balanced axial presentation.

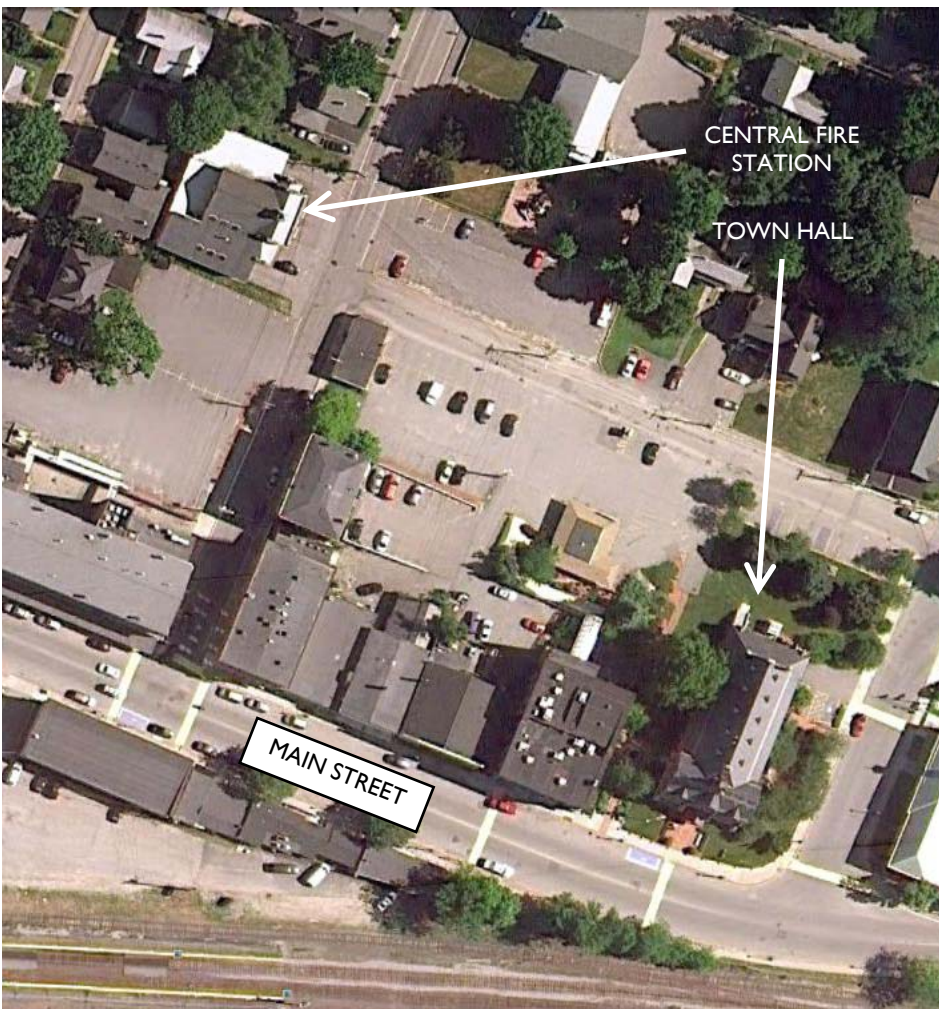


Figure 1: Aerial view Central Fire Station.

Behind the wing on the south side is a narrow 1-story section, with a flat roof, that extends the remaining length of the garage.

Through the years, the building was expanded to meet the growing needs of the Fire Department. With the exception of the most recent one and in the absence of any documentation, the construction dates of the various additions can only be approximated. The first alteration to the original building was the addition of a second floor, approximately 1,520 GSF in area, with a gable roof, over the 1-story section of the garage. The similarity of the construction details and materials suggest that this expansion occurred shortly after the original building was built, perhaps in the 1940's or 1950's.

In the 1960's, when the Fire Department acquired a ladder truck that would not fit into length of the garage, approximately 840 GSF was added in a 1-story extension at the rear of the building. The addition has a flat roof and the exterior walls appear to be a single wythe of concrete masonry units (CMU).

Next, another garage bay was added on the north side in the 1970's. This



Figure 2: 1996 addition.

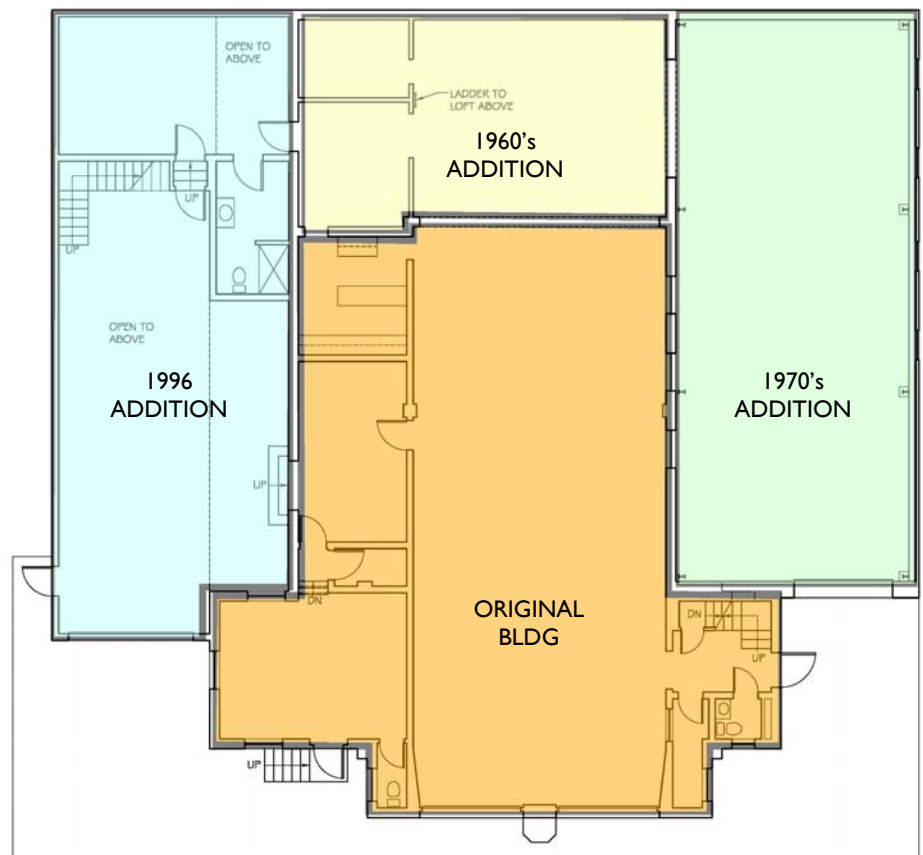


Figure 3: First floor plan showing additions.

approximately 1,500 GSF addition is a pre-fabricated steel building with brick veneer on the street side.

And finally, in 1996, another garage bay was added on the south side. (See Figure 2.) The roof of this addition extends to the second floor eave, enclosing an additional second floor space. Constructed of a concrete slab-on-grade, CMU walls with an EFIS (Exterior Insulation and Finish System) exterior finish, and wood floor and roof framing, this expansion added approximately 1,500 GSF on the first floor and 1,040 GSF on the second floor.

Whereas the original building is architecturally distinctive, solidly built of durable materials, and important

to the history of the town, the later additions are inexpensively constructed, lack historical references, and do not blend in with the original structure.

Building Configuration

The building, with all its additions, totals approximately 9,240 GSF, with approximately 6,000 GSF on the first floor. (See Figures 3 and 4.) The spaces with the greatest potential for re-use are the original apparatus bays on the first floor and the meeting room on the second floor that was added in the 1940/50's. These large open rectangular areas can easily be re-purposed as multi-function spaces for gatherings of people or they can be sub-divided to create

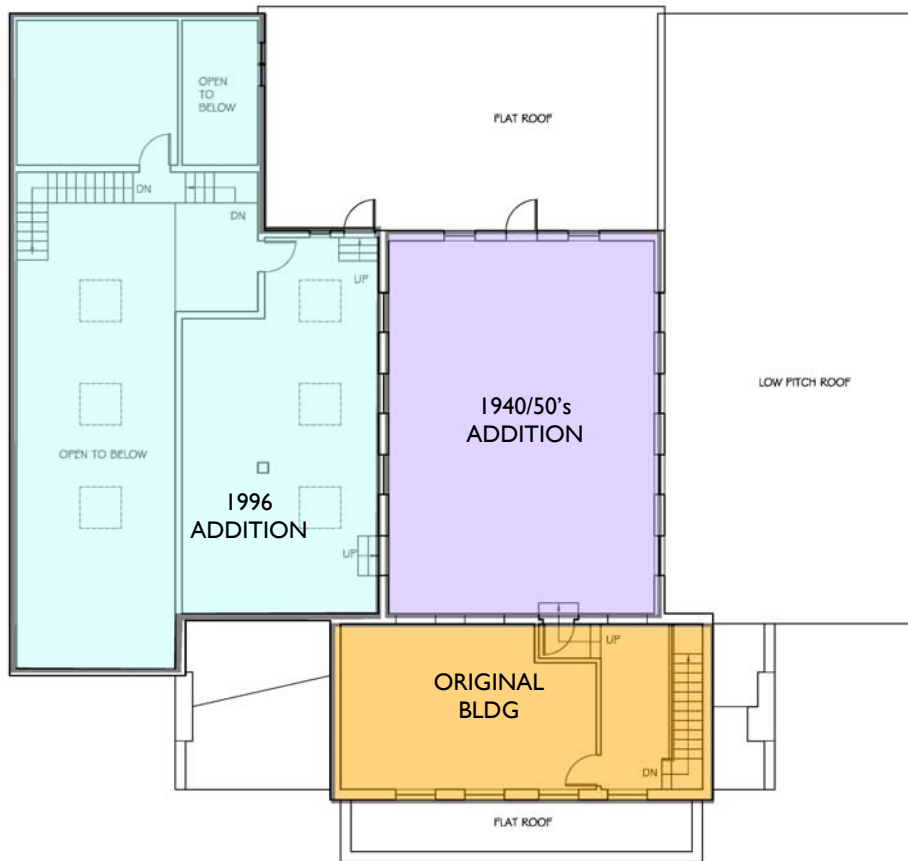


Figure 4: Second floor plan showing additions.

several smaller spaces for dedicated single function uses. The remaining spaces in the building are smaller and much less flexible.

A major barrier to the usability of the building is the level changes on both floors. (See Figure 5.) The 1940/50's

second floor is lower than the original second floor by a few steps. The 1996 addition creates two second floor spaces that are separated from each other by a few steps and lower than the 1940/50's addition. So, the second floor actually has four floor levels. On the first

floor, there are three different floor levels. The original wing in the southeast corner is a few steps higher than the main floor. And the garage floor of the 1996 addition is a few steps lower than the main floor.

Because these floor level changes occur at various locations, it is impossible for a single elevator with half stops to serve all these spaces. If full handicapped access were required or desired, interior ramps and/or wheelchair lifts would be needed in addition to an elevator.

The 1996 addition has created half of these floor level changes, one on the first floor and two on the second floor. At the same time, the 1996 addition is the most visible to the public, from the street, and it is neither sensitive to the original architecture nor appealing on its own. It is constructed of poor quality materials and the spaces it encloses provide no views to the exterior. For these reasons, it is safe to conclude that the 1996 addition is more of a liability than an asset to future uses and, as such, is recommended for demolition.

An added benefit of demolishing the 1996 addition is that the cost of adding sprinklers could be eliminated. In accordance with Massachusetts General Laws (MGL) Chapter 148 §26G, buildings undergoing significant renovations over 7,500 GSF in area must be equipped with an automatic sprinkler system. With the demolition of the 1996 addition, the building would be reduced to just under 6,700 GSF in area.

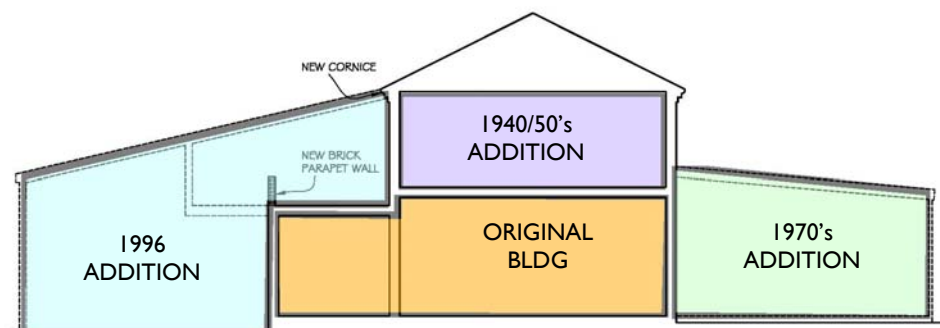


Figure 5: Building section showing additions.



Figure 6: Addition up against northerly property line..



Figure 7: Metal roof needs repair or replacement.



Figure 8: Restoring original windows will bring natural light into building.

The 1970's addition is less visible from the street, but its design is equally uninspiring. It is located uncomfortably close to the north property line. (See Figure 6.) It blocks all natural light to the original apparatus bays, the space with the most potential for re-use. Similar to the 1996 addition, it was built as an inexpensive utilitarian solution to a space problem. The initial cost investment to erect a prefabricated

steel buildings is relatively low, but its long term durability is poor, particularly in the absence of regular maintenance. The steel roof and siding are rusted and worn. (See Figure 7.) There is minimal insulation and no interior finishes. The cost to make needed repairs and improvements would be quite high and the quality of the improved space would still be less than ideal.

On balance, then, it may be more prudent to also demolish this section of the building so that the original brick wall and window openings on the north side of the apparatus bays can be restored. (See Figure 8.) With the 1970's addition removed, the building would be reduced to just under 5,200 GSF.

The 1960's addition at the back of the original garage is purported to have been built by Fire Department personnel. Like the other two additions, the quality of the materials and construction are low and not comparable to that of the original building. The exterior walls are a single wythe of CMU. More porous than brick, a single wythe of CMU should never be used as the exterior wall finish. Moisture will easily pass through to the interior to create damp conditions. This was probably not a serious concern when the space only functioned as a place to store vehicles. But if the space is to be adapted for occupancy, the exterior walls need to be made more weather-tight. Since there is no brick shelf in the foundation to support a thicker exterior finish material, a cement stucco may be the best option. Luckily the addition is at the rear of the building and will not be very visible to the public.

The addition neither detracts greatly from the original building nor provides huge benefits. The Fire Station Re-use Committee has opted to retain this section, in part, because it extends and enlarges the apparatus bays, the main space in the building.

The 1940/50's second floor addition provides a large and potentially useful space on the second floor. Its design and exterior materials integrate well with the original architecture. Retaining this section of the building, then, is an easy recommendation to make.

Exterior Envelope

The original building is a handsome brick building with slate roofing tiles, copper flashing and leaders, wood trims and windows, cast stone parapet caps, and a wood cupola with a copper roof. The architectural features and details are not elaborate, but add character, interest, and scale to the building. Selected for durability, many of the exterior materials can still provide many useful years of protection for the building, if needed repairs are made and then maintained. The goal of all exterior improvements should be to restore and/or replicate the original historical character of the building.

Wood Trims

As can be expected, the wood is in the worst condition. Window sashes have already been replaced with vinyl replacement windows, but original wood window frames, sills, casings, and cornice trims are still in place and in various stages of deterioration. Paint is extensively peeling on all components, leaving the



Figure 9: Rotted wood cornice.

wood unprotected and exposed to the elements. Cornice moldings are in poor condition and complete replacement is recommended. (See Figure 9.) New custom moldings, to match existing profiles, can be milled from polyvinyl chloride (PVC) or cedar or molded in high density polyurethane, to provide improved durability.

Windows

The existing vinyl windows should be replaced because they do not meet the quality standards needed for commercial and institutional applications and they do not have historical profiles or details. Left in place when the vinyl windows were installed, the original wood window frame and exterior casings have continued to deteriorate as paint has peeled and caulking has dried out without proper maintenance. At the same time, the un-insulated weight pockets allow cold air to infiltrate.



Figure 10: Window sill horns.

Complete removal of window components down to existing masonry openings is recommended. Existing window sills have horns that extend into the surrounding brick. (See Figure 10.) These should be replaced with a non-wood material. Cast stone sills would be durable and a good match to the parapet copings. To replace the vinyl windows, new aluminum clad wood units are recommended to provide a maintenance-free exterior and a historical appearance. Some of the more elaborate wood casings, such as the arched door pediments on the north and south sides, should be carefully restored or replicated in either PVC, polyurethane, or cedar. (See Figure 11.)

Masonry

The walls are solid load-bearing brick masonry supporting wood floor and roof framing. As both structure and enclosure, the maintenance and restoration of the masonry is particularly important. There is no air space in the exterior wall assembly as would typically be included now. Because brick and mortar are very porous materials, an air space between exterior and interior wythes of masonry is very effective in providing a channel to drain moisture that will inevitably penetrate. In the absence of an air space, some mois-



Figure 11: Decorative door mantel.

ture can be expected to migrate through the exterior walls. Normally, this small amount of moisture is not a serious problem because the absence of waterproofing, damp-proofing, sealers, insulation, and moisture barriers, that are common in modern construction, allows old masonry buildings to “breathe.” Small amounts of water vapor usually evaporate before extensive damage is done. Routine building maintenance, including re-pointing of deteriorating brick joints, help ensure that water migration is minimized and controllable.

Generally, the exterior brick is in fair condition. There are some areas where mortar joints have deteriorated, particularly at the gable end parapets. Selective re-pointing is recommended and cleaning of all exterior masonry surfaces will help protect them from the deleterious effects of environmental pollutants.

Luckily, there is no evidence of serious structural damage to the exterior brick walls. But the unsupported height of the parapet walls are concerning. (See Figure 12.) Some stepped hairline cracks on the interior of the second floor south gable end wall suggest some structural movement. (See Figure 13.) To prevent serious failure, the parapet walls should be taken down to the eave line and re-built with steel reinforcing.

Roofing and Flashing

All existing roofing and flashing is in poor condition and should be replaced. Slate tiles cover the original gabled roofs. There is a considerable number of broken or missing ones. Replacement slate tiles will likely not match the original color. At the same time, a fair amount of the slate tiles will need to be removed to al-

low the re-building of the gable end parapet walls. Rather than re-installing slate tiles that might look like a patchwork, new laminated asphalt shingles are recommended for easier maintenance and a more uniform appearance. Laminated asphalt shingles can provide a textured finish that simulates slate. And a fifty-year warranty can be specified. The same laminated asphalt shingles should be used on the gable roof of the 1940/50's addition. The existing 3-tab asphalt shingles are ready for replacement.

The existing EPDM (rubber) roofing on the flat roof area over the 1960's addition is very poorly installed and actively leaking along its westerly edge. (See Figure 14.) With the demolition of the 1996 addition, an additional flat roof area will be created along the south side of the original garage. New EPDM is recom-



Figure 15: Broken slate and flashing repairs.

mended for both these roof areas. Re-roofing will provide the opportunity to add much needed insulation and to properly pitch the roofs to new drains.

Copper roofing and flashing are in poor condition. There is evidence of attempts to repair flashing with bituminous coatings and sealants. (See Figure 15.) Only a stop-gap measure, these repairs, that have irreversibly compromised the surface of the copper, suggest that leaks have become a problem. Water damage to interior finishes confirm this deduction.

Selective replacement of copper roofing and flashing should be avoided in favor of complete replacement. Leaks through the roof are more often than not, attributable to failures in the flashing that protects the joints between dissimilar exterior materials. And once a leak has developed, it is very difficult to definitively trace its source, as water migrates very easily and quickly. Also, the copper is all the same age and if one area has failed, similar deterioration can be anticipated to quickly follow in other locations. Flashing should be considered an integrated system that protects against water intrusion and, as such, should be replaced in its



Figure 12: Tall parapet walls.



Figure 13: Crack in gable end wall.



Figure 14: Damaged EPDM.

entirety when age-related problems start to arise.

Parapet and gable end walls are capped with cast stone copings. The joints have been sloppily caulked, probably in an attempt to address moisture penetration problems into the brick walls. But the porous concrete copings are only decorative and the copper through-wall flashing underneath the copings are actually acting as the barrier to water. The coping pieces need to be removed, the flashing below replaced, and new cast stone copings installed. Care must be taken to seal the steel dowels that must penetrate the flashing to anchor the coping to the wall. This detail is subject to failure in the absence of vigilant maintenance. Alternatively, the cast stone can be replaced with copings that would cover the brick walls. In this case, copper is recommended to match the flashing and the cupola roof.

Gutters and Leaders

Gutters and leaders guide water away from building façades and foundations, helping to preserve exterior walls and protect against water penetration. The existing gutters are wood and integrated into the cornice profile. Leaders and leader boxes are copper. (See Figure 14.) Like all the wood components, the gutters are in very poor condition. Notoriously difficult to maintain, new wood gutters are not recommended. Instead, a completely new copper gutter and leader system is recommended. This would still be in keeping with the historical character of the building as there is a considerable amount of copper components.

Insulation

In the sections of the building that will remain, after demolition of the 1970's and 1996 additions, there was no insulation observed. To make the building energy-efficient to operate and comfortable for occupancy, insulation must be added wherever possible.

Heat loss in any building is greatest through the roof so that adding insulation in the attic can be very beneficial. Although an excellent thermal performer, foamed-in-place insulation, like polyisocyanurate, is not recommended because foam, as it expands, could potentially damage the second floor ceilings. Cellulose insulation can easily be blown in between the attic floor joists. And fiberglass with a vapor retarder is also a reasonable choice. Ventilation would be required above new insulation to prevent ice dams. There are currently windows at the gable ends that can be replaced with louvers to provide needed ventilation, while not significantly altering the exterior appearance. Alternatively, soffit ventilation can be designed into the new cornice and ridge vents can be added with the roofing work. The cupola could also be designed to allow ventilation at the ridge.

Heat loss per square foot through the windows is obviously greater than through the solid walls. However, because the total area of solid walls is significantly greater than the windows, the total heat loss through the glass is about the same as that through the brick. Remembering that masonry and mortar are porous, fiberglass and cellulose insulations are not suitable for contact with exte-

rior walls because these materials cannot be subjected to moisture. The concern with foam insulation is actually its superior performance. Foam will fill and seal cracks, preventing old masonry walls from "breathing." Rigid insulation can be applied directly to masonry walls, without fear of water damage, and the interior side can be finished with gypsum wallboard and veneer plaster.

Interior Finishes

Because it was a garage, the main section of the first floor lacks any finishes, except a plaster ceiling which was installed to protect the wood joists from fire. There are two rooms of the original building that have painted tin ceilings. The paint is peeling badly in both spaces and the condition of the tin is less than perfect. (See Figure 16.) One of these rooms also has wood strip flooring. (See Figure 17.) Although it is tempting to think about re-finishing these



Figure 16: Peeling paint on tin ceilings.



Figure 17: Wood strip flooring.

historical materials, practicality should reign. Wood flooring is difficult to maintain, particularly in a space that might be frequented by the public.

The existing plaster and tin ceilings are installed at the bottom of the wood framing, providing no space for modern building needs, such as ductwork, electrical conduits, and recessed lights. As such, new finished ceilings are recommended throughout. Acoustical tiles are an inexpensive choice that provide sound attenuation and easy access to building systems components above the ceilings. Acoustical tiles that simulate the appearance of tin ceilings are an option if desired.

Without knowing the ultimate use of the building, it is difficult to recommend appropriate floor finishes. Vinyl tile is recommended as an inexpensive all-purpose basic material that is suitable for a multitude of functions. Upgrades to the vinyl tile should be commercial grade and easy to maintain, such as carpeting, linoleum, and ceramic tile.

Building Systems

The existing building systems, including heating, plumbing, and electrical are antiquated and need to be replaced. (*See Engineer's Report.*) There is no mechanical ventilation system as is required by current code. There is no air conditioning system as can be expected of any modern occupied facility. As such, all new building systems are required. Ventilation requirements vary considerably with various uses. For the purposes of this study, roof-

top HVAC systems are recommended for their low initial cost and generic ability to provide heating, cooling and ventilation.

Zoning

The site of the Central Fire Station is located in the Downtown Business District (DB). The DB district has very few requirements and the existing building meets all of them with two exceptions. The current Zoning Bylaw requires a 25 ft. setback at side lot lines where the property abuts a residential district. The DB district also requires off-street parking spaces for various uses. But the Bylaw allows pre-existing, non-conforming structures to continue being used with a Finding from the Zoning Board of Appeals, provided alterations are not more detrimental or non-conforming to zoning requirements.

Building Codes and Regulations

Although a full code analysis has not been conducted, it is important to identify those code compliance issues that might affect the cost of proposed improvements. The Commonwealth has adopted the 2009 International Building Code (IBC), with some specific annotations, as the 8th edition of the Massachusetts State Building Code. The 2009 International Existing Building Code (IEBC) has replaced Chapter 34 of the 7th edition of the Massachusetts State Building Code for addressing renovations to existing buildings.

Under the IBC, fire stations are classified as Business (B) use. Many new uses for the building have been con-

sidered and discussed by the Fire Station Re-use Committee. Offices would maintain the B classification. A community center would change the occupancy classification to Assembly (A-3). Retail uses would change the classification to Mercantile (M). Affordable housing units would change the classification to Residential (R-2).

A change in use would trigger the most stringent code requirements of the IEBC. But the specific requirements can vary considerably for each of the potential new uses. After consultation with the Committee, it was agreed that, for the purposes of the study, it should be assumed that the occupancy classification remains B, making code compliance easier to address. Under the IEBC, proposed improvements would fall into the category of Level 3 Alterations.

Under the regulations of the Massachusetts Architectural Access Board (MAAB), if renovations exceed \$100,000 and 30% of the value of the existing building, the entire facility needs to be made handicapped accessible. However, up to \$500,000 worth of re-roofing, masonry re-pointing, and window repair work are exempt from the 30% calculation. The building is currently assessed at \$425,400 which means the 30% threshold is \$127,620. Even with the \$500,000 exemption, it is safe to assume that both the \$100,000 and 30% thresholds will be exceeded by the recommended improvements.

Access to the first floor can easily be provided by a ramp. Access to the second floor can only be provided by an elevator. If, however, the second

floor is not open to the public, it does not need to be handicapped accessible. Private functions are not subject to the MAAB. As the building may be sold to a private buyer or the second floor may be leased to private users or it can be used for storage, the Committee did not want to assume that an elevator would be required for handicapped access to the second floor. As such, a new elevator has been proposed as an addition to the basic scope of recommended improvements.

Under the IBC, B uses with less than 30 occupants on the second floor only require one means of egress from that floor. The existing stairway can be enclosed to qualify as one means of egress. The Committee wanted to consider a second stairway, like the elevator, as an addition to the basic scope of recommended improvements.

If an elevator and second stairway are ultimately required, an addition on the north side is recommended. This is the only location where both floors can be connected without significantly impacting the existing usable spaces.

If the first floor is open to the public, handicapped accessible toilet rooms for both genders will be required. If the second floor is not accessible to the public, HP toilet rooms will not be required, but toilet facilities for men and women is recommended for convenience.

Unlike the MAAB that serves as the local code, the Americans with Disabilities Act (ADA) is a federal statute, enforced by case law, that prohibits discrimination against those with disabilities. It should be cautioned that compliance with the MAAB does not exempt the Town from lawsuits under the ADA.

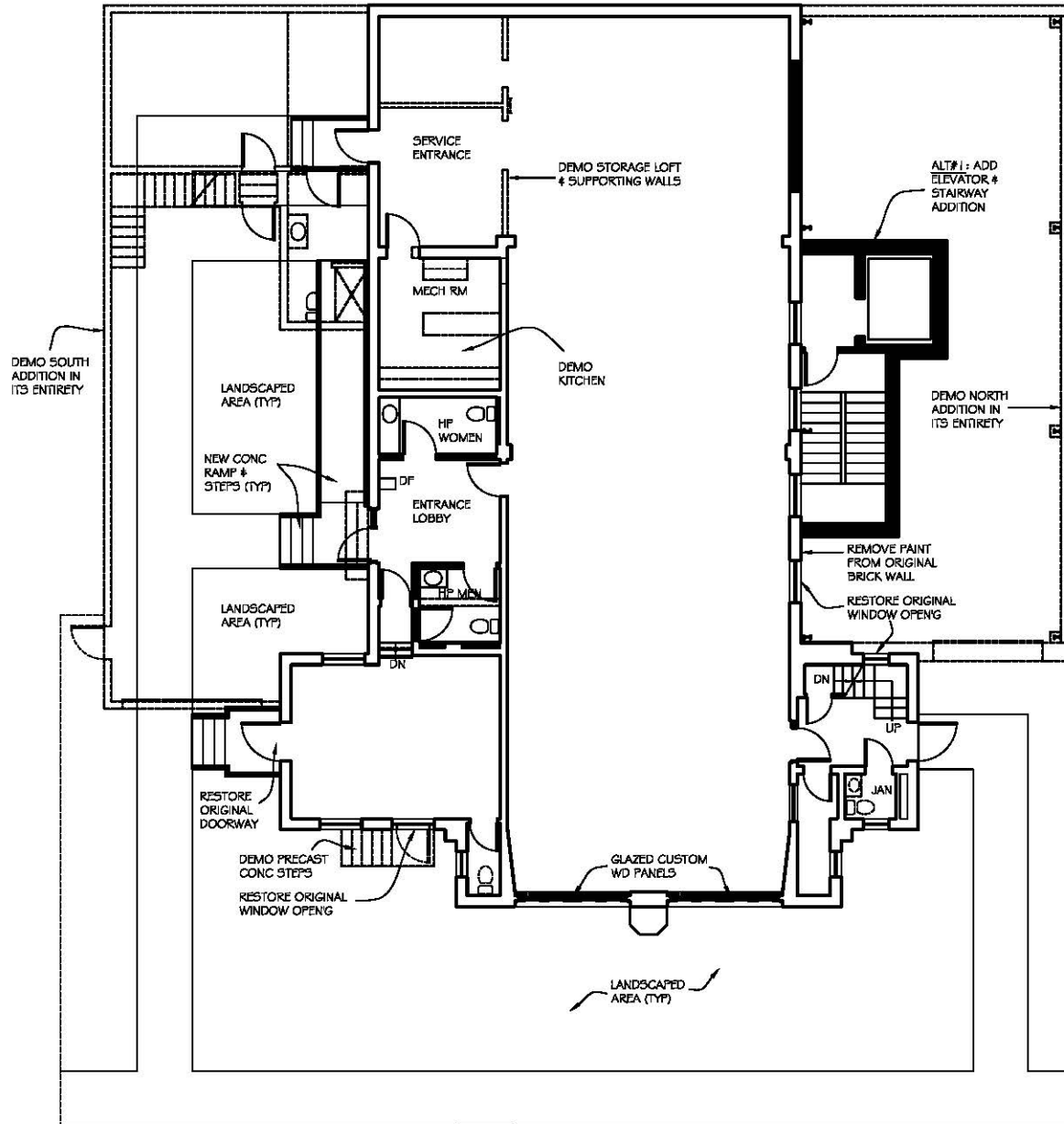
Closing

The Central Fire Station building was originally designed as a utilitarian shelter for emergency vehicles and some staff. The materials are durable and the architectural decoration is modest. And yet it has a human scale and a simplicity that are both visually and experientially appealing. But age-related deficiencies have started to outpace maintenance routines and budgets. Some capital investment at this time to restore and conserve the building will avoid further premature deterioration and ensure that it is preserved as a tangible remnant of the Ayer's early history.

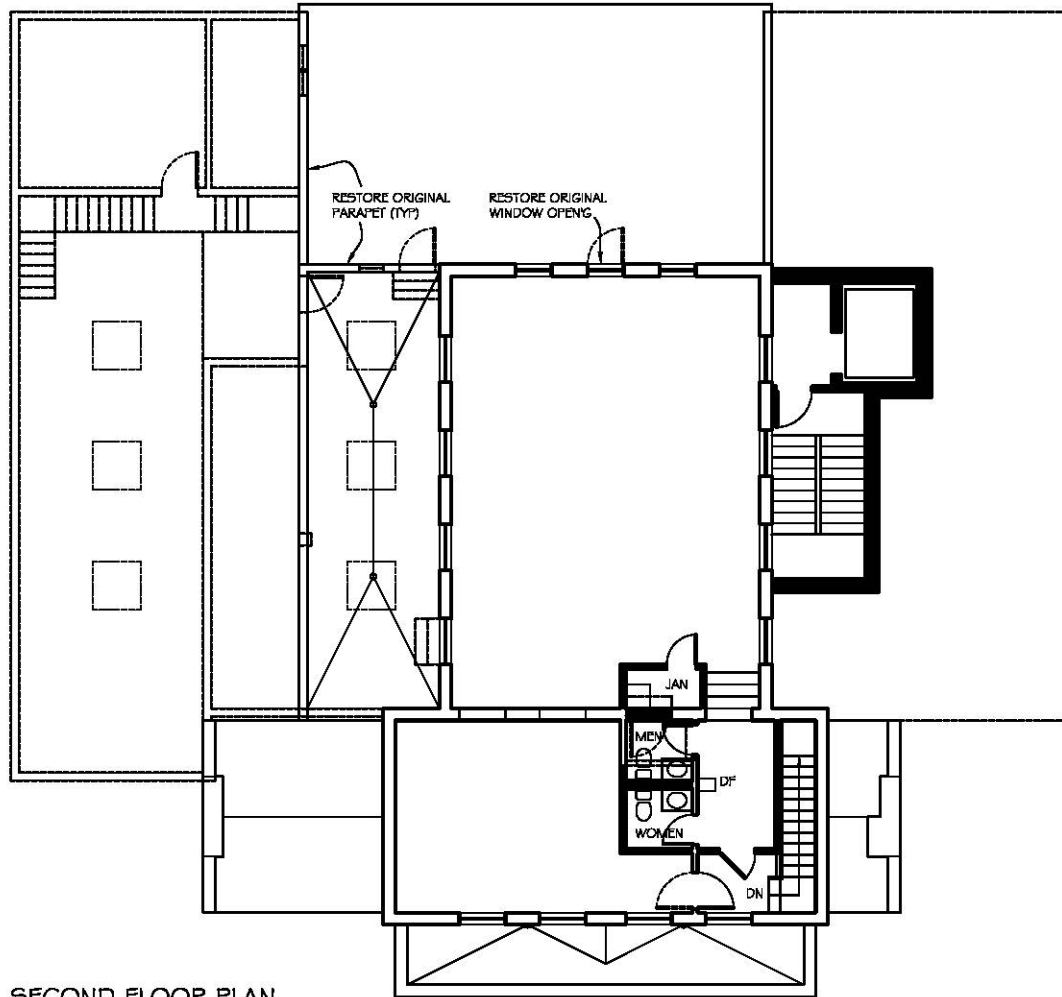
DRAWINGS

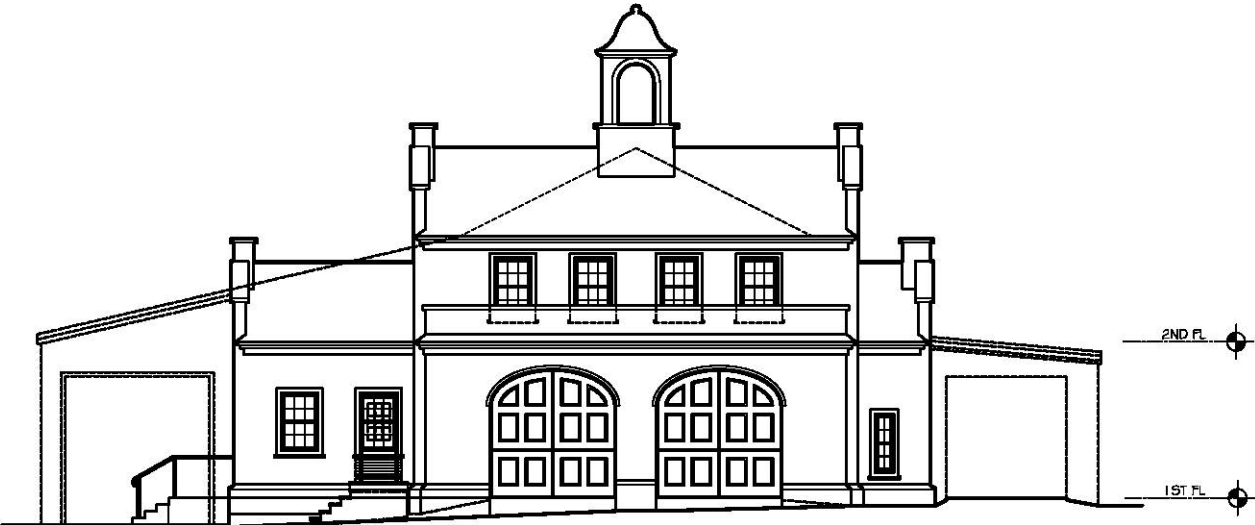
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The following drawings illustrate the proposed scope of work and were provided to the cost estimator. Additions proposed for demolition are shown in dotted lines. The scale of all drawings are 1/16"=1'-0".

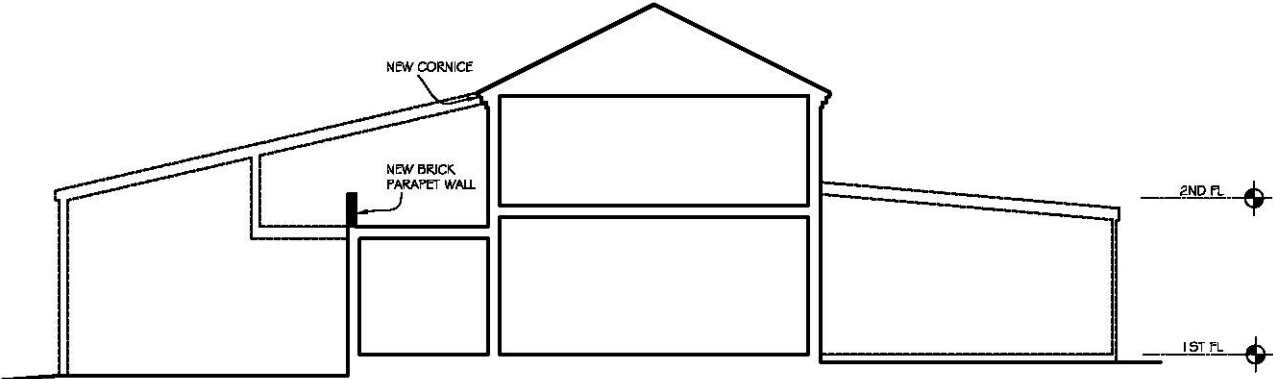


FIRST FLOOR PLAN





PROPOSED EAST ELEVATION



PROPOSED BLDG SECTION



PROPOSED SOUTH ELEVATION



PROPOSED NORTH ELEVATION

SCOPE OF WORK

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Division 02 - Existing Conditions

1. Demolish north addition in its entirety
 - a. Pre-fabricated metal building.
 - b. Concrete slab and foundations.
 - c. Brick veneer on CMU on east face.
 - d. 6'-0" high CMU at remaining exterior walls.
 - e. Garage door.
2. Demolish south addition in its entirety
 - a. CMU exterior walls.
 - b. Wood framed interior walls.
 - c. Wood framed roof structure with skylights.
 - e. Concrete slab and foundations.
 - f. EFIS exterior.
 - e. Garage door.
3. Interior demolition
 - a. Demolish all existing interior finishes.
4. Exterior demolition
 - a. Demolish all existing windows and doors, including wood window sill horns that are toothed into brick masonry.
 - b. Demolish downspouts.
 - c. Demolish brick and concrete in-fill at original door opening on south side.
 - d. Demolish all roofing down to roof sheathing.
 - e. Demolish existing garage doors.
 - f. Demolish precast concrete steps, stoop, and railings on north side
 - g. Demolish all asphalt paving.
5. MEP demolition
 - a. Demolish all existing bathroom fixtures.
 - b. Demolish all existing interior lighting.
 - c. Demolish all existing heating systems.
 - d. Cap floor drains in garage and abandon.
6. Hazardous materials
 - a. OSHA lead paint procedures for scraping and painting.
 - b. Allowance for asbestos abatement.

Division 03 - Concrete

1. Precast concrete
 - a. Cut out wood window sills and replace with precast concrete sills.
 - b. Precast concrete copings to replace all existing copings.
2. 4'-0" deep x 1'-0" wide reinforced concrete frost wall below demolished garage doors.
3. Concrete ramp and foundations on south side.
4. Concrete steps on south side - 2 locations.
5. Self-leveling cement based underlayment over garage slab.
6. Housekeeping pad for mechanical equipment in mechanical room - 2 locations.

Division 04 - Masonry

1. Re-point approximately 40% of exterior brick walls.

2. Re-build gable end parapet walls from top of parapet to roof eave level.
3. Build brick parapet wall on south side.
4. Clean entire exterior brick walls.
5. Tooth in garage door masonry opening on north side with CMU.
6. Tooth in below doors on west elevation, second floor, with brick and CMU back-up.
7. Form masonry opening on south wall for mechanical equipment.

Division 05 - Metals

1. Miscellaneous steel supports.
2. Color galvanized railings at exterior concrete steps and ramp.
3. Lintel for new masonry opening in south wall.

Division 06 - Wood, Plastics, and Composites

1. Anchor existing wood floor joists and roof rafters to exterior masonry walls at 4'-0" o.c.
2. Sister rafters at 1-story flat roof areas for snow drift and mechanical equipment.
3. Re-frame gable roof on south side after demolition of south addition.
4. Brace front parapet with 2x4 nailers and diagonal bracing.
5. Replace rotted roof sheathing - Allow 20% of roof area.
6. Replace all exterior trims with new PVC or fiberglass:
 - a. Cornice trims.
 - b. Window and door casings.
 - c. Cupola.
7. 3/8" plywood underlayment:
 - a. Throughout second floor.
 - b. First floor office in southeast corner.
8. Second floor interior steps:
 - a. Wood framing, treads, and risers.
 - b. Wood railings.
9. Miscellaneous blocking and nailers.
10. Miscellaneous new interior wood trims.

Division 07 - Thermal and Moisture Protection

1. Roofing
 - a. EPDM over 1-story flat roofs.
 - b. Laminated architectural shingles over 2-story gable roofs.
 - c. Flat seamed copper over cupola.
 - d. Ridge and soffit vents at gable roofs.
2. Copper flashing throughout.
3. Copper gutters and downspouts.
4. Cement stucco on exterior CMU walls.
5. Insulation
 - a. 2" rigid insulation on inside face of exterior walls.
 - b. Tapered polyisocyanurate insulation under EPDM roofing - min. 3" thick.
 - c. Fiberglass batt insulation between attic floor joists.
 - d. Vapor retarder between attic floor joists.

Division 08 - Openings

1. Aluminum clad wood windows throughout.
2. Custom wood panels with glazed lites at location of original garage doors.
3. Fiberglass doors at old north and south entrances.
4. Aluminum storefront at new south entrance.
5. Steel door and frame at new service entrance.
6. Metal frames and oak flush interior doors.

Division 09 - Finishes

1. Flooring
 - a. Rubber in stairways.
 - b. Ceramic tile in bathrooms.
 - c. Vinyl tile in remaining areas.
2. Acoustic tile ceilings throughout.
3. Walls
 - a. Veneer plaster on GWB on metal Z-studs on interior side of exterior walls.
 - b. Veneer plaster on GWB on metal studs for interior walls.
 - c. Miscellaneous patching of existing plaster walls.
4. Paint all existing and new surfaces.
5. Clean paint off of brick surfaces.

Division 10 - Specialties

1. Bathroom accessories.
 - a. Toilet paper dispenser, paper towel dispensers, waste receptacles.
 - b. Grab bars at HP toilets.
2. Fire extinguisher cabinets.
3. Louver for mechanical equipment.

Division 11 - Equipment

Not used.

Division 12 - Furnishings

1. Bathroom lavatories
 - a. Plastic laminate counters.

Division 13 - Special Construction

Not used.

Division 14 - Conveying Systems

Not used.

Division 21 - Fire Suppression

Not used.

Division 22 - Plumbing

(See MEP report.)

1. All new plumbing systems.
2. Floor mounted toilets.

3. Counter mounted lavatory sinks.
4. Drinking fountain - 1 on each floor.
5. Janitor's sink - 1 on each floor.
6. Exterior hose bib.

Division 23 - Heating, Ventilating, and Air Conditioning

(See MEP report.)

1. Exhaust fans for bathrooms.
2. HVAC systems
 - b. Gas fired roof-top heating and cooling - 1 unit for each floor.

Division 26 - Electrical

(See MEP report.)

1. New 3-phase 400 amp electrical service.
2. 2x4 fluorescent fixtures throughout.
3. Fire alarm system.
4. Battery powered exit and emergency lighting.
5. Wire for computers throughout.

Division 31 - Earthwork

1. Excavate and backfill for frost wall under demolished garage doors.
2. Excavate and backfill for HP ramp.
3. Gravel base for paving.

Division 32 - Exterior Improvements

1. Paving
 - b. 5'-0" wide concrete sidewalk and walkways.
 - c. Granite curbs at street.
2. Landscaping
 - a. Mulch and planting in landscaped areas.

Division 33 - Utilities

1. Connect to existing utilities.

Alternate #1: Elevator and stairway addition

1. Concrete foundations and elevator pit 5'-0" below grade.
2. Excavate for foundations.
3. Elevator pit ladder.
4. Elevator shaft ventilation.
5. CMU exterior walls with brick veneer.
6. EPDM roofing.
7. Wood framed stairway and railings.
8. Rubber flooring.
9. Cricket connection to existing roof.
10. Form new door opening in existing window opening on north side.
11. Fill in window openings on north side - 2 locations.
12. Machine room-less 2-stop elevator.

ENGINEER'S REPORT

CENTRAL FIRE STATION
BUILDING ASSESSMENT
JUNE 20, 2012

Ayer Fire Station

Background

The Ayer Fire Station was constructed in 1934 with additions in the 1940's and 1969. We were told the 1969 addition extends over the property line. The building is currently abandoned.

Fire Protection

The building does not have an automatic sprinkler system.

Plumbing

The building has a two inch water service. The service size is to allow the quick refilling of fire tanker trucks. Water was turned off but piping appears to be in fair condition. Fixtures are in poor condition. Storm drainage is a combination of exterior gutters with downspouts and roof drains. Roof drains serving the small flat roof (with tall parapits) over the front of the apparatus bays are plugged with 3-6 inches of standing water on the roof. A high or intermediate pressure material gas line serves the building. A pressure reducing valve and meter is installed outside. Gas feeds the heating boiler. Stand-by generator and various gas-fired unit heaters that were added to supplement inadequacies of the heating system. In addition, one gas-fired furnace with ducted air distribution serves the addition to the left (when facing the building from the street).

The entire plumbing system with the building should be replaced. The gas and water services to the building could remain. The combined sewage and storm systems should be replaced and separated.

Heating and Ventilating

The building was originally heated by a wet return steam system. The system was incompletely (improperly) made into a dry return system at some time in the past. The lack of pipe insulation Indicates asbestos abatement may have occurred (without re-insulating steam or return piping).

Several gas-fired unit heaters have been added in at least one location, adjacent to a steam unit heater.

A gas-fired furnace with duct distribution heats the left side (when facing from the street) addition.

There is no air conditioning. Mechanical ventilation is limited.

There are no elements of the heating and ventilating system worth retaining in a general building renovation or re-use.

Electrical

The building is served by a 240/120/single phase electrical service which drops down a nearby pole and enters the building underground. A fairly new 10 KW, gas-fired generator provides standby power to the building.

Electrical panels are generally old with a combination of circuit breakers and fuses.

Assuming the new building use will require an elevator, the size of the current electrical service is inadequate. A three phase service will be required. There is three phase power on the utility pole nearest the building.

Due to the age, condition and specific fire station design of the electrical system, plus the fact a single phase generator cannot be easily adapted to a three phase building, we recommend the entire electrical system be replaced.



Gas Service



10 KW Stand-by Generator



Flat roof over doors does not drain properly.



Gas-fired Unit Heater



Steam Unit Heater



Radiator Piped as a Dry Return



Circuit Breaker Panel



Gas Unit Heater & Steam Unit Heater together – why?



Boiler Feed Unit



Plug Fuses



240/120/Single Phase Electrical Service



Radiator Piped as a Wet Return



Steam Boiler

COST ESTIMATE

CENTRAL FIRE STATION
BUILDING ASSESSMENT
JUNE 20, 2012

The following estimate was prepared using the scope of work as recommended and defined in this report. Costs include the use of prevailing wage labor rates as stipulated by Massachusetts General Laws. Should construction be undertaken by a private entity, not subject to prevailing wage rates, 8% can be deducted from the total estimated cost. In addition, the cost to demolish the building in its entirety is estimated to be \$130,000.

SUMMARY

Gross Floor Area (in square feet) = 5,226

Div#	Division Name	Cost \$	\$/sf	% of Bldg
02	Selective Demolition	81,944	15.68	9.11%
03	Concrete	62,361	11.93	6.93%
04	Masonry	71,511	13.68	7.95%
05	Metals	10,890	2.08	1.21%
06	Wood, Plastics and Composites	32,987	6.31	3.67%
07	Thermal & Moisture Protection	83,056	15.89	9.23%
08	Openings	69,070	13.22	7.67%
09	Finishes	103,558	19.82	11.51%
10	Specialties	4,640	0.89	0.52%
11	Equipment	0	0.00	0.00%
12	Furnishings	5,522	1.06	0.61%
13	Special Construction	0	0.00	0.00%
14	Conveying Systems	0	0.00	0.00%
21	Fire Suppression	0	0.00	0.00%
22	Plumbing	65,579	12.55	7.29%
23	HVAC	183,880	35.19	20.43%
26	Electrical	121,726	23.29	13.53%
31	Earthwork	3,228	0.62	0.36%
Sub-Total Building		899,953	172.21	100.00%
32	Exterior Improvements	29,369	5.62	
33	Utilities	22,500	4.31	
Sub-Total Construction		951,822	182.13	
General Requirements/Conditions		191,818	36.70	
Escalation to mid-point of Construction 3Q2013		57,639	11.03	5.04%
Design Contingency		120,128	22.99	10.00%
Building Permit Fee		Excluded		
Construction Contingency		66,070	12.64	5.00%
Total Construction Cost		1,387,478	265.50	
Alternate #1: Elevator and Stairway Addition		296,860		
Total Construction Cost including Alterante #1		1,684,338		

Notes

1. Brief project description:-
 - Renovation of existing building.
2. The estimate is based on the following:-
 - Prevailing wage.
 - Chapter 149 bid.
 - Minimum 4# bona fide bids.
 - GC type project.
 - Building will be unoccupied during construction work.
 - Bid date 2Q2013.
 - 7 month construction period.
3. The gross floor areas are based on the following:-
 - Measurement is taken to the outside face of the exterior wall, measured through all stair wells, elevator shafts and ducts.
4. Story heights:-
 - Varies.
5. General Requirements/Conditions are priced as a percentage on the Summary page.
6. Special Conditions are included with General Requirements.
7. Escalation to mid-point of construction at 3Q2013 is allowed at 4%/annum compounded.
 - Note: Escalation is taken on the sum of Sub Total Construction and General Requirements.
8. Design contingency is an allowance for future design modifications/additions, which alter the cost of the building as the design progresses, this percentage reduces as the design develops. It is based on a percentage of the sum of Sub-Total Construction, General Requirements and Escalation. For this level of estimate the following has been included:-
 - 10.00%
9. Construction contingency is an allowance for scope/design modifications made by the owner during construction and also for any unforeseen circumstances. It is based on a percentage of the sum of Sub-Total Construction, General Requirements, Special Conditions, Escalation and Design Contingency. The following has been included:-
 - 5.00%
10. This estimate has been prepared from the following design information:-
 - Architectural Existing/Proposed Floor plans received 05/16/2012.
 - Architectural Outline Specifications dated 05/11/2012.
 - Telephone conversations with KAI.
 - Exchange of emails with KAI.

Notes (Cont'd)

11. The estimate includes the following:-
 - Window treatment.
 - Telecoms, fully cabled system
 - See Estimate.
12. The estimate excludes the following:-
 - Utility company backcharges.
 - Building permit fees.
 - Sales tax.
 - Hazardous material abatement.
 - Fire Suppression systems.
 - Security systems.
 - Loose furniture, fittings and equipment.
13. Allowances:-
 - See estimate
14. Assumptions:-
 - See estimate
15. Estimates by other firms:-
 - None.

Description	Qty	Unit	Rate	Amount	CSI
Division 02 - Existing Conditions					
Demolish north addition its in entirety:-					
Pre-fabricated metal building, brick veneer on CMU on east face,					
6' 0" high CMU wall, (1) garage door	20,202	cf	0.30	6,061	
Concrete slab	1,456	sf	5.00	7,280	
Foundations	102	lf	28.00	2,856	
Make wall good where wall demolished	30	lf	6.00	180	
Make wall good where west wall demolished	90	sf	6.00	540	
Make wall good where roof demolished	69	lf	6.00	414	17,331
Demolish south addition its in entirety:-					
CMU exterior walls, wood framed interior walls, wood framed					
roof structure with (3) skylights, EIFS exterior, (1) garage door,					
(1) ext. door, (4) int. door, (1) stairs (3# riser, 3' 6" wide)					
(1) stars from 1-st floor to 2-nd floor (3' 0" wide),					
(1) wc, (1) sink, (1) shower	29,192	cf	0.30	8,758	
Concrete slab	1,497	sf	5.00	7,485	
Foundations	103	lf	28.00	2,884	
Make wall good where wall demolished	35	lf	6.00	210	19,337
Remove & dispose exterior:-					
Roofing down to sheathing at flat roof east	212	sf	0.85	180	
Roofing down to sheathing at flat roof west	857	sf	0.85	728	
Roofing down to sheathing at sloped roof center	1,363	sf	0.85	1,159	
Roofing down to sheathing at 2-storey gable roof	618	sf	0.85	525	
Roofing down to sheathing at gable roof north-east corner	115	sf	0.85	98	
Rotted roof sheathing, (allow 20%)	633	sf	0.25	158	
Entire gable roof at south-east corner	308	sf	2.50	770	
Entire sloped roof at south	512	sf	2.50	1,280	
Asphalt paving	2,706	sf	1.10	2,977	
Stairs (3# risers, 8' 0" wide) at south	1	ea	135.00	135	
Make wall good where 8' wide stairs removed	16	sf	4.00	64	
Precast conc. steps 5#riser (3' 4" wide) & 13sf landing at east	1	ea	135.00	135	
Railing to precast conc. steps at east	12	lf	1.00	12	
Make wall good where precast conc. steps removed	20	sf	6.00	120	
SL door at north, (3' 0" x 6' 10" h)	1	ea	40.00	40	
SL door at south, (3' 4" x 7' 2" h)	1	ea	40.00	40	
SL door at east, (3' 2" x 7' 0" h)	1	ea	40.00	40	
SL door at 2-nd floor west, (2' 10" x 7' 2" h)	2	ea	40.00	80	
Garage door at east, (106sf)	2	ea	85.00	170	
Window, (1' 8" x 5' 0" h)	4	ea	50.00	200	
Window, (2' 10" x 5' 0" h)	2	ea	85.00	170	
Window, (3' 0" x 2' 8" h)	2	ea	48.00	96	
Window, (3' 2" x 5' 0" h)	17	ea	95.00	1,615	
Wood window sills, toothed into brick masonry	98	lf	2.50	245	
Window trims	418	lf	2.00	836	
Precast concrete coping to parapet wall at east (4" wide)	48	lf	6.00	288	
Precast concrete coping to 2-nd storey gables, (4" wide)	101	lf	6.00	606	
Precast concrete coping to low gables, (4" wide)	94	lf	6.00	564	
Custom molded polyurethane cornice to below parapet wall at eas	50	lf	3.50	175	
Trim to cupola	80	lf	2.00	160	
PVC cornice	147	lf	1.50	221	
Remove paint from brick walls at 2-nd level south elevation	259	sf	0.50	130	
Remove paint from brick walls at north elevation	765	sf	0.50	383	
Downspouts, (allow)	2	ea	25.00	50	
Demolition of second floor at south:-					
Saw cut roof	37	lf	7.00	259	

Description	Qty	Unit	Rate	Amount	CSI
Remove roof	512	sf		included above	
Make edges good to wall where roof removed	37	lf	3.50	130	
Saw cut vertically to remove wall	21	lf	9.00	189	
Saw cut horizontally to remove wall	18	lf	9.00	162	
Remove wall	171	sf	5.00	855	
Make edges good to wall	39	lf	7.00	273	
Form opening to restore original door at south (1" thick):-					
Saw cut wall	20	lf	7.00	140	
Remove brick & concrete wall	21	sf	5.00	105	
Make edges good	20	lf	7.00	140	
Form opening to restore original window at north (1" thick):-					
Saw cut wall	16	lf	7.00	112	
Remove brick & concrete wall	16	sf	5.00	80	
Make edges good	16	lf	7.00	112	
Form opening to restore original window at west (1" thick):-					
Saw cut wall	13	lf	7.00	91	
Remove brick & concrete wall	8	sf	5.00	40	
Make edges good	13	lf	7.00	91	
Form opening on south wall for mechanical equipment					
Saw cut wall	20	lf	7.00	140	
Remove brick & concrete wall	22	sf	5.00	110	
Make edges good	20	lf	7.00	140	
Restore original window opening at east (1" thick):-					
Make edges good	16	lf	7.00	112	
Restore original window opening at 2-nd flr west (1" thick):-					
Make edges good	16	lf	7.00	112	
Restore original window opening at 2-nd flr south (1" thick):-					
Make edges good	16	lf	7.00	112	17,953
Remove & dispose interior:-					
Stairs at 2-nd floor, (3#risers, 3' 10" wide)	2	ea	135.00	270	
Interior walls, (4" thick)	171	sf	3.00	513	
Interior walls, (6" thick)	616	sf	3.50	2,156	
Interior walls, (1' 0" thick)	317	sf	4.00	1,268	
Cut portion of wall for new door opening at Mech. RM, (1' thick)	7	sf	17.00	119	
Storage loft floor	244	sf	4.00	976	
Kitchen cabinets, shelving, & appliances	132	sf	1.00	132	
SL door	10	ea	25.00	250	
Window, (3' 2" x 5' 0" h, assumed)	1	ea	71.33	71	
Ladder to loft	1	ls	65.00	65	
Flooring, (allow)	4,498	sf	0.75	3,374	
3/8" plywood underlayment throughout 2-nd floor, (assumed)	1,436	sf	0.35	503	
3/8" plywood underlayment at 1-st floor Office in SE corner, (assurr	272	sf	0.35	95	
Ceiling, (allow)	4,498	sf	0.55	2,474	
Opening at 2-nd floor at new stairs, (1" thick):-					
Cut wall	23	lf	7.00	161	
Remove wall	30	sf	5.00	150	
Make edges good	23	lf	7.00	161	
Opening at 2-nd floor for women's toilet, (4" thick):-					
Cut wall	19	lf	5.00	95	
Remove wall	15	sf	4.00	60	
Make edges good	19	lf	5.00	95	12,988
Remove & dispose MEP:-					
WC	2	ea	190.00	380	
Lavatory	1	ea	190.00	190	
Lighting fixtures, (gfa)	5,226	sf	0.75	3,920	
Heating systems, (gfa)	5,226	sf	0.85	4,442	

Description	Qty	Unit	Rate	Amount	CSI
Cap floor drains in garage, (allow)	3	ea	135.00	405	9,337
Make safe services prior to commencement of work	1	ls	500.00	500	
Dispose of rubbish	1	ls	4,500.00	4,500	5,000
Allow removal hazardous material for:-					
OSHA lead paint procedures for scraping & painting	1	ls		NIC	
Asbestos abatement of pipe insulation	1	ls		NIC	
GC's O&P				0	0
Division 02 - Existing Conditions	Total			81,944	81,944

Division 03 - Concrete

Cast-in-Place Concrete

Cast in place concrete w/formwork & reinforcing to:-					
Concrete ramp & foundations	127	sf	202.22	25,682	
Concrete steps on south side, (8#risers, 5' 0" wide)	1	ls	1,800.00	1,800	
Landing to concrete steps on south side	63	sf	7.39	466	
Reinforce below garage door:-					
Saw cut below garage door	60	lf	8.00	480	
Reinforced concrete footing	2	cy	625.00	1,250	
Reinforce concrete frost wall below garage door	3	cy	775.00	2,325	
Concrete to below garage door area after excavation	72	sf	12.00	864	
Self-leveling cement based underlayment over garage slab	2,283	sf	2.95	6,735	
Housekeeping pad for mechanical equipment in mech room	2	ea	288.00	576	
Stucco to part of south elevation	285	sf	7.50	2,138	
Stucco to 1-st floor west elevation	580	sf	7.50	4,350	46,665
Precast concrete:-					
Precast concrete window sills	112	lf	36.00	4,032	
Precast concrete coping to parapet wall at east (4" wide)	48	lf	48.00	2,304	
Precast concrete coping to 2-nd storey gables, (4" wide)	101	lf	48.00	4,848	
Precast concrete coping to low gables, (4" wide)	94	lf	48.00	4,512	15,696

Division 03 - Concrete	Total			62,361	62,361
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Division 04 - Masonry

Repoint exterior brick walls, (allow 40%)	1,646	sf	18.00	29,628	
Re-build gable at south elevation	97	sf	50.00	4,850	
Re-build breaks at top of gable at south elevation	32	sf	50.00	1,600	
Brick parapet walls from top of parapet to roof eave level	215	sf	48.00	10,320	
Clean entire exterior brick walls	4,116	sf	3.25	13,377	
Tooth in garage door masonry opening on north side (1" thick):-					
CMU wall back-up	132	sf	18.00	2,376	
Brick	132	sf	45.00	5,940	
Connecting to extg brick	46	lf	18.00	828	
Tooth in below SL door on east elevation(1" thick):-					
CMU wall back-up	10	sf	18.00	180	
Brick	10	sf	45.00	450	
Connecting to extg brick	13	lf	18.00	234	
Tooth in below SL door on west elevation(1" thick):-					
CMU wall back-up	10	sf	18.00	180	

Description	Qty	Unit	Rate	Amount	CSI
Brick	10	sf	45.00	450	
Connecting to extg brick	13	lf	18.00	234	
Tooth in where stairs removed at 2-nd floor south, (1' 0" thick)					
CMU wall back-up	10	sf	18.00	180	
Brick	10	sf	45.00	450	
Connecting to extg brick	13	lf	18.00	234	71,511
Division 04 - Masonry	Total			71,511	71,511
Division 05 - Metals					
Miscellaneous steel support	1	ls	850.00	850	850.00
Color galvanized guard railings at ext. conc. steps & ramp, (2' 10" h)	52	lf	165.00	8,580	
Color galvanized hand railings at ext. conc. ramp, (2' 10" h)	23	lf	40.00	920	9,500
Lintel for new masonry opening in south wall	5	lf	45.00	225	
Lintel for new storefront door at south	7	lf	45.00	315	
Lintel for restore original door opening in south wall, (not required)	5	lf		not required	
Lintel to restore original window opening, (not required)	24	lf		not required	540
Division 05 - Metals	Total			10,890	10,890
Division 06 - Wood, plastics, and Composites					
<u>Rough Carpentry</u>					
Anchor extg wood flr joists & roof rafters to ext. masonry walls(4' oc)	274	lf	3.00	822	
Sister rafter at 1-storey flat roof areas for new snow drift and-mechanical equipment	842	lf	5.00	4,210	
Brace front parapet w/2x4 nailers & diagonal bracing	76	lf	6.00	456	
New flat roof framing on south side	438	sf	6.00	2,628	
Re-frame gable roof on south-east corner	241	sf	6.00	1,446	
Rotted roof sheathing, (allow 20%)	633	sf	2.00	1,266	
Roof sheathing to new flat roof on south side	438	sf	2.00	876	
Roof sheathing to new gable roof on south-east corner	289	sf	2.00	578	
3/8" plywood underlayment:-					
Throughout 2-nd floor	1,436	sf	1.65	2,369	
1-st floor Office in SE corner	272	sf	1.65	449	15,100
<u>Blocking</u>					
Blocking to roof	596	lf	2.65	1,579	
Blocking to exterior doors	59	lf	2.65	156	
Blocking to exterior windows	420	lf	2.65	1,113	
Blocking to Fixed custom wood panels w/glazed lites	84	lf	2.65	223	
Blocking to interior doors	71	lf	2.65	188	
Blocking to interior window	16	lf	2.65	42	
Blocking to interior partitions	1,114	lf	2.65	2,952	6,254
<u>Finish Carpentry</u>					
Exterior trims:-					
Custom molded polyurethane cornice to low gable roof, (1' 0" wide	86	lf	11.00	946	
Custom molded polyurethan cornice to 2-storey gable roof, (1' 0" w	72	lf	11.00	792	
Custom molded polyurethan cornice to roof on south, (1' 0" wide)	110	lf	11.00	1,210	
PVC window casing	472	lf	3.50	1,652	

Description	Qty	Unit	Rate	Amount	CSI
PVC trim to cupola wall (4" wide)	28	lf	4.50	126	
PVC trim to cupola under bell (4" wide)	26	lf	4.50	117	
PVC trim to cupola under bell (3" wide)	26	lf	4.00	104	
Decorative casing to original south entrance door	32	lf	15.00	480	
Patch & repair decorative casing to original north entrance door	32	sf	8.00	256	
Custom molded polyurethane cornice to below parapet wall at east	50	lf	23.00	1,150	
PVC boards and trims on exterior grade plywood covering to cupol	1	ea	1,800.00	1,800	
Interior trims:-					
Wood trims to interior doors, (allow)	142	lf	5.00	710	
Wood trims to interior window, (allow)	32	lf	5.00	160	9,503
Second floor interior steps:-					
Wood framing steps at 2-nd floor, (4# risers, 4' 5" wide)	1	ea	1,850.00	1,850	
Wood railing	8	lf	35.00	280	2,130
Division 06 - Wood, plastics, and Composites	Total			32,987	32,987

Division 07 - Thermal and Moisture Protection

Roofing

EPDM over 1-storey flat roof	1,507	sf	4.70	7,083	
Laminated asphalt shingles to gable roof at north-east corner	115	sf	5.70	656	
Laminated asphalt shingles to gable roof at south-east corner	289	sf	5.70	1,647	
Laminated asphalt shingles to 2-storey gable roof	618	sf	5.70	3,523	
Laminated asphalt shingles to sloped roof at center	1,363	sf	5.70	7,769	
Flat seamed copper over cupola (bell)	1	ea	3,900.00	3,900	
Ridge at gable roofs	45	lf	6.00	270	
Soffit vents at low gable roof	35	lf	9.00	315	
Soffit vents at 2-nd storey gable roof	36	lf	9.00	324	25,486

Copper flashing

Copper flashing (4" wide)	152	lf	9.00	1,368	
Copper flashing to cornice, bellow parapet wall at east, (8" wide)	50	lf	16.00	800	
Copper flashing to coping parapet wall at east	48	lf	20.00	960	
Copper flashing to coping 2-nd storey gables	101	lf	20.00	2,020	
Copper flashing to coping low gables	94	lf	20.00	1,880	
Copper flashing to cupola trim	80	lf	9.00	720	7,748
Copper gutters, (allow)	229	lf	25.00	5,725	
Copper downspouts, (allow)	137	lf	24.00	3,288	9,013

Thermal Insulation

2" rigid insulation to exterior wall	4,839	sf	2.25	10,888	
Tapered polyisocyanurate insulation under EPDM, (3" thick)	1,507	sf	4.50	6,782	
Fiberglass batt insulation between attic floor joists	1,988	sf	1.25	2,485	
Vapor retarder between attic floor joists	1,988	sf	0.65	1,292	
Acoustical insulation to interior side of exterior wall	4,352	sf	1.20	5,222	
Acoustical insulation to interior partitions	986	sf	1.20	1,183	27,852

Sealant

Exterior sealant to:-					
Doors	118	lf	2.75	325	
Windows	840	lf	2.75	2,310	
Fixed custom wood panels w/glazed lites	168	lf	2.75	462	
Roof perimeter	695	lf	2.75	1,911	
Interior sealant to:-					

Description	Qty	Unit	Rate	Amount	CSI
Doors	142	lf	1.95	277	
Windows	32	lf	1.95	62	
Interior partitions	1,304	lf	1.95	2,543	7,890
Flashing to exterior doors	59	lf	9.00	531	
Flashing to exterior windows	420	lf	9.00	3,780	
Flashing to fixed custom wood panels w/glazed lites	84	lf	9.00	756	5,067
Division 07 - Thermal and Moisture Protection	Total			83,056	83,056

Division 08 - Openings

Exterior doors w/frame, hardware, etc complete:-

SL fiberglass door at old north entrance, (3' 0" x 6' 10" h)	1	ea	1,285.00	1,285	
SL fiberglass door at old south entrance, (3' 0" x 6' 10" h)	1	ea	1,285.00	1,285	
SL aluminum storefront door at new south entrance, (5' 0" x 9' 0" h)	1	ea	3,250.00	3,250	
SL steel door & frame at new service entrance, (3' 4" x 7' 2" h)	1	ea	1,410.00	1,410	7,230

Exterior window w/frame, glazing, etc complete:-

Aluminum clad wood window, (8sf, 11lf)	2	ea	600.00	1,200	
Aluminum clad wood window, (8sf, 13lf)	4	ea	600.00	2,400	
Aluminum clad wood window, (9sf, 14lf)	3	ea	675.00	2,025	
Aluminum clad wood window, (16sf, 16lf)	19	ea	1,200.00	22,800	
Fixed custom wood panels w/glazed lites, (106sf, 42lf)	2	ea	7,420.00	14,840	43,265

Interior doors w/frame, hardware, etc complete:-

SL metal frames & oak flush door, (2' 4" wide)	4	ea	1,135.00	4,540	
SL metal frames & oak flush door, (2' 6" wide)	3	ea	1,155.00	3,465	
SL metal frames & oak flush door, (2' 8" wide)	1	ea	1,185.00	1,185	
SL metal frames & oak flush door, (3' 0" wide)	7	ea	1,215.00	8,505	17,695

Interior window w/frame, glazing, etc complete:-

Aluminum clad wood window, (16sf, 16lf)	1	ea	880.00	880	880
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Division 08 - Openings	Total			69,070	69,070
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Division 09 - Finishes

Gypsum Board Assemblies

Interior side of exterior wall:-

Veneer plaster finish on GWB, one side	4,352	sf	2.25	9,792	
Metal Z studs	4,352	sf	2.90	12,621	
Batt insulation	4,352	sf	included in Thermal & Moisture		
Wood blocking	904	lf	included in Wood & Plastic		
Sealant top & bottom on one side	904	lf	uded in Thermal & Moisture		

Interior partition, (5" thick):-

Veneer plaster finish on GWB, both sides	854	sf	2.25	1,922	
Metal studs	427	sf	2.30	982	
Batt insulation	427	sf	uded in Thermal & Moisture		
Wood blocking	92	lf	included in Wood & Plastic		
Sealant top & bottom on both sides	184	lf	uded in Thermal & Moisture		

Interior partition, (5" thick):-

Veneer plaster finish on GWB, one side	370	sf	2.25	833	
Veneer plaster finish on GWB, one side, wet wall	370	sf	2.25	833	

Description	Qty	Unit	Rate	Amount	CSI
Metal studs	370	sf	2.30	851	
Batt insulation	370	sf	uded in Thermal & Moisture		
Wood blocking	78	lf	included in Wood & Plastic		
Sealant top & bottom on both sides	156	lf	uded in Thermal & Moisture		
Interior partition, (8" thick):-					
Veneer plaster finish on GWB, both sides, wet wall	110	sf	2.25	248	
Metal studs	55	sf	2.30	127	
Batt insulation	55	sf	uded in Thermal & Moisture		
Wood blocking	12	lf	included in Wood & Plastic		
Sealant top & bottom on both sides	24	lf	uded in Thermal & Moisture		
Fill-in gap in existing interior wall, (6" thick):-					
Veneer plaster finish on GWB, one side	97	sf	3.25	315	
Metal Z studs	97	sf	3.90	378	
Batt insulation	97	sf	uded in Thermal & Moisture		
Wood blocking	20	lf	included in Wood & Plastic		
Sealant top & bottom on one side	20	lf	uded in Thermal & Moisture		
Fill-in existing opening, (1' 0" thick):-					
Veneer plaster finish on GWB, both sides	74	sf	3.25	241	
Metal studs	37	sf	3.30	122	
Batt insulation	37	sf	uded in Thermal & Moisture		
Wood blocking	8	lf	included in Wood & Plastic		
Sealant top & bottom on both sides	16	lf	uded in Thermal & Moisture		
Patch to existing walls	3,129	sf	1.25	3,911	33,174
<u>Tiling</u>					
Ceramic tile flooring to toilet w/waterproofing membrane	155	sf	23.00	3,565	
Ceramic tile wall base	101	lf	15.00	1,515	5,080
<u>Acoustical ceiling</u>					
Acoustic tile ceiling	4,498	sf	4.80	21,590	21,590
<u>Resilient Flooring</u>					
Rubber flooring	139	sf	11.00	1,529	
Vinyl tile flooring	4,204	sf	4.50	18,918	
Rubber base	78	lf	4.25	332	
Vinyl base	765	lf	3.95	3,022	23,800
<u>Paint</u>					
Paint to:-					
Interior walls	9,339	sf	1.05	9,806	
Exterior stucco wall	865	sf	1.15	995	
Exterior door	4	ea	140.00	560	
Exterior window	379	sf		not required	
Fixed custom wood panels w/glazed lites	212	sf	2.50	530	
Interior door	15	ea	140.00	2,100	
Interior window	16	sf	6.00	96	
Wood framing steps at 2-nd floor, (4# risers, 4' 5" wide)	1	ea	135.00	135	
Wood railing	8	lf	8.00	64	
Existing stairs railing at NE corner	30	lf	175.00	5,250	
Lintel for new masonry opening in south wall	5	lf	2.50	13	
Lintel for new storefront door at south	7	lf	2.50	18	
Wood trims to interior doors, (allow)	142	lf	2.00	284	
Wood trims to interior window, (allow)	32	lf	2.00	64	19,914
Division 09 - Finishes	Total			103,558	103,558

Description	Qty	Unit	Rate	Amount	CSI
Division 10 - Specialties					
Bathroom accessories:-					
Toilet tissue dispenser	4	ea	65.00	260	
Paper towel dispenser	4	ea	125.00	500	
Waste receptacle	6	ea	115.00	690	
Grab bars at hp toilets	4	ea	85.00	340	1,790
Fire extinguisher, (allow)	6	ea	175.00	1,050	1,050
Louver for mechanical equipment, (allow)	2	ea	900.00	1,800	1,800
Division 10 - Specialties	Total			4,640	4,640
Division 11 - Equipment					
No work in this Division					
Division 11 - Equipment	Total			0	0
Division 12 - Furnishings					
<u>Casework</u>					
Plastic laminate counter, (1' 10" deep), hp men toilet	3	lf	135.00	405	
Plastic laminate counter, (1' 10" deep), hp women toilet	5	lf	135.00	675	
Plastic laminate counter, (1' 10" deep), men toilet	3	lf	135.00	405	
Plastic laminate counter, (1' 10" deep), women toilet	3	lf	135.00	405	
Shelving to Janitor RM, (1' 0" deep)	8	lf	75.00	600	2,490
<u>Window Treatment</u>					
Window treatment	379	sf	8.00	3,032	3,032
Division 12 - Furnishings	Total			5,522	5,522
Division 13 - Special Construction					
No work in this Division					
Division 13 - Special Construction	Total			0	0
Division 14 - Conveying Systems					
No work in this Division					
Division 14 - Conveying Systems	Total			0	0
Division 21 - Fire Suppression					

Description	Qty	Unit	Rate	Amount	CSI
No work in this Element					
Division 21 - Fire Suppression	Total			0	0
Division 22 - Plumbing					
Plumbing fixtures complete w/piping, valves, hangers, & etc:-					
Floor mounted toilet	2	ea	3,250.00	6,500	
Floor mounted toilet, hp	2	ea	3,350.00	6,700	
Counter mounted lavatory sink	2	ea	3,175.00	6,350	
Counter mounted lavatory sink, hp	2	ea	3,275.00	6,550	
Janitor sink	2	ea	3,475.00	6,950	
Drinking fountain	2	ea	2,875.00	5,750	
Exterior hose bib, (allow)	4	ea	535.00	2,140	
Water heater	1	ea	3,525.00	3,525	44,465
<u>Piping</u>					
Combined sewage/storm systems to be replaced & separated, allow	1	ls	1,500.00	1,500	
Roof drain at new flat roof south including conductors	2	ea	1,600.00	3,200	
Underground pipe including floor trenching & make good	30	lf	120.00	3,600	
Gas line, allow	5,226	sf	1.00	5,226	13,526
<u>General</u>					
Allow for seismic restraint & vibration isolation	1	ls	579.91	580	
Permit fees	1	ls	300.00	300	
Test & balance	1	ls	1,766.13	1,766	2,646
Sub Bid	Total			60,637	60,637
Builders work in connection with Plumbing @ 3%	1	ls	1,819.11	1,819	
General Contractor's overhead and profit @ 5%	1	ls	3,122.81	3,123	4,942
Division 22 - Plumbing	Total			65,579	65,579
Division 23 - Heating, Ventilating, and Air Conditioning					
<u>Equipment</u>					
Gas fired roof-top heating & cooling HVAC systems	2	ea	17,500.00	35,000	
Boiler	1	ea	15,000.00	15,000	
Exhaust fan for bathroom	4	ea	1,500.00	6,000	
Miscellaneous equipment	1	ls	4,000.00	4,000	60,000
<u>Ductwork</u>					
Galvanized steel ductwork w/accessories, fittings, hangers, etc (22ga):- supply/return/exhaust	4,181	lb	8.75	36,584	
Insulation to supply/return duct, allow	3,658	sf	4.50	16,461	
Diffusers/grilles/registers, allow 1# every 200 sf	26	ea	140.00	3,640	
Dampers, allow:-					
- volume	5	ea	150.00	750	
- fire	5	ea	250.00	1,250	
- smoke, allow	5	ea	850.00	4,250	62,935
<u>Pipework</u>					
Pipework, insulation, valves, etc. (allow)	5,226	sf	3.50	18,291	18,291

Description	Qty	Unit	Rate	Amount	CSI
<u>Automatic Control System</u>					
Automatic Control System, (allow)	5,226	sf	4.25	22,211	22,211
<u>General</u>					
Allow for seismic restraint & vibration isolation	1	ls	1,634.36	1,634	
Test & balance	1	ls	4,952.12	4,952	6,586
Sub Bid	Total			170,023	170,023
Builders work in connection with HVAC @ 3%	1	ls	5,100.68	5,101	
General Contractor's overhead and profit @ 5%	1	ls	8,756.17	8,756	13,857
Division 23 - Heating, Ventilating, and Air Conditioning	Total			183,880	183,880
Division 26 - Electrical					
<u>Panelboards, Etc.</u>					
Panelboards, (allow)	5,226	sf	1.50	7,839	7,839
<u>Feeders</u>					
New 3-phase 400A electric service	1	ea	1,750.00	1,750	
Feeders, (allow)	5,226	sf	0.80	4,181	5,931
<u>Small Power</u>					
Small Power, (allow)	5,226	sf	3.00	15,678	
Electrical power to mechanical equipment	16	ea	415.00	6,640	22,318
<u>Lighting</u>					
2x4 fluorescent fixtures throughout w/wiring, conduit, etc. gfa)	5,226	sf	6.00	31,356	
Lighting controls, (allow)	5,226	sf	1.25	6,533	
Battery power powered exit and emergency lighting, (allow)	5,226	sf	0.75	3,920	41,808
<u>Fire Alarm</u>					
Fire alarm, (allow)	5,226	sf	2.45	12,804	12,804
<u>PA System</u>					
Pa system				not required	
<u>Security System</u>					
Security system	5,226	sf		NIC	0
<u>Telecommunications System</u>					
Telephone, cable and data wiring throughout	5,226	sf	2.85	14,894	14,894
<u>General</u>					
Allow for:-					
- lightning protection (gfa)	5,226	sf	0.25	1,307	
- grounding (gfa)	5,226	sf	0.20	1,045	
- seismic bracing	1	ls	1,079.45	1,079	
- permit fees	1	ls	250.00	250	
- testing	1	ls	3,278.24	3,278	6,959
Sub Bid	Total			112,553	112,553
Builders work in connection with Electrical @ 3%	1	ls	3,376.59	3,377	

Description	Qty	Unit	Rate	Amount	CSI
General Contractor's overhead and profit @ 5%	1	ls	5,796.48	5,796	9,173
Division 26 - Electrical	Total			121,726	121,726

Division 31 - Earthwork

Excavation and Backfill:-					
For frost wall under demolished garage door	11	cy	32.00	352	
For hp ramp	102	sf	2.00	204	
Gravel base for paving	1,336	sf	2.00	2,672	3,228
Division 31 - Earthwork	Total			3,228	3,228

Division 32 - Exterior Improvements

Paving

Concrete sidewalk and walkways	1,336	sf	8.00	10,688	
Granite curbs at street	92	lf	28.00	2,576	13,264

Landscaping

Mulch and planting on east side	1,365	sf	3.50	4,778	
Mulch and planting on north side	1,458	sf	3.50	5,103	
Mulch and planting on south side	421	sf	3.50	1,474	
Lawn to remaining areas not shown on drawings	1,088	sf	1.15	1,251	12,605

Exterior lights

Exterior lights attached to building, allow	4	ea	875.00	3,500	3,500
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Division 32 - Exterior Improvements	Total			29,369	29,369
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Division 33 - Utilities

Connect new water line to extg	1	ea	7,500.00	7,500	
Connect new gas line to extg	1	ea	1,500.00	1,500	
Connect new sewer line to extg	1	ea	7,500.00	7,500	
Connect new telephone line to extg	1	ea	2,500.00	2,500	
Connect new feeders to extg	1	ea	3,500.00	3,500	22,500

Division 33 - Utilities	Total			22,500	22,500
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Description	Qty	% of Time Allocated	Unit	Rate	Amount
<u>General Requirements/Conditions</u>					
<u>Field personnel</u>					
Field personnel:-					
- project manager	2	5%	week	3,250.00	4,929
- project superintendent	27	90%	week	2,850.00	77,805
- field engineer	2	5%	week	2,850.00	4,323
- MEP coordinator	2	5%	week	2,600.00	3,943
- labourer	12	40%	week	2,450.00	29,727
Main office staff	5	15%	week	2,550.00	12,750
<u>Insurance & Bond Cost</u>					
Insurances (includes):-	1		ls	22,600.00	22,600
- builders risk					
- general liability					
- vehicle liability					
- pollution liability					
- workers compensation					Included in Labor
- umbrella coverage					
Performance bond.	1		ls	14,125.00	14,125
<u>Temporary Utilities & Services</u>					
Temporary utilities & Services:-					
- temporary water & sewer service & distribution	30		week	10.00	303
- temporary water consumed	30		week	10.00	303
- temporary toilet rental & service	30		week	10.00	303
- temporary electricity consumed	30		week	10.00	303
- temporary heating system	30		week	10.00	303
- temporary heating fuel consumed	30		week	10.00	303
- emergency diesel generator fuel consumed	30		week	10.00	303
<u>Additional Categories</u>					
Preparation of progress schedules.	7		mth	125.00	875
Compilation/preparation of site survey data.	1		ls	750.00	750
Preparation of shop drawings.	1		ls	1,000.00	1,000
Construction photographs.	7		mth	25.00	175
Temporary construction.	30		week	10.00	303
Construction aids (safety nets, personnel protection equipment, partial scaffolding, etc)	30		week	10.00	303
Barriers and enclosures.	30		week	10.00	303
Security.	7		mth	125.00	875
Access roads.	30		week	15.00	455
Temporary controls.	30		week	10.00	303
Project signs.	7		mth	50.00	350
Field offices and sheds	7		mth	75.00	525
Field office expenses.	30		week	50.00	1,517
Equipment rental	1		ls	100.00	100
Snow removal	4		ea	150.00	600
Winter protection	1		ls	2,500.00	2,500
Interim cleaning	30		week	175.00	5,308
Final cleaning	1		ls	3,250.00	3,250
Building permit @ 1%					Excluded
<u>General Requirements/Conditions</u>				<u>Total</u>	191,818

Gross Floor Area

<u>Floor</u>	<u>Area (sf)</u>
1st Floor	3,523
2nd Floor	1,703
Total	5,226

Description	Qty	Unit	Rate	Amount
Alternate #1: Elevator and Stairway Addition				
Remove & dispose:-				
Windows at north elevation, (3' 2" x 5' 0" h)	4	ea	95.00	380.00
Form opening for new door to building (1" thick):-				
Saw cut wall	42	lf	7.00	294
Remove brick & concrete wall	48	sf	5.00	240
Make edges good	42	lf	7.00	294
Excavation and Backfill for:-				
Foundation wall	21	cy	32.00	672
Elevator pit	13	cy	32.00	416
Gravel fill below slabs	290	sf	2.00	580
Cast-in-Place Concrete				
Cast in place concrete w/formwork & reinforcing to:-				
Foundation footing & wall	64	lf	222.50	14,240
Elevator pit footing & wall	150	sf	35.00	5,250
Slab for elevator	53	sf	7.39	392
Slab on grade	237	sf	7.39	1,751
Walls				
Exterior CMU wall with brick veneer	1,170	sf	58.00	67,860
Shaft wall	270	sf	11.00	2,970
Connect new exterior wall to extg walls	45	lf	8.00	360
Veneer plaster on GWB on metal studs, both sides	226	sf	6.80	1,537
Veneer plaster on GWB on metal Z studs, one side	881	sf	5.15	4,537
Tooth in where windows removed (1' thick):-				
CMU wall back-up	32	sf	16.00	512
Brick	32	sf	42.00	1,344
Connecting to extg brick	32	lf	8.00	256
Lintel to new door opening	10	lf	45.00	450
Roofing				
EPDM roofing & sheathing	317	sf	8.00	2,536
Cricket connection to extg roof	28	lf	15.00	420
Framing for new roof	317	sf	6.00	1,902
Trimming	56	lf	4.00	224
Roof drain w/downspout	1	ls	1,575.00	1,575
Stairs & landing				
Wood framed stairways, (20# riser, 3' 8" wide)	1	flr	3,000.00	3,000
Wood framed landing	55	sf	8.00	440
Wood railing to stairs	21	lf	165.00	3,465
Flooring, plywood				
New flooring to 1-st floor	163	sf	2.00	326
New flooring to 2-nd floor	43	sf	2.00	86
Insulation				
2" rigid insulation on exterior walls	1,170	sf	2.25	2,633
Tapered polyisocyanurate insulation under EPDM, (3" thick)	317	sf	4.50	1,427
Batt insulation to interior partitions	994	sf	1.20	1,193
Blocking				
Blocking to roof	84	lf	2.65	223
Blocking to doors	70	lf	2.65	186
Blocking to interior partitions	83	lf	2.65	220

Description	Qty	Unit	Rate	Amount
Alternate #1: Elevator and Stairway Addition				
Sealant to:-				
Doors	140	lf	1.95	273
Interior partitions	98	lf	1.95	191
Roof perimeter	84	lf	2.75	231
Doors				
SL door at new stairways, (2' 10" x 7' 2" h)	2	ea	1,310.00	2,620
SL door to new opening, (3' 2" x 7' 2" h)	2	ea	1,365.00	2,730
Floor Finishes				
Rubber flooring	206	sf	11.00	2,266
Rubber base	148	lf	4.25	629
ACT ceiling	206	sf	4.80	989
Paint to:				
Lintel	10	lf	2.50	25
Doors	4	ea	140.00	560
Walls	1,665	sf	1.05	1,748
Wood framed stairways, (20# riser, 3' 8" wide)	1	flr	475.00	475
Wood railing to stairs	21	lf	8.00	168
Elevator				
Machine room-less 2-stop elevator	1	ea	77,450.00	77,450
Sump pump	1	ea	875.00	875
Elevator pit ladder	1	ea	350.00	350
Elevator shaft ventilation	1	ea	975.00	975
Builders work in connection with Elevator @ 3%	1	ls	2,389.50	2,390
General Contractor's overhead and profit @ 5%	1	ls	4,101.98	4,102
HVAC, allow				
Allow for HVAC (gfa)	580	sf	8.00	4,640
Allow for seismic restraint & vibration isolation	1	ls	46.40	46
Test & balance	1	ls	140.59	141
Builders work in connection with HVAC @ 3%	1	ls	144.81	145
General Contractor's overhead and profit @ 5%	1	ls	248.59	249
Electrical				
Power to elevator	1	ea	875.00	875
Power to sump pump	1	ea	185.00	185
Small power	580	sf	1.50	870
Lighting & controls	580	sf	4.50	2,610
Fire alarm	580	sf	2.00	1,160
Security	580	sf		NIC
Allow for:-				
- grounding (gfa)	580	sf	0.20	116
- seismic bracing	1	ls	58.16	58
- permit fees	1	ls	250.00	250
- testing	1	ls	183.72	184
Builders work in connection with Electrical @ 3%	1	ls	189.24	189
General Contractor's overhead and profit @ 5%	1	ls	324.86	325
Sub Total				235,278
General Requirements/Conditions			4.00%	9,411

Description	Qty	Unit	Rate	Amount
Alternate #1: Elevator and Stairway Addition				
Escalation to mid-point of Construction 3Q2013			5.04%	12,332
Design Contingency			10.00%	25,702
Building Permit Fee				Excluded
Construction Contingency			5.00%	14,136
Alternate #1: Elevator and Stairway Addition				296,860

From: Charles McGrory [cmcgrory@dgjonesboston.com]
Sent: Monday, June 18, 2012 9:01 AM
To: 'Kaffee Kang'
Subject: RE: Central Fire Station Reno, Ayer, MA (#2012-015)
 Dear Kaffee,

Sorry, yes deduct 8%!

Regards,
 Charles McGrory
 D G Jones International, Inc.
 3 Baldwin Green Common, #202
 Woburn, MA 01801-1868
 Tel : 781 932 3131
 Fax : 781 932 3199
 Email : cmcgrory@dgjonesboston.com

From: Kaffee Kang [mailto:kk@kangarchitects.com]
Sent: Saturday, June 16, 2012 6:27 PM
To: cmcgrory@dgjonesboston.com
Subject: RE: Central Fire Station Reno, Ayer, MA (#2012-015)

Do you mean deduct 8% for non-prevailing wage?

From: Charles McGrory [mailto:cmcgrory@dgjonesboston.com]
Sent: Friday, June 15, 2012 4:44 PM
To: Kaffee Kang
Subject: Central Fire Station Reno, Ayer, MA (#2012-015)

Dear Kaffee,

1. Cost to demolish entire building including north & south portions included in Cost Estimate and haul away - \$130,000.00. Cost includes allowance for General Conditions/Requirements, Escalation and Design & Construction Contingencies.
2. Cost if not prevailing wage, add circa 8% to Total Construction Cost - this is my best guess as it has been a long time since we did a comparative study

Regards,
 Charles McGrory
 D G Jones International, Inc.
 3 Baldwin Green Common, #202
 Woburn, MA 01801-1868
 Tel : 781 932 3131
 Fax : 781 932 3199
 Email : cmcgrory@dgjonesboston.com