

City of Lewiston

Fire Station Study

(2016-050)

February 16, 2017 rev.

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February 16, 2017

Mr. Paul LeClair, Chief
LEWISTON FIRE DEPARTMENT
City Building
27 Pine Street
Lewiston, ME04240

RE: 4137.00 / Lewiston Fire Station Study – Final Report

Dear Chief LeClair:

Enclosed please find a final version of the Fire Station Study conducted by WBRC Architects Engineers in association with Robert Mitchell Associates Architects. This version includes broken out cost data for each of the four (4) substation prototypes as requested. An excerpted version of this report was provided for presentation before the City Council.

It has been our pleasure to assist you with this important City project. We trust that the stakeholders will make reference to the findings, data sheets, and recommendations within as the City continues to evaluate the future needs and functioning of the Lewiston Fire Department.

We look forward to an opportunity to serve the City in the future as the continued planning and development contemplated within this study is implemented.

Sincerely,



Robert M. Frank, III, PE
Principal

pc: RMA, MLW

Enclosures: Final report (284 pp w/ cover)

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ACKNOWLEDGEMENT

Numerous people within the City of Lewiston and it's Fire Department have provided valuable insight and data to support this study. We have consistently found an exceptional degree of teamwork, cooperation and expertise among the Lewiston Fire Department Study stakeholders. Their joint effort to assist with this essential project has been marked by professionalism and the mutual desire to serve the long term interests of the community that calls the City of Lewiston home.

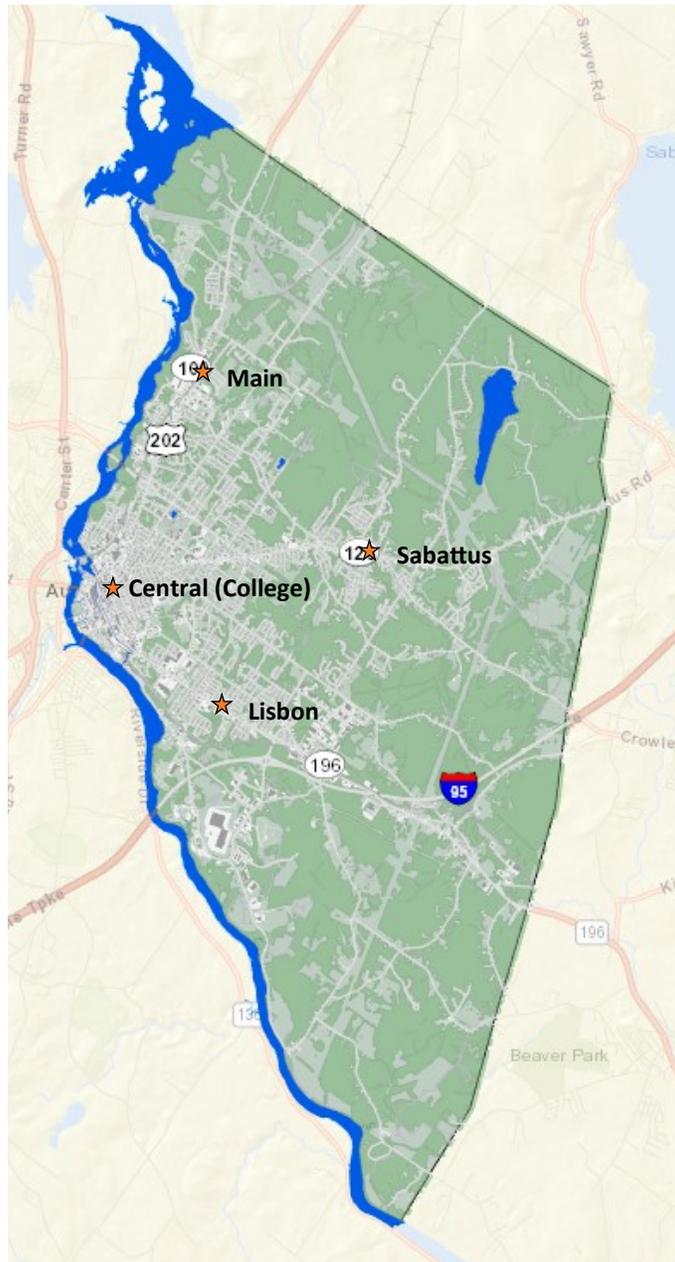


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1.1 Project Overview

In 2016 WBRC Architects / Engineers (WBRC) in association with Mitchell Associates Architects (MAA) were retained by the City of Lewiston to complete a study that evaluated the City's three (3) existing fire sub-stations and Central Fire Station to determine the improvement required to the existing structures and any expansions/replacements that might be necessary to meet the goals and future needs of the Fire Department for a fully functioning facility. This report contains the findings of that study, and evaluates the comparative feasibility of each facility under several scenarios including: renovate; renovate/expand, replace onsite, and build new offsite.

1.2 Fire response

According to the 2009 Lewiston Fire Station Location Study, the three sub-stations generally are appropriately located to meet the safety needs of the City, with the possible exception of the Lisbon Street station and its relatively long response times to South Lewiston.

The fire response map to the right and summary below were excerpted from the 2009 Policy One report:

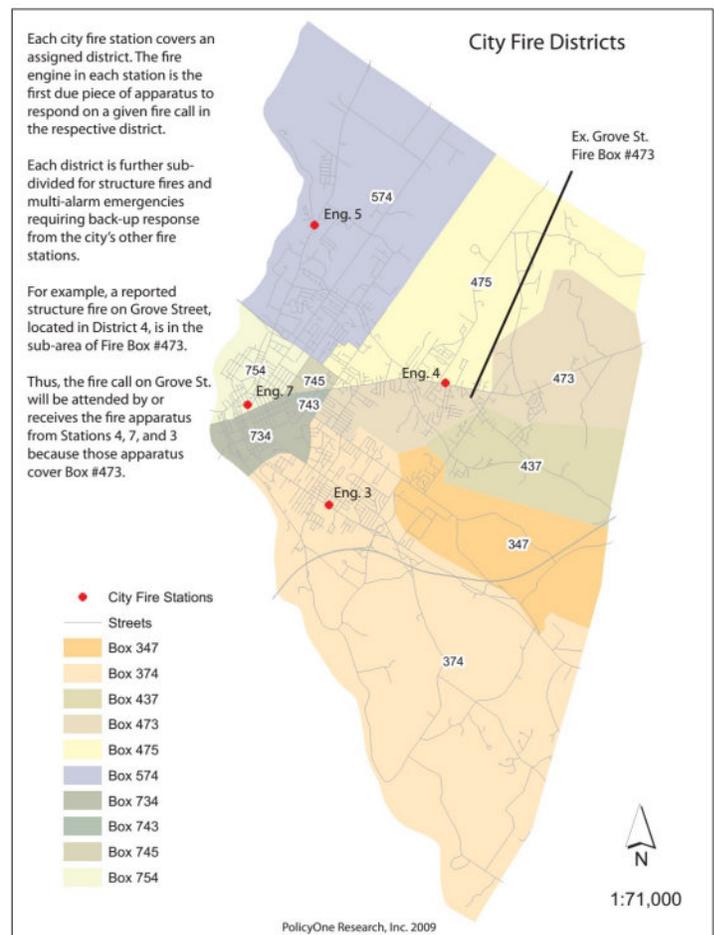
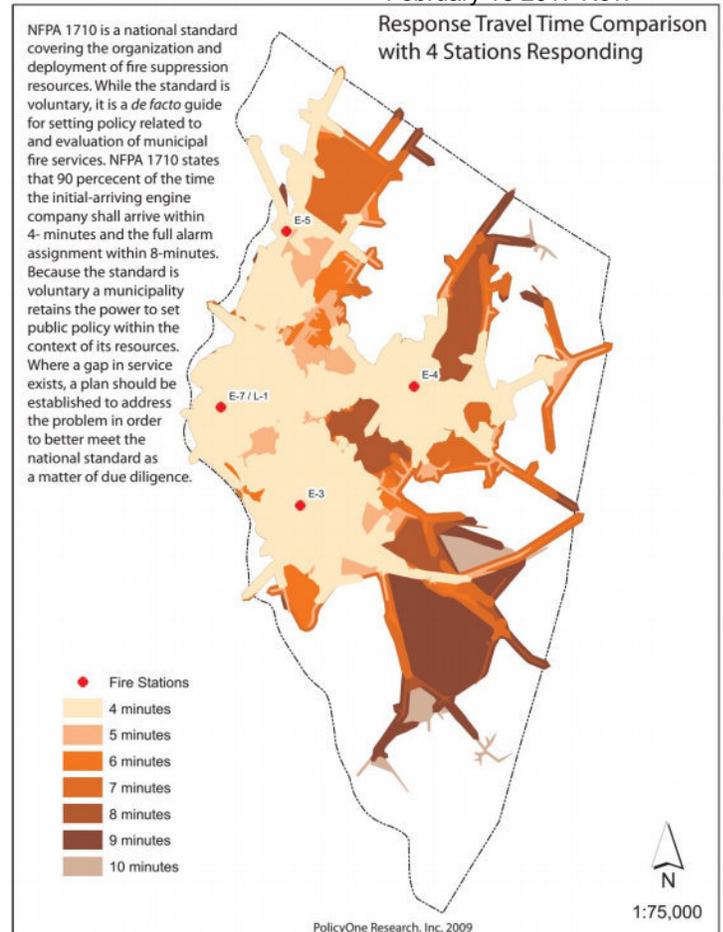
"The arrangement of stations and deployment of resources serve the historic core areas of the City very well. Approximately 1.5 miles beyond the three substations travel times impact the ability to deliver service promptly. This does not imply compromise of quality or quantity of fire service received, but simply that response travel times are excessive on the fringe of the City. The response maps created in this analysis clearly illustrate the situation. The analysis did not indicate that closing or relocating existing stations will improve this situation in any manner. On the contrary, the City should consider a strategic plan that includes adding at least a fifth fire station in the future to serve the south/west areas. In a perfect world, with unlimited resources, the City would have at least six fire stations."

1.3 Fire Districts

The City is currently divided into ten (10) fire districts as pictured to the right. (Source: Policy One Fire Response Study, 2009). The four (4) stations identified on the map correspond to the physical station locations as follows:

- Central (College St. Station) - Engine 7
- Lisbon Street Substation - Engine 3
- Main Street Substation - Engine 5
- Sabattus Street Substation - Engine 4

Response Travel Time Comparison with 4 Stations Responding



1.4 Existing Buildings

The following are brief descriptors of the Central Fire Station and each of three (3) substation buildings reviewed as part of this study. Detailed information about existing conditions can be found within section 2.0 of this report.

1.4.1 Central Station (College Street)

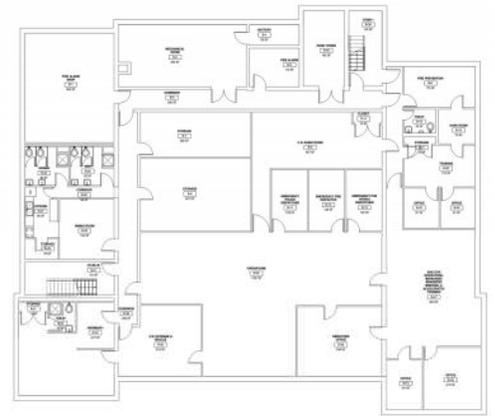
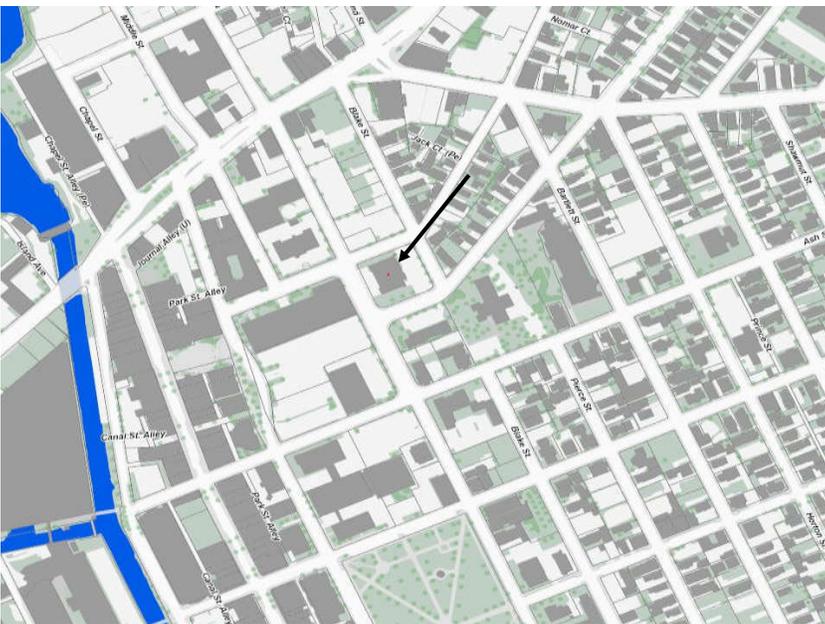
27,025 GSF

(9,880SF Bsmt., 9,880 SF 1st, 5,942SF 2nd, 441 SF (3-5) hose tower)

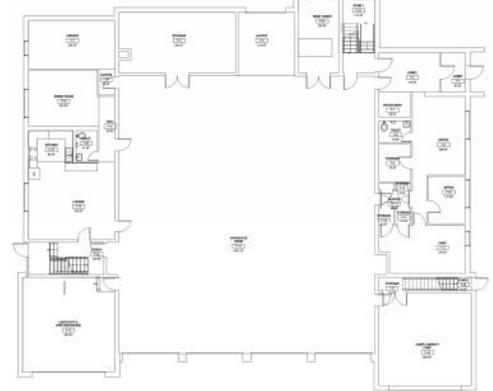
3 Stories (with 5 story hose tower)

Year built: 1972

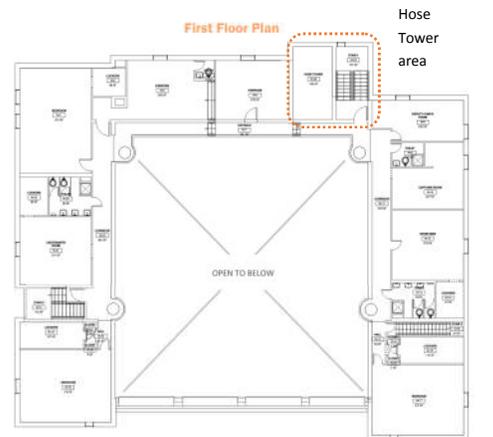
xx apparatus



Basement Floor Plan



First Floor Plan



Second Floor Plan

Hose Tower area



1.4.2 Lisbon Street Substation

3,835 GSF

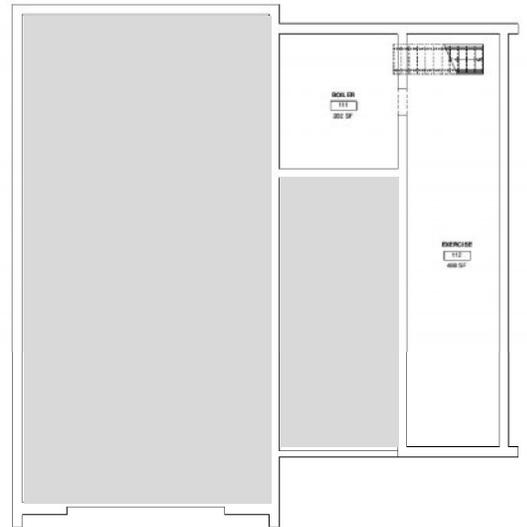
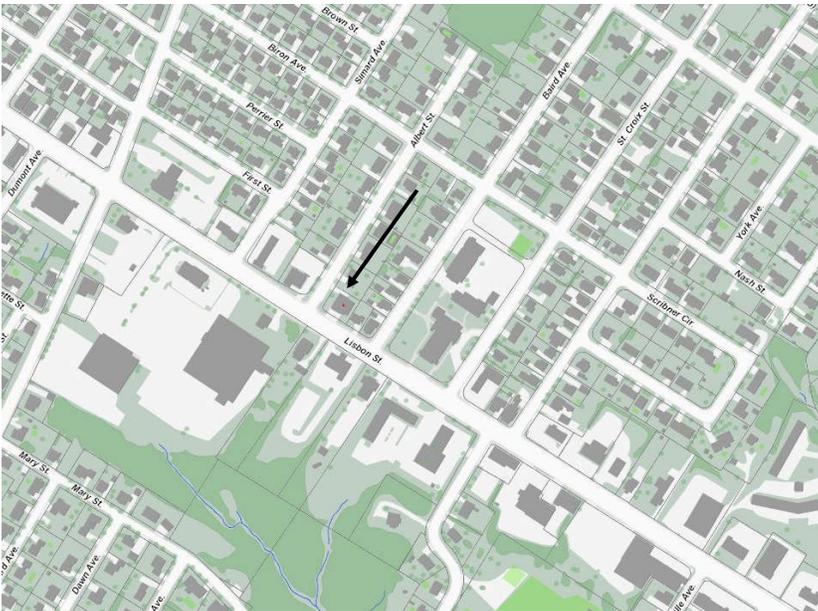
(860 SF Bsmt., 2,975 SF 1st.)

2 Stories

Year built: 1950

1 apparatus

xx personnel



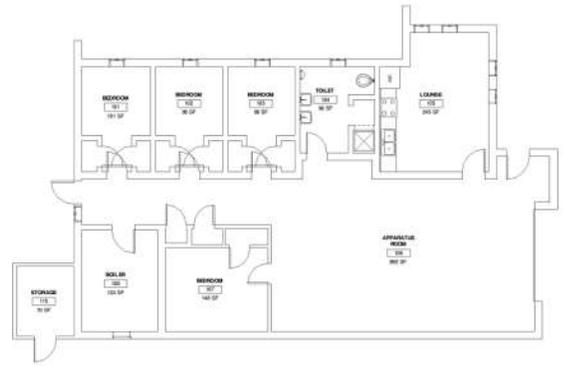
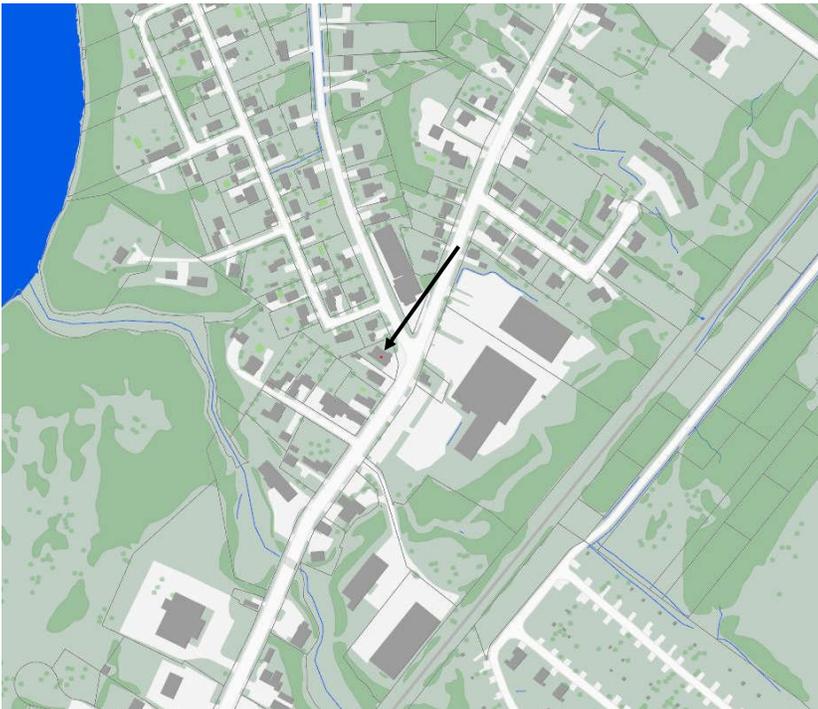
Basement Floor Plan



First Floor Plan

1.4.3 Main Street Substation

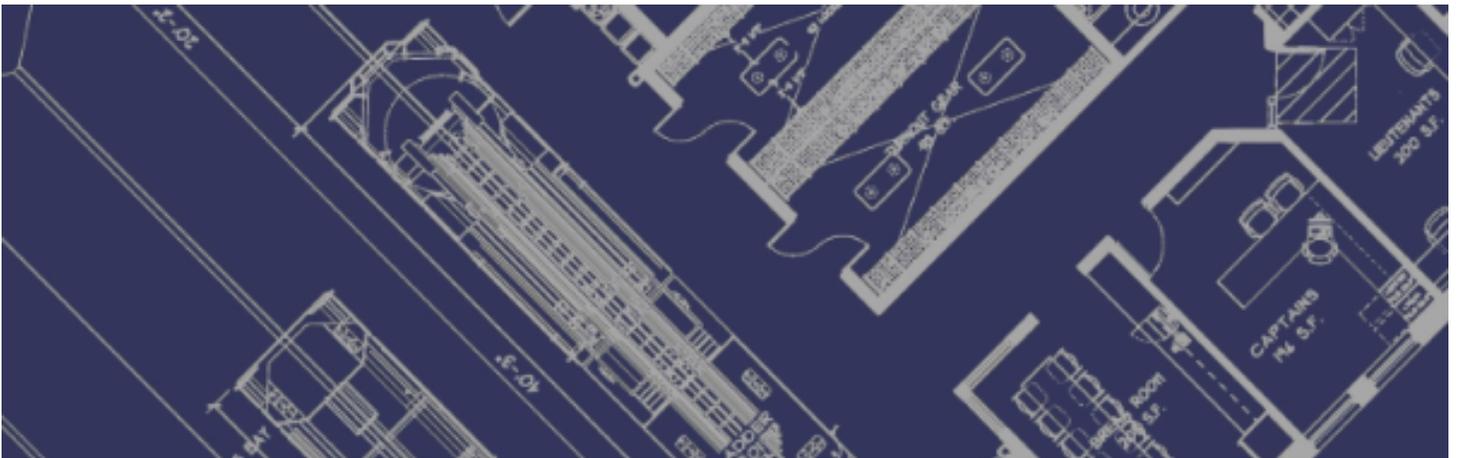
2,349 GSF
(2,279 SF 1st, 70 SF attached shed)
1 Story
Year built: 1952
1 apparatus
xx personnel



Ground Floor Plan



2.0 Property Condition Assessments



MAINE LICENSED PROFESSIONALS SEALS PAGE

The recommendations presented in the following report were prepared by, or under the direct supervision of, the following Maine licensed professionals:

<p>ARCHITECT Mathew L. Ward, AIA,</p>	<p>CIVIL ENGINEER John Kenney, P.E., LEED AP</p>
<p>STRUCTURAL ENGINEER Jim Curley, P.E.</p>	<p>MECHANICAL ENGINEER Andrew Rudnicki, P.E., LEED AP BD+C</p>
<p>ELECTRICAL ENGINEER Lura Wade, P.E., LEED AP BD+C</p>	

INTRODUCTION

The intent of these building assessments are to document overall building and systems conditions, determine capital needs improvements at all facilities over the short and long term, and help the City of Lewiston in developing a budget to implement these improvements.

The work was performed by a team of licensed architects, structural, mechanical, electrical, and civil engineers and included assessment of the existing physical conditions of each facility including building envelope, built-in equipment, interior finishes, ADA accessibility, life safety / code compliance, structural systems, mechanical and electrical systems, and site conditions.

This assessment was prepared based on visits to the building and site, review of existing drawings by architectural and engineering personnel, and interviews with the Owner's representatives.

This report includes several costs/recommendations for immediate (within 1-2 years) as well as mid- and long-term (5 and 10 years, respectively) capital improvements along with associated preliminary estimate of probable costs.

This report also contains a Facility Cost Index (FCI) which was developed using Mean's Cost Data, indexed for local conditions and regional factors, and assessed on a building system by system basis. The Facility Cost Index is a rough representation of the percentage of remaining functional life of the building. Although new construction square foot costs were used in the FCI calculation, the FCI should not be used to determine the (inverse) cost to repair the building to "new" condition, nor should it be used to develop the fair market value of the building for potential resale.

Used in conjunction with the Program and Space needs assessment and functional analysis, the FCI is another factor for consideration in renovate vs build new scenarios.

Regular and ongoing maintenance are not the primary focus of this report. The owner should include predictable costs for these operations separately and in addition to the major items outlined in this report when developing a long term budget for major capital improvements.

2.0 Property Condition Assessments



2.1 College Street (HQ Building)

2 COLLEGE STREET FIRE STATION

ARCHITECTURAL ANALYSIS

General Description:

The College Street Fire Station, constructed in 1972, is a two-story load bearing masonry building with a finished basement and a 52'-8" tall hose tower. The basement and first floor area is approximately 9,880SF. The 2nd floor area is approximately 5,942 SF. The basement includes office, storage, maintenance, training, kitchen, lounge, and toilet room space. The first floor includes vehicle parking, office, kitchen, lounge, storage and toilet room space. The second floor includes sleeping quarters, bathrooms, fitness, and storage. As part of the Architectural assessment, we evaluated the existing physical conditions of the building envelope, interior finishes, ADA accessibility, and life safety / code compliance.

Roof System: The existing membrane roof system was last replaced in 1988. Roofing is placed over Precast Planks and Tee's. Signs of wear were observed around the base of the chimney. Moisture has infiltrated the insulation at the hose tower. The parapet cap flashing has been sealed which indicates there have been leaks. The current roof is in fair to poor condition, is nearing its useful life expectancy, and should be replaced in the next 1 to 5 years. Thermal improvements such as 3" or more of roof insulation over the roof deck would likely reduce energy cost. Insulating up the back side and over the top of the parapet will help reduce thermal bridging.



Photo CS-A1 – Membrane blisters



Photo CS-A2 – Sealed cap flashing

Exterior Wall System: Consists of 8" load bearing CMU with 2" air space and 4" face brick. Existing drawings indicate that the 2" air space has 1" +/- of cavity insulation. This insulation is likely a mineral wool or polystyrene as it is exposed to moisture. At best, the existing wall insulation R-value is R-5. Code minimum is R-13.3 continuous insulation. Based on the existing drawings, attached as "Exhibit A", wall and roof insulation do not connect. This creates a thermal bridge which allows moisture to build up inside the wall system. Wall system moisture damage was observed in Stair 1. The 4" face brick has weeps at the base of the wall and vents at the top of the wall which helps the 2" cavity to drain and dry out moisture. The exterior wall system is in fair condition but is poorly insulated. Envelope concerns such as deteriorated or open mortar joints, areas of moisture infiltration, fractured brick units, stress cracks in the masonry assembly and worn expansion joint materials need to be addressed. Thermal improvements to the exterior wall would likely reduce energy cost as well as reduce damage to interior finishes left by the formation of condensation within the CMU back-up wall. Thermal improvements could occur on the inside or

outside of the existing wall. Exterior improvement would be less obtrusive. Both options would be costly. From an envelope standpoint, this building is in need of a focused masonry maintenance program.



Photo CS-A3 – South Façade



Photo CS-A4 – Stair 1 wall damage

Exterior HM Doors: There are 3 exterior HM insulated doors which are in fair condition. These doors and frames were replaced on or about 1998 and are nearing the end of their useful life. Base of HM doors and frames are beginning to rust. All HM exterior doors should be replaced in the next 5 years.



Photo CS-A5 – View of Hose Tower HM door



Photo CS-A6 – View of Stair 3 HM exit door

Exterior Aluminum Storefront: There are 2 exterior aluminum entry storefront doors which were replaced on or about 1998. Door in image A7 below is in good condition. Door in image A8 below is in poor condition. Storefront system in image A8 below is beginning to rust at the base. It should be replaced in the next 1 to 5 years.



Photo CS-A7 – East Entrance



Photo CS-A8 – West Entrance

Exterior Overhead Doors: There are 7 exterior overhead doors. All of these doors are in good condition. Useful life expectancy is 10+ years with proper annual maintenance.



Photo CS-A9 – View of South Doors



Photo CS-A10 – View of North Door

Exterior Window: All exterior windows are aluminum framed windows with ½" insulated glazing. The windows were replaced on or about 1998 and are in fair condition but thermally perform poorly. Window replacement is not an immediate concern however replacement to a window that has a lower U-factor and better perimeter sealant could reduce energy cost.

Photo CS-A11 – View of 1st Flr. windowPhoto CS-A12 – View of 2nd Flr. window

Interior Observations Basement:

The general layout of the space is original with some additional office modifications made to the east side of the floor plan.

- Flooring consists of sealed concrete, VCT, carpet, and ceramic tile. VCT and carpet is wearing quickly as a result of slab moisture. There is likely no vapor barrier under the existing slab. We recommend installing a slab moisture mitigation system prior to any new flooring being installed. Ceramic tile likely is original.
- Walls are painted concrete, concrete block, metal stud with gypsum board sheathing, and metal stud with gypsum board sheathing and tile in the toilet rooms. Walls are in good condition.
- Ceiling systems include 2x4 ACT (good condition), 1x1 AT (poor condition), and gypsum (poor condition). 1x1 AT appears to be original and has reached its useful life expectancy. Gypsum ceiling should be repaired where moisture damage has occurred.
- Doors are a mix of wood and hollow metal. Doors are in fair condition.
- There are no windows on this floor
- Stairs risers exceed code maximum by ½". Stair tread exceed code min minimum by 1". Handrails are not compliant.

ADA accessibility deficiencies include but are not limited to the following items:

1. There is no elevator access.
2. Doors B-13 and B-18 are less than 36" wide.
3. Circulation corridors are less than 4'-8" wide and cannot accommodate required push and pull clearances.
4. Knob type door hardware is still used on some doors.
5. All toilet rooms including showers are non-compliant. These spaces would have to be enlarged to provide proper clearances.
6. Kitchen is not accessible.



Photo CS-A13 – Narrow corridor



Photo CS-A14 – Knob type hardware



Photo CS-A15 – Toilet room ceiling damage



Photo CS-A16 – Non ADA compliant fixtures



Photo CS-A17 – Non ADA compliant Kitchen



Photo CS-A18 – Mold on base of door



Photo CS-A17 – Moisture damaged floor



Photo CS-A18 – Moisture damaged wall and ceiling

Interior Observations First Floor:

The general layout of the space is mostly original. The former Library has been converted into an Office. The former Dining Room has been converted into a shared Office. The Kitchen has been renovated and opens into the Lounge. A private Office has been added into the open office area.

- Flooring consist of sealed concrete, epoxy coated concrete, VCT, carpet and ceramic tile. VCT is in fair to poor condition and is nearing it useful life expectancy. Carpet has floor traffic wear and is nearing it useful life expectancy.
- Walls are painted concrete, concrete block, metal stud with gypsum board sheathing and metal stud with gypsum board sheathing and tile in the toilet rooms. Walls are in good condition.
- Ceiling systems include 2x4 ACT, painted precast plank, and painted precast tee's. ACT should be repaired where moisture damage has occurred.
- Doors hollow metal. Doors are in good condition.
- Windows are all aluminum frames with ½" insulated glazing
- Stairs risers exceed code maximum by ½". Stair tread exceed code min minimum by 1". Handrails are not compliant.

ADA accessibility deficiencies include but are not limited to the following items:

1. There is no elevator access.
2. Doors F-8 cannot accommodate required push and pull clearances.
3. Doors F-17 and F-29 are less than 36" wide.
4. Knob type door hardware is still used on some doors.
5. All toilet rooms are non-compliant. These spaces would have to be enlarged to provide proper clearances.



Photo CS-A19 – Typical VCT condition



Photo CS-A20 – Carpet is worn at door



Photo CS-A21 – Railing does not extend beyond stair



Photo CS-A22 – Toilet room ceiling damage



Photo CS-A23 – Apparatus bay



Photo CS-A24 – Apparatus bay

Interior Observations Second Floor:

The general layout of the space is mostly original. The former Dispatch/Bunkroom on the north side of the building has been changed to a Fitness area.

- Flooring consist of carpet and ceramic tile. Carpet is in fair to poor condition and should be replaced in the next 1 to 5 years.
- Walls are painted concrete, concrete block, metal stud with gypsum board sheathing and metal stud with gypsum board sheathing and tile in the toilet rooms. Walls are in good condition.
- Ceiling systems include 2x4 ACT and painted precast plank. ACT should be repaired where moisture damage has occurred.
- Doors are hollow metal. Doors are in fair condition.
- Windows are all aluminum frames with ½” insulated glazing.

- Stair risers exceed code maximum by ½". Stair treads exceed code minimum by 1". Handrails are not compliant.

ADA accessibility deficiencies include but are not limited to the following items:

1. There is no elevator access.
2. Most of the doors are less than 36" wide.
3. Circulation corridors are less than 4'-8" wide and cannot accommodate required push and pull clearances.
4. Knob type door hardware is still used on some doors.
5. All toilet rooms including showers are non-compliant. These spaces would have to be enlarged to provide proper clearances.



Photo CS-A25 – Door Knobs



Photo CS-A26 – Clearance and privacy issues



Photo CS-A27 – Torn Carpet



Photo CS-28 – Fitness moisture damage from Chimney

2 College Street Conclusion and Recommendations:

The building has met the intent of its original design, however it would not comply with today's design standards. The thermal envelope is well below minimum allowable insulation requirements. Roof system is 28 years old and should be replaced. Moisture mitigation is required for the basement slab. Toilet room improvements to comply with ADA and local codes would require the loss of existing program space. Basement Kitchen improvements to comply with ADA and local codes would require the loss of existing program space. Increasing Corridor widths to comply with ADA and local codes would require the loss of existing program space. An elevator is required. Stairs risers, treads and railings are not code compliant. Knob type door hardware should be replaced with lever type hardware. Doors less than 36" wide should be replaced.

With the exception of roof replacement, slab moisture mitigation, and stair railing modification the remaining modifications recommend above would make the space more non-functional without expanding the existing building.

2 COLLEGE STREET (CENTRAL) FIRE STATION

ELECTRICAL ANALYSIS

General Description:

Electrical Service and Distribution:

The electrical service for the facility consists of a pole mounted utility transformers located on College Street. The 120/208V, 3-phase, underground secondary feeder from the transformer extends to serve the 700A main distribution panelboard located in the basement mechanical room. Main panelboard appears to be in fair condition but is also antiquated which could make future repairs and replacements difficult. Workspace clearance in front of panelboards and other electrical equipment within the mechanical room do not appear to have been maintained as required by Code (*NEC, Article 110.26*). Service appears to be sized adequately to serve the currently needs of the facility although it may need to be upgraded if an elevator is added to address ADA concerns.

Facility is also provided with standby power via 125 kW generator also located in the basement mechanical room. Both the generator and associated transfer switch appear to be in good condition.

From the main electrical panel, power is distributed to several sub panels located throughout the facility. Most electrical panels appear to be in fair condition but do not appear to have circuits labeled well. A lack of existing spare circuits or breaker space to add future loads also appears to be an issue throughout the facility.

There were several locations noted where it appears conduit passes through a fire rated wall and penetration has not been provided with firestopping.



Photo E1 – Main Distribution Panel



Photo E2 – Indoor Generator

Wiring Devices:

Most of the wiring devices appear to be in good condition. However, the location of receptacles within many of the rooms is limited to one or two walls. Plug-strips and multi-outlet adapters are

utilized to distribute power and have the potential for arcing and overloading circuits. Plug-strips are also prohibited from being attached to building structures and used as a substitute for a fixed wiring structure, as observed in communication rooms (*NEC, Article 400.8*).

Some of the receptacles and other wiring devices located in the apparatus bay are GFCI rated. However, there are several that are not listed as GFI and have no protection provided at the breaker.

It was also noted that receptacles in bedrooms and living area are standard duplex receptacles rather than tamper-proof receptacles as required by Code (*NEC, Article 406.12*).



Photo E3 – Break Room Receptacle

General Lighting:

Corridor, office and common area lighting typically consist of either ceiling recessed or surface mounted lensed troffer style fixtures. Lighting appears to be in fair condition. Several lenses were observed to be cracked, damaged or yellowing due to age. Light fixtures located in apparatus bays are ceiling suspended industrial fixtures which also appear to be in fair condition.

Most office and common area lighting appears to utilize T8 fluorescent lamps. However, there were several areas, such as the apparatus bays, where T12 fluorescent lamps were noted.

Kitchen lighting appears to have been replaced recently and utilizes ceiling recessed downlights as the primary light source. While these fixtures are in very good condition, they appear to utilize incandescent lamps.

Control of lighting fixtures throughout the facility is primarily achieved via push-button toggle switches. There are some areas, such as the second floor corridors, where occupancy sensors and timer switches are utilized.



Photo E4 – Typical Office Lighting



Photo E5 – Apparatus Bay Lighting

Emergency and Exit Lighting:

There were very minimal emergency lighting noted throughout the facility. The only area noted to contain emergency egress lighting were the stairwells, but it does not appear there is enough lighting to provide an average of 1 footcandle on the egress path.

Although not clear from site visit, it is possible that emergency egress lighting is provided via the generator and transfer switch located in the basement. If that is true, the current transfer configuration does not meet Code (NEC, Article 700), which required emergency (life safety) and standby loads (*NEC, Article 700.5*).

Exits throughout building appear to be well marked with signage that complies with Code (*NFPA 101*). Signage appears to be in condition although it is unclear if they utilized LED technology or incandescent lamps.



Photo E6 – Corridor with no emergency lighting

Communication Systems:

Communication services enter the building in the basement and are distributed out to individual work areas from single floor mounted rack. Communication rack does not appear to be well organized or labeled, making future installation and maintenance difficult. Cabling above ceiling does not appear to be supported properly, relying only on the ceiling tiles. This lack of support could like to degradation of cabling performance. Communication cabling in many rooms is run exposed and is looped over obstructions.



Photo E7 – Communication Rack in Basement



Photo E8 – Above Ceiling Cabling

Most spaces are provided with speakers for the public address system. System and associated components are functional but outdated. Public address system is currently used to page locally utilizing phone system or receive calls through Lewiston-Auburn 911 dispatch services. Speakers vary in condition from good to poor throughout the facility. Bedrooms are also provided with antiquated intercom system call boxes although system does not appear functional.

Apparatus bay has been provided with both wall mounted public address and a Sound Sphere omni-directional loud speaker. Upon conversation with facility staff, sound quality within apparatus bay is compromised with current provisions.



Photo E9 – PA speaker in Apparatus Bay



Photo E10 – Intercom Station

Security Systems:

There is no access control system provided at facility.

Video surveillance system is provided for facility although components appear to be limited to exterior cameras only. Cameras appear to be an older technology and have not been updated recently.

Fire Alarm System:

There is no central fire alarm system provided at facility.

Bedrooms have been provided with single station smoke detectors only and carbon monoxide detectors were noted in corridors outside bedroom areas. There are currently no smoke detectors installed on floors other than the second floor and there is no notification, visual or audible, upon activation of smoke detectors as required by Code (*NFPA 1500, Chapter 9*).

Electrical Systems Summary

Recommended system revisions:

- Install arc-fault circuit breakers for branch circuits feeding bedroom, living area and kitchen loads.
- Install tamper-proof receptacles in bedrooms and living area.
- Replace existing lighting fixtures with new LED fixtures.
- Install emergency battery packs or a separate life safety transfer switch
- Install communication cabling support system
- Install fire alarm system.

2 COLLEGE STREET (CENTRAL) FIRE STATION

MECHANICAL ANALYSIS

General Description:

Heating System:

Facility is served by a central hot water boiler plant located in the basement. The existing boiler plant consists of an older cast iron HB Smith 19A-4 section oil-fired boiler and a recently installed Burnham condensing, direct-vent natural gas-fired boiler. HB Smith boiler is vented through the existing masonry chimney with proper breeching and draft damper. Chimney appears to be clay lined and has sufficient area now that one boiler has been removed. The Burnham boiler is vented with PVC through the ground floor and out the exterior wall. We have seen issues when venting condensing boilers using PVC pipe which has a relatively low rated temperature. Boiler venting should be replaced with polypropylene which is rated for boiler service. Piping is primarily copper and appears to be in fair to good condition and is well insulated throughout the facility.

Boiler plant serves heating requirements as well as domestic hot water generation. There appear to be five zones of heat off the secondary loop, each with an individual pump. Pumps are controlled by a Trane controls digital system. Multiple temperature sensors per zone are averaged to determine when heat is required. This system is reportedly not working as well as anticipated. Second floor exterior bedrooms remain noticeably cooler in heating season. The best solution would be to modify the existing loop piping to allow installation of zone valves for each space controlled by a local thermostat. Loop pump could be replaced with variable volume ECM pumps which automatically adjust to changes in system pressure to accommodate opening and closing of zone valves.

Hot water heating terminals consist of mostly baseboard radiation with convectors and cabinet unit heaters in vestibules, toilet rooms, stair towers and the apparatus garage bays. Baseboard and other heating terminal units appear to be mostly original and are in fair condition.



Photo M1 – HB Smith Oil-Fired Boiler



Photo M2 – Burnham Condensing Gas Boiler



Photo M3 – Typical HW Baseboard



Photo M4 – Hot Water Wall Convectors

Fuel Oil Systems:

Oil-fired boiler and interior generator are served by a 10,000 underground oil tank. Tank was replaced in 1996. Two sets of fuel oil pumps are installed in the basement; one pair serves the boiler, another pump serves the generator. Each circuit contains a small 8 gallon day tank downstream of the oil pumps. A tank level monitor is located on the interior wall of the boiler room. Fuel oil pumps appear to be in fair condition. A larger day tank with secondary containment and integral duplex pumps would provide more standby supply as well as redundant pumping.



Photo M5 – Boiler Fuel Oil Pumps



Photo M6 –Generator Day Tank

HVAC Systems:

Building HVAC system is comprised of 4-pipe fan coil units with chilled water coils, hot water coils, filters and supply fans. Units typically have ventilation air ducted into the return air duct prior to entering the fan coil to provide ventilation air to spaces served by each unit. It appears that some fan coils have been replaced since the original construction. Overall fan coils are in fair condition. It is unclear if an adequate volume of ventilation air is delivered to each space. An improvement to the current system would be a central energy recovery unit which collected at the building exhaust from toilet rooms and tempered ventilation air supplied to fan coil units. Quantity of motors and roof penetrations would be drastically reduced.



Photo M7 – Basement Fan Coil



Photo M8 – One group of Hoods and Fans

Chilled water plant is comprised of a Carrier reciprocating chiller located in the basement which rejects heat to a remote roof mounted dry cooler. Chiller only contains a single compressor. Chiller operates with R-22 refrigerant. Copper piping between the chiller and dry cooler is high pressure refrigerant. Chiller and remote condenser are in fair to good condition. R-22 refrigerant is becoming more and more difficult to obtain since it is not permitted in new equipment. Chilled water is circulated by a pair of constant volume pumps. Consideration should be given to a phase-out plan to remove the R-22 equipment and install an R-410a air-cooled multiple scroll chiller on the roof.



Photo M9 – Carrier Chiller



Photo M10 – Roof Mounted Condensing Unit

Multiple roof mounted exhaust fans serve various toilet rooms throughout the facility. It is unclear how these fans operate; whether by occupancy sensor, schedule, or switch.

Apparatus bay has a pair of Airius Air Pear destratification fans located at the roof to move stagnant hot air around the bay to increase comfort in the winter.

A pair of wall mounted mini-split evaporators serve the workout room on the second floor. Evaporators are connected to a pair of condensing units on the roof. Mini-splits are in good condition.

A Plymovent vehicle exhaust system located in the main Apparatus Bay, Chief's Bay and Fire Prevention Bay connects to the vehicle's tailpipe to directly exhaust combustion fumes out of the building. System consists of approximately 11 high temperature hoses with tracks and roller guide so hose can follow truck out of the building, auto releases, and a single exhaust fan and filter housing. System was installed in 2009 and is in good condition. Exhaust is discharged through the exterior wall of the first floor and turns up and extends above the roof line.



Photo M11 – Plymovent system



Photo M12 – (L to R) Plymovent exhaust, Dryer Vent, generator exhaust, gas boiler terminations and gas meter.

The first floor kitchen/lounge was recently renovated. The kitchen includes a full commercial range hood with fire suppression system which is ducted up to the roof to an upblast exhaust fan. System is in good condition.

A smaller kitchen and dining room in the basement contains a residential range hood which is ducted to the exterior, but has had the grease filters removed and the duct blocked. Unit is vented to the exterior. However, since this residential range is installed in a commercial building, a UL listed commercial hood is required, including a fire suppression system.



Photo M13 – First Floor Kitchen Hood

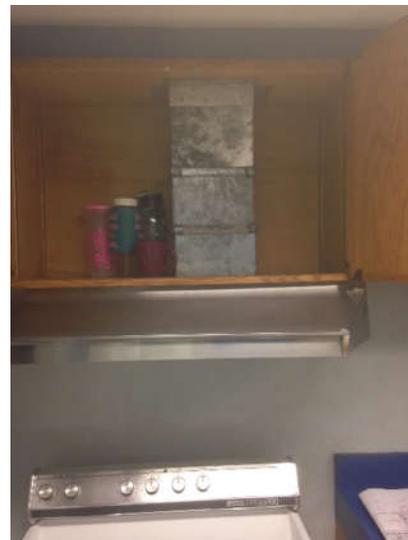


Photo M14 –Basement Kitchen Hood

The hose drying tower is ventilated and heated via an outside air louver, interior louver in the apparatus bay, mixing box, supply fan and large heating coil. Mixing box blends outside air and

return air and discharges super heated air. At the top of the hose tower there are barometric relief dampers to exhaust the hot, humid air out.



Photo M15 – Hose Drying Fan and HW Coil

Mechanical Systems Summary:

Required System Modifications:

- Replace condensing boiler venting with polypropylene certified for boiler service. – \$5,000.
- Install commercial kitchen range hood with integral fire suppression system in basement kitchen. – \$10,000.

Recommended System Improvements:

- Replace chiller system with higher efficiency R-410a air-cooled unit with multiple scroll compressors. – \$150,000.
- Consider installation of energy recovery unit to exhaust toilet rooms and provide tempered ventilation to fan coil units. – \$45,000.
- Modify hot water loops to add zone valves and provide variable speed pumps. – \$65,000.

PLUMBING ANALYSIS

General Description:

Domestic Water Service:

Facility is served with public water supply from the street. Water enters the facility through the basement boiler room. Service from the street is 4", which is immediately reduced to a 2" water meter and backflow preventer. This capacity should be verified. Truck fill time should be reviewed as well as pressure requirements. There are a pair of garden hoses and truck fill hoses in the apparatus bay in addition to numerous showers, toilet rooms, and kitchen.



Photo P1 – Domestic Water Service Meter

Sanitary Sewer:

Existing sanitary piping is mostly concealed below the basement floor and concealed above the basement ceiling. The sanitary piping consists of primarily original cast iron pipe, and there don't appear to have been many revisions to the sanitary system except the recently renovated kitchen. Sanitary leaving the building appears to be 6" cast iron to the main at the street. Piping appears to be of sufficient size for facility's current usage and appears to be in fair to good condition. It appears that storm drainage is collected independent of building sanitary piping.

There is an interior oil/grit separator indicated on existing drawings intended to serve the apparatus bay floor drains prior to connection to the sanitary sewer main. Location was not confirmed during our visit.

There is a sump pit in the basement boiler room which is pumped up onto the sanitary main. Pump appears to be in fair condition.

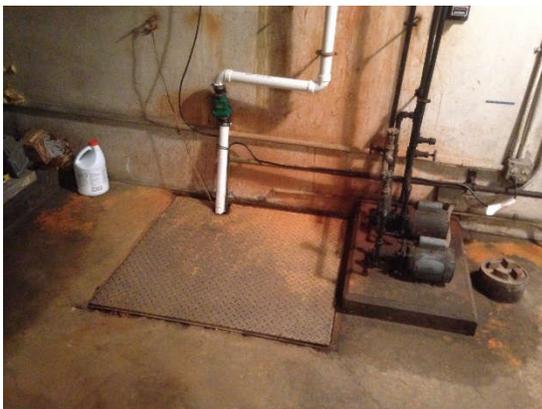


Photo P2 – View of Basement Sump Pump

Roof Drainage:

The main roof is flat with numerous roof drains around the perimeter serve primary means of roof drainage. Secondary means of drainage appears to be overflow over the roof edge through a few cuts in the parapet wall. Drainage piping exposed in the basement appears to be original cast iron piping. Outlet piping appears to be 8" which is sufficient for the roof area. Exposed roof drain

pipng was fully insulated to prevent condensation and heat loss. Cast iron baskets on the existing roof drains are in fair condition.



Photo P3 – View of Roof Drain (right)



Photo P4 – View of Reliefs in Parapet Wall

Plumbing Fixtures:

The plumbing fixtures in the building appear to be mostly original. The fixtures are in fair to good condition however none of the fixtures appear to be water conserving type. Fixtures also do not appear to meet ADA requirements for height, access or operator type. The exception is the recently renovated kitchen. It is noticeable that the countertop has been lowered and the knee space available below the sink as required. Approach to shower stalls and toilet are very troublesome to achieve ADA access. Major renovations may be necessary. The number of fixtures provided appears to be adequate for the current use of the facility. See Architectural section for more information on ADA access and fixture quantity.

At the bottom of both stair towers there are a pair of exposed shower heads and valves. It is reported these showers were intended for decontamination for fire fighters returning from events. These fixtures are no longer used, and should be removed.



Photo P5 – Toilet Room Fixtures



Photo P6 – Toilet Fixture



Photo P7 – ADA accessible sink in kitchen



Photo P8 – Decontamination Showers

Domestic Hot Water:

Domestic hot water is generated by the boiler plant via an indirect fired 120 gallon tank in the boiler room. Unit appears to be sized adequately for the current fixtures in the building and is in good condition. Reducing water usage at lavatories, sinks and shower would reduce load on hot water heater. A bronze recirculation pump on the cold water inlet to the water heater is controlled by a Tekmar controller and an aquastat. Domestic hot water recirculation pump and controls appear to be in good condition. Hot water piping where visible appeared to be copper and well insulated.



Photo P9 – Domestic Water Heater



Photo P10 – HW Recirc Pump and Aquastat

Plumbing Systems Summary:

Required System Modifications:

- Provide water conserving, ADA accessible fixtures. – \$80,000.

FIRE PROTECTION ANALYSIS

General Description:

Sprinkler Service:

Facility is not protected or served by an automatic NFPA 13 compliant sprinkler system.

Building should be fitted with a complete, automatic NFPA 13 compliant, wet-pipe sprinkler system. A separate, dedicated water supply should be installed from the water main at the street should be provided to the basement boiler room or alternate location created and dedicated to sprinkler service.

Fire Protection Systems Summary:

Required System Modifications:

- Install an NFPA 13 automatic sprinkler system. – *\$90,000.*

CIVIL/SITE ANALYSIS (Central Fire Station)

General Description:

Central Fire Station is located at 2 College Street on a 0.83-acre parcel near the urban core of Lewiston in the Centreville zoning district, where municipal buildings and facilities are a permitted use (Map 195-Lot 482) (see attached parcel map). The statement of purpose for the Centreville zoning district is the following [Article XI(13)(a)]:

“The purpose of the Centreville district is to encourage a concentration of economic enterprises in the central business district that is convenient and attractive for a wide range of retail, service, financial, government, professional, entertainment and appropriate residential uses in a setting conducive to a high volume of pedestrian traffic. The standards of the district will initiate economic revitalization through increased occupancy of downtown properties, improved real estate values, increased consumer activity, and encourage the restoration and preservation of historic buildings and honor the rich Franco-American cultural heritage of the community.”

The parcel is bounded by Bates Street to the west, College Street to the south, Blake Street to the west and Oak Street to the north. Central Fire Station faces Bates Street, with main access for emergency vehicles on Bates Street ($\pm 115'$ curb cut) and access to the rear parking lot on both College Street and Oak Street ($\pm 25'$ curb cuts). There are no curb cuts to the facility on Blake Street. As an artifact of the former Franklin Company, the Franklin Property Trust may have right, title or interest in the Bates Street, Oak Street, and Blake Street rights-of-way, which will make abandonment difficult and expensive.

Space and bulk requirements for the Centreville zoning district are provided in Table 1 as well as existing dimensional conditions. The existing building footprint is 10,188 SF. Because there are no setback requirements and the maximum lot coverage and impervious coverage ratio is 1.00, the maximum allowable building envelope is the entire parcel, or 35,720 \pm SF (see Buildbale Envelope attachment).

Table 1. Space and Bulk Requirements

	Ordinance	Existing
Min. Lot Size	None	0.82 acres (35,720 SF)
Min. Frontage	25 FT	742 FT
Min. Front Setback	None	25 FT (Bates Street) 50' (College Street) 75' (Blake Street) 25' (Oak Street)
Min. Front Yard	None	N/A
Min. Side & Rear Setback	None	N/A
Min. Side & Rear Yard	None	N/A
Max. Height	65 FT (20' Min.)	
Max. Lot Coverage	35,720 SF / 35,720 SF = 1.00	10,188 SF / 35,720 SF = 0.29
Max. Impervious Coverage	35,720 SF / 35,720 SF = 1.00	25,100 SF / 35,720 SF = 0.70
Buildable Envelope	35,720 SF	

Pavement

The emergency vehicle driveway on Bates Street, the parking lot east of the building and the paved walkways north, south and east of the building were paved recently and are in good condition. The parking lot consists of 22 standard parking spaces, one of which is ADA-accessible, and parking space for two large emergency vehicles. Curbing is primarily bituminous and in good condition along Blake Street, but in poor condition where not replaced near the College Street curb cut. There is also a small paved sidewalk with concrete curbing east of the building with two benches.

The Lewiston Firefighters Memorial is located at the intersection of Bates Street and College Street and consists of a granite monument with brick and granite pavers, a planting bed and shrubbery. The memorial is in excellent condition.

Drainage

The Blake Street driveway east of the building drains to a catch basin and a 15"Ø storm drain on Blake Street, which is part of the City's separated stormwater management system. The parking lot west of the building drains south to north to an on-site catch basin near Oak Street. It appears that this catch basin is connected to the City's 35" x 45" brick combined sanitary sewer system on Oak Street. No areas of erosion were observed.

Utilities

Domestic and fire protection water service is provided from a 12"Ø UCI water main on Bates Street, an 8"Ø DI water main on College Street or an 8"Ø water main on Blake Street. A combined sanitary/stormwater service connection is shown from the building to the City's 12" x 18" brick combined sanitary sewer system on Bates Street. Natural gas service is provided to the east side of the building from a 2" diameter gas main on Oak Street. Although the building is serviced by natural

gas, there is a 10,000-gallon underground fuel storage tank (replaced 1996) located near the northeast corner of the building and Oak Street.

Photos



Photo C01 – Emergency vehicle driveway on Bates Street.



Photo C02 – Emergency vehicle driveway on Bates Street.



Photo C03 – Emergency vehicle driveway on Bates Street.



Photo C04 – Lewiston Firefighters Memorial



Photo C05 – Walkway along south side of Building.



Photo C06 – Main building entrance.



Photo C07 – Parking lot from College Street. Note poor condition of asphalt curbing.



Photo C08 – Parking lot from College Street.



Photo C09 – Parking lot from College Street.



Photo C10 – Asphalt curb in parking lot along Blake Street.



Photo C11 – Asphalt sidewalk and concrete curb in in rear parking lot.



Photo C12 – Catch basin in rear parking lot near Oak Street.

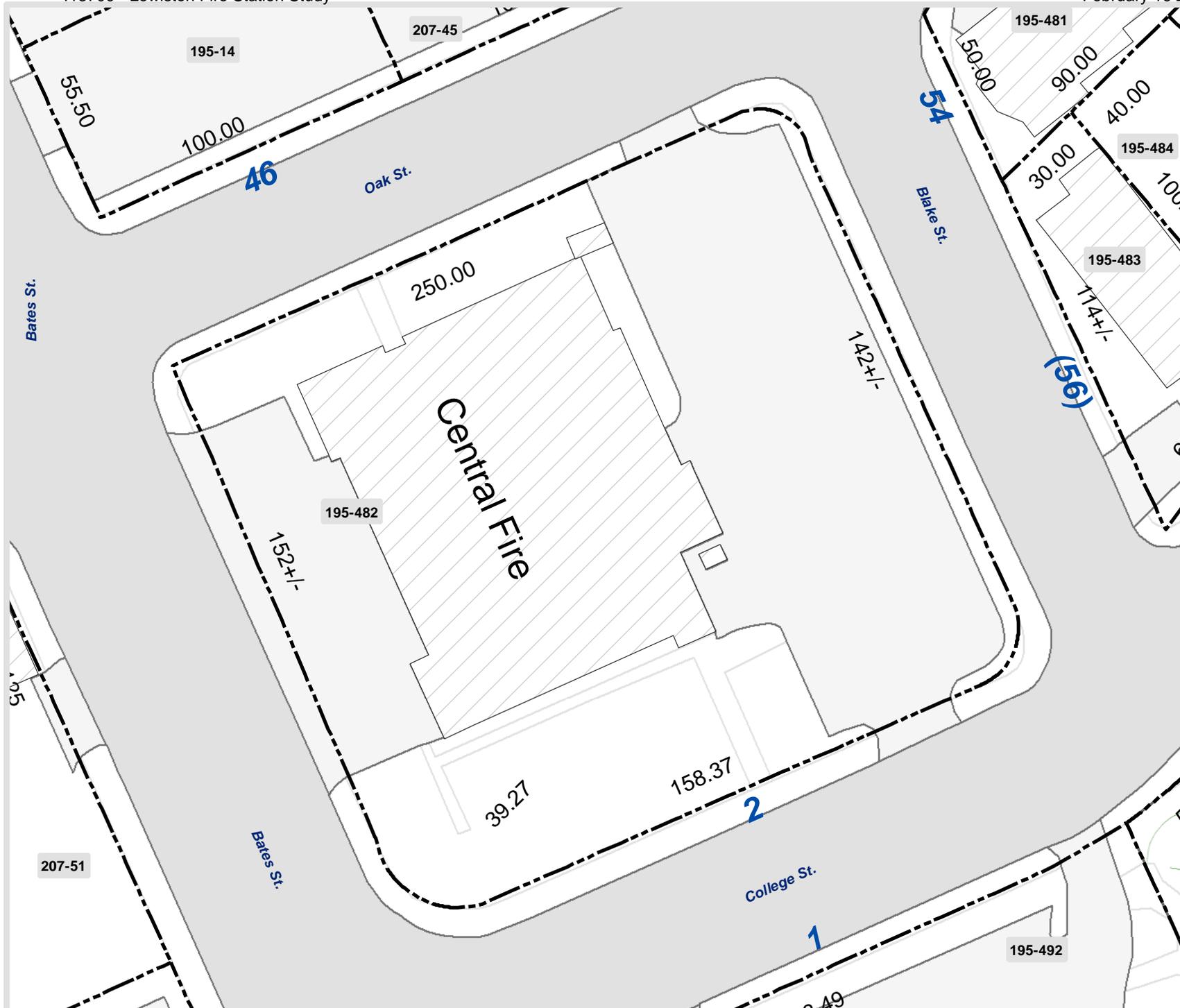


Photo C13 – Underground fuel storage tank.



Photo C14 – Walkway to Androscoggin Unified Emergency Management Agency. Entrance not ADA accessible.

Parcel Map – Central Fire Station



CITY OF LEWISTON

This Map is provided by the City of Lewiston, ME Mapping shown on is for general reference. The City of Lewiston shall not be held liable for damages due to discrepancies, and makes no warranty of accuracy of map. Field verification is required. This map is not printed to scale.

Legend

- Parcel Line
- ROW
- Easement
- Mobile Home Lot
- 22 Street Address
- 48 Tax Map Lot No.
- 100.25 Lot Dimension
- Utility ROW

Planimetric Legend:

- Building, General
- Mobile Home
- Foundation
- Deck
- Patio
- Railroad
- Fence
- Roads, Parking, Walks
- Athletic Courts, Fields
- Swimming Pool
- Lake or Pond, River, Canal
- Swamp or Apparent Wetland
- Stormwater Detention Pond
- Brooks, Streams

Cadastral mapping displayed is intended for assessment purposes only, and shall not be used in place of a boundary survey. Do not use for description delineation, or transfer of property.

Map-Lot
195-482
 114 BATES ST

Tax Mapping
 Effective April 1, 2016
 to March 31, 2017

Lewiston Maine

Buildable Envelope – Central Fire Station

BUILDABLE ENVELOPE

PROPERTY LINE

Central Station

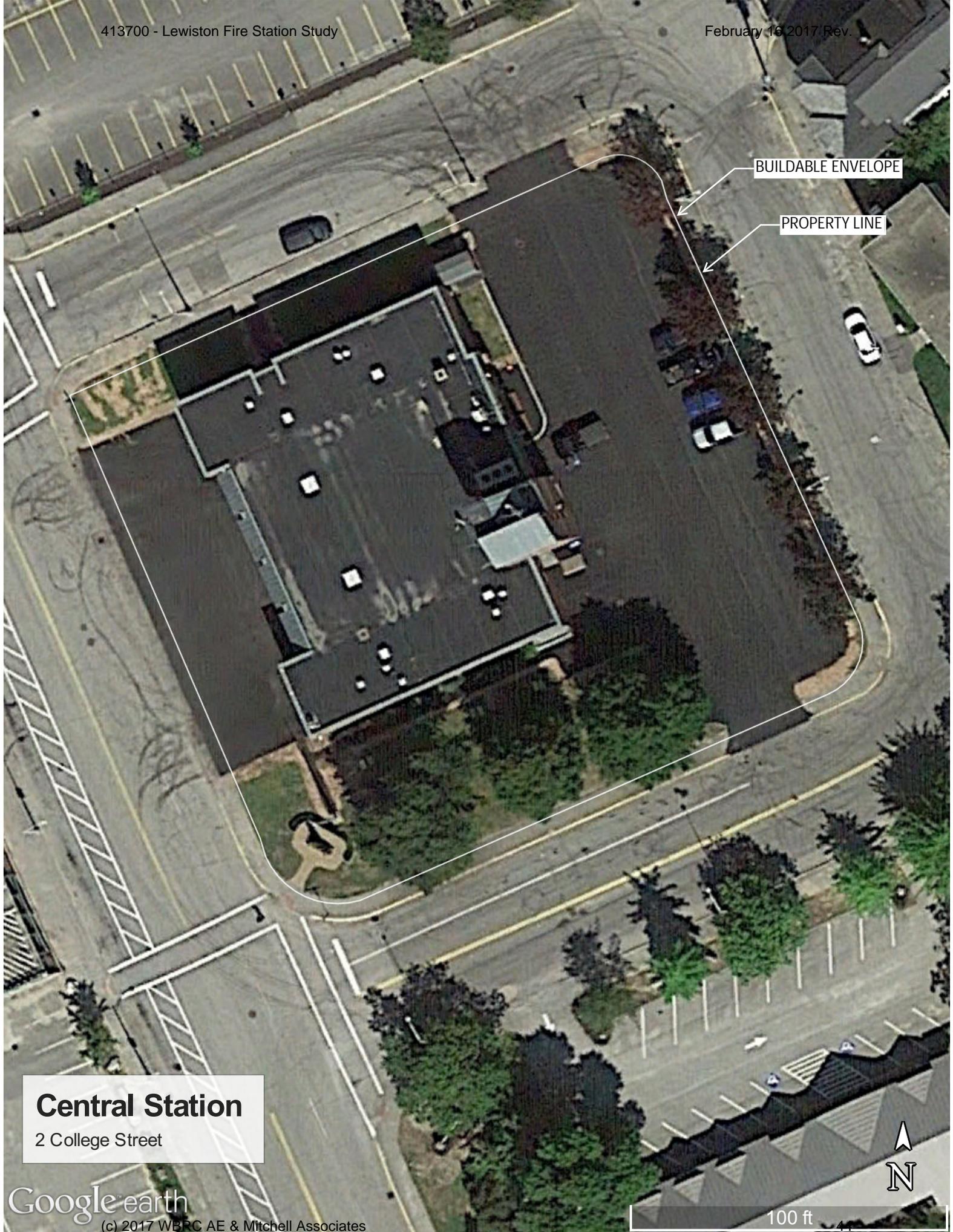
2 College Street

Google earth

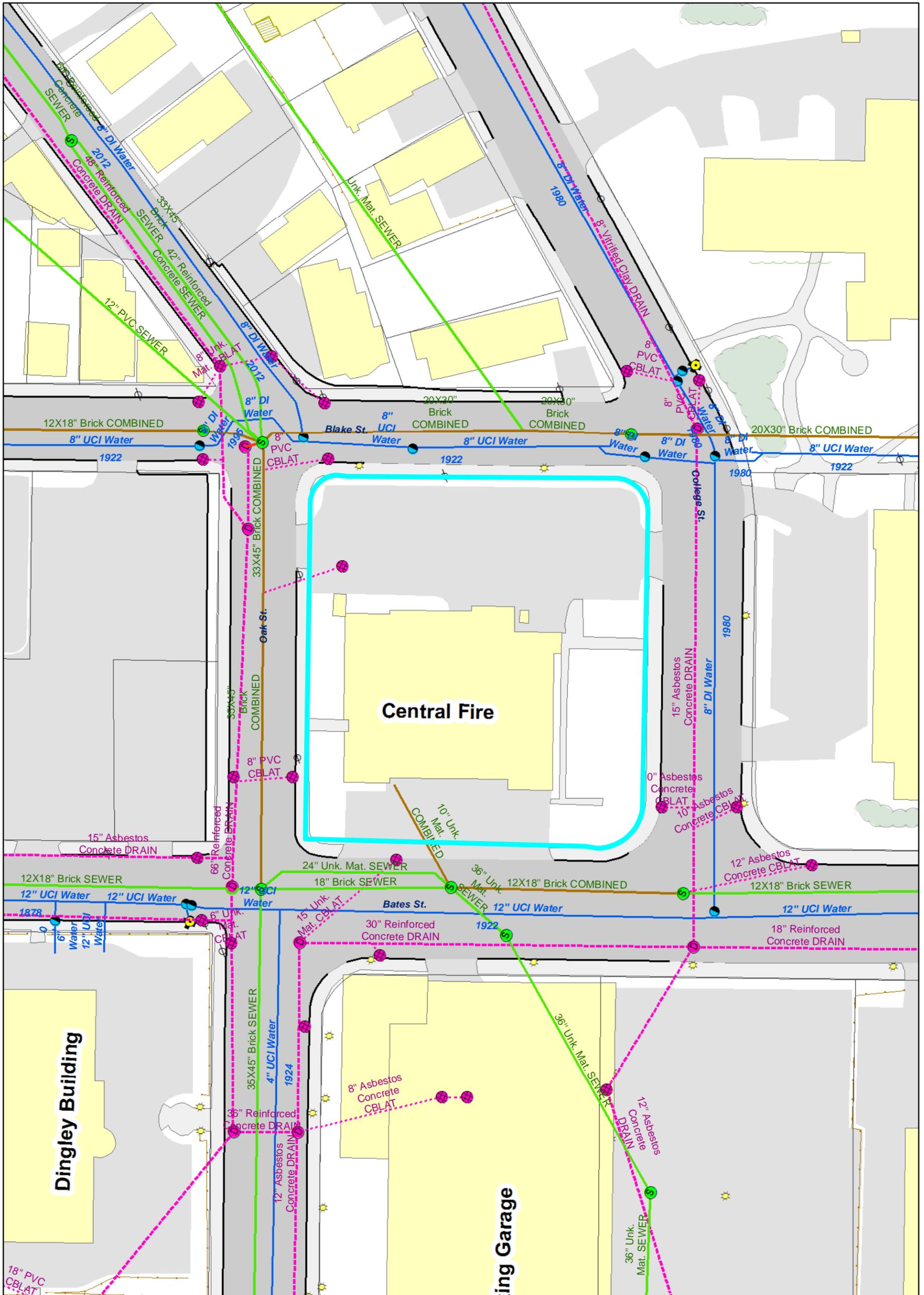
(c) 2017 WBRC AE & Mitchell Associates



100 ft



Utility Map – Central Fire Station



Central Station
 2 College Street
 Lewiston, Maine 04240
 Map 195 Lot 482



1 inch = 50 feet
 Date: 10/12/2016

Building Name	College Street Central Station
Factored Present Building Value	
4137.00 - Lewiston Fire Station Study	
FIREHOUSE 2-STORY (means Comparison Building Type)	
M.230 (means use Type No.) - 2017	



= User Entered Field

Means Parameter Values	Building Square Footage	26638 SF	
	Means SF average cost (based on 6,000 s.f. bldg.)	156.45 \$ per SF	\$7,084,775.67
	SF cost for this building size = s.f.	265.97 \$ per SF	
	Location adjustment for Location, Size, Historic Results	1.7 Size, Historic Results	

SYSTEM	DESCRIPTION	%	SF Applied (equals total unless edited)	Unit	AVERAGE BASE SYSTEM COST (per SF)	LOCATION ADJUSTMENT	Adjusted Cost (per SF)	FCI	VALUATION
A. SUBSTRUCTURE									
1010	Standard Foundations		26638	SF	\$2.85	1.7	\$4.85	0.2	\$25,812.22
1030	Slab on Grade		26638	SF	\$2.34	1.7	\$3.98	0.2	\$21,193.19
2010	Basement Excavation		26638	SF	\$1.66	1.7	\$2.82	0.7	\$52,620.71
2020	Basement Walls		26638	SF	\$4.81	1.7	\$8.18	0.7	\$152,473.25
B. SHELL									
SUPERSTRUCTURE									
1010	Floor Construction		26638	SF	\$18.17	1.7	\$30.89	0.2	\$164,564.24
1020	Roof Construction		26638	SF	\$6.89	1.7	\$11.71	0.2	\$62,402.18
EXTERIOR ENCLOSURE									
2010	Exterior Walls		26638	SF	\$9.71	1.7	\$16.51	0.2	\$87,942.69
2020	Exterior Windows		26638	SF	\$2.19	1.7	\$3.72	0.2	\$19,834.65
2030	Exterior Doors		26638	SF	\$3.48	1.7	\$5.92	0.2	\$31,518.08
ROOFING									
3010	Roof Coverings		26638	SF	\$3.06	1.7	\$5.20	0.2	\$27,714.18
3020	Roof Openings		26638	SF	\$0.09	1.7	\$0.15	0.2	\$815.12
C. INTERIORS									
1010	Partitions		26638	SF	\$4.48	1.7	\$7.62	0.2	\$40,575.00
1020	Interior Doors		26638	SF	\$2.67	1.7	\$4.54	0.2	\$24,181.98
1030	Fittings		26638	SF	\$0.43	1.7	\$0.73	0.2	\$3,894.48
2010	Stair Construction		26638	SF	\$2.85	1.7	\$4.85	0.2	\$25,812.22
3010	Wall Finishes		26638	SF	\$3.19	1.7	\$5.42	0.2	\$28,891.57
3020	Floor Finishes		26638	SF	\$1.89	1.7	\$3.21	0.2	\$17,117.58
3030	Ceiling Finishes		26638	SF	\$2.58	1.7	\$4.39	0.2	\$23,366.85
D. SERVICES									
CONVEYING									
1010	Elevator and Lifts		26638	SF	\$8.29	1.7	\$14.09	0.3	\$112,622.80
1020	Escalators & Moving Walks	No escalator present	26638	SF	\$0.00	1.7	\$0.00	1.0	\$0.00
PLUMBING									
2010	Plumbing Fixtures		26638	SF	\$8.58	1.7	\$14.59	0.2	\$77,708.37
2020	Domestic Water Distribution		26638	SF	\$1.70	1.7	\$2.89	0.2	\$15,396.76
2040	Rain Water Drainage		26638	SF	\$0.59	1.7	\$1.00	0.2	\$5,343.58
HVAC									
3020	Heat Generating Systems		26638	SF	\$5.16	1.7	\$8.77	0.2	\$46,733.71
3030	Cool Generating Systems		26638	SF	\$4.00	1.7	\$6.80	0.2	\$36,227.68
3050	Terminal and Package Units		26638	SF	\$11.60	1.7	\$19.72	0.2	\$105,060.27
3090	Other HVAC Sys. & Equip.		26638	SF	\$3.35	1.7	\$5.70	0.1	\$15,170.34
FIRE PROTECTION									
4010	Sprinklers	Not present	26638	SF	\$0.00	1.7	\$0.00	0.0	\$0.00
4020	Standpipes	Not present	26638	SF	\$0.00	1.7	\$0.00	0.0	\$0.00
ELECTRICAL									
5010	Electrical Service/Distribution		26638	SF	\$0.94	1.7	\$1.60	0.2	\$8,513.50
5020	Lighting and Branch Wiring		26638	SF	\$5.72	1.7	\$9.72	0.2	\$51,805.58
5030	Communications and Security		26638	SF	\$1.39	1.7	\$2.36	0.2	\$12,589.12
5090	Other Electrical Systems	Not used	26638	SF	\$0.50	1.7	\$0.85	0.2	\$4,528.46
E. EQUIPMENT AND FURNISHINGS									
1010	Commercial Equipment	Factored outside of building analysis	26638	SF	\$0.00	1.7	\$0.00	0.0	\$0.00
1020	Institutional Equipment	Factored outside of building analysis	26638	SF	\$0.00	1.7	\$0.00	0.0	\$0.00
1030	Vehicular Equipment	Factored outside of building analysis	26638	SF	\$0.00	1.7	\$0.00	0.0	\$0.00
1090	Other Equipment	Factored outside of building analysis	26638	SF	\$0.00	1.7	\$0.00	0.0	\$0.00
F. SPECIAL CONSTRUCTION									
1020	Integrated Construction	Not used	26638	SF	\$0.00	1.7	\$0.00	0.0	\$0.00
1040	Special Facilities	Not used	26638	SF	\$0.00	1.7	\$0.00	0.0	\$0.00
G. BUILDING SITEWORK									
		Factored separately on total statement of probable							
SUB-TOTAL			26638	SF	\$125.16		\$212.77		\$1,302,430.38
Contractor Fees		(General Requirements: 10%, Overhead: 5%, Profit: 10%)	25%		\$31.29		\$53.19		\$325,607.60
TOTAL					\$156.45		\$265.97		\$1,628,037.98

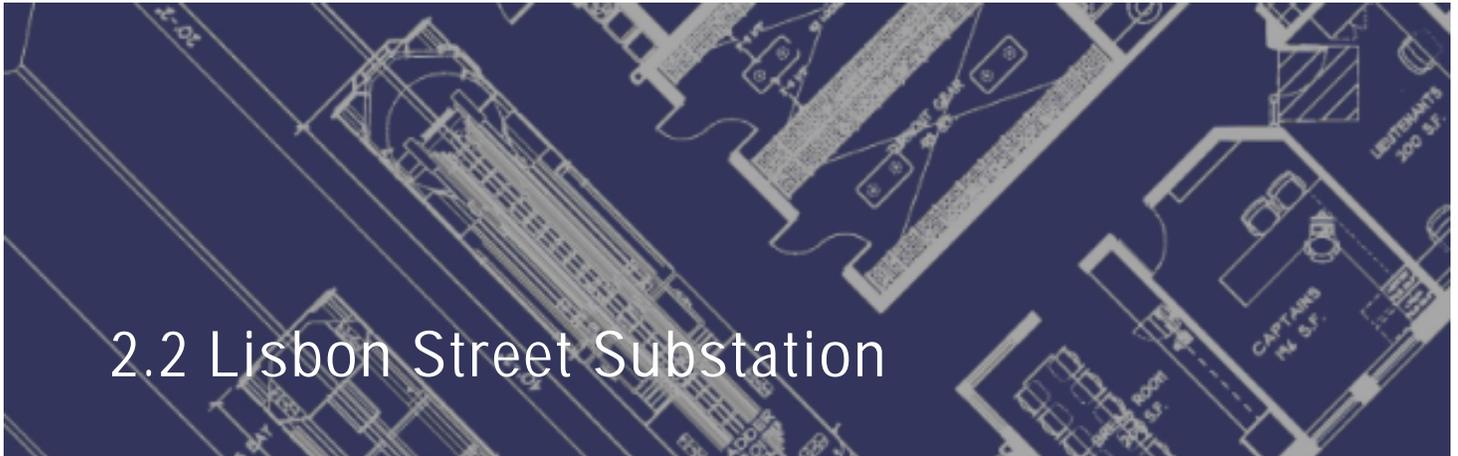
\$1,628,037.98
Factored Building Value

FCI = Value of Existing System/New Construction

DOES NOT include demolition cost implications

0.23

2.0 Property Condition Assessments



LISBON STREET FIRE STATION

ARCHITECTURAL ANALYSIS

General Description:

The Lisbon Street Fire Station, constructed in 1950, is a single-story building with a partially finished basement. The 860 SF basement area includes a fitness room and an abandoned Boiler room. The first floor area which includes a 1,565 SF Apparatus Bay, Bunk Rooms, Office/Lounge/Dining/Kitchen, and a single bathroom is in total approximately 2,975 SF. As part of the Architectural assessment, we evaluated the existing physical conditions of the building envelope, interior finishes, ADA accessibility, and life safety / code compliance.

Roof System: The existing membrane roof system and edge flashing was last replaced in 2011 and is in good condition. Roofing is placed over 2" wood plank and steel bar joist. The 2011 roof replacement likely improved the thermal performance of the roof by increasing the insulation thickness from 1" to potentially 3".



Photo LS-A1 – View of High Roof



Photo LS-A2 – View of Low Roof

Exterior Wall System #1: Located on the North, West, and South sides of the building and consists of uninsulated 8" load bearing CMU with 4" brick veneer. R-15.2 continuous insulation is required for this wall system to comply with the current Energy Code. This could be achieved by applying a new wall system to the interior face of the existing masonry wall. It would consist of horizontal wood strapping, 3" rigid board insulation, and 5/8" gypsum sheathing. In the apparatus bay location, gypsum should be abuse, moisture, and mold resistant. The exterior wall system is in good condition but is poorly insulated. Envelope concerns such as deteriorated or open mortar joints, areas of moisture infiltration, fractured brick units, stress cracks in the masonry assembly and worn expansion joint materials need to be addressed. Thermal improvements to the exterior wall would likely reduce energy cost as well as reduce damage to interior finishes left by the formation of condensation within the CMU back-up wall. Thermal improvements could occur on the inside or outside of the existing wall. Exterior improvement would be less obtrusive. Both options would be costly. From an envelope standpoint, this building is in need of a focused masonry maintenance program.

Exterior Wall System #2: Located on the East side of the building, this system consists of 8" concrete stem wall to an elevation 2'-5" above finish floor and 3/4" of insulation under wood paneling on the interior face of the wall. Above the stem wall is 2x6 wood framed wall with 3 1/2"

cavity batt insulation. Interior side of wall is finished with 3/4" of insulation under wood paneling. Exterior side of wall is finished with asbestos cement board, which was covered in 1998 with vinyl siding and break metal trim. R-15.2 continuous insulation at the stem wall and R-13 + R-7.5 continuous insulation above the stem wall is required to comply with the current Energy Code. This could be achieved by replacing the 3/4" rigid insulation with new 3" rigid board insulation at the stem wall and removing the interior system to the interior face of the existing masonry wall that consists of horizontal wood strapping, 3" rigid board insulation and 5/8" gypsum sheathing. In the apparatus bay location, gypsum should be abuse, moisture and mold resistant.



Photo LS-A3 – View of South Façade



Photo LS-A4 – View of East Façade

Exterior Fiberglass Doors: There are 3 exterior fiberglass insulated doors in metal frames which are in good to fair condition. These doors and frames are not original. Door hardware is knob type which should be replaced with lever type to comply with ADA. Useful life expectancy is 10+ years with proper annual maintenance.

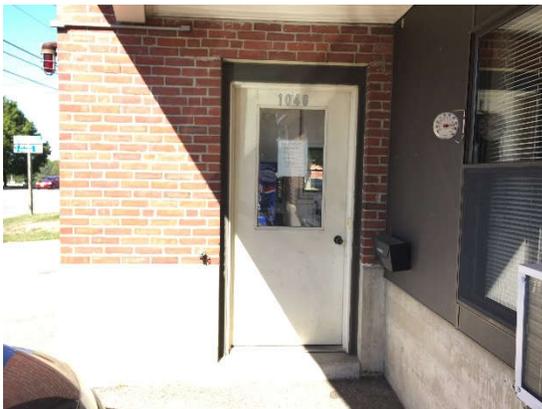


Photo LS-A5 – View of Apparatus Bay South Entry



Photo LS-A6 – View of North Façade

Exterior Overhead Door: There is 1 exterior overhead door which is in good condition. Useful life expectancy is 10+ years with proper annual maintenance.



Photo LS-A7 – View of South Facade



Photo LS-A8 – View of Apparatus Bay

Exterior Window: First floor windows are aluminum framed windows with insulated glazing. The windows appear to have been replaced within the last 15yrs and are in good condition. Most basement windows are newly replaced vinyl windows that are in good condition. There is 1 window in the mechanical room which is an original wood window. This window has met its useful life expectancy and should be replaced within the next 2 years.



Photo LS-A9 – View of reflective window

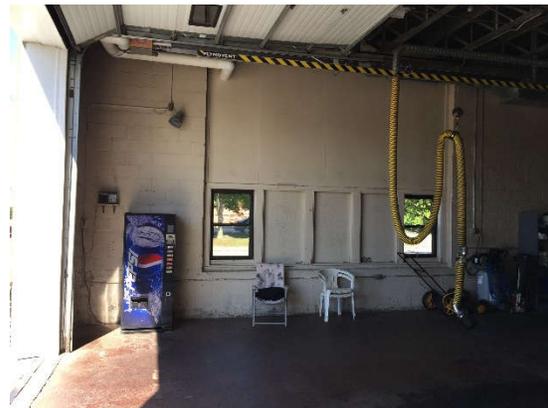


Photo LS-A10 – View of window



Photo LS-A11 – View of Mechanical Room Window



Photo LS-A12 – View of Basement window

Interior Observations Basement:

The general layout of the space is original.

- Flooring consists of painted concrete and raw concrete. There is likely no vapor barrier under the existing slab. We recommend installing a slab moisture mitigation system prior to any new flooring being installed.
- Walls are painted concrete.
- Ceiling is exposed.
- Concrete floor painted slab.
- Door to mechanical room is original and has met its useful life expectancy.
- There are no window interior windows on this floor
- Stairs risers exceed code maximum by 1". Stair tread exceed code minimum by 2". Handrails are not compliant.

ADA accessibility deficiencies include but are not limited to the following items:

1. There is no elevator access to fitness room.



Photo LS-A13 – South view of Fitness Room



Photo LS-A14 – North view of Fitness Room

Interior Observations First Floor:

The general layout of the space is mostly original. The former Entry and Office has been opened into existing lounge.

- Flooring:
 - Coated concrete floor in Apparatus Bay is in fair condition and is nearing its useful life expectancy. New epoxy floor coating recommended within the next 5 years.
 - VCT flooring in Bedrooms is in fair condition and has met its useful life expectancy.
 - Linoleum flooring in common area is in fair condition wear and is nearing its useful life expectancy.
 - Ceramic tile flooring in bathroom is in fair condition and has met its useful life expectancy.
- Walls:
 - Painted CMU walls in Apparatus bay are in good condition. Repointing of mortar joint in several areas recommended.
 - Wood paneling is original and has met its useful life expectancy. Recommend replacing wood paneling and board insulation with 5/8" gypsum wall board and 1 1/2" rigid board insulation.
 - Ceramic tile walls in bathroom are in fair condition and has met its useful life expectancy.
- Ceilings:
 - Painted structure in Apparatus Bay is in good condition
 - 2x4 ACT should be in fair condition. Recommendation is to replace damaged tiles. Grid and tile could be painted to give a fresh look.

- Wood doors, frames, and hardware should be replaced with 36" wide doors and ADA compliant Hardware.
- No interior windows.
- Door from living quarters to Apparatus Bay is does not latch as required by Code. Door hardware should be replaced with latching hardware.

ADA accessibility deficiencies include, but are not limited to, the following items:

1. Elevator access to basement Fitness Room
2. Kitchen cabinets and appliances are non-conforming. New countertop, base and upper cabinets that comply with ADA are recommended.
3. Bathroom access clearances.
4. Kitchen Bathroom and Bedroom doors cannot accommodate required push and pull clearances and are not 36" wide.
5. Knob type door hardware should be replaced with lever type hardware
6. Bathroom plumbing fixtures are non-conforming. Two new gender specific bathrooms that comply with ADA are recommended.



Photo LS-A15 – North view of Lounge



Photo LS-A16 – South view of Lounge



Photo LS-A17 – View of Bathroom



Photo LS- A18 – View of Bathroom

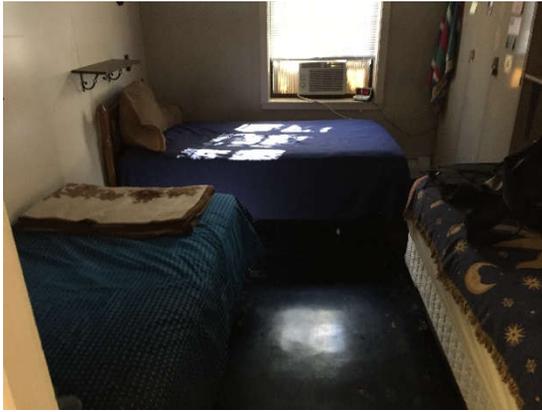


Photo LS-A19 – View of typical Bedroom



Photo LS-A20 – North View of Apparatus Bay

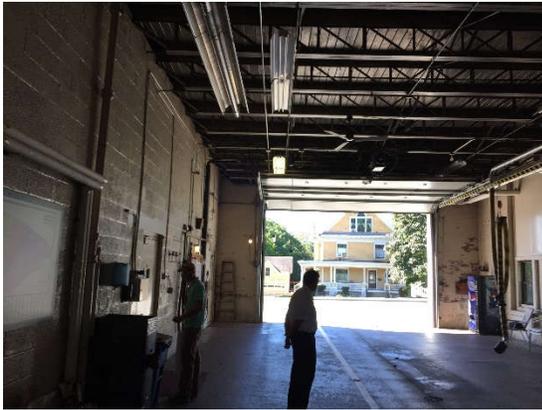


Photo LS-A21 – South View of Apparatus Bay



Photo LS-A22 – View of CMU wall

Lisbon Street Conclusion and Recommendations:

The building has meet the intent of its original design, however it would not comply with today's design standards. The thermal envelope is below minimum allowable insulation requirements. Existing bathroom should be replaced with 2 new bathrooms to comply with ADA and local codes. Kitchen cabinets, countertop, and appliance improvements are required to comply with ADA and local codes. Bunkroom doors should be increased from 2'-8" to 3'-0" wide to comply with ADA. Bunkrooms are set up with 3 beds and are size for two. Basement stair risers, treads and railings are non-conforming. An elevator is required to Fitness area. Knob type door hardware should be replaced with lever type hardware.

Most of the recommended modifications above would make the space less functional without expanding the existing building.

1046 LISBON STREET FIRE STATION

ELECTRICAL ANALYSIS

General Description:

Electrical Service and Power Distribution:

The electrical service for the facility consists of a pole mounted utility transformer located on Lisbon Street. The 120/208V, 3-phase, aerial secondary feeder from the transformer extend to building mounted meter and then continues underground to serve a single 200A panelboard located in the fitness room. Branch circuits appear to be distributed throughout spaces utilizing EMT conduit and there is plenty of spare capacity within the panelboards for future circuits. Workspace clearance in front of panelboards and other electrical equipment as required by Code (*NEC, Article 110.26*) have not maintained.

While the panelboard appears to be in good condition, it was noted during site visit that the branch circuits serving the sleeping areas, kitchen and living area are not currently protected by arc-fault interrupter circuit breakers as required by Code (*NEC, Article 210.12(C)*). It was also noted that there appears to be an inadequate number of receptacles throughout the facility which could lead to overloaded branch circuits.

Receptacles located in the apparatus bay have been provided as GFI receptacles with weather-proof covers.

It was also noted that receptacles in bedrooms and living area are standard duplex receptacles rather than tamper-proof receptacles as required by Code (*NEC, Article 406.12*).

Standby power is provided to facility via portable 5kW generator that is kept in a locked storage container. Upon loss of normal power, the generator must be plugged into the receptacle located on the deck and power gets transferred to the select circuits. Receptacle generator connection appears to be a flexible cord extended through the exterior wall of the building and located in hinged enclosure to shield it from weather. Installation of flexible cord through wall does not meet Code (*NEC, Article 400.8*) and exterior box is in poor condition.



Photo E1 – Electrical Service Entrance



Photo E2 – Generator Connection

Interior, Exit and Emergency Lighting

The facility currently utilizes industrial style fixtures with T12 lamps and associated magnetic ballast as its primary lighting source through the main apparatus bay and mechanical spaces. Kitchen and living area utilized recessed troffer style fixtures with T12 lamps for lighting while the bedrooms contained residential style light fixtures that appear to utilize incandescent bulbs. Control for all lighting throughout the facility appears to be manual switch only with no automatic controls.

Emergency lighting throughout the facility is limited to only two battery unit located in the apparatus bay and main living area. Emergency battery unit appears to be in fair condition. Emergency battery in apparatus bay utilizes cord and plug connection for power in lieu of the more favorable hard-wired connection.

Building exits are currently marked only with non-luminescent paper signage. Constantly illuminated exit signage, either ac powered or photoluminescent, is required by Code (*NFPA 101, Chapter 7.8*).



Photo E3 – Living Area Lighting.

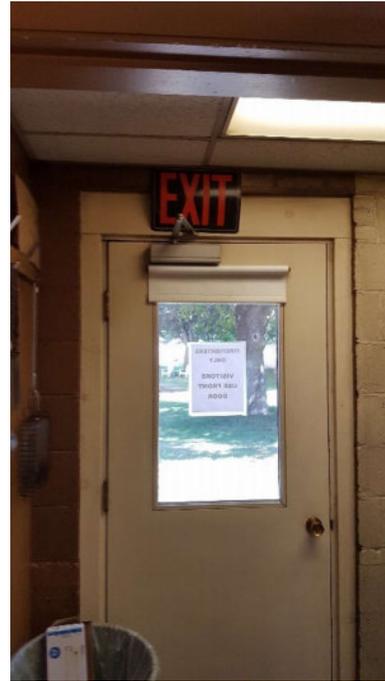


Photo E4 – Exit Signage.

Communications and Fire Alarm Systems

Telecommunication services for the facility enter aerially and extend to an equipment located in the basement fitness room. Telecommunication equipment appears to be in good condition. In current location, equipment does not appear to be well protected from physical damage.

There is no fire alarm system present in the building. Bedrooms are provided with single station smoke detector that provide audible notification only. A single carbon monoxide detector was also noted in main living area.

Emergency communications equipment for dispatch appears to be fed by a battery unit.

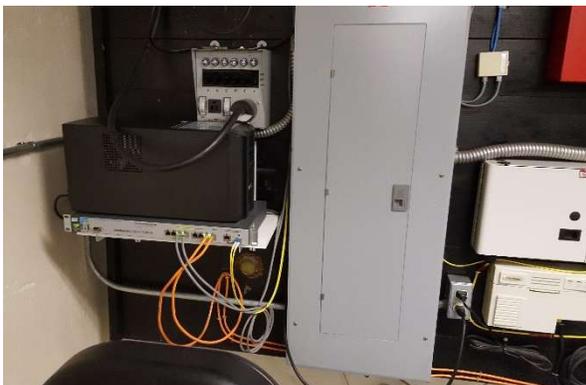


Photo E5 – Telecomm Equipment.



Photo E6 – Power Strip at Desk

Electrical Systems Summary

Recommended system revisions:

- Install arc-fault circuit breakers for branch circuits feeding bedroom, living area and kitchen loads.
- Install generator permanently connected to building electrical system.

- Install tamper-proof receptacles in bedrooms and living area.
- Replace existing lighting fixtures with new LED fixtures.
- Install emergency lighting and exit signage.
- Relocate network equipment to secure location.
- Install fire alarm system.

1046 LISBON STREET FIRE STATION

MECHANICAL ANALYSIS

General Description:

Heating System:

Facility is served by a central natural gas-fired hot water boiler plant. The existing boiler plant consists of a single Munchkin condensing, direct-vent boiler piped with primary and secondary loops located in the basement. Boiler plant was recently renovated in 2010 and is in good condition. Boiler is vented with PVC into the existing masonry chimney. We have seen issues when venting condensing boilers using PVC pipe which has a relatively low rated temperature. Boiler venting should be replaced with polypropylene which is rated for boiler service. There appear to be two zones of heat off the secondary loop, each with an individual pump. Pumps are controlled through a relay box. Secondary hot water heating loops are located in the basement and are suspended from the floor above. Piping is primarily copper pipe and appears to be in fair to good condition and is well insulated throughout the facility.

Hot water heating plant provides heat to bedrooms and lounge areas with baseboard radiation which is up-fed from the basement loop. Baseboard appears to have been replaced and is in fair to good condition. Basement workout room and boiler room is also supplied with hot water baseboard.

Hot water unit heaters originally provided in the apparatus bay have been removed and replaced with gas-fired infrared tube heaters at each end of the apparatus bay. Combustion air for the burners enter through a wall cap and are vented through the roof. Units are in good condition.



Photo M1 – Gas Boiler and Primary Pump



Photo M2 – HW Piping and PVC Venting



Photo M3 – Typical HW Baseboard



Photo M4 – Gas-Fired Infrared Tube Heater

HVAC Systems:

Building is not provided with a mechanical means of introducing ventilation air into the building. An exhaust fan in the toilet room provides some air movement but only when toilet room is in use. A small energy recovery unit should be installed to ventilate the bedrooms and lounge to provide improved indoor air quality for staff.

Apparatus bay has a pair of paddle fans located at the roof to move stagnant hot air around the bay to increase comfort in the winter.

The basement workout room and boiler room were very stale and musty. There is currently no means for air movement. A small energy recovery unit should be installed to ventilate and exhaust the basement to greatly improve indoor air quality.

There are numerous window air conditioners located in bedrooms and the lounge. The installed units are fairly old and are in fair condition. Window units typically have poor operational efficiency. A multi-unit heat pump system could be installed to provide high efficiency cooling and shoulder season heating while maintaining individual control.

A Plymovent vehicle exhaust system located in the apparatus bay connected to the fire trucks tailpipe to directly exhaust combustion fumes out of the building. System consists of high temperature hose, track with roller guide so hose can follow truck out of the building, auto release, exhaust fan, and filter. System was installed in 2009 and is in good condition.

A kitchen range hood is located in the lounge. Unit is vented to the exterior. However, since this residential range is installed in a commercial building, a UL listed commercial hood is required, including a fire suppression system.



Photo M5 – Plymovent Hose, Track and Filter



Photo M6 –Vented range hood

Mechanical Systems Summary:

Required System Modifications:

- Replace boiler venting with polypropylene certified for boiler service. – \$5,000.
- Install commercial kitchen range hood with integral fire suppression system. – \$10,000.

Recommended System Improvements:

- Install energy recovery unit to serve bedrooms and lounge. – \$12,000.
- Install energy recovery unit to serve basement. – \$8,000.

PLUMBING ANALYSIS

General Description:

Domestic Water Service:

Facility is served with public water supply from the street. Water enters the facility through the basement. Service appears to be large enough for the current facilities demand. A truck fill hose is located in the apparatus bay. It was explained that refilling the tank truck takes approximately 15 minutes, which was acceptable. If the truck was completely empty staff would fill the truck from a street fire hydrant.



Photo P1 – Domestic Water Service Meter

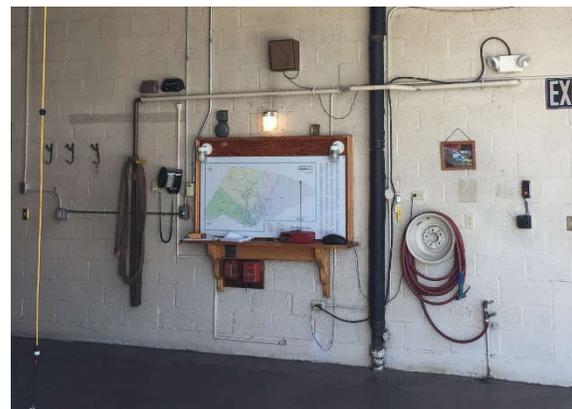


Photo P2 – Truck Fill and Interior Hose Bib

Sanitary Sewer:

Existing sanitary piping is entirely below the ground floor, visible in the basement. The sanitary piping consists of a mix of original cast iron pipe and more recently added PVC piping. Sanitary leaving the building appears to be 5" cast iron to the main at the street. Piping appears to be of sufficient size for facility's current usage and appears to be in fair to good condition. It appears that storm drainage is connected to the building sewer as well. Future renovations should separate storm drainage from sanitary. The underground original sanitary piping to the street should be inspected to determine its condition.

There is an interior oil/grit separator serving the apparatus bay floor drain prior to connection to the sanitary sewer main. We understand the separator is emptied about twice a year.

There is a sump pit in the basement boiler room which is pumped up onto the sanitary main. Pump appears to be in fair condition.



Photo P3 – Sanitary Sewer Main

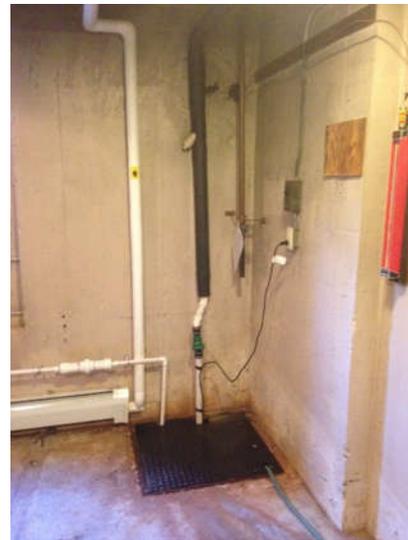


Photo P4 – View of Basement Sump Pump

Roof Drainage:

There appear to be two roof drains serving the high roof and one installed on the low roof. Secondary means of drainage appears to be overflow over the roof edge, which does not have a parapet. Drainage piping appears to be original cast iron piping. Exposed roof drain leader in the apparatus bay may have had some condensate issues, leading to partial installation of closed cell foam pipe insulation. Piping should be properly insulated including hubs and bells and jacketed. Cast iron baskets on the existing roof drains are in fair condition. Roofing was recently replaced and both roofs appear to drain well. As previously mentioned, storm drainage should be separated from sanitary sewer to prevent issues during heavy rain.



Photo P5 – Roof Drain Leader (center)



Photo P6 – View of Low Roof

Plumbing Fixtures:

The plumbing fixtures in the building appear to be original. The fixtures are in fair to good condition however none of the fixtures appear to be water conserving type. Fixtures also do not appear to meet ADA requirements for height, access or operator type. Approach to built-in shower and toilet are very troublesome to achieve ADA access. If this were to become a single-user bathroom, walls and fixtures could be removed and access improved. The number of fixtures provided appears to be adequate for the current use of the facility. See Architectural section for more information on ADA access and fixture quantity.

The apparatus bay is served with a cast iron service sink and emergency eye wash. It appears the eye wash includes a tempering valve to deliver tepid water to fixture as required.



Photo P7 – Toilet Room Fixtures



Photo P8 – Toilet Fixture



Photo P9 – Built-in Shower Stall

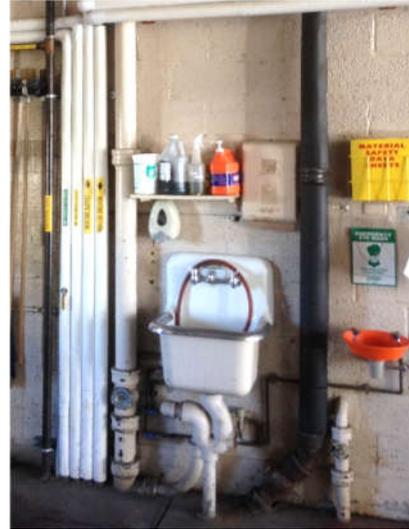


Photo P10 – Service Sink and Eyewash

Domestic Hot Water:

Domestic hot water is generated by a wall mounted instantaneous gas-fired water heater located in the apparatus bay. Unit is vented directly through the wall with stainless steel vent piping. Unit appears to be sized adequately for the current fixtures in the building and is in good condition. Reducing water usage at lavatories, sinks and shower would reduce load on hot water heater. Water heater is located directly adjacent to the toilet room, delivery time to fixtures should not be an issue. Hot water piping where visible appeared to be copper and well insulated.



Photo P11 – Domestic Water Heater

Plumbing Systems Summary:

Required System Modifications:

- Provide water conserving, ADA accessible fixtures. – *\$16,000.*

Recommended System Improvements:

- Insulate all domestic water piping for condensation control and energy efficiency. - *\$1,000.*

FIRE PROTECTION ANALYSIS**General Description:****Sprinkler Service:**

Facility is not protected or served by an automatic NFPA 13 compliant sprinkler system.

Building should be fitted with a complete, automatic NFPA 13 compliant, wet-pipe sprinkler system. A separate, dedicated water supply should be installed from the water main at the street should be provided to the basement boiler room.

Fire Protection Systems Summary:

Required System Modifications:

- Install an NFPA 13 automatic sprinkler system. – *\$30,000.*

CIVIL/SITE ANALYSIS (Lisbon Road Fire Station)

General Description:

The Lisbon Road Fire Station is located at 1046 Lisbon Street on a 0.19-acre parcel (Map 177-Lot 338) (see attached parcel map). The parcel is located in the Community Business zoning district, where municipal buildings and facilities are a permitted use. The statement of purpose for the Highway Business zoning district is the following [Article XI(12)(a)]:

“The purpose of the community business district is to provide areas within the city for the location of major shopping facilities, including shopping centers which serve the wider community. The standards of the district are intended to encourage well planned commercial developments which have controlled vehicular access and high standards of site design.”

The Lisbon Road Fire Station has frontage on Lisbon Street and Albert Street, with the building’s main façade on Lisbon Street. Space and bulk requirements for the Community Business zoning district are provided in Table 1 as well as existing dimensional conditions. The existing building footprint is 3136 SF and the maximum allowable building envelope is 2715 SF due to required front and side setbacks (see Buildbale Envelope attachment).

Table 1. Space and Bulk Requirements

	Ordinance	Existing
Min. Lot Size	None	0.23 acres (10,020 SF)
Min. Frontage	100 FT	196 FT
Min. Front Setback	20 FT	20 FT & 25 FT
Min. Front Yard	15 FT	20 FT & 25 FT
Min. Side & Rear Setback	20 FT	10 FT & 15 FT
Min. Side & Rear Yard	10 FT	10 FT & 15 FT
Max. Height	50 FT	
Max. Lot Coverage	0.50 (5010 SF)	0.31 (3136 SF/10,020 SF)
Max. Impervious Coverage	0.75 (7515 SF)	0.49 (4930 SF/10,020 SF)
Max. Buildable Envelope	2715 SF	

Pavement

There are two curb cuts at the Lisbon Road Fire Station, one on Lisbon Street and one on Albert Street. The ±40' Lisbon Street curb cut provides access to the emergency vehicle garage bay and one parking space near the building's main entrance. Asphalt pavement is in good condition. The ±20' Albert Street curb cut provides access to the rear of the building and parking for 4-5 vehicles and a walkway to two exterior doors, one to the garage bay area and one to the living quarters portion of the building. ADA access appears to be possible from this location. Asphalt pavement is in good condition.

Drainage

Surface runoff from the site flows to either a catch basin on Lisbon Street near Baird Avenue or a catch basin near the intersection of Lisbon Street and Albert Street. These catch basins are part of the City's separated stormwater management system. The building has a flat roof with roof drains that we assume are tied into the City's stormwater system. See attached Utility Map for more information.

Utilities

Water service is provided from a 16"Ø UCI water main in Lisbon Street. Sanitary sewer service is provided from the building to a 12"Ø RCP sanitary sewer main in Lisbon Street. Electric service is provided to the building from a utility pole on Lisbon Street, where three-phase power is available. Natural gas service is provided from the natural gas main in Lisbon Street. See attached Utility Map for more information.

Photos



Photo C01 – Lisbon Street façade.



Photo C02 – View toward Albert Street.



Photo C03 – View clockwise from Photo C02.



Photo C04 – View clockwise from Photo C03.



Photo C05 – View clockwise from Photo C04.



Photo C06 – View clockwise from Photo C05.



Photo C07 – View toward Albert Street.



Photo C08 – Main building entrance.



Photo C09 – View from behind building toward Albert Street curb cut.



Photo C10 – View from behind building toward Albert Street curb cut.



Photo C11 – View 180 degrees from Photo C09.

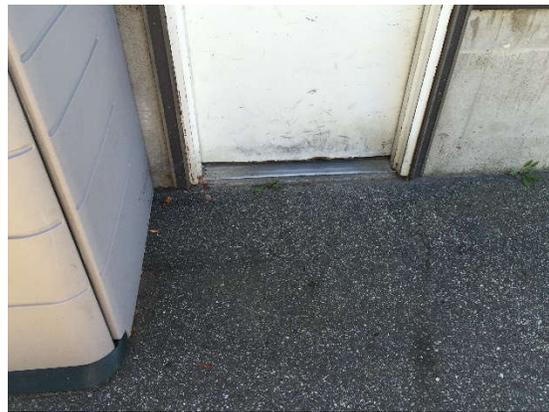


Photo C12 – Door to garage bays behind building.

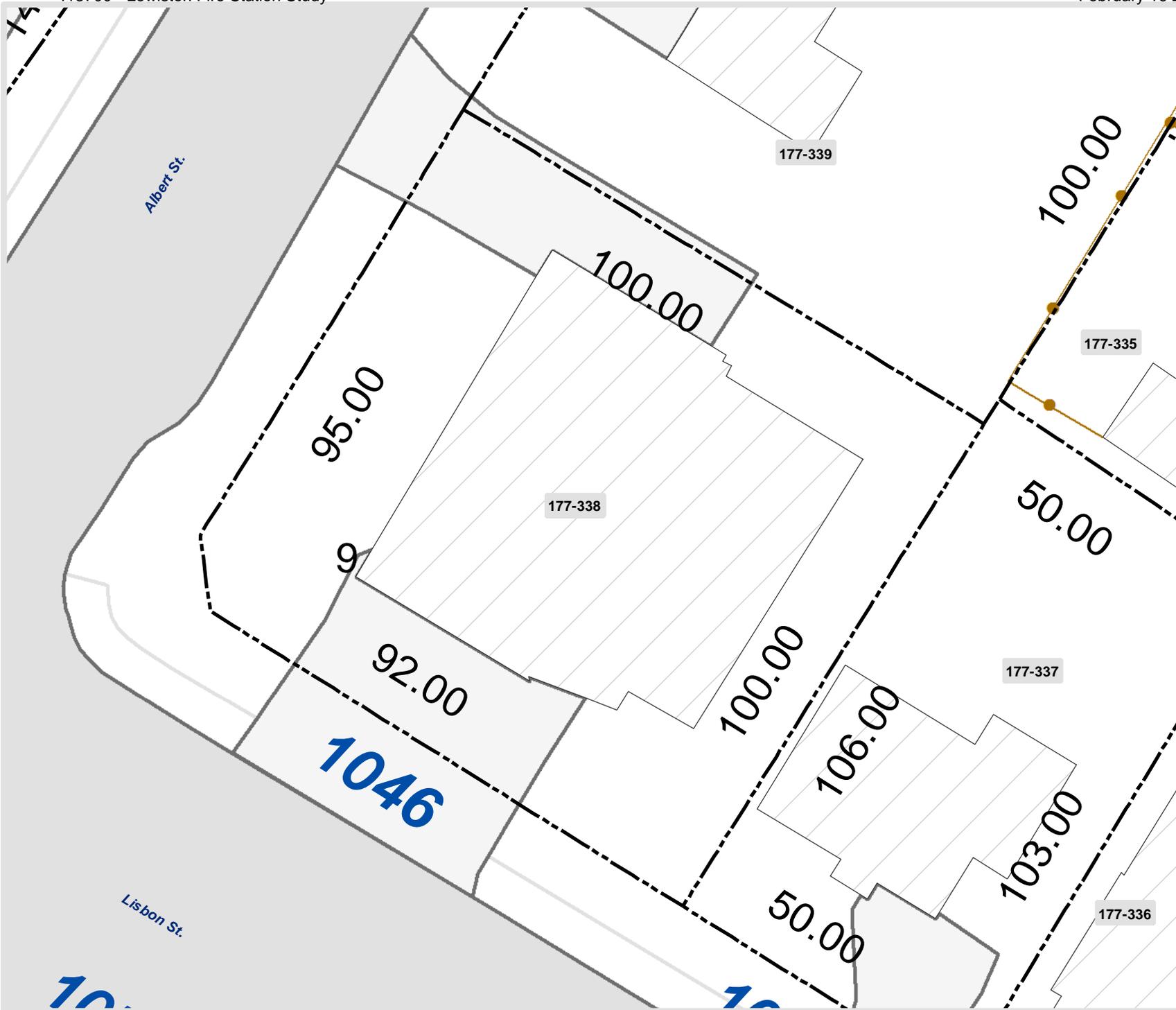


Photo C13 – Door to living quarters behind building.



Photo C14 – Natural gas and electrical service entrance on southeast side of building.

Parcel Map – Lisbon Road Fire Station



This Map is provided by the City of Lewiston, ME Mapping shown on is for general reference. The City of Lewiston shall not be held liable for damages due to discrepancies, and makes no warranty of accuracy of map. Field verification is required. This map is not printed to scale.



Legend

- Parcel Line
- ROW
- Easement
- Mobile Home Lot
- Street Address
- Tax Map Lot No.
- Lot Dimension
- Utility ROW

Planimetric Legend:

- Building - General
- Mobile Home
- Foundation
- Deck
- Patio
- Railroad
- Fence
- Roads, Parking, Walks
- Athletic Courts, Fields
- Swimming Pool
- Lake or Pond, River, Canal
- Swamp or Apparent Wetland
- Stormwater Detention Pond
- Brooks, Streams

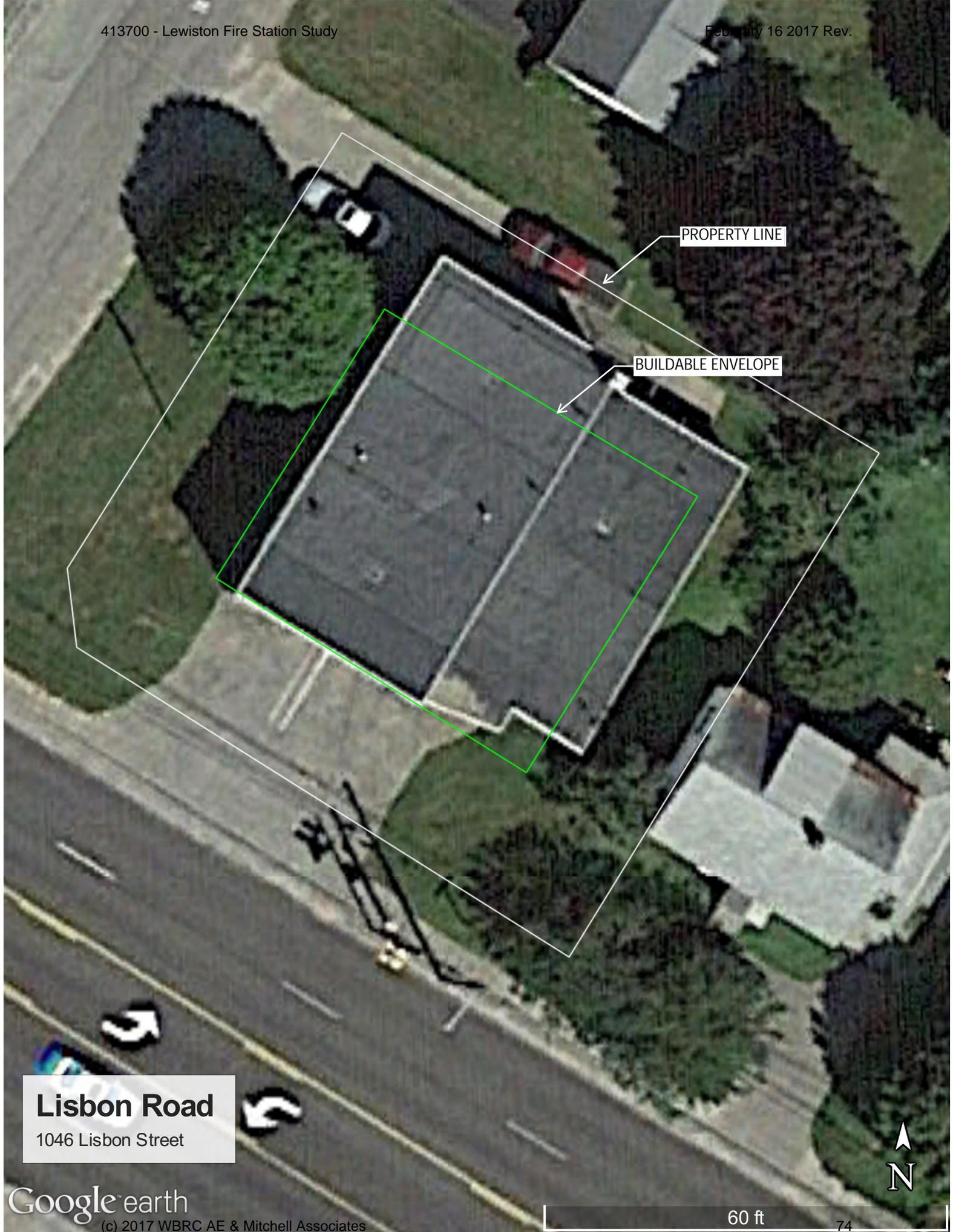
Cadastral mapping displayed is intended for assessment purposes only, and shall not be used in place of a boundary survey. Do not use for description, delineation, or transfer of property.

Map-Lot
177-338

1046 LISBON ST
Tax Mapping
Effective April 1, 2016
to March 31, 2017



Buildable Envelope – Lisbon Road Fire Station



PROPERTY LINE

BUILDABLE ENVELOPE

Lisbon Road

1046 Lisbon Street

Google earth

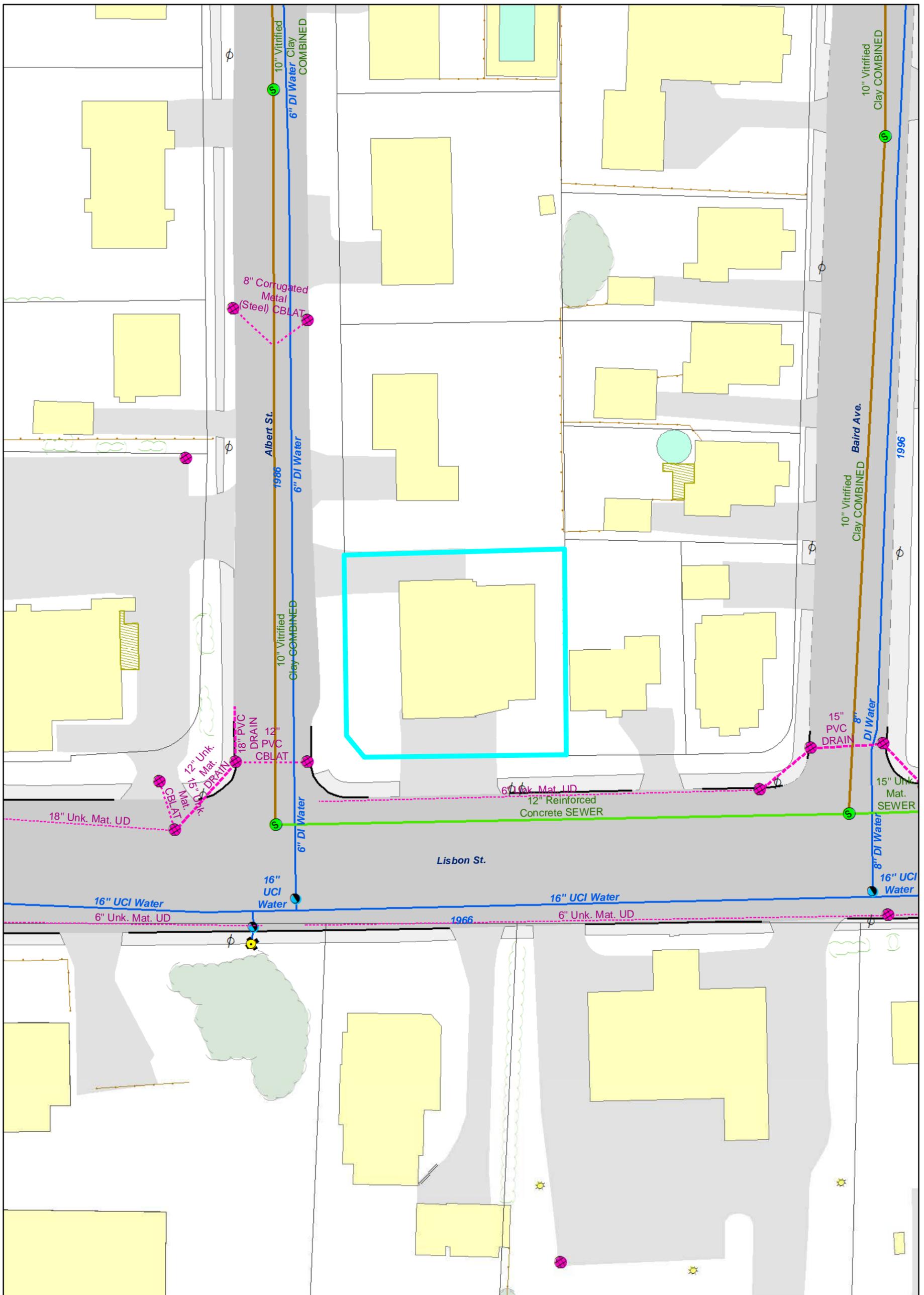
(c) 2017 WBRC AE & Mitchell Associates



60 ft

74

Utility Map – Lisbon Road Fire Station



Lisbon Road
 1046 Lisbon Street
 Lewiston, Maine 04240
 Map 177 Lot 338



1 inch = 40 feet
 Date: 10/12/2016

Building Name	Lisbon Street Substation
Factored Present Building Value	
4137.00 - Lewiston Fire Station Study	
FIREHOUSE 1-STORY (means Comparison Building Type)	
M.220 (means use Type No.) - 2017	



= User Entered Field

Means Parameter Values	Building Square Footage	2652 SF	
	Means SF average cost (based on 6,000 s.f. bldg.)	242.85 \$ per SF	\$708,442.02
	SF cost for this building size	267.14 \$ per SF	
	Location adjustment for Location, Size, Historic Results	1.1 Size, Historic Results	

SYSTEM	DESCRIPTION	%	SF Applied (equals total unless edited)	Unit	AVERAGE BASE SYSTEM COST (per SF)	LOCATION ADJUSTMENT	Adjusted Cost (per SF)	FCI	VALUATION
A. SUBSTRUCTURE									
1010	Standard Foundations		2652	SF	\$7.77	1.1	\$8.55	0.3	\$6,799.99
1030	Slab on Grade		2652	SF	\$5.13	1.1	\$5.64	0.3	\$4,489.57
2010	Basement Excavation		690	SF	\$3.71	1.1	\$4.08	0.7	\$1,971.12
2020	Basement Walls	Partial basement	690	SF	\$24.12	1.1	\$26.53	0.7	\$12,814.96
B. SHELL									
SUPERSTRUCTURE									
1010	Floor Construction		2652	SF	\$22.24	1.1	\$24.46	0.2	\$12,975.71
1020	Roof Construction		2652	SF	\$7.47	1.1	\$8.22	0.2	\$4,358.30
EXTERIOR ENCLOSURE									
2010	Exterior Walls		2652	SF	\$32.74	1.1	\$36.01	0.2	\$19,101.83
2020	Exterior Windows		2652	SF	\$3.59	1.1	\$3.95	0.2	\$2,094.55
2030	Exterior Doors		2652	SF	\$7.04	1.1	\$7.74	0.2	\$4,107.42
ROOFING									
3010	Roof Coverings		2652	SF	\$8.79	1.1	\$9.67	0.5	\$12,821.09
3020	Roof Openings		2652	SF	\$0.19	1.1	\$0.21	0.5	\$277.13
C. INTERIORS									
1010	Partitions		2652	SF	\$5.03	1.1	\$5.53	0.3	\$4,402.05
1020	Interior Doors		2652	SF	\$2.26	1.1	\$2.49	0.3	\$1,977.86
1030	Fittings		2652	SF	\$0.49	1.1	\$0.54	0.3	\$428.83
2010	Stair Construction		2652	SF	\$0.00	1.1	\$0.00	0.3	\$0.00
3010	Wall Finishes		2652	SF	\$3.37	1.1	\$3.71	0.3	\$2,949.29
3020	Floor Finishes		2652	SF	\$2.05	1.1	\$2.26	0.3	\$1,794.08
3030	Ceiling Finishes		2652	SF	\$3.18	1.1	\$3.50	0.3	\$2,783.01
D. SERVICES									
CONVEYING									
1010	Elevator and Lifts	No elevator present	2652	SF	\$0.00	1.1	\$0.00	1.0	\$0.00
1020	Escalators & Moving Walks	No escalator present	2652	SF	\$0.00	1.1	\$0.00	1.0	\$0.00
PLUMBING									
2010	Plumbing Fixtures		2652	SF	\$9.60	1.1	\$10.56	0.2	\$5,601.02
2020	Domestic Water Distribution		2652	SF	\$7.75	1.1	\$8.53	0.2	\$4,521.66
2040	Rain Water Drainage		2652	SF	\$3.33	1.1	\$3.66	0.2	\$1,942.86
HVAC									
3020	Heat Generating Systems		2652	SF	\$5.16	1.1	\$5.68	0.2	\$3,010.55
3030	Cool Generating Systems		2652	SF	\$4.00	1.1	\$4.40	0.2	\$2,333.76
3050	Terminal and Package Units		2652	SF	\$11.60	1.1	\$12.76	0.2	\$6,767.90
3090	Other HVAC Sys. & Equip.		2652	SF	\$3.35	1.1	\$3.69	0.2	\$1,954.52
FIRE PROTECTION									
4010	Sprinklers	Not present	2652	SF	\$0.00	1.1	\$0.00	0.0	\$0.00
4020	Standpipes	Not present	2652	SF	\$0.00	1.1	\$0.00	0.0	\$0.00
ELECTRICAL									
5010	Electrical Service/Distribution		2652	SF	\$3.50	1.1	\$3.85	0.2	\$2,042.04
5020	Lighting and Branch Wiring		2652	SF	\$4.93	1.1	\$5.42	0.2	\$2,876.36
5030	Communications and Security		2652	SF	\$1.89	1.1	\$2.08	0.2	\$1,102.70
5090	Other Electrical Systems	Not used	2652	SF	\$0.00	1.1	\$0.00	0.2	\$0.00
E. EQUIPMENT AND FURNISHINGS									
1010	Commercial Equipment	Factored outside of building analysis	2652	SF	\$0.00	1.1	\$0.00	1.0	\$0.00
1020	Institutional Equipment	Factored outside of building analysis	2652	SF	\$0.00	1.1	\$0.00	1.0	\$0.00
1030	Vehicular Equipment	Factored outside of building analysis	2652	SF	\$0.00	1.1	\$0.00	1.0	\$0.00
1090	Other Equipment	Factored outside of building analysis	2652	SF	\$0.00	1.1	\$0.00	1.0	\$0.00
F. SPECIAL CONSTRUCTION									
1020	Integrated Construction	Not used	2652	SF	\$0.00	1.1	\$0.00	1.0	\$0.00
1040	Special Facilities	Not used	2652	SF	\$0.00	1.1	\$0.00	1.0	\$0.00
G. BUILDING SITEWORK									
		Factored separately on total statement of probable							
SUB-TOTAL			2652	SF	\$194.28		\$213.71		\$128,300.17
Contractor Fees		(General Requirements: 10%, Overhead: 5%, Profit: 10%)	25%		\$48.57		\$53.43		\$32,075.04
TOTAL									\$160,375.21

Factored Building Value

FCI = Value of Existing System/New Construction

DOES NOT include demolition cost implications

0.23

2.0 Property Condition Assessments



MAIN STREET FIRE STATION

ARCHITECTURAL ANALYSIS

General Description:

The Main Street Fire Station, constructed in 1952, is a 2,349 SF single-story building. The program spaces include a 720 SF Apparatus Bay/Fitness, 4 Bunk Rooms, Office/Lounge/Dining/Kitchen room, Mechanical Room, Storage and a single occupant bathroom. As part of the Architectural assessment, we evaluated the existing physical conditions of the building envelope, interior finishes, ADA accessibility, and life safety / code compliance.

Roof System: The existing membrane roof system was last replaced in 1990 and is in good to fair condition. At the low roof, roofing is placed over a plywood deck which is supported by 10" wood joists. At the high roof, roofing is placed over a tongue and groove plank deck which is supported by steel joists. The roof is nearing its useful life expectancy and should be replaced in the next 5 to 10yrs.



Photo MS-A1 – View of low roof - ponding



Photo MS-A2 – View of high roof



Photo MS-A1 – View of high roof



Photo MS-A2 – View of low roof drain

Exterior Wall System: Overall, the exterior masonry is in good condition. The wall consists of uninsulated 4" brick and 8" CMU mass wall constructions. Envelope concerns such as deteriorated or open mortar joints on the brick and natural stone masonry, small areas of moisture infiltration, small areas of fractured brick units, and worn expansion joint materials need to be addressed. R-15.2 continuous insulation is required for this wall system to comply with the current Energy Code. This could be achieved by applying a new wall system to the interior face of the existing mass wall

that consists of horizontal wood strapping, 3" rigid board insulation, and 5/8" gypsum sheathing. In the Apparatus Bay, gypsum should be abuse, moisture and mold resistant.

The wooden building addition on the back of the building should be resided with a higher grade exterior sheathing to avoid future weather damage.

From an envelope standpoint, this building is in need of a focused masonry maintenance program.



Photo MS-A3 – View of East Facade



Photo MS-A4 – View of North Facade



Photo MS-A3 – View of West Facade



Photo MS-A4 – View of South Facade

Exterior Fiberglass Doors: There are 3 exterior fiberglass insulated doors in metal frames which are in fair condition. These doors and frames are not original. Door hardware is knob type which should be replaced with lever type to comply with ADA. Useful life expectancy is 5 to 10 years with proper annual maintenance.



Photo MS-A5 – View of Doors



Photo MS-A6 – View of Storage door

Exterior Overhead Door: There are 7 exterior overhead doors. All of these doors are in good condition. Useful life expectancy is 10+ years with proper annual maintenance.



Photo MS-A7 – View of Apparatus Bay doors

Exterior Window: First floor windows are Anderson aluminum clad windows with insulated glazing replaced in 1991. These windows are in good condition and have met the useful life expectancy. Replacement would not be recommended until exterior wall thermal properties are improved. Lt's. Bunk room windows have been replaced in 2015.



Photo MS-A9 – View of North Facade



Photo MS-A10 – View of South Facade

Interior Observations First Floor:

The general layout of the space is mostly original. An additional bunker room was added into the Apparatus Bay. The Apparatus Bay also functions as the Fitness space.

- Flooring:
 - Sealed concrete floor in Apparatus Bay is in fair condition. New epoxy floor covering is recommended
 - Linoleum flooring in 3 of the 4 Bunk Rooms, and Kitchen/Office/Lounge is in fair condition and is nearing its useful life expectancy.
 - Carpet flooring in 4th Bunk room is in fair condition and is nearing its useful life expectancy.
 - Quarry tile flooring in bathroom is in fair condition and has met its useful life expectancy.
- Walls:
 - Brick walls in Apparatus bay are in good condition. Repointing of mortar joint in several areas recommended.
 - Wood paneling is original and has met its useful life expectancy. Recommend replacing wood paneling with 5/8" gypsum wall board.
 - Ceramic tile walls in bathroom is in fair condition and has met its useful life expectancy.

- Ceilings:
 - Painted gypsum ceilings are in fair condition
- Wood doors, frames and hardware should be replaced with 36" wide doors and ADA compliant Hardware.
- No interior windows

ADA accessibility deficiencies include but are not limited to the following items:

1. Kitchen cabinets and appliances are non-conforming. New countertop, base, and upper cabinets that comply with ADA are recommended.
2. Bathroom access clearances and plumbing fixtures are non-conforming. Two new gender specific bathrooms that comply with ADA are recommended.
3. Bunk Room doors cannot accommodate required push and pull clearances and are not 36" wide.
4. Bunk Room door is not 36" wide.
5. Knob type door hardware should be replaced with lever type hardware



Photo MS-A15 – View of Kitchen



Photo MS-A16 – View of Kitchen



Photo MS-A17 – View of Bathroom



Photo MS-A18 – View of Bathroom

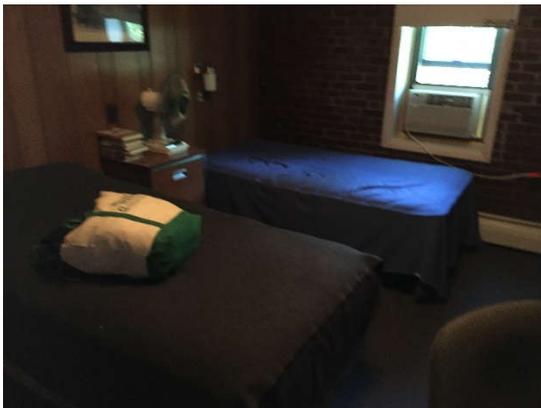


Photo MS-A19 – View of Bunk Room



Photo MS-A20 – View of Corridor



Photo MS-A21 – View of Apparatus Bay



Photo MS-A22 – View of Apparatus Bay

Main Street Conclusion and Recommendations:

The building has met the intent of its original design, however it would not comply with today's design standards. The thermal envelope is below minimum allowable insulation requirements. Existing bathroom should be replaced with 2 new bathrooms to comply with ADA and local codes. This would more than double the bathroom program area requiring the loss of existing program space. Kitchen cabinets, countertop, and appliance improvements are required to comply with ADA and local codes. Bunkroom doors should be increased to 3'-0" wide to comply with ADA. Apparatus Bay corridor does not meet the minimum corridor width requirements. Knob type door hardware should be replaced with lever type hardware.

Most of the recommended modifications above would make the space less functional without expanding the existing building.

834 MAIN STREET FIRE STATION

ELECTRICAL ANALYSIS

General Description:

Electrical Service and Power Distribution:

The electrical service for the facility consists of a pole mounted utility transformer located on Main Street. The 120/208V, 3-phase, underground secondary feeder from the transformer extend to serve a single 200A panelboard located in the boiler room. Branch circuits appear to be distributed throughout spaces utilizing EMT conduit and there is plenty of spare capacity within the panelboards for future circuits. There were a couple locations throughout facility where power strips were attached to the walls and being used to accommodate the lack of receptacles distributed around the spaces.

While the panelboard appears to be in good condition, it was noted during site visit that the branch circuits serving the bunk areas, kitchen and living area are not currently protected by arc-fault interrupter circuit breakers as required by Code (*NEC, Article 210.12(C)*).

It was also noted that receptacles in bedrooms and living area are standard duplex receptacles rather than tamper-proof receptacles as required by Code (*NEC, Article 406.12*).

Standby power is provided to facility via portable 5kW generator that is kept in a locked storage container. Upon loss of normal power, the generator must be plugged into the receptacle located on the deck and power gets transferred to the select circuits. Receptacle generator connection appears to be a flexible cord extended through the exterior wall of the building and located in hinged enclosure to shield it from weather. Installation of flexible cord through wall does not meet Code (*NEC, Article 400.8*) and exterior box is in poor condition.



Photo E1 – Electrical Service Entrance Photo E2 – Portable Generator

Interior, Exit and Emergency Lighting

The facility currently utilizes industrial style fixtures with T12 lamps and associated magnetic ballast as its primary lighting source through the main apparatus bay and mechanical spaces. Kitchen and living area utilized recessed troffer style fixtures with T12 lamps for lighting while the bedrooms contained residential style light fixtures that appear to utilize incandescent bulbs. Control for all lighting throughout the facility appears to be manual switch only with no automatic controls.

Emergency lighting throughout the facility is limited to one battery unit located in the apparatus bay. Emergency battery unit appears to be in fair condition but utilizes cord and plug connection for power in lieu of the more favorable hard-wired connection.

Building exits are currently marked only with non-luminescent paper signage. Constantly illuminated exit signage, either ac powered or photoluminescent, is required by Code (*NFPA 101, Chapter 7.8*).



Photo E3 – Interior Apparatus Bay Lighting.



Photo E4 – Exit Signage

Communications and Fire Alarm Systems

The facility's telecommunications services are currently provided via a single wall mounted unit located in a corner within the apparatus bay. In its existing location, the rack and associated equipment are in close proximity to water from the nearby utility sink as well as exposed to the elements as the truck enters and leaves the facility.

There is no fire alarm system present in the building. Bedrooms are provided with single station smoke detector that provide audible notification only. A single carbon monoxide detector was also noted in the hallway outside the boiler room and bedroom area.

Emergency communications equipment for dispatch appears to be fed by a battery unit.



Photo E5 – Telecommunication Equipment.



Photo E6 – Non-system Smoke Detector.

Electrical Systems Summary

Recommended system revisions:

- Install arc-fault circuit breakers for branch circuits feeding bedroom, living area and kitchen loads.
- Install generator permanently connected to building electrical system.
- Install tamper-proof receptacles in bedrooms and living area.
- Replace existing lighting fixtures with new LED fixtures.
- Install emergency lighting and exit signage.
- Relocate telecommunication equipment to a dry, protected location.
- Install fire alarm system.

834 MAIN STREET FIRE STATION

MECHANICAL ANALYSIS

General Description:

Heating System:

Facility is served by a central natural gas-fired hot water boiler plant. The existing boiler plant consists of a single Munchkin condensing, direct-vent boiler piped with primary and secondary loops. Boiler plant was recently renovated in 2010 and is in good condition. Boiler is vented with PVC into the existing masonry chimney. We have seen issues when venting condensing boilers using PVC pipe which has a relatively low rated temperature. Boiler venting should be replaced with polypropylene which is rated for boiler service. There appear to be three zones of heat off the secondary loop, each with an individual pump. Pumps are controlled through a relay box. Hot water heating piping in the boiler room is generally well insulated. However, the piping outside the boiler room is largely uninsulated. Piping is mostly black iron pipe with threaded fittings. Piping appears to be original and in fair condition.

Hot water heating plant provides heat to bedrooms and lounge areas with baseboard radiation. Baseboard appears to be mostly original and in fair condition. In the bathroom, proximity to fixtures has caused oxidation on the cover of the baseboard and is in poor condition. Replace this section of heat with an aluminum or stainless steel cover to prevent future oxidation.

In the apparatus room hot water unit heaters provide quick recovery of heat after doors have been opened. Units are in fair condition.



Photo M1 – Gas Boiler



Photo M2 – PVC Boiler Venting



Photo M3 – Zone Pumps and Piping.

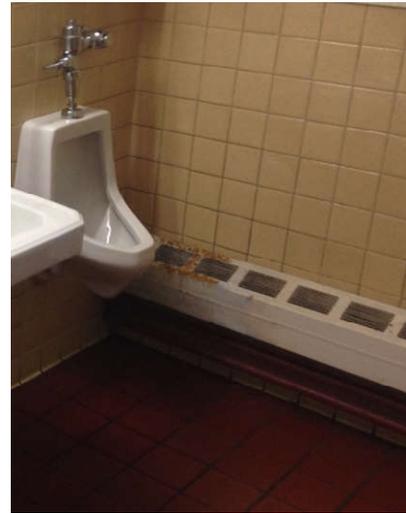


Photo M4 – Oxidized Baseboard Cover

HVAC Systems:

Building is not provided with a mechanical means of introducing ventilation air into the building. An exhaust fan in the toilet room provides some air movement but only when toilet room is in use. A small energy recovery unit should be installed to ventilate the bedrooms and lounge to provide improved indoor air quality for staff.

There are a few window air conditioners located in a bedroom and the lounge. The installed units are in fair condition. Window type (casement) does not allow other bedrooms to be fitted with window air conditioners. A multi-unit heat pump system could be installed to provide high efficiency cooling and shoulder season heating while maintaining individual control.

A Plymovent vehicle exhaust system located in the apparatus bay connected to the fire trucks tailpipe to directly exhaust combustion fumes out of the building. System consists of high temperature hose, track with roller guide so hose can follow truck out of the building, auto release, exhaust fan, and filters. System was installed in 2009 and is in good condition.

A kitchen range hood is located in the lounge. Unit appears to be vented to the exterior. However, since this residential range is installed in a commercial building, a UL listed commercial hood is required, including a fire suppression system.



Photo M5 – Thru-wall air conditioner

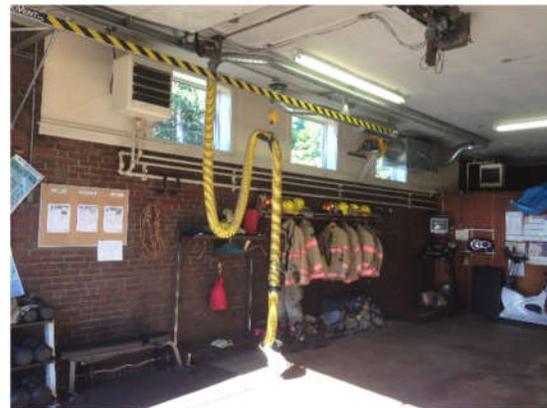


Photo M6 – Plymovent hose and track

Mechanical Systems Summary:

Required System Modifications:

- Replace boiler venting with polypropylene certified for boiler service. – \$5,000.
- Install commercial kitchen range hood with integral fire suppression system. – \$10,000.

Recommended System Improvements:

- Install energy recovery unit to serve bedrooms and lounge. – \$15,000.
- Insulate all hot water heating piping. – \$1,000.

PLUMBING ANALYSIS**General Description:****Domestic Water Service:**

Facility is served with public water supply from the street. Water enters the facility adjacent to the apparatus room door, in a concrete pit. Service appears to be large enough for the current facilities demand.

Sanitary Sewer:

Existing sanitary piping is entirely below slab and was not able to be inspected during our visit. Based on existing drawings the sanitary pipe is primarily 4", with a 5" connection to main at the street. It appears that storm drainage is connected to the building sewer as well. Future renovations should separate storm drainage from sanitary.

There is an interior oil/grit separator serving the apparatus bay floor drain prior to connection to the sanitary sewer main.

Roof Drainage:

There appear to be only two roof drains serving roof drainage. One installed on the low roof and one installed on the high roof. Secondary means of drainage appears to be overflow over the roof edge, which does not have a parapet. Drainage piping appears to be original cast iron piping. Exposed roof drain leader in the apparatus bay may have had some condensate issues, leading to installation of foam wrap. Piping should be properly insulated and jacketed. Roof drain bodies appear to be embedded in the concrete roof structure and are assumed to be original. Cast iron baskets on the roof are in fair condition. High roof appears to drain well, but there was ponding evident on the lower roof. As previously mentioned, storm drainage should be separated from sanitary sewer to prevent issues during heavy rain.



Photo P1 – Apparatus Bay Roof Drain Leader



Photo P2 – View of High Roof

Plumbing Fixtures:

The plumbing fixtures in the building appear to be original. The fixtures are in fair to good condition however none of the fixtures appear to be water conserving type. Fixture also do not appear to meet ADA requirements for height, access or operator type. Approach to built-in shower and toilet are very troublesome to achieve ADA access. Given that this is operated as a single-user bathroom, walls and fixtures could be removed and access improved. The number of fixtures provided appears to be adequate for the facility. See Architectural section for more information on ADA access and fixture quantity.



Photo P3 – Toilet Room Fixtures



Photo P4 – Toilet Fixture



Photo P5 – Shower access

Domestic Hot Water:

Domestic hot water is generated by a wall mounted instantaneous gas-fired water heater located in the boiler room. Unit is vented directly through the wall with stainless steel vent piping. Unit appears to be sized adequately for the current fixtures in the building. Reducing water usage at lavatories, sinks and shower would reduce load on hot water heater. Distance to the toilet room could delay hot water delivery as it did not appear there was a hot water recirculation pump or any temperature maintenance tape.

Hot water piping in the boiler room appeared to be copper and well insulated. Piping outside the boiler room was existing and did not appear to be insulated. Insulating this pipe will aid in reducing hot water delivery time.



Photo P6 – Domestic Water Heater

Plumbing Systems Summary:

Required System Modifications:

- Provide water conserving, ADA accessible fixtures. – *\$12,000.*

Recommended System Improvements:

- Insulate roof drain piping for condensation control. – *\$1,000.*
- Insulate all domestic water piping for condensation control and energy efficiency. – *\$1,000.*
- Install a recirculation pump or temperature maintenance tape to reduce hot water time to fixture. – *\$2,000.*

FIRE PROTECTION ANALYSIS

General Description:

Sprinkler Service:

Facility is not protected or served by an automatic NFPA 13 compliant sprinkler system.

Building should be fitted with a complete, automatic NFPA 13 compliant, wet-pipe sprinkler system. A separate, dedicated water supply should be installed from the water main at the street should be provided to the boiler room.

Fire Protection Systems Summary:

Required System Modifications:

- Install an NFPA 13 automatic sprinkler system. – *\$25,000.*

CIVIL/SITE ANALYSIS (Main Street Fire Station)

General Description:

The Main Street Fire Station is located at 834 Main Street on a 0.22-acre parcel (Map 168-Lot 19) (see attached parcel map). The parcel is located at the intersection of Main Street and Switzerland Road in the Highway Business zoning district, where municipal buildings and facilities are a permitted use. The statement of purpose for the Highway Business zoning district is the following [Article XI(12)(a)]:

“The purpose of the highway business district is to provide areas within the city for the location of businesses which are dependent on automobile borne customers and which require large parking areas to be successful. The standards of this district are intended to allow commercial uses while requiring controlled highway access, good quality site design and protection of adjacent residential property. In addition, the standards require the preparation of a master development plan prior to the development.”

The primary façade of the Main Street Fire Station is on Main Street with parcel frontage on both Main Street and Switzerland Road. Space and bulk requirements for the Highway Business zoning district are provided in Table 1 as well as existing dimensional conditions. The existing building footprint is 2488 SF and the maximum allowable building envelope is 2822 SF due to required front and side setbacks (see Buildbale Envelope attachment). The existing building and parcel do not meet frontage, front setback, side setback and side yard standards.

Table 1. Space and Bulk Requirements

	Ordinance	Existing
Min. Lot Size	None	0.22 acres (9585 SF)
Min. Frontage	150 FT	137 FT
Min. Front Setback	20 FT	15 FT
Min. Front Yard	15 FT	15 FT
Min. Side & Rear Setback	20 FT	7 FT
Min. Side & Rear Yard	10 FT	7 FT.
Max. Height	65 FT	
Max. Lot Coverage	0.5 (4793 SF)	0.26 (2488 SF/9585 SF)
Max. Impervious Coverage	0.75 (7189 SF)	0.53 (5048 SF/9585 SF)
Allowable Building Envelope	2822 SF	

Pavement

Asphalt pavement is located between Main Street and the fire station and provides parking for six (6) vehicles, access to the emergency vehicle garage bay and access to the main building entrance (2560± SF) (125± LF curb cut). The pavement is in good condition with cracks recently sealed. A striped walkway delineates a pedestrian walkway from Switzerland Road to the sidewalk on Main Street. The long open curb cut and the walkway located between the driveway/parking area and the Main Street right-of-way poses a potential safety hazard for pedestrians. Emergency vehicles cross over the pedestrian walkway when leaving the station and also when maneuvering to back into the garage. Vehicles also cross over the pedestrian walkway when entering the station's parking area and when backing and maneuvering to leave the station.

The main building entrance is not ADA accessible and the slope of the parking area adjacent to the main building entrance appears to exceed the maximum allowable slope per ADA guidelines.

Drainage

Surface runoff from the paved portion of the site drains to a catch basin and 18" diameter HDPE storm drain on Main Street, which is part of the City's stormwater management system. Surface runoff from the side yards appears to flow to the northwest to a grass swale on the abutter's property. The fire station has a flat roof with roof drains that are connected into the City's stormwater management system.

Utilities

Domestic and fire protection water service is provided from a 12"Ø DI water main in Main Street. Sanitary sewer service is provided to a 12"Ø vitrified clay sanitary sewer in Main Street. Electric and communications service is provided from a utility pole on Switzerland Road, where three-phase power is available. Natural gas service is provided from the gas main on Main Street to the meter on the southwest side of the building.

Photos

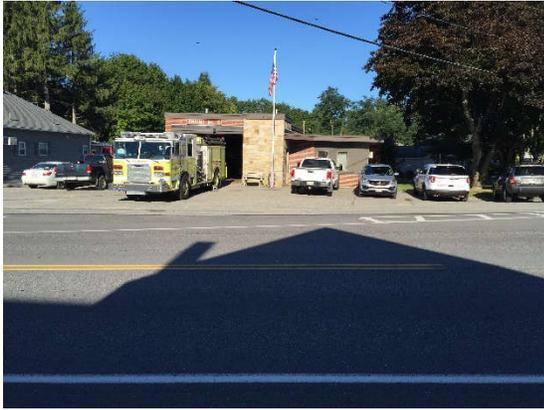


Photo C01 – Front of Main Street Station facing Main Street.



Photo C02 – Parking and driveway on Main Street.



Photo C03 – Parking and driveway on Main Street. Building entrance on side wall behind flag pole.



Photo C04 – Building entrance. Not ADA accessible.

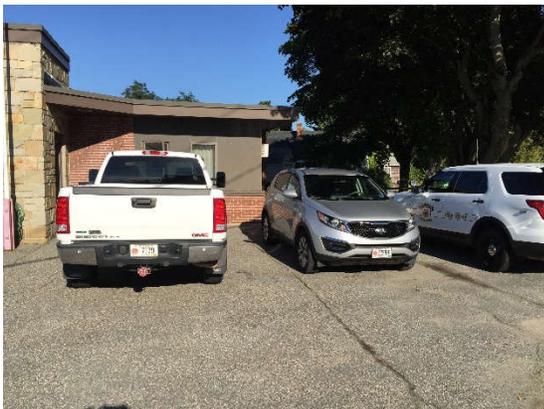


Photo C05 – Parking and driveway on Main Street. Building entrance on side wall behind flag pole.



Photo C06 – Intersection of Main Street and Switzerland Road.



Photo C07 – Intersection of Main Street and Switzerland Road



Photo C08 – Fire station from Switzerland Road.



Photo C09 – Fire station from Switzerland Road.



Photo C10 – Yard area between fire station and Switzerland Road abutter.

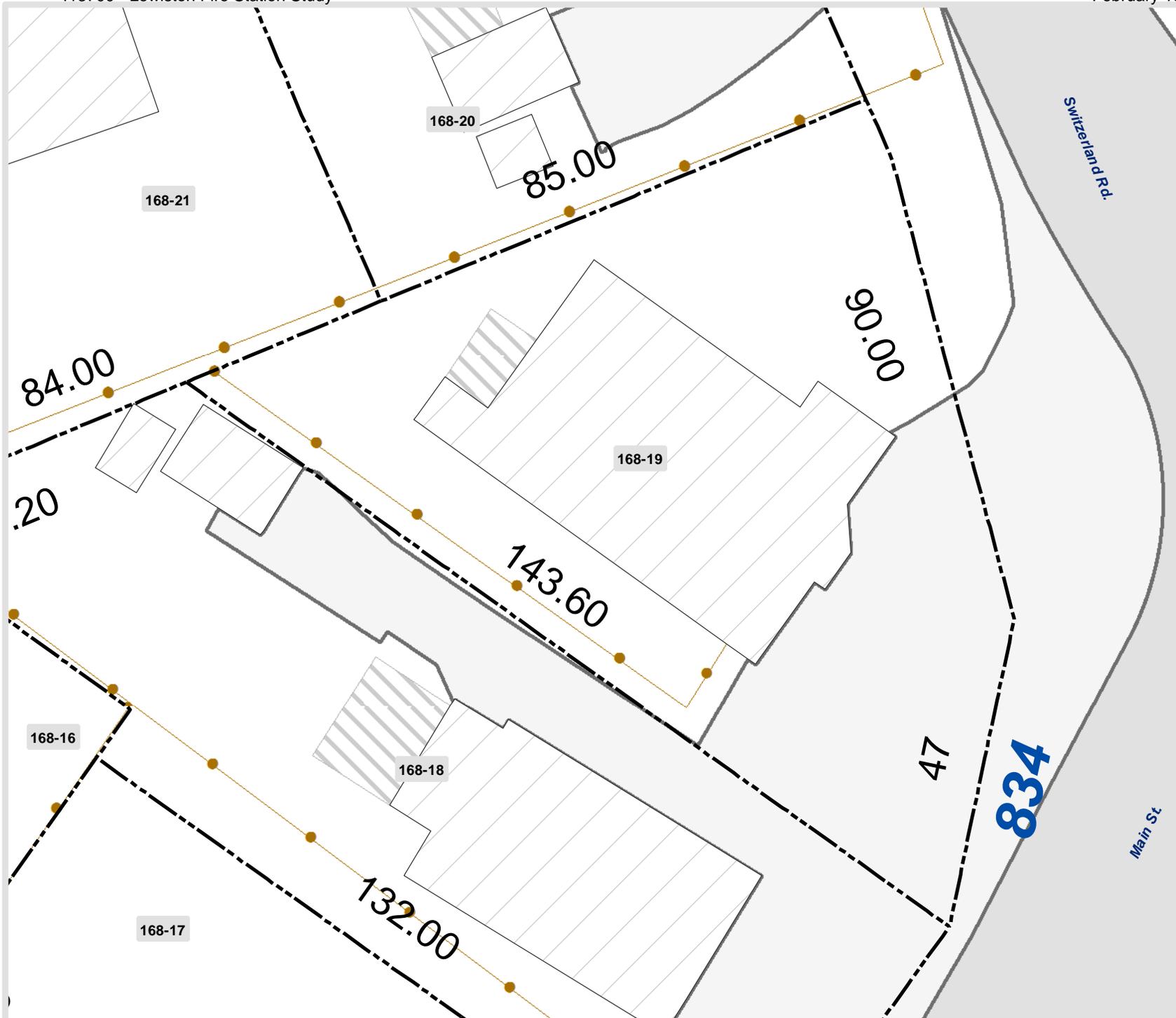


Photo C11 – Yard area between fire station and Main Street abutter.



Photo C12 – Chain link fence between fire station and Main Street abutter.

Parcel Map – Main Street Fire Station



This Map is provided by the City of Lewiston, ME Mapping shown on is for general reference. The City of Lewiston shall not be held liable for damages due to discrepancies, and makes no warranty of accuracy of map. Field verification is required. This map is not printed to scale.



Legend

- Parcel Line
- ROW
- Easement
- Mobile Home Lot
- Street Address
- Tax Map Lot No.
- Lot Dimension
- Utility ROW

Planimetric Legend:

- Building, General
- Mobile Home
- Foundation
- Deck
- Patio
- Railroad
- Fence
- Roads, Parking, Walks
- Athletic Courts, Fields
- Swimming Pool
- Lake or Pond, River, Canal
- Swamp or Apparent Wetland
- Stormwater Detention Pond
- Brooks, Streams

Cadastral mapping displayed is intended for assessment purposes only, and shall not be used in place of a boundary survey. Do not use for description delineation, or transfer of property.

Map-Lot 168-19

834 MAIN ST
Tax Mapping Effective April 1, 2016 to March 31, 2017



Buildable Envelope – Main Street Fire Station

PROPERTY LINE

BUILDABLE ENVELOPE

Main Street Station
834 Main Street

Google earth

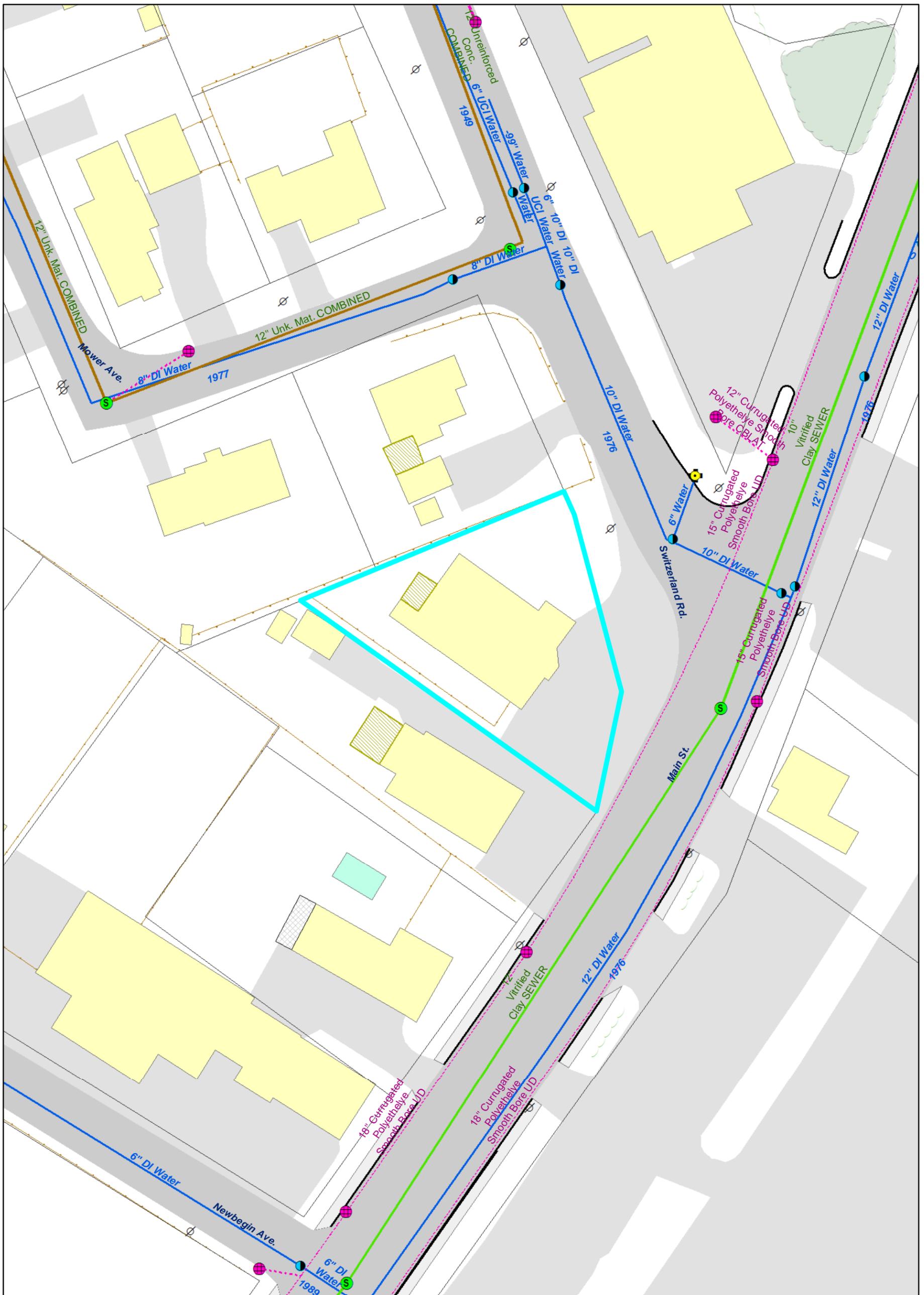
(c) 2017 WBRC AE & Mitchell Associates



70 ft

101

Utility Map – Main Street Fire Station



Main Street
 834 Main Street
 Lewiston Maine 04240
 Map 168 Lot 19



1 inch = 40 feet
 Date: 10/12/2016

Building Name	Main Street Substation
Factored Present Building Value	
4137.00 - Lewiston Fire Station Study	
FIREHOUSE 1-STORY (means Comparison Building Type)	
M.220 (means use Type No.) - 2017	



= User Entered Field

Means Parameter Values	Building Square Footage	1927 SF	
	Means SF average cost (based on 6,000 s.f. bldg.)	242.85 \$ per SF	\$514,769.15
	SF cost for this building size	267.14 \$ per SF	
	Location adjustment for Location, Size, Historic Results	1.1 Size, Historic Results	

SYSTEM	DESCRIPTION	%	SF Applied (equals total unless edited)	Unit	AVERAGE BASE SYSTEM COST (per SF)	LOCATION ADJUSTMENT	Adjusted Cost (per SF)	FCI	VALUATION
A. SUBSTRUCTURE									
1010	Standard Foundations		1927	SF	\$7.77	1.1	\$8.55	0.3	\$4,941.02
1030	Slab on Grade		1927	SF	\$5.13	1.1	\$5.64	0.3	\$3,262.22
2010	Basement Excavation	No basement	0	SF	\$3.71	1.1	\$4.08	0.7	\$0.00
2020	Basement Walls	No basement	0	SF	\$24.12	1.1	\$26.53	0.7	\$0.00
B. SHELL									
SUPERSTRUCTURE									
1010	Floor Construction		1927	SF	\$22.24	1.1	\$24.46	0.1	\$4,714.21
1020	Roof Construction		1927	SF	\$7.47	1.1	\$8.22	0.1	\$1,583.42
EXTERIOR ENCLOSURE									
2010	Exterior Walls		1927	SF	\$32.74	1.1	\$36.01	0.3	\$20,819.69
2020	Exterior Windows		1927	SF	\$3.59	1.1	\$3.95	0.2	\$1,521.94
2030	Exterior Doors		1927	SF	\$7.04	1.1	\$7.74	0.2	\$2,984.54
ROOFING									
3010	Roof Coverings		1927	SF	\$8.79	1.1	\$9.67	0.3	\$5,589.65
3020	Roof Openings		1927	SF	\$0.19	1.1	\$0.21	0.3	\$120.82
C. INTERIORS									
1010	Partitions		1927	SF	\$5.03	1.1	\$5.53	0.3	\$3,198.63
1020	Interior Doors		1927	SF	\$2.26	1.1	\$2.49	0.3	\$1,437.16
1030	Fittings		1927	SF	\$0.49	1.1	\$0.54	0.3	\$311.60
2010	Stair Construction		1927	SF	\$0.00	1.1	\$0.00	0.3	\$0.00
3010	Wall Finishes		1927	SF	\$3.37	1.1	\$3.71	0.3	\$2,143.02
3020	Floor Finishes		1927	SF	\$2.05	1.1	\$2.26	0.3	\$1,303.62
3030	Ceiling Finishes		1927	SF	\$3.18	1.1	\$3.50	0.3	\$2,022.19
D. SERVICES									
CONVEYING									
1010	Elevator and Lifts	No elevator present	1927	SF	\$0.00	1.1	\$0.00	1.0	\$0.00
1020	Escalators & Moving Walks	No escalator present	1927	SF	\$0.00	1.1	\$0.00	1.0	\$0.00
PLUMBING									
2010	Plumbing Fixtures		1927	SF	\$9.60	1.1	\$10.56	0.2	\$4,069.82
2020	Domestic Water Distribution		1927	SF	\$7.75	1.1	\$8.53	0.2	\$3,285.54
2040	Rain Water Drainage		1927	SF	\$3.33	1.1	\$3.66	0.2	\$1,411.72
HVAC									
3020	Heat Generating Systems		1927	SF	\$5.16	1.1	\$5.68	0.2	\$2,187.53
3030	Cool Generating Systems		1927	SF	\$4.00	1.1	\$4.40	0.2	\$1,695.76
3050	Terminal and Package Units		1927	SF	\$11.60	1.1	\$12.76	0.2	\$4,917.70
3090	Other HVAC Sys. & Equip.		1927	SF	\$3.35	1.1	\$3.69	0.5	\$3,550.50
FIRE PROTECTION									
4010	Sprinklers	Not present	1927	SF	\$0.00	1.1	\$0.00	0.0	\$0.00
4020	Standpipes	Not present	1927	SF	\$0.00	1.1	\$0.00	0.0	\$0.00
ELECTRICAL									
5010	Electrical Service/Distribution		1927	SF	\$3.50	1.1	\$3.85	0.2	\$1,483.79
5020	Lighting and Branch Wiring		1927	SF	\$4.93	1.1	\$5.42	0.2	\$2,090.02
5030	Communications and Security		1927	SF	\$1.89	1.1	\$2.08	0.2	\$801.25
5090	Other Electrical Systems	Not used	1927	SF	\$0.00	1.1	\$0.00	0.2	\$0.00
E. EQUIPMENT AND FURNISHINGS									
1010	Commercial Equipment	Factored outside of building analysis	1927	SF	\$0.00	1.1	\$0.00	1.0	\$0.00
1020	Institutional Equipment	Factored outside of building analysis	1927	SF	\$0.00	1.1	\$0.00	1.0	\$0.00
1030	Vehicular Equipment	Factored outside of building analysis	1927	SF	\$0.00	1.1	\$0.00	1.0	\$0.00
1090	Other Equipment	Factored outside of building analysis	1927	SF	\$0.00	1.1	\$0.00	1.0	\$0.00
F. SPECIAL CONSTRUCTION									
1020	Integrated Construction	Not used	1927	SF	\$0.00	1.1	\$0.00	1.0	\$0.00
1040	Special Facilities	Not used	1927	SF	\$0.00	1.1	\$0.00	1.0	\$0.00
G. BUILDING SITEWORK									
		Factored separately on total statement of probable							
SUB-TOTAL			1927	SF	\$194.28		\$213.71		\$81,447.35
Contractor Fees		(General Requirements: 10%, Overhead: 5%, Profit: 10%)	25%		\$48.57		\$53.43		\$20,361.84
TOTAL					\$242.85		\$267.14		\$101,809.19

\$101,809.19
Factored Building Value

FCI = Value of Existing System/New Construction

0.20

DOES NOT include demolition cost implications

2.0 Property Condition Assessments



SABATTUS STREET FIRE STATION

ARCHITECTURAL ANALYSIS

General Description:

The Sabattus Street Fire Station, constructed in 1950, is a single-story building with a partially finished basement. The basement area includes a fitness and mechanical room and is approximately 1,482SF. The first floor area includes a 1,537SF Apparatus Bay, 3 Bunk Rooms, Office/Lounge/Dining, Kitchen, closet and 1 bathroom and is approximately 3,219 SF. As part of the Architectural assessment we evaluated the existing physical conditions of the building envelope, interior finishes, ADA accessibility, life safety / code compliance.

Roof System: The existing membrane roof system was last replaced in 2010. Roofing is placed over wood deck and framing. Blistering and delamination of membrane was observed in several areas. Roof maintenance is recommended to improve the life of the roof.



Photo SS-A1 – High Roof



Photo SS-A2 – Low Roof

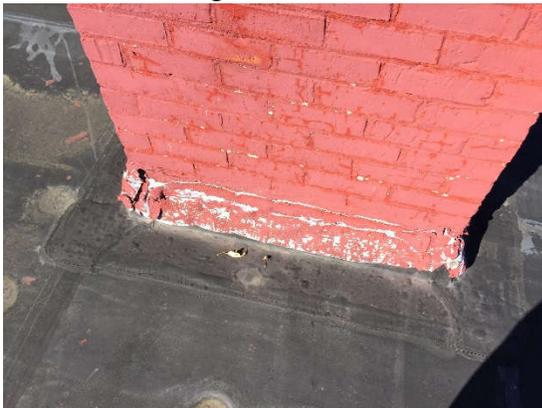


Photo SS-A1 – Membrane blisters at Chimney



Photo SS-A2 – Membrane delamination

Exterior Wall System: Consists of uninsulated multi-wyath 4" brick mass wall constructions that is in poor condition. Envelope concerns such as deteriorated or open mortar joints, areas of moisture infiltration, fractured brick units, stress cracks in the masonry assembly, buldges in the masonry assembly, deteriorated steel window lintals and worn expansion joint materials need to be addressed. R-15.2 continuous insulation is required for this wall system to comply with the current Energy Code. This could be achieved by applying a new wall system to the interior face of the existing mass wall that consists of horizontal wood strapping, 3" rigid board insulation, and 5/8" gypsum sheathing. Apparatus Bay gypsum should be abuse, moisture and mold resistant.

From an envelope standpoint, this building is in need of a comprehensive and thorough masonry restoration program.



Photo SS-A3 – East Façade



Photo SS-A4 – South Facade



Photo SS-A3 – South Façade



Photo SS-A4 – East Facade

Exterior Fiberglass Doors: There are 2 exterior fiberglass insulated doors in metal frames which are in good to fair condition. These doors and frames are not original. Door hardware is knob type which should be replaced with lever type to comply with ADA. Useful life expectancy is 5 to 10 years with proper annual maintenance.



Photo SS-A5 – East Façade



Photo SS-A6 – North Facade

Exterior Overhead Door: There is 2 exterior overhead doors which are in good condition. Useful life expectancy is 10+ years with proper annual maintenance.



Photo SS-A7 – View of South Doors

Exterior Window: First floor windows are aluminum framed windows with insulated glazing. The windows appear to have been replaced within the last 15yrs and are in good condition. Basement windows appear to be original single pane wood windows which have exceeded their useful life expectancy and should be replaced within the next 2 years.

Photo SS-A9 – View of typ. 1st floor window

Photo SS-A10 – View of typical basement window

Interior Observations Basement:

The general layout of the space is original with the hose drying room converted to a fitness room.

1. Flooring consists of painted concrete and raw concrete. There is likely no vapor barrier under the existing slab.
2. Fitness room walls are painted.
3. Mechanical room walls are unfinished
4. Fitness room ceiling is exposed first floor wood framing.
5. Mechanical room ceiling is metal lath and plaster which is in poor condition and should be replaced with a 1 hr rated ceiling system.
6. Doors to bathroom appear to be original and have met their useful life expectancy. New 1 hr rated doors and hardware are recommended.
7. Stairs treads, risers and railing do not comply with local codes.
8. Moisture has infiltrated this space but appear to have been repaired 2012
9. Mold may have been observed in mechanical room. Black walls in photo SS-A14 could be tested to confirm if mold is present.

ADA accessibility deficiencies include but are not limited to the following items:

10. There is no elevator access to fitness room.
11. Door and window hardware is non-conforming



Photo SS-A13 – Basement Stairs

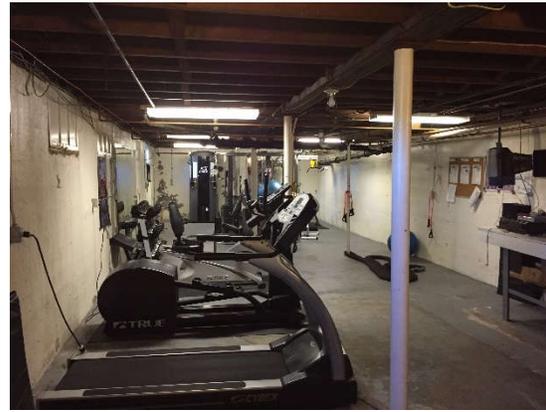


Photo SS-A14 – Fitness Room



Photo SS-A13 – Fitness Room Wall



Photo SS-A14 – Mechanical Room

Interior Observations First Floor:

The general layout of the space is original. The former Office has been converted into a bedroom.

- Flooring:
 - Concrete floor in Apparatus Bay is in good condition. New epoxy floor coating is recommended within the next 5 years.
 - Original wood floors are in 2 of the Bunkrooms and Lounge and are in good condition.
 - The converted Office to Bedroom flooring is carpet and is in fair condition and has met its useful life expectancy.
 - Linoleum flooring in Bathroom and corridor area is in fair condition and has met its useful life expectancy.
 - VCT flooring in Kitchen area is in fair condition and has met its useful life expectancy.
- Walls:
 - Painted Brick walls in Apparatus bay are in good condition. Repointing of mortar joint in several areas recommended with fresh coat of paint.
 - Pine Boards in Lounge are in good condition.
 - Painted plaster walls are likely original and are in fair condition. Annual maintenance is recommended.
- Ceilings:
 - Painted structure in Apparatus Bay is in good condition.
 - 2x4 ACT should be in fair condition. Recommendation is to replace damaged tiles. Grid and tile could be painted to give a fresh look.
- All doors, frames, and hardware should be replaced with new 36" wide doors with ADA compliant hardware. Stair and Apparatus Bay doors to be 1hr rated.

ADA accessibility deficiencies include but are not limited to the following items:

1. Elevator access to basement Fitness Room. Fitness should be relocated to the first floor. Air quality in basement
2. Kitchen cabinets and appliances are non-conforming. New countertop, base and upper cabinets, and appliances that comply with ADA are recommended.
3. Bathroom access clearances.
4. All interior doors are less than 36" wide and cannot accommodate required push and pull clearances
5. Knob type door hardware should be replaced with lever type hardware
6. Bathroom plumbing fixtures are non-conforming. Two new gender specific bathrooms that comply with ADA are recommended.



Photo SS-A15 – Typical VCT condition



Photo SS-A16 – Carpet is worn at door



Photo SS-A17 – Railing does not extend beyond stair



Photo SS-A18 – Toilet room ceiling damage



Photo SS-A19 – Railing does not extend beyond stair



Photo SS-A20 – Toilet room ceiling damage



Photo SS-A21 – Railing does not extend beyond stair



Photo SS-A22 – Toilet room ceiling damage



Photo SS-A21 – Railing does not extend beyond stair



Photo SS-A22 – Toilet room ceiling damage



Photo SS-A21 – Railing does not extend beyond stair

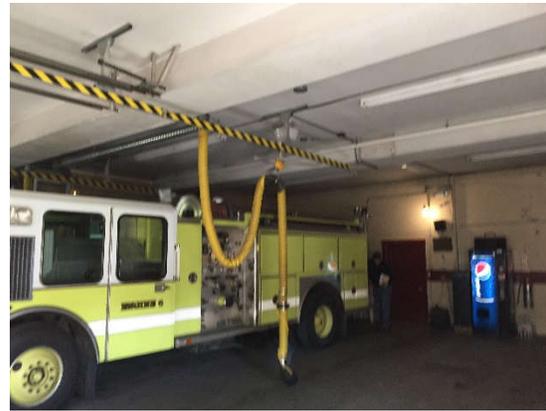


Photo SS-A22 – Toilet room ceiling damage

Sabattus Street Conclusion and Recommendations:

The building has meet the intent of its original design, however it would not comply with today’s design standards. The thermal envelope is below minimum allowable insulation requirements. Existing bathroom should be replaced with 2 new bathrooms to comply with ADA and local codes. Kitchen cabinets, countertop and appliance improvements are required to comply with ADA and local codes. Bunkroom doors should be increased to 3’-0” wide to comply with ADA. Knob type door hardware should be replaced with lever type hardware.

Most of the recommended modifications above would make the space less functional without expanding the existing building.

976 SABATTUS STREET FIRE STATION

ELECTRICAL ANALYSIS

General Description:

Electrical Service and Power Distribution:

The electrical service for the facility consists of a pole mounted utility transformer located on Sabattus Street. The 120/208V, 3-phase, underground secondary feeder from the transformer extend to serve a 200A disconnect and panelboard located in the boiler room. Disconnect appears to be antiquated. Branch circuits appear to be distributed throughout spaces utilizing EMT conduit and there is plenty of spare capacity within the panelboards for future circuits.

While the panelboard appears to be in good condition, it was noted during site visit that the branch circuits serving the sleeping areas, kitchen and living area are not currently protected by arc-fault interrupter circuit breakers as required by Code (*NEC, Article 210.12(C)*). It was also noted that there appears to be an inadequate number of receptacles throughout the facility which could lead to overloaded branch circuits.

Some receptacles located in apparatus bay are provided with weather-proof covers but not all devices are provided with the same protection. This could present problems as it was indicated the trucks are often washed inside the bay.

It was also noted that receptacles in bedrooms and living area are standard duplex receptacles rather than tamper-proof receptacles as required by Code (*NEC, Article 406.12*).

Standby power is provided to facility via portable 5kW generator that is kept in a locked storage container. Upon loss of normal power, the generator must be plugged into the receptacle located on the deck and power gets transferred to the select circuits. Receptacle generator connection appears to be a flexible cord extending to junction box. Connection transitions to conduit in metallic conduit which feeds the receptacle located in a hinged enclosure at the exterior of the building to shield it from weather. Both the plug and exterior box are in very poor condition and present a safety concern in their current state.



Photo E1 – Electrical Service Entrance



Photo E2 – Generator Connection

Interior, Exit and Emergency Lighting

The facility currently utilizes industrial style fixtures with T12 lamps and associated magnetic ballast as its primary lighting source through the main apparatus bay and mechanical spaces. Bedrooms, kitchen and living area utilized recessed troffer style fixtures with T12 lamps for lighting. Fixtures appear to be poor condition with many damaged lenses visible. Control for all lighting throughout the facility appears to be manual switch only with no automatic controls.

Emergency lighting throughout the facility is limited to one battery unit located in the apparatus bay. Emergency battery unit appears to be in fair condition but utilizes cord and plug connection for power in lieu of the more favorable hard-wired connection.

Building exits are currently marked only with non-luminescent paper signage. Constantly illuminated exit signage, either ac powered or photoluminescent, is required by Code (*NFPA 101, Chapter 7.8*).



Photo E3 – Bedroom.



Photo E4 – Exit Signage.

Communications and Fire Alarm Systems

Telecommunication services for the facility enter aerially and extend to a termination block located in the basement. Telecommunication outlets appear to be sparse throughout the space.

There is no fire alarm system present in the building. Bedrooms are provided with single station smoke detector that provide audible notification only. Carbon monoxide detectors were allowed noted in the basement, in the sleeping area and in the living area.

Emergency communications equipment for dispatch appears to be fed by a battery unit.



Photo E5 – Telecomm Equipment.



Photo E6 – Emergency Communications Command.

Electrical Systems Summary

Recommended system revisions:

- Install arc-fault circuit breakers for branch circuits feeding bedroom, living area and kitchen loads.
- Install generator permanently connected to building electrical system.
- Install tamper-proof receptacles in bedrooms and living area.
- Install weather proof devices/boxes in apparatus bay.
- Replace existing lighting fixtures with new LED fixtures.
- Install emergency lighting and exit signage.
- Provide additional telecommunication outlets throughout space.
- Install fire alarm system.

976 SABATTUS STREET FIRE STATION

MECHANICAL ANALYSIS

General Description:

Heating System:

Facility is served by a central natural gas-fired hot water boiler plant. The existing boiler plant consists of a single Munchkin condensing, direct-vent boiler piped with primary and secondary loops located in the basement. Boiler plant was recently renovated in 2010 and is in good condition. Boiler is vented with PVC into the existing masonry chimney. We have seen issues when venting condensing boilers using PVC pipe which has a relatively low rated temperature. Boiler venting should be replaced with polypropylene which is rated for boiler service. There appear to be two zones of heat off the secondary loop, each with an individual pump. Pumps are controlled through a relay box. Secondary hot water heating loop is located in the basement and is suspended from the floor above. Piping is primarily copper pipe with electric zone valves and appears to be in fair condition. Revised piping in the boiler room is generally well insulated, however, the piping outside the boiler room is largely uninsulated.

Hot water heating plant provides heat to bedrooms and lounge areas with baseboard radiation which is up-fed from the basement loop. Baseboard appears to have been replaced and is in fair to good condition. In the bathroom, a wall convector is utilized and is in fair condition. In the apparatus room hot water unit heaters provide quick recovery of heat after doors have been opened. Units are in fair condition.

There does not appear to be any heat in the basement workout room. This room likely gets cold during the winter as there is no insulation in the basement wall.



Photo M1 – Gas Boiler with PVC Venting



Photo M2 – Secondary Pumps and Piping



Photo M3 – Typical Zone Valve



Photo M4 – Typical HW Baseboard

HVAC Systems:

Building is not provided with a mechanical means of introducing ventilation air into the building. An exhaust fan in the toilet room provides some air movement but only when toilet room is in use. The apparatus bay is served by a pair of propeller exhaust fans located on each side of the bay. It is unclear how these fans operate. A small energy recovery unit should be installed to ventilate the bedrooms and lounge to provide improved indoor air quality for staff.

Apparatus bay has a paddle fan located at the roof to move stagnant hot air around the bay to increase comfort in the winter.

The basement workout room and boiler room were very stale and musty. There is currently no means for air movement. A small energy recovery unit should be installed to ventilate and exhaust the basement to greatly improve indoor air quality.

There are numerous window air conditioners located in bedrooms and the lounge. The installed units are fairly old and are in fair condition. Window units typically have poor operational efficiency. A multi-unit heat pump system could be installed to provide high efficiency cooling and shoulder season heating while maintaining individual control.

A Plymovent vehicle exhaust system located in the apparatus bay connected to the fire trucks tailpipe to directly exhaust combustion fumes out of the building. System consists of two high temperature hoses and tracks with roller guide so hose can follow truck out of the building, auto release, exhaust fan, and filter. System was installed in 2009 and is in good condition.

A kitchen range hood is located in the lounge. Unit is not vented to the exterior. However, since this residential range is installed in a commercial building, a UL listed commercial hood is required, including a fire suppression system.



Photo M5 – Plymovent Fan and Filter



Photo M6 – Unvented range hood

Mechanical Systems Summary:

Required System Modifications:

- Replace boiler venting with polypropylene certified for boiler service. – \$5,000.
- Install commercial kitchen range hood with integral fire suppression system. – \$10,000.

Recommended System Improvements:

- Provide heat to workout room in basement. – \$3,000.
- Install energy recovery unit to serve bedrooms and lounge. – \$15,000.
- Install energy recovery unit to serve basement. – \$8,000.
- Insulate all hot water heating piping. – \$1,000.

PLUMBING ANALYSIS

General Description:

Domestic Water Service:

Facility is served with public water supply from the street. Water enters the facility adjacent to the apparatus room door. Service appears to be large enough for the current facilities demand. A single truck fill hose is located in the apparatus bay. It was explained that refilling the tank truck takes approximately 15 minutes, which was acceptable. If the truck was completely empty staff would fill the truck from a street fire hydrant.



Photo P1 – Domestic Water Service Meter

Sanitary Sewer:

Existing sanitary piping is entirely below the ground floor, visible in the basement. The sanitary piping consists of a mix of original cast iron pipe and more recently added PVC piping. Sanitary leaving the building appears to be 4" cast iron to the main at the street. Piping appears to be of sufficient size for facility's current usage and appears to be in fair to good condition. The underground original sanitary piping to the street should be inspected to determine its condition.

The apparatus bay originally had a pit located below one of the truck spaces for service. Located at the bottom of this pit was sand trap. This pit has since been infilled with concrete. It does not appear that either existing floor drain in the apparatus bay is served by an oil/grit separator before connection to the sanitary main.

There is a sump pit serving the basement which is pumped up onto the sanitary main. Pump appears to be in fair condition.



Photo P2 – Sanitary Sewer Main



Photo P3 – Basement Sump Pump

Roof Drainage:

It appears that the high roof over the apparatus bay is pitched to drain onto the lower roof. The lower roof is pitched to the back edge where there is a continuous gutter. Gutter has 3 downspouts connected to underground piping. It is unclear whether these downspouts connect to a daylight pipe or are connected to the sanitary piping outside the building. If the roof drainage is connected to the sanitary main, it should be disconnected and piped to the proper storm drainage system.



Photo P4 – Roof Gutter



Photo P5 – View of Gutter Downspouts

Plumbing Fixtures:

The plumbing fixtures in the building appear to be original. The fixtures are in fair to good condition however none of the fixtures appear to be water conserving type. Fixtures also do not appear to meet ADA requirements for height, access or operator type. Cabinets under lavatories do not allow proper knee space. Approach to built-in shower and toilet are very troublesome to achieve ADA access. Given that this is operated as a single-user bathroom, walls and fixtures could be removed and access improved. The number of fixtures provided does not appear to be adequate for the number of beds provided at the facility. See Architectural section for more information on ADA access and fixture quantity.



Photo P6 – Toilet Room Lavatories



Photo P7 – Toilet Fixture



Photo P8 – Non-ADA Shower Stall

Domestic Hot Water:

Domestic hot water is generated by a wall mounted instantaneous gas-fired water heater located in the apparatus bay. Unit is vented directly through the wall with stainless steel vent piping. Unit appears to be sized adequately for the current fixtures in the building and is in good condition. Reducing water usage at lavatories, sinks and shower would reduce load on hot water heater. Distance to the toilet room could delay hot water delivery as it did not appear there was a hot water recirculation pump or any temperature maintenance tape. Hot water piping where visible appeared to be copper and well insulated.



Photo P9 – Domestic Water Heater

Plumbing Systems Summary:

Required System Modifications:

- Provide water conserving, ADA accessible fixtures. – *\$12,000.*

Recommended System Improvements:

- Insulate all domestic water piping for condensation control and energy efficiency. – *\$1,200.*
- Install a recirculation pump or temperature maintenance tape to reduce hot water time to fixture. – *\$2,000.*

FIRE PROTECTION ANALYSIS

General Description:

Sprinkler Service:

Facility is not protected or served by an automatic NFPA 13 compliant sprinkler system.

Building should be fitted with a complete, automatic NFPA 13 compliant, wet-pipe sprinkler system. A separate, dedicated water supply should be installed from the water main at the street should be provided to the basement boiler room.

Fire Protection Systems Summary:

Required System Modifications:

- Install an NFPA 13 automatic sprinkler system. – *\$40,000.*

CIVIL/SITE ANALYSIS (Sabattus Street Fire Station)

General Description:

The Sabattus Street Fire Station is located at 976 Sabattus Street on a 0.23-acre parcel (Map 90-Lot 85) (see attached parcel map). The parcel is located in the Highway Business zoning district, where municipal buildings and facilities are a permitted use. The statement of purpose for the Highway Business zoning district is the following [Article XI(12)(a)]:

“The purpose of the highway business district is to provide areas within the city for the location of businesses which are dependent on automobile borne customers and which require large parking areas to be successful. The standards of this district are intended to allow commercial uses while requiring controlled highway access, good quality site design and protection of adjacent residential property. In addition, the standards require the preparation of a master development plan prior to the development.”

The Sabattus Street Fire Station has frontage on Sabattus Street. Space and bulk requirements for the Highway Business zoning district are provided in Table 1 as well as existing dimensional conditions. The existing building footprint is 3500 SF and the maximum allowable building envelope is 4090 SF due to required front and side setbacks (see Buildbale Envelope attachment). The existing lot does not meet minimum frontage requirements.

Table 1. Space and Bulk Requirements

	Ordinance	Existing
Min. Lot Size	None	0.23 acres (10,020 SF)
Min. Frontage	150 FT	100 FT
Min. Front Setback	20 FT	30 FT
Min. Front Yard	15 FT	30 FT
Min. Side & Rear Setback	20 FT	5 FT, 15 FT, 20 FT
Min. Side & Rear Yard	10 FT	5 FT, 15 FT, 20 FT
Max. Height	65 FT	
Max. Lot Coverage	0.50 (5010 SF)	0.35 (3500 SF/10,020 SF)
Max. Impervious Coverage	0.75 (7515 SF)	0.55 (5500 SF/10,020 SF)
Max. Buildable Envelope	4090 SF	

Pavement

Asphalt pavement is located between Sabattus Street and the fire station and provides parking for four (4) vehicles, access to the emergency vehicle bays and access to the main building entrance (± 2000 SF). Pavement is in poor condition with large areas of alligator cracking and pavement deterioration. A 60' long curb cut is provided, with no pavement delineation for safe pedestrian access along the Sabattus Street sidewalk. The main building entrance is not ADA accessible and no ADA parking spaces are provided.

Drainage

Surface runoff from the pavement area on Sabattus Street drains out to a catch basin on Sabattus Street. Surface runoff from the side and rear portions of the parcel drains to a grass swale and a corrugated HDPE culvert with riprap inlet protection located near the northwest corner of the building. Drainage from the roof flows to a gutter located at the back of the building which is connected to a series of external downspouts that appear to be tied into the building's sanitary service.

Utilities

Water is provided from a 10"Ø UCI water main in Sabattus Street and sanitary sewer service is provided to an 8"Ø sanitary sewer main in Sabattus Street. Electric and communications service is provided from a utility pole on Sabattus Street, where three-phase power is available. Natural gas service is provided from the gas main on Sabattus Street.

Photos



Photo C01 – Emergency vehicle driveway and parking on Sabattus Street.



Photo C02 – Emergency vehicle driveway and parking on Sabattus Street.



Photo C03 – Emergency vehicle driveway and parking on Sabattus Street.



Photo C04 – Pavement condition in front of Emergency vehicle bays.



Photo C05 – Pavement condition in parking area.



Photo C06 – Main building entrance.



Photo C07 – Grass swale along east side of building.



Photo C08 – Grass swale along north side of building.



Photo C09 – View along west side of building toward corrugated HDPE culvert riprap inlet protection.



Photo C10 – View along west side of building.

Parcel Map – Sabattus Street Fire Station



This Map is provided by the City of Lewiston, ME Mapping shown on is for general reference. The City of Lewiston shall not be held liable for damages due to discrepancies, and makes no warranty of accuracy of map. Field verification is required. This map is not printed to scale.



Legend

- Parcel Line
- ROW
- Easement
- Mobile Home Lot
- 22 Street Address
- 48 Tax Map Lot No.
- 100.25 Lot Dimension
- Utility ROW

Planimetric Legend:

- Building, General
- Mobile Home
- Foundation
- Deck
- Patio
- Railroad
- Fence
- Roads, Parking, Walks
- Athletic Courts, Fields
- Swimming Pool
- Lake or Pond, River, Canal
- Swamp or Apparent Wetland
- Stormwater Detention Pond
- Brooks, Streams

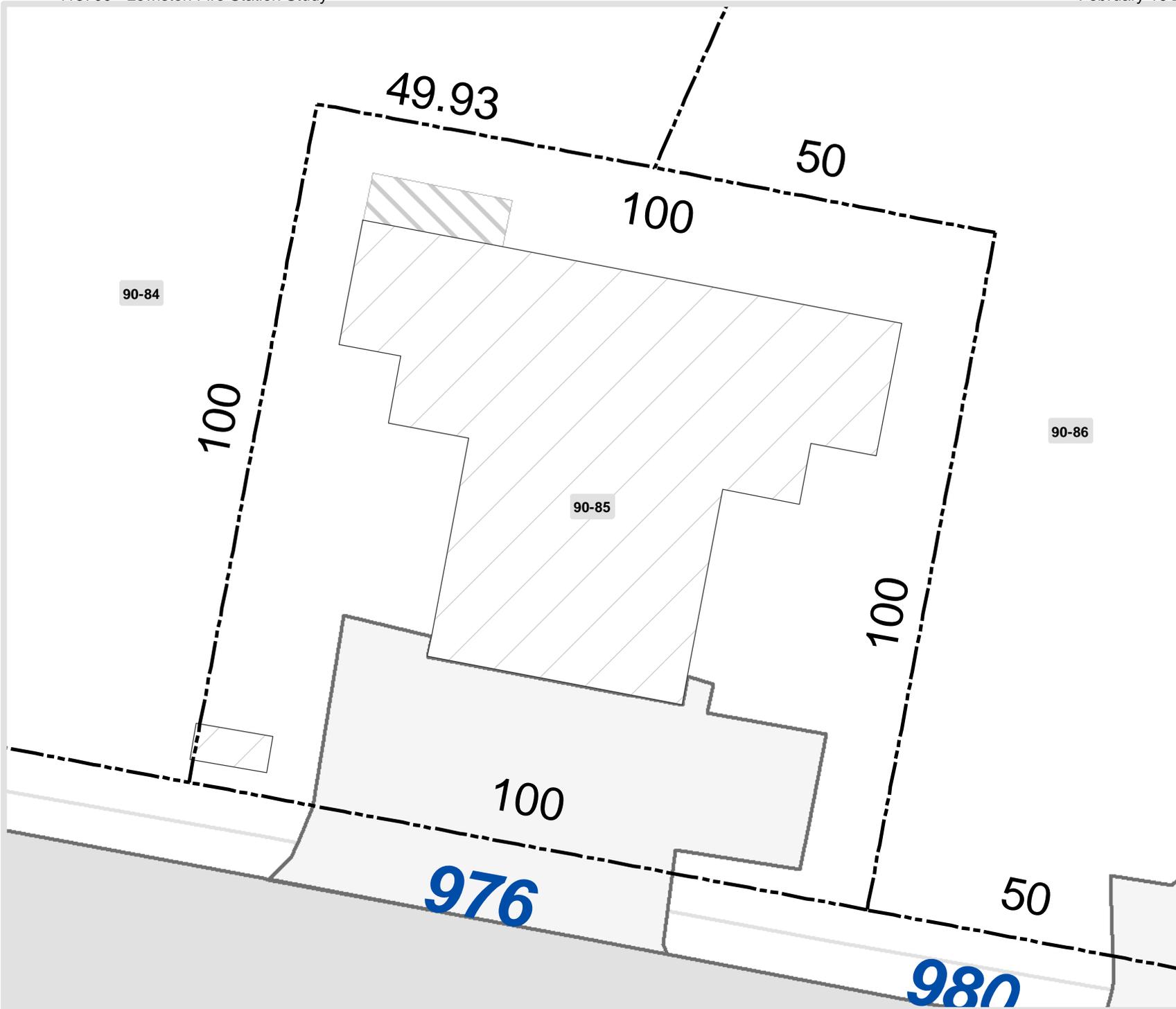
Cadastral mapping displayed is intended for assessment purposes only, and shall not be used in place of a boundary survey. Do not use for description delineation, or transfer of property.

Map-Lot

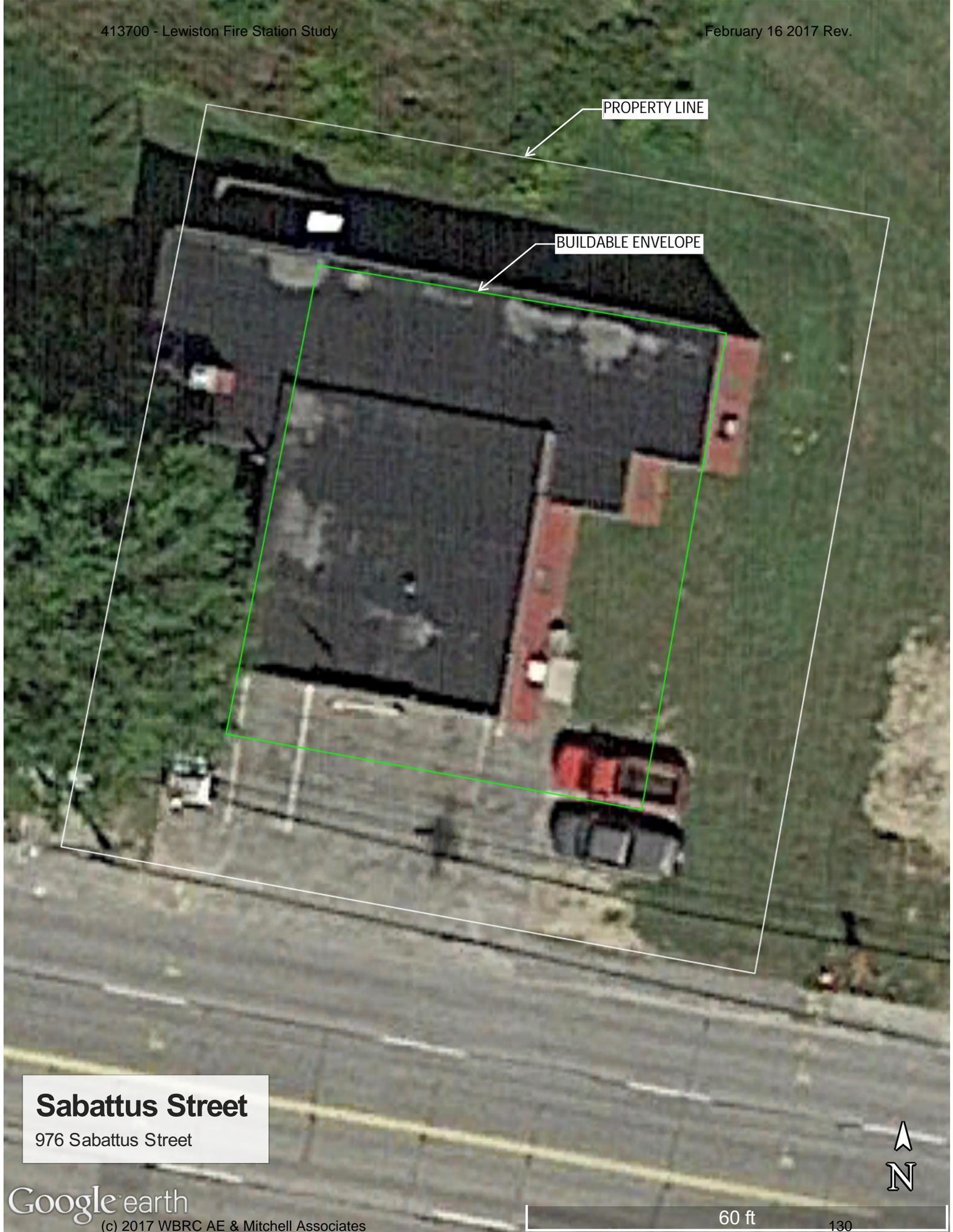
90-85

976 SABATTUS ST

Tax Mapping Effective April 1, 2016 to March 31, 2017



Buildable Envelope – Sabattus Street Fire Station



PROPERTY LINE

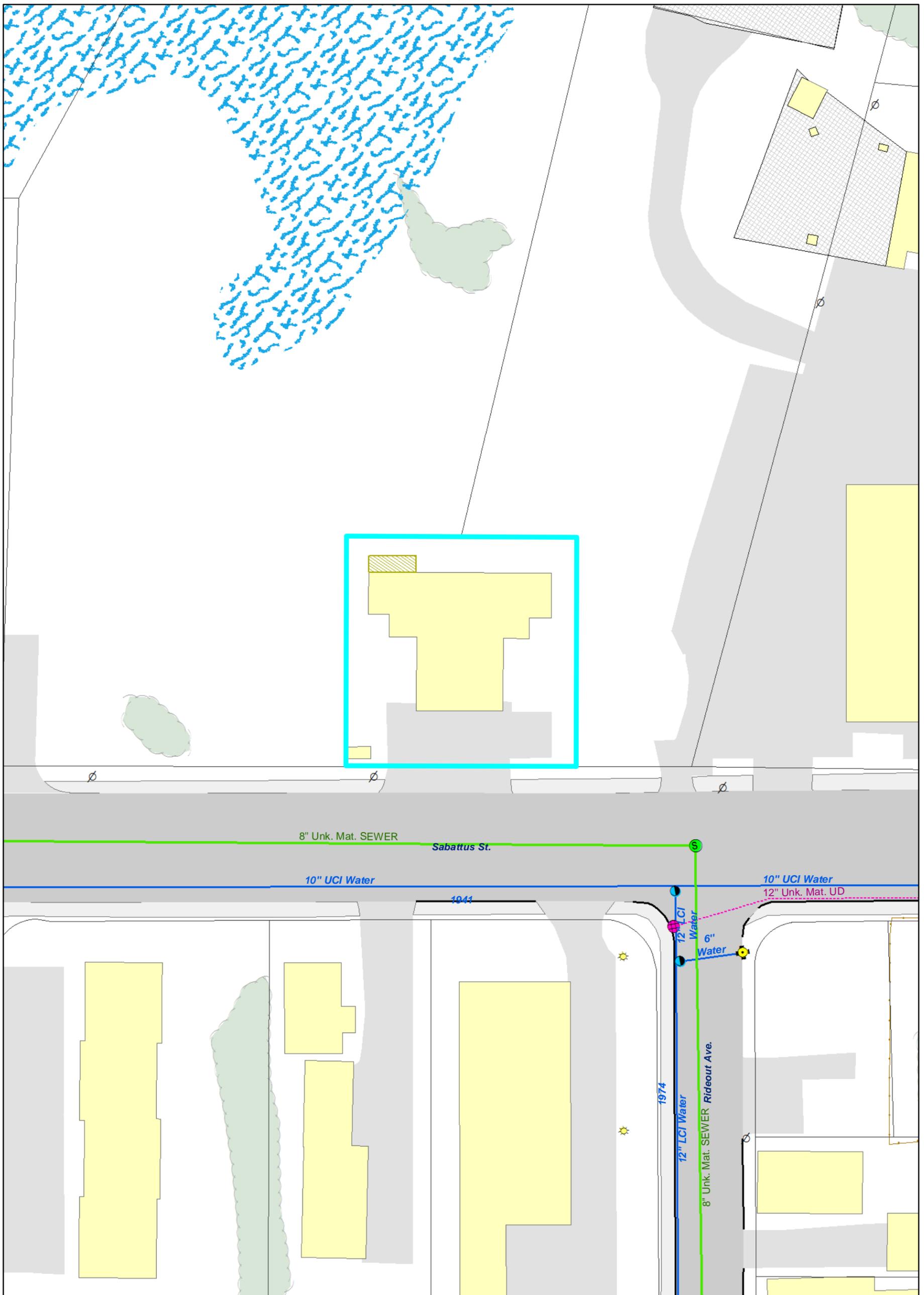
BUILDABLE ENVELOPE

Sabattus Street

976 Sabattus Street



Utility Map – Sabattus Street Fire Station



Sabattus Street
 976 Sabattus Street
 Lewiston Maine 04240
 Map 90 Lot 85



1 inch = 40 feet
 Date: 10/12/2016

Building Name	Sabattus Street Substation
Factored Present Building Value	
4137.00 - Lewiston Fire Station Study	
FIREHOUSE 1-STORY (means Comparison Building Type)	
M.220 (means use Type No.) - 2017	



= User Entered Field

Means Parameter Values	Building Square Footage	2803 SF	
	Means SF average cost (based on 6,000 s.f. bldg.)	242.85 \$ per SF	\$748,779.41
	SF cost for this building size	267.14 \$ per SF	
	Location adjustment for Location, Size, Historic Results	1.1 Size, Historic Results	

SYSTEM	DESCRIPTION	%	SF Applied (equals total unless edited)	Unit	AVERAGE BASE SYSTEM COST (per SF)	LOCATION ADJUSTMENT	Adjusted Cost (per SF)	FCI	VALUATION
A. SUBSTRUCTURE									
1010	Standard Foundations		2803	SF	\$7.77	1.1	\$8.55	0.0	\$0.00
1030	Slab on Grade		2803	SF	\$5.13	1.1	\$5.64	0.0	\$0.00
2010	Basement Excavation		1260	SF	\$3.71	1.1	\$4.08	0.7	\$3,599.44
2020	Basement Walls	Partial basement	1260	SF	\$24.12	1.1	\$26.53	0.0	\$0.00
B. SHELL									
SUPERSTRUCTURE									
1010	Floor Construction		2803	SF	\$22.24	1.1	\$24.46	0.0	\$0.00
1020	Roof Construction		2803	SF	\$7.47	1.1	\$8.22	0.0	\$0.00
EXTERIOR ENCLOSURE									
2010	Exterior Walls		2803	SF	\$32.74	1.1	\$36.01	0.1	\$10,094.72
2020	Exterior Windows		2803	SF	\$3.59	1.1	\$3.95	0.1	\$1,106.90
2030	Exterior Doors		2803	SF	\$7.04	1.1	\$7.74	0.1	\$2,170.64
ROOFING									
3010	Roof Coverings		2803	SF	\$8.79	1.1	\$9.67	0.1	\$2,710.22
3020	Roof Openings		2803	SF	\$0.19	1.1	\$0.21	0.1	\$58.58
C. INTERIORS									
1010	Partitions		2803	SF	\$5.03	1.1	\$5.53	0.1	\$1,550.90
1020	Interior Doors		2803	SF	\$2.26	1.1	\$2.49	0.1	\$696.83
1030	Fittings		2803	SF	\$0.49	1.1	\$0.54	0.1	\$151.08
2010	Stair Construction		2803	SF	\$0.00	1.1	\$0.00	0.1	\$0.00
3010	Wall Finishes		2803	SF	\$3.37	1.1	\$3.71	0.1	\$1,039.07
3020	Floor Finishes		2803	SF	\$2.05	1.1	\$2.26	0.1	\$632.08
3030	Ceiling Finishes		2803	SF	\$3.18	1.1	\$3.50	0.1	\$980.49
D. SERVICES									
CONVEYING									
1010	Elevator and Lifts	No elevator present	2803	SF	\$0.00	1.1	\$0.00	0.0	\$0.00
1020	Escalators & Moving Walks	No escalator present	2803	SF	\$0.00	1.1	\$0.00	0.0	\$0.00
PLUMBING									
2010	Plumbing Fixtures		2803	SF	\$9.60	1.1	\$10.56	0.1	\$2,959.97
2020	Domestic Water Distribution		2803	SF	\$7.75	1.1	\$8.53	0.1	\$2,389.56
2040	Rain Water Drainage		2803	SF	\$3.33	1.1	\$3.66	0.1	\$1,026.74
HVAC									
3020	Heat Generating Systems		2803	SF	\$5.16	1.1	\$5.68	0.0	\$0.00
3030	Cool Generating Systems		2803	SF	\$4.00	1.1	\$4.40	0.0	\$0.00
3050	Terminal and Package Units		2803	SF	\$11.60	1.1	\$12.76	0.1	\$3,576.63
3090	Other HVAC Sys. & Equip.		2803	SF	\$3.35	1.1	\$3.69	0.1	\$1,032.91
FIRE PROTECTION									
4010	Sprinklers	Not present	2803	SF	\$0.00	1.1	\$0.00	0.0	\$0.00
4020	Standpipes	Not present	2803	SF	\$0.00	1.1	\$0.00	0.0	\$0.00
ELECTRICAL									
5010	Electrical Service/Distribution		2803	SF	\$3.50	1.1	\$3.85	0.1	\$1,079.16
5020	Lighting and Branch Wiring		2803	SF	\$4.93	1.1	\$5.42	0.0	\$0.00
5030	Communications and Security		2803	SF	\$1.89	1.1	\$2.08	0.0	\$0.00
5090	Other Electrical Systems	Not used	2803	SF	\$0.00	1.1	\$0.00	0.1	\$0.00
E. EQUIPMENT AND FURNISHINGS									
1010	Commercial Equipment	Factored outside of building analysis	2803	SF	\$0.00	1.1	\$0.00	0.0	\$0.00
1020	Institutional Equipment	Factored outside of building analysis	2803	SF	\$0.00	1.1	\$0.00	0.0	\$0.00
1030	Vehicular Equipment	Factored outside of building analysis	2803	SF	\$0.00	1.1	\$0.00	0.0	\$0.00
1090	Other Equipment	Factored outside of building analysis	2803	SF	\$0.00	1.1	\$0.00	0.0	\$0.00
F. SPECIAL CONSTRUCTION									
1020	Integrated Construction	Not used	2803	SF	\$0.00	1.1	\$0.00	0.0	\$0.00
1040	Special Facilities	Not used	2803	SF	\$0.00	1.1	\$0.00	0.0	\$0.00
G. BUILDING SITEWORK									
		Factored separately on total statement of probable							
SUB-TOTAL			2803	SF	\$194.28		\$213.71		\$36,855.92
Contractor Fees		(General Requirements: 10%, Overhead: 5%, Profit: 10%)	25%		\$48.57		\$53.43		\$9,213.98
TOTAL					\$242.85		\$267.14		\$46,069.89

Factored Building Value

FCI = Value of Existing System/New Construction

DOES NOT include demolition cost implications

0.06

3.0 Program and Space Needs



	Size
2 bay substation planned for expansion	7,953
3 bay substation	8,657
3 bay substation with mechanic	10,546
2 bay substation with mechanic	9,653
HQ	29,453

Program Item	Room Name	Proposed Floor Area			Program Item	Room Name	Proposed Floor Area		
		1st Floor	2nd Floor	3rd Floor			1st Floor	2nd Floor	3rd Floor
	Apparatus Bay								
1	Apparatus Bay	6,600			35	Kitchen/Dining	551	0	0
	Subtotal - Apparatus	6,600			36	Recreation Room	505	0	0
	Firematic Support				37	Exercise	609	0	0
1A	Mezzanine	1,052			38	Lockers/Bath	94	0	0
2	Storage Room #1	216			39	Bunkrooms (12@131 sf)	1572	0	0
3	Storage Room #2	216			40	Bunker's Bathrooms (4@91)	364	0	0
4	Yard Storage Room	222			41	Bunker's Study	119	0	0
5	Turnout Gear	413			42	Bunker Area Laundry	81	0	0
6	Hose Storage	196				Subtotal - Firefighters	3,895	0	0
7	EMS Storage	227				Public Spaces			
8	Decon/Laundry	272			43	Public Lobby	200	200	0
9	Work Room	261			44	Meeting/Training	0	900	0
10	Hazardous Waste/Arson Evidence	120			45	Meeting/Training Table/Chair Storage	0	143	0
11	Utility Recess	32			46	Meeting/Training A/V Equipment	0	60	0
12	Hydration	36			47	Kitchenette	0	86	0
13	SCBA Storage & Cleaning	100			48	Public Rest Rooms	0	284	0
13A	Maintenance Technician	540				Subtotal - Public Spaces	200	1,673	0
14	Fire Extinguisher Storage/Maintenance	100				Miscellaneous Space			
15	Janitors Closet	64			49	Entry Vestibules (2 @ 64 sf)	128	0	0
16	Apparatus Floor Bathroom	67			50	Housekeeping Storage (2 @ 50 sf)	50	50	0
17	Break Room	263			51	Janitors Closet (2 @ 78 SF)	78	78	0
18	Tower	144	135	135	52	Generator	304	0	0
	Subtotal - Firematic Support	3,489	135	135	53	File Server	0	100	0
	Administration				54	Mechanical/Electrical	300	50	0
19	Administrative Lobby - See Room 43	0	0	0	55	Sprinkler Room	70	0	0
20	Conference Room	0	398	0		Subtotal - Miscellaneous Spaces	930	278	0
21	Chief's Office	0	240	0		Vertical Circulation			
22	Assistant Chief's Office	0	179	0	54	(2) Stairwells (area per floor)	388	308	0
22A	Captain's Office	179	0	0	55	Elevator (area per floor)	58	58	0
23	Administrative Assistant	0	179	0	56	Elevator Equipment Room	82	0	0
24	Lieutenant's Office	172	0	0	57	Elevator Foyer	80	80	0
25	Fire Prevention Clerk	0	148	0		Subtotal - Vertical Circulation	608	446	0
26	Service Window	0	25	0		Area Subtotals			
27	Fire Prevention Officers (2@204 sf)	0	408	0		Bay	6,600		
28	Training Officer	0	176	0		Firematic Support	3,489	135	135
29	Office Support	0	114	0		Mezzanine	1,052		
30	Fire Prevention Education	0	97	0		Office & Living	5,984	4,777	0
31	Records Storage	0	100	0		Walls & Circulation			
32	Parade Storage	0	40	0		Apparatus Bay Walls @ 8%	528		
33	Firefighter's Association	0	148	0		Firematic Support Walls @ 18%	628		
34	Office Area Rest Rooms (2@ 64 sf)	0	128	0		Firematic Support Circulation @ 18%	628		
	Subtotal - Administration	351	2,380	0		Office Area Walls @ 18%	1,077	860	0
						Office Area Circulation @ 22%	1,316	1,051	0
						As-Built Adjustment			
						Subtotal - Miscellaneous	4,178	1,911	0
						Total By Floor>>	21,911	7,269	135
						Total By Catagory>>		29,314	
						Footprint>>	20,859		

MITCHELL ASSOCIATES ARCHITECTS

• EMERGENCY SERVICES FACILITIES •

Fire Station Program Document

Project Name: Lewiston Central Fire Station

Printout Date: December 13, 2016

Filename: Lewiston Central Fire Station.docx

This document is not meant to be limited to an inventory of what you currently have.

Indicate what you currently need for proper operations and try to forecast what you will need for the future.

A General Information

- A1. Staffing level at station: total: **32** active: **32** female: **2**
- A2. Number of calls/year at station: **1,000+**
- A3. Administrative Staffing: **7**
- A4. Type of entity:
 - A4.1. Municipality: **City of Lewiston**
- A5. Number of Companies or Departments involved: **One**
 - A5.1. Names: **Lewiston Fire Department**
- A6. Location: **2 College Street Lewiston Maine 04240**

B Functional Activities in Building

- B1. Types of response:
 - B1.1. Fire: **X**
 - B1.2. EMS: **Future – may include an ambulance**
 - B1.3. Heavy Rescue: **No**
 - B1.4. HAZ MAT: **No**
 - B1.5. Water Rescue: **X**
 - B1.6. Ambulance: **No**
- B2. Training activities in building:
 - B2.1. **Class Room and use of Apparatus floor and Parking area**
 - .2.1.1. **Typical occupancy is**
- B3. Training activities on site:
 - B3.1. **Limited to Class Room Apparatus Bay area and Parking Area**
 - .3.1.1. **16 to 20 on daily basis**
 - .3.1.2. **60 on special occasions**
- B4. Fuel Filling Station: **N/A**
- B5. Other uses of apparatus bay:
 - B5.1. Social events: **large event gathering place, retirements, vehicle dedication, governor's visit, etc.**
 - B5.2. Craft fairs: **No**
 - B5.3. Other: **No**

B6. Sleeping Over:

B6.1. Now

.6.1.1. Long term: **24 Hour Shifts for 7 to 9 each Duty Day**

.6.1.2. Intermittent, short duration: **Additional staff during storm conditions**

B7. Standing by:

B7.1. Will other fire companies park their apparatus in the bay under certain circumstances: **Yes**

.7.1.1. Describe: **Mutual Aid Support**

.7.1.2. Is their access to the building to be limited: **Yes**

.7.1.3. Describe: **No access to Administration and Bunk Area**

B8. Emergency Shelter:

B8.1. Who stays in building: **No One**

B9. Firematic Business:

B9.1. Describe: **Department administration**

B10. Social Life:

B10.1. Daily recreation – describe: **Daily Exercise beyond Gym Room (cross training)**

B11. Access control:

B11.1. Electronic access: **Allow for wireless system**

APPARATUS

1 Apparatus Bays

1.1 Number of vehicles: **4**; # of bays: **4**

Front Line Vehicles

1.1.1 Name: **Engine #7**; type: **Pumper**; length: **32'**; weight: **45,7000 lbs**

1.1.2 Name: **Engine #6**; type: **Pumper**; length: **32'**; weight: **45,7000 lbs**

1.1.3 Name: **Ladder #1**; type: **Ladder Truck**; length: **40' 3"**; weight: **70,800 lbs**

1.1.4 Name: **Squad #1**; type: **Cube Van**

Second Line Vehicles Engine #6 spare unit noted above

1.1.5 **6 officer vehicles**

1.1.5.1 **2 SUV's (Chief & Assist. Chief) @ 16'-5"**

1.1.5.2 **1 SUV @ #' = #'**

1.1.5.3 **2 pickups with caps @ 19' - 4"**

1.1.5.4 **1 pickup for emergency vehicle technician @ 19' - 4"**

1.1.6 **Potential future ATV**

1.1.7 **Plan for future ambulance**

1.1.8 **Possible future vehicles**

1.1.8.1 **Hazmat pickup truck & trailer**

1.2 Type of bays: Safety considerations support there should be drive-through bays

1.2.1 Drive-through: **Yes**; quantity: **4**

- 1.2.2 Single deep: **Yes**; quantity: **4**
- 1.2.3 Other: **Officer vehicles**; quantity: **5**
- 1.3 Wash bay: **No, trucks are washed in place**
- 1.4 Plan for future expansion of bays: **No**
- 1.5 Overhead doors:
 - 1.5.1 Front:
 - 1.5.1.1 Number: **4**
 - 1.5.1.2 Width: **13'-4"**; Height: **14'-0"**
 - 1.5.1.3 Windows: **Yes**
 - 1.5.2 Rear:
 - 1.5.2.1 Number: **4**
 - 1.5.2.2 Width: **13'-4"**; Height: **14'-0"**
 - 1.5.3 Small Bays:
 - 1.5.3.1 Number: **5**
 - 1.5.3.2 Width: **10'-0"**; Height: **10'-0"**
 - 1.5.3.3 Windows: **Yes**
- 1.6 Signage requirements: **TV monitor for dispatch area**
- 1.7 Trench drains: **Yes**; **Layout: Center line of trucks**
- 1.8 Wall mounted water hose reels: **Yes**; Quantity: **2, or more**; Tempered: **Yes**
- 1.9 Fume exhaust: **Yes**; Type: **Plymovent**
- 1.10 Truck fills:
 - 1.10.1 Wall hydrant: **Yes**; Quantity: **maintain access to each vehicle**
 - 1.10.2 Outdoor hydrant: **Yes**; Quantity: **1**
- 1.11 Overhead electrical drops: **Yes**; Quantity: **5**
- 1.12 Overhead airdrops: **N/A**; Quantity: **On board compressor**
- 1.13 Compressed air for tools: **Yes for Plymovent and tool air**
- 1.14 Hand wash sinks: **Yes**; Where: **Near doors to living space**
- 1.15 Water fountain/bottle filling station: **Yes**
- 1.16 Storage of Diesel Exhaust Fluid: **No, available at DPW**
- 1.17 Epoxy flooring: **Yes**
- 1.18 Wall construction type: **CMU**
- 1.19 Size: **6,600** sq ft

FIREMATIC SUPPORT

1A Mezzanine

- 1A.1 Use: **Training & bulk storage**
- 1A.2 Training Features: **Ladder evolutions, bail out, confined extrication, mask confidence, etc.**
- 1A.3 Additional items (not in current inventory):
 - 1A.4.1 **House air compressor**
- 1A.7 Comments: **Provide a davit**
- 1A.8 Size: **1,052** sq ft

2 Storage Room #1

- 2.1 Use: **FD Storeroom**
- 2.2 Security: **Locked**
- 2.3 Adjacencies: **Apparatus Bay**
- 2.4 Size: **216**sq ft

3 Storage Room #2

- 3.1 Use: **FD Storeroom**
- 3.2 Security: **Locked**
- 3.3 Adjacencies: **Apparatus Bay**
- 3.4 Size: **216**sq ft

4 Yard Storage Room

- 4.1 Items to be stored:
 - 4.1.1 **Mower**
 - 4.1.2 **Trash**
 - 4.1.3 **Weed whacker**
 - 4.1.4 **Shovels, etc.**
 - 4.1.5 **Flammable cabinet**
 - 4.1.6 **Wall mounted shelving starting at 42" AFF**
- 4.2 **Clear ceiling height to be 10'**
- 4.3 Security: **Lockable**
- 4.4 Adjacencies: **Bay?**
- 4.5 Size: **222** sq ft

5 Turnout Gear Storage Room

- 5.1 Operational Comments:
 - 5.1.1 Response pathway
 - 5.1.1.1 **Place gear at vehicle at start of shift**
- 5.2 Quantity of Lockers: **40**
- 5.3 Describe Lockers: **Wire mesh**
- 5.4 Locker Size: **24" w x 20" d**
- 5.5 Adjacencies: **Apparatus bay**
- 5.6 Comments: **Non-fixed benches, floor drains, active ventilations, doors with gaskets**
- 5.7 Size: **413 sq ft**

6 Hose Storage

- 6.1 Operational Comments:
 - 6.1.1 **Comes back from fire in pickup truck**
- 6.2 A room, or on the floor: **Yes**
- 6.3 Hose racks: **Yes; #6; Size: standard**
- 6.4 Hose drying: **No**
- 6.5 Hose washer: **No**
- 6.6 Hose winder: **No**
- 6.7 Inventory:
 - 6.7.1 4" LDH: **24 @ 100'** [6 ½" footprint] - **13 lf**
 - 6.7.2 2 ½" Attack: **15 @ 100'** [4" footprint] – **5 lf**
 - 6.7.3 1 ¾" Interior: **50 @ 50'** [3" footprint] – **12.5 lf**
 - 6.7.4 1" Forestry: **12 @ 100'** [2" footprint] – **2 lf**
 - 6.7.5 Total LF of hose rack = **32.5 lf (make over-sized)**
- 6.8 Comments: **2 tier high – currently have six 8' shelves for 4", 2 ½ and 1 ¾ hose, and two 5' shelves for spare short lengths and hose needing repair.**
- 6.9 Size: **196 sq ft**

7 EMS Storage Room

- 7.1 Operational Comments:
 - 7.1.1 **Cabinets facing onto bay**
 - 7.1.2 **Open room for refitting kits, with oxygen & backboard**
 - 7.1.3 **One portion to be locked, with utility shelving**
- 7.2 Adjacencies: **Bay floor, decon, near SCBA**
- 7.3 Size: **227 sq ft**

8 DeCon/Laundry

- 8.1 Operational Comments:
 - 8.1.1 **Close to exterior door**
 - 8.1.2 **Gross decon including drench shower and eye wash**
 - 8.1.3 **Biological & medical cleaning, including items such as back board**
 - 8.1.4 **Turnout gear washing & drying**
- 8.2 Sink(s): **Yes**; Foot Pedal: **Yes**; Number of sink chambers: **2**
- 8.3 Gear washer/extractor: **yes**, size: **TBD**
- 8.4 Cabinet gear dryer: **Yes**
- 8.5 Residential type clothes washer & dryer: **Yes**
- 8.6 Drench shower: **Yes**
- 8.7 Backboard/Etc. cleaning: **Yes**
- 8.8 Red bag storage cabinet: **Yes**
- 8.9 Items to be located in this space (from current inventory):
 - 8.9.1 **Washer/extractor**
 - 8.9.2 **Drying cabinet**
- 8.10 Adjacencies: **Bay, ems storage**
- 8.11 Comments: **Epoxy coated walls & floors**
- 8.12 Size: **272** sq ft

9 Work Room

- 9.1 Use: **Equipment and General Repair**
- 9.2 Mechanic: **Yes**; Type of work: **Bench work**
- 9.3 Operational Comments:
 - 9.3.1 **Equipment repair**
 - 9.3.2 **Tool cleaning and repair**
- 9.4 Workbench: **Yes**
- 9.5 Tool storage: **Yes**
- 9.6 Stationary power tools: **no**
- 9.7 Air: **Yes**
- 9.8 Water/Sink: **Yes**
- 9.9 Flammable Storage: **Yes**
- 9.10 Security: **No**
- 9.11 Adjacencies: **Bay**
- 9.12 Comments: **Adequate ventilation**
- 9.13 Size: **261** sq ft

10 Hazardous Waste/ Arson Evidence Storage

- 10.1 Operational Comments:
 - 10.1.1 **Temporary holding until vendor picks up.**
 - 10.1.2 **Burnt items**
- 10.2 Location: **Walk in store room accessed from exterior of building**
- 10.3 Security: **Yes**
- 10.4 Adjacencies: **N/A**
- 10.5 Comments (Containment floor, polymer door & frame):
 - 10.5.1 **Hurricane lamp, canister of flammable material, old fire extinguisher, gas soaked hazmat pads. Place a flammables cabinet inside.**
 - 10.5.2 **Double door to exterior, no door to interior**
 - 10.5.3 **Adequate ventilation**
 - 10.5.4 **Does not need to be tempered**
- 10.6 Size: **120** sq ft (smaller version of Yard Storage Room).

11 Utility Recess

- 11.1 Operational Comments:
 - 11.1.1 **Yes**
- 11.2 Slop sink: **Yes**
- 11.3 Truck cleaning tool & supplies: **Yes**
- 11.4 Garbage & recycling: **Yes**
- 11.5 Curb & floor drain: **Yes**
- 11.6 Location: **Bay**
- 11.7 Size: **32** sq ft

12 Hydration

- 12.1 Operational Comments:
 - 12.1.1 **yes**
- 12.2 Refrigerator with water bottles: **yes**
- 12.3 Ice machine: **yes**
- 12.4 Shelving for coolers & portable water container: **yes**
- 12.5 Location: **Near bay in “clean: corridor.**
- 12.6 Size: **36** sq ft

13 SCBA Storage & Cleaning

- 13.1 Sink: **3 bowl sink**
- 13.2 SCBA storage: **Yes, including 15 Packs in cases**
- 13.3 SCBA repair: **No**
- 13.4 Air Bottles – Size & Quantity: **50 – 30 minute**
- 13.5 Back Packs – Size & Quantity: **12**
- 13.6 Oxygen Bottles – Size & Quantity: **6 small, contemplate large for future ambulance**
- 13.7 Security: **No**
- 13.8 Adjacencies: **Bay**
- 13.9 Comments: **SS Base & wall cabinets & counters**
- 13.10 Size: **100** sq ft

13A Maintenance Technician

- 13A.1 Operational Comments:
 - 13A.1.1 **Office w/ desk space for report writing, storage of manuals, etc.**
 - 13A.1.2 **Space & tools for SCAB flow & fit testing**
 - 13A.1.3 **Repairs to all equipment**
- 13A.2 **Responsible for maintenance of all vehicles & equipment, including truck components**
- 13A.3 Security: **No**
- 13A.4 Adjacencies: **Bay**
- 13A.5 Comments: **SS Base & wall cabinets & counters**
- 13A.6 Size: **500+** sq ft

14 Fire Extinguisher Storage/Maintenance

- 14.1 Comments: **Usage to be determined at a future date**
- 14.2 Size: **100** sq ft

15 Janitor's Closet

- 15.1 Mop Receptor: **yes**
- 15.2 Slop Sink: **yes**
- 15.3 Floor Machine: **yes**
- 15.4 Shelving: **yes**
- 15.5 Mop/Broom Rack: **yes**
- 15.6 Adjacencies: **Bay**
- 15.7 Comments: **Floor drain, epoxy finishes**
- 15.8 Size: **64** sq ft

16 Apparatus Floor Rest Room

- 16.1 Quantity: **1**
- 16.2 Fixture: **Sink, toilet & urinal**
- 16.3 Shower: **no**
- 16.4 Lockers: **no**
- 16.5 Location: **Bay**
- 16.6 Size: **67** sq ft

17 Break Room

- 17.1 Adjacencies: **Bay**
- 17.2 Comments: **“Dirty side” meeting, waiting, etc.**
- 17.3 Size: **263** sq ft

18 Tower

- 18.1 Describe: **Yes , maintain current capabilities**

ADMINISTRATION

19 Administrative Area’s Lobby (See Public Lobby)

20 Conference Room

- 20.1 Uses:
 - 20.1.1 **Administrative meetings**
 - 20.1.2 **Ad Hoc committees**
- 20.2 Seat how many: **10-12** at table; **10-12** at wall
- 20.3 Is there a workstation with a computer to be shared by all users: **Yes**
- 20.4 Location: **Near Administrative Offices**
- 20.5 Security: **No**
- 20.6 Comments: **Adequate A/V**
- 20.7 Size: **398** sq ft

21 Chief’s Office

- 21.1 Seat how many: **5**
- 21.2 Use: **See diagram**
- 21.3 Adjacencies: **Conference, assistant Chief, admin assistant**
- 21.4 Size: **240** sq ft

22 Assistant Chief’s Office

- 22.1 Seat how many: **3**
- 22.2 Use: **See diagram**
- 22.3 Size: **179** sq ft

22A Captain's Office

- Seat how many: **3**
- Use: **See diagram**
- Size: **179** sq ft

23 Administrative Assistant

- 23.1 Seat how many: **3**
- 23.2 Use: **See diagram**
- 23.3 Size: **179** sq ft

24 Lieutenant's Office

- 24.1 Seat how many: **4**
- 24.2 Use: **See diagram**
- 24.3 Adjacencies: **Bay**
- 24.4 Size: **172** sq ft

25 Fire Prevention Clerk

- 25.1 Seat how many: **2**
- 25.2 Use: **See diagram**
- 25.3 Adjacencies: **Lobby, conference**
- 25.4 Size: **148** sq ft

26 Service Window

- 26.1 Seat how many: **1**
- 26.2 Use: **See diagram**
- 26.3 Adjacencies: **Lobby, conference**
- 26.4 Size: **25** sq ft

27 Fire Prevention Officers' (2) Office

- 27.1 Seat how many: **2**
- 27.2 Use:
 - 27.2.1 **One on one plan review**
 - 27.2.2 **State investigators and/or insurance investigators**
 - 27.2.3 **Plan review**
- 27.3 Adjacencies: **Lobby, conference**
- 27.4 Size: **(2) @ 204** sq ft

28 Training Officer's Office

- 28.1 Seat how many: **3**
- 28.2 Use: **See diagram**
- 28.3 Adjacencies: **Training Room**
- 28.4 Size: **176** sq ft

29 Office Support Room

- 29.1 Use:
 - 29.1.1 Copier: **yes**
 - 29.1.2 Fax: **yes**
 - 29.1.3 Recycling: **yes**
 - 29.1.4 Mailboxes: **yes**
 - 29.1.5 Work Surface: **yes**
 - 29.1.6 Storage Cabinet(s): **yes**
- 29.2 Location: **Near Administrative Offices**
- 29.3 Size: **114** sq ft

30 Fire Prevention Education:

- 30.1 Items to be located in this space:
 - 30.1.1 **Records related to fires, investigations and inspections that have occurred**
 - 30.1.2 **Court records, but not arson evidence**
 - 30.1.3 **Educational material**
- 30.2 Security: **Yes**
- 30.3 Adjacencies: **Clerk & inspectors**
- 30.4 Size: **97** sq ft

31 Records Storage

- 31.1 Items to be located in this space (from current inventory):
 - 31.1.1 **Payroll reports, personnel records, retiree records**
 - 31.1.2 **Training reports**
 - 31.1.3 **Vehicle reports**
- 31.2 Security: **Yes**
- 31.3 Adjacencies: **Yes**
- 31.4 Size: **100** sq ft

32 Parade Storage:

- 32.1 Items to be located in this space (from current inventory):
 - 32.1.1 **Flags, axes, stands, carry cases, etc.**
- 32.2 Location: **N/A**
- 32.3 Security: **Yes**
- 32.4 Size: **40** sq ft

33 Firefighter's Association

- 33.1 Seat how many: **3 @ cubbies**
- 33.2 Use: **See diagram**
- 33.3 Adjacencies: **Training Room**
- 33.4 Size: **148** sq ft

34 Office Area Rest Rooms

- 34.1 Quantity: **Two**
- 34.2 Showers: **No**
- 34.3 Lockers: **No**
- 34.4 Other: **Treat as uni-sex w/ toilet, urinal & sink**
- 34.5 Size: **2 @ 64sq ft**

FIREFIIGHTERS

35 Kitchen/Dining

- 35.1 Use: **See diagram**
- 35.2 Adjacencies: **Recreation, bunking**
- 35.3 Size: **551 sq ft**

36 Firefighter's Recreation Room

- 36.1 Use: **See diagram**
- 36.2 Adjacencies: **Kitchen/dining**
- 36.3 Size: **505 sq ft**

37 Exercise

- 37.1 Use: **See diagram**
- 37.2 Adjacencies: **TBD**
- 37.3 Size: **609 sq ft**

38 Lockers/Bath

- 38.1 Showers: **Yes**
- 38.2 Lockers: **½ high gym lockers**
- 38.3 Adjacencies: **Exercise, not far from dining**
- 38.4 Size: **94 sq ft**

39 Bunkers/Bed Rooms

- 39.1 Number of rooms: **12**
- 39.2 Beds per room: **2**
- 39.3 Storage: **1 locker per occupant (3)**
- 39.4 Desks: **1**
- 39.5 Location: **Quiet**
- 39.6 Comments: **1 of the rooms is for EMS**
- 39.7 Size: **12 @ 131 sq ft**

40 Bunker's Bathrooms

- 40.1 Quantity: **4**
- 40.2 Use: **See diagram**
- 40.3 Adjacencies: **Bunk rooms**
- 40.4 Size: **4 @ 91** sq ft

41 Bunker's Study Room

- 41.1 Use: **See diagram**
- 41.2 Adjacencies: **Kitchen/dining, recreation**
- 41.3 Size: **119** sq ft

42 Bunker's Area Laundry Room

- 42.1 Use: **See diagram**
- 42.2 Adjacencies: **Bunking**
- 42.3 Size: **81** sq ft

PUBLIC SPACES

43 Public Lobby

- 43.1 Display case: **yes**
- 43.2 Bulletin board: **yes**
- 43.3 Plaque: **yes**
- 43.4 Museum Display: **yes**
- 43.5 Adjacencies: **Admin, meeting/training/public bathrooms**
- 43.6 Size: **200** sq ft

44 Meeting/Training Room

- 44.1 Intended population: **60**
- 44.2 Public access: **Rarely**
- 44.3 Uses:
 - 44.3.1 Department meetings: **yes**
 - 44.3.2 Training: **yes**
 - 44.3.3 Fundraising dinners: **no**
 - 44.3.4 Political/Municipal: **Rarely**
 - 44.3.5 Boy Scouts or other similar groups: **no**
 - 44.3.6 Rental: **no**
- 44.4 Number of tables & size: **See plan**
- 44.5 Number of chairs: now **See plan**
- 44.6 Trophy case: **no**
- 44.7 Whiteboard: **yes**

- 44.8 Projector & screen: **overhead**
- 44.9 Coat rack: **yes**
- 44.10 Adjacencies: **Lobby**
- 44.11 Size: **900** sq ft

45 Meeting/Training Room Table & Chair Storage

- 45.1 Use: **See diagram**
- 45.2 Adjacencies: **Meeting/training**
- 45.3 Size: **143** sq ft

46 Meeting/Training Room A/V Equipment

- 46.1 Use: **See diagram**
- 46.2 Security: **A/V**
- 46.3 Adjacencies: **Meeting Training**
- 46.4 Size: **60** sq ft

47 Kitchenette

- 47.1 Equipment types and size:
 - Refrigerator: **Yes, small residential**
 - Sink: **Yes**
 - Microwave: **Yes**
 - Coffee Maker: **Yes**
 - Toaster: **Yes**
- 47.2 Door to exterior: **No**
- 47.3 Base & wall cabinets w/ counter top: **Yes**
- 47.4 Garbage can: **Yes**
- 47.5 Locked storage: **Several cabinets**
- 47.6 Adjacencies: **Meeting/Training**
- 47.7 Size: **86** sq ft

48 Public Rest Rooms

- 48.1 **Handicapped accessible: Yes**
- 48.2 Use: **See diagram**
- 48.3 Adjacencies: **Meeting/training**
- 48.4 Size: **284** sq ft

MISCELLANEOUS SPACES

49 Entry Vestibules (2)

49.1 Size: **128** sq ft

50 House Keeping Storage (2)

50.1 Size: **50** sq ft

51 Office Side Janitors Closet (2)

51.1 Mop Receptor: **Yes**

51.2 Slop Sink: **Yes**

51.3 Floor Machine: **Yes**

51.4 Shelving: **Yes**

51.5 Mop/Broom Rack: **Yes**

51.6 Size: **78** sq ft

52 Generator

52.1 Size: **304** sq ft

53 File Server

53.1 Size: **100** sq ft

54 Mechanical, Electrical, Plumbing, HVAC, Sprinkler, Alarm, etc.

54.1 Fuel type at site: **Natural Gas & Oil**

54.2 Heating type in apparatus bay: **In-floor radiant**

54.3 Heating type elsewhere: **TBD**

54.4 Building to be sprinklered: **yes**

54.4.1 Adequate water pressure: **Yes**

54.5 Hose bibs for exterior: **Yes**

54.6 Bay lighting type: **LED**

54.7 Site lighting type: **LED**

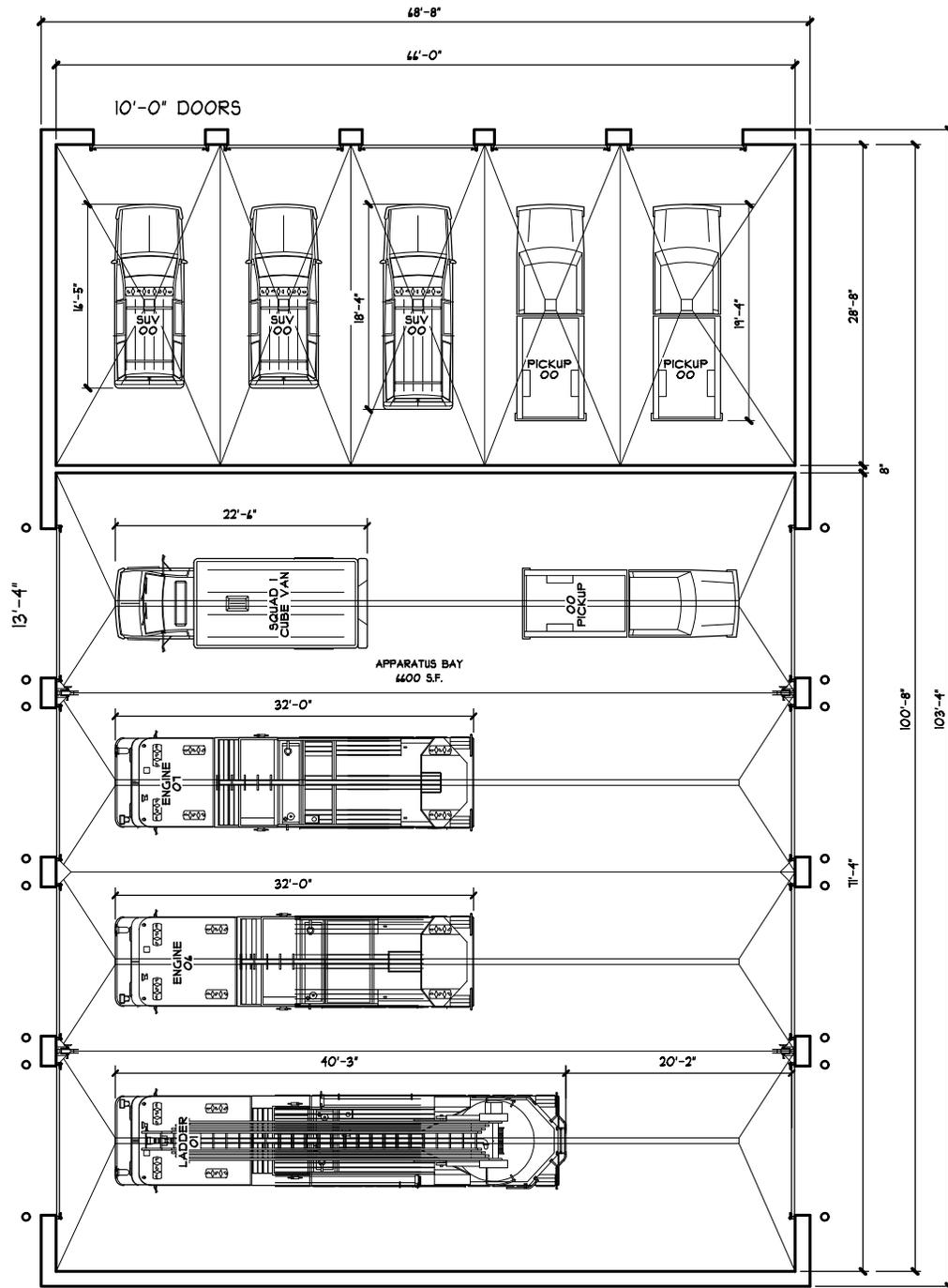
54.8 Describe Security Type (fob?): **Prox. device**

54.9 Siren: **No**

54.10 Size: **350** sq ft

55 Sprinkler Room

55.1 Assume **70** sq ft



**MITCHELL
ASSOCIATES
ARCHITECTS**

HQ APPARATUS BAY

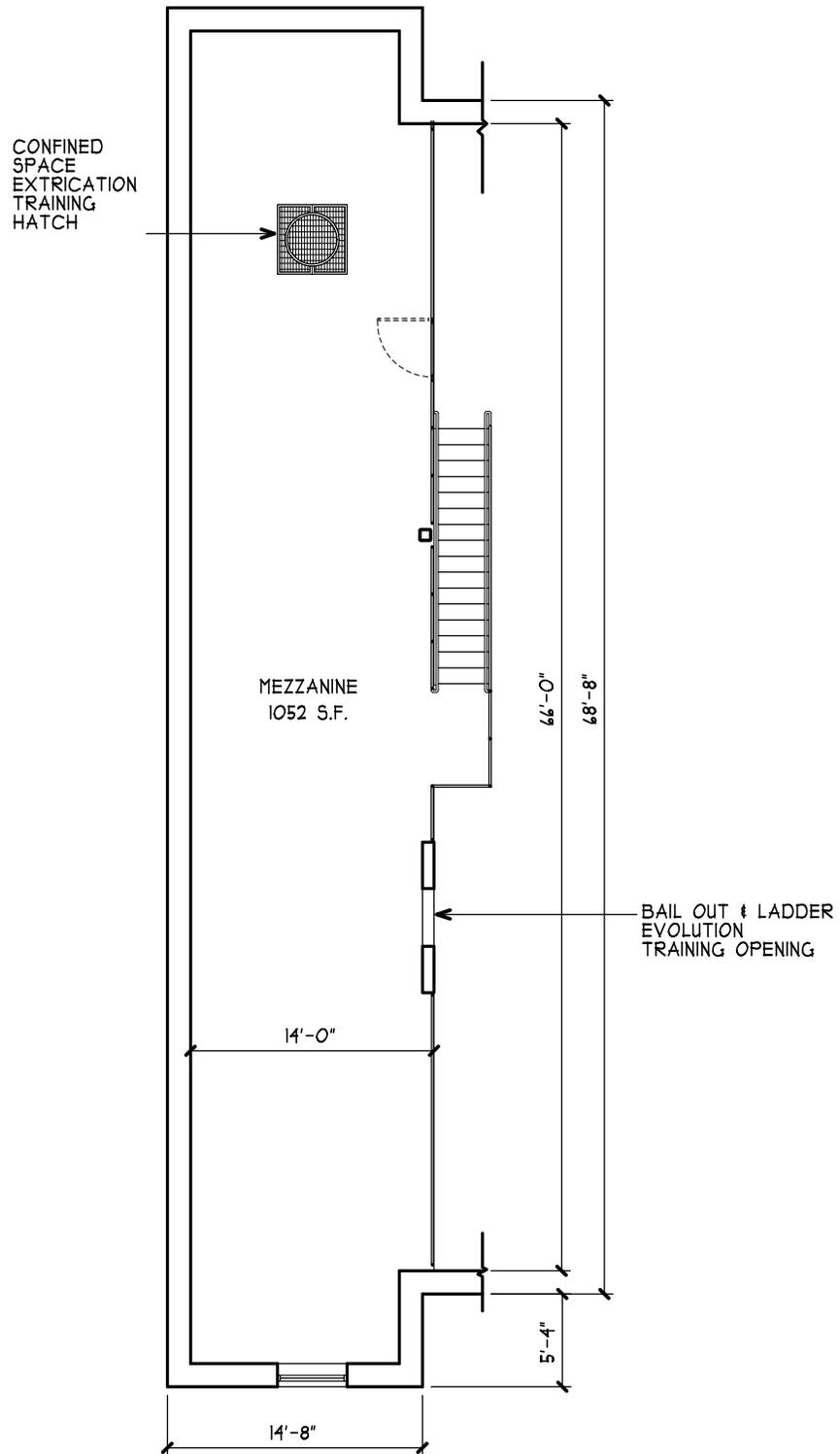
SCALE: 1/16" = 1'-0"

DATE: 10/21/2016

S:\J Drive\Lewiston\HQ\Individual Rooms\ - Apparatus Bay & Firematic Support\01 - Apparatus Bay

01

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

MEZZANINE

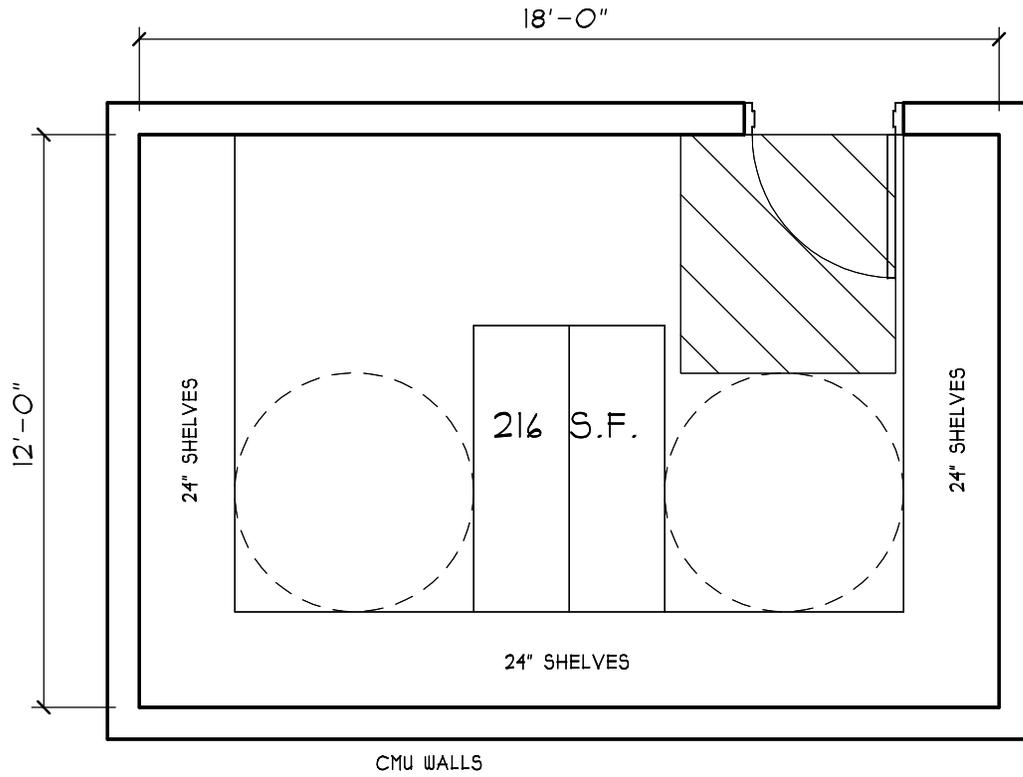
SCALE: 3/32" = 1'-0"

DATE: 10/24/2016

OIA

S:\J Drive\Lewiston\HQ\Individual Rooms\ - Apparatus Bay & Firematic Support\OIA - Mezzanine

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

FIREMATIC STORAGE

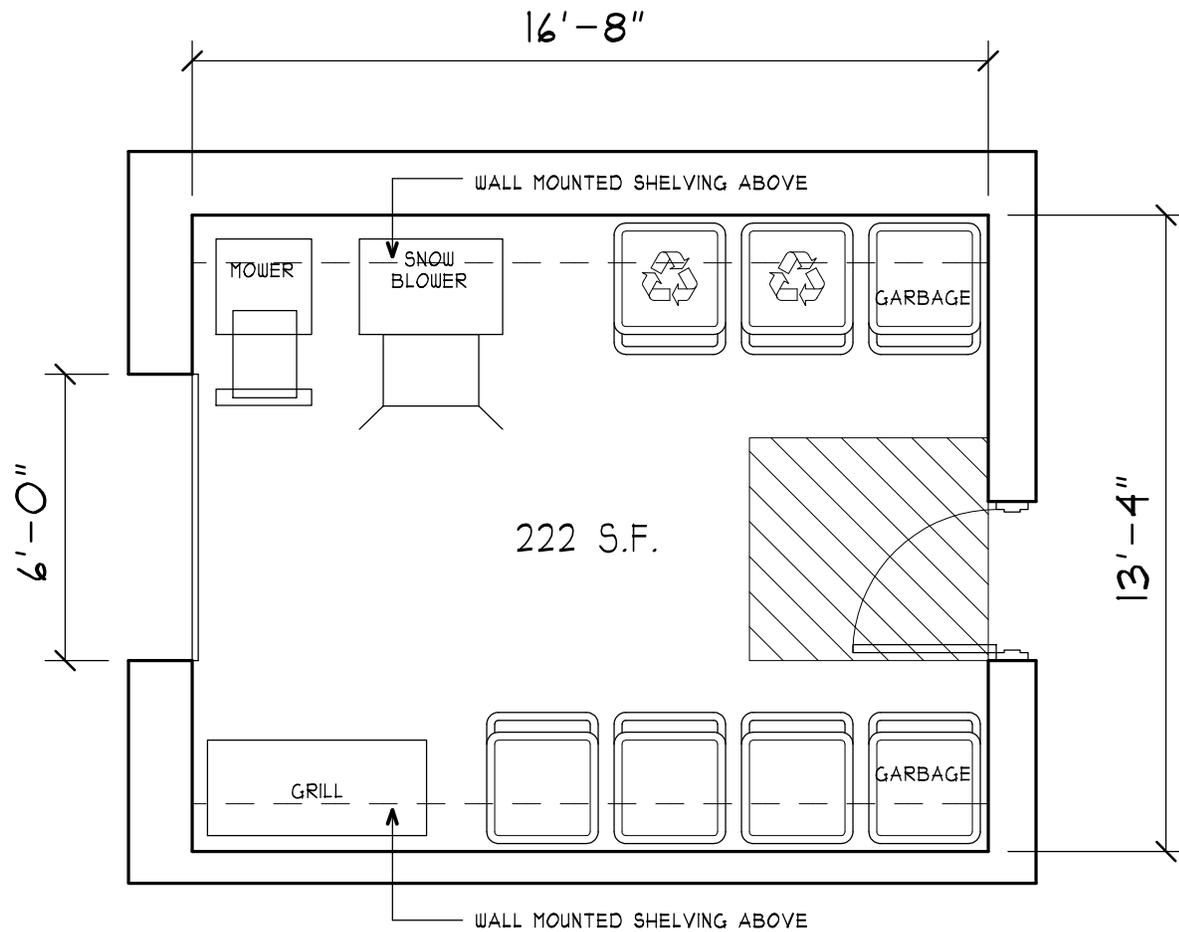
SCALE: 1/4" = 1'-0"

DATE: 10/24/2016

02 & 03

S:\J Drive\Lewiston\HQ\Individual Rooms\ - Apparatus Bay & Firematic Support\02 & 03 - Storage

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

YARD STORAGE

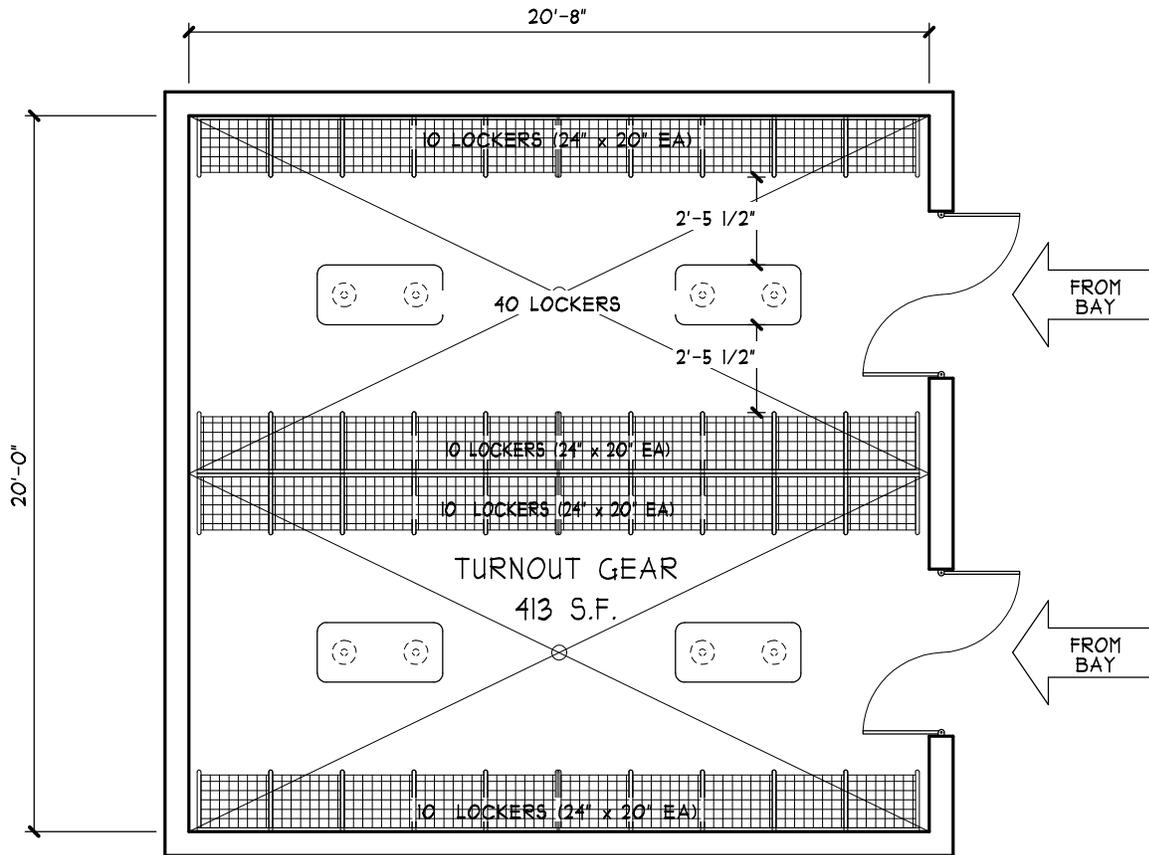
SCALE: 1/4" = 1'-0"

DATE: 10/24/2016

04

S:\J Drive\Lewiston\HQ\Individual Rooms\ - Apparatus Bay 4 Firematic Support\04 - Yard Storage

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

TURNOUT GEAR

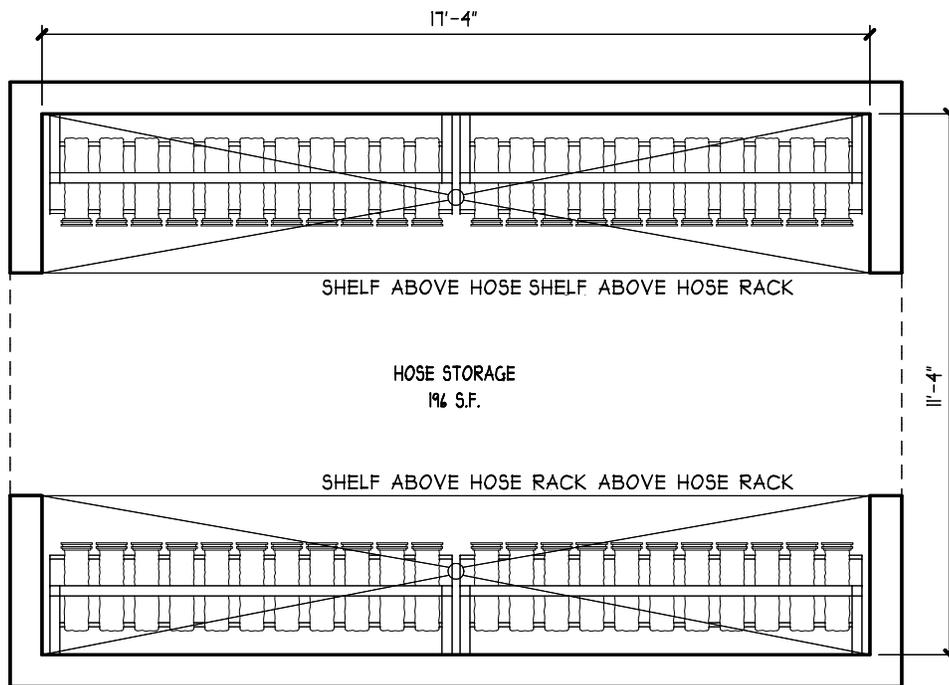
SCALE: 3/16" = 1'-0"

DATE: 10/24/2016

05

S:\J Drive\Lewiston\HQ\Individual Rooms\ - Apparatus Bay & Firematic Support\05 - Turnout Gear

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

HOSE STORAGE

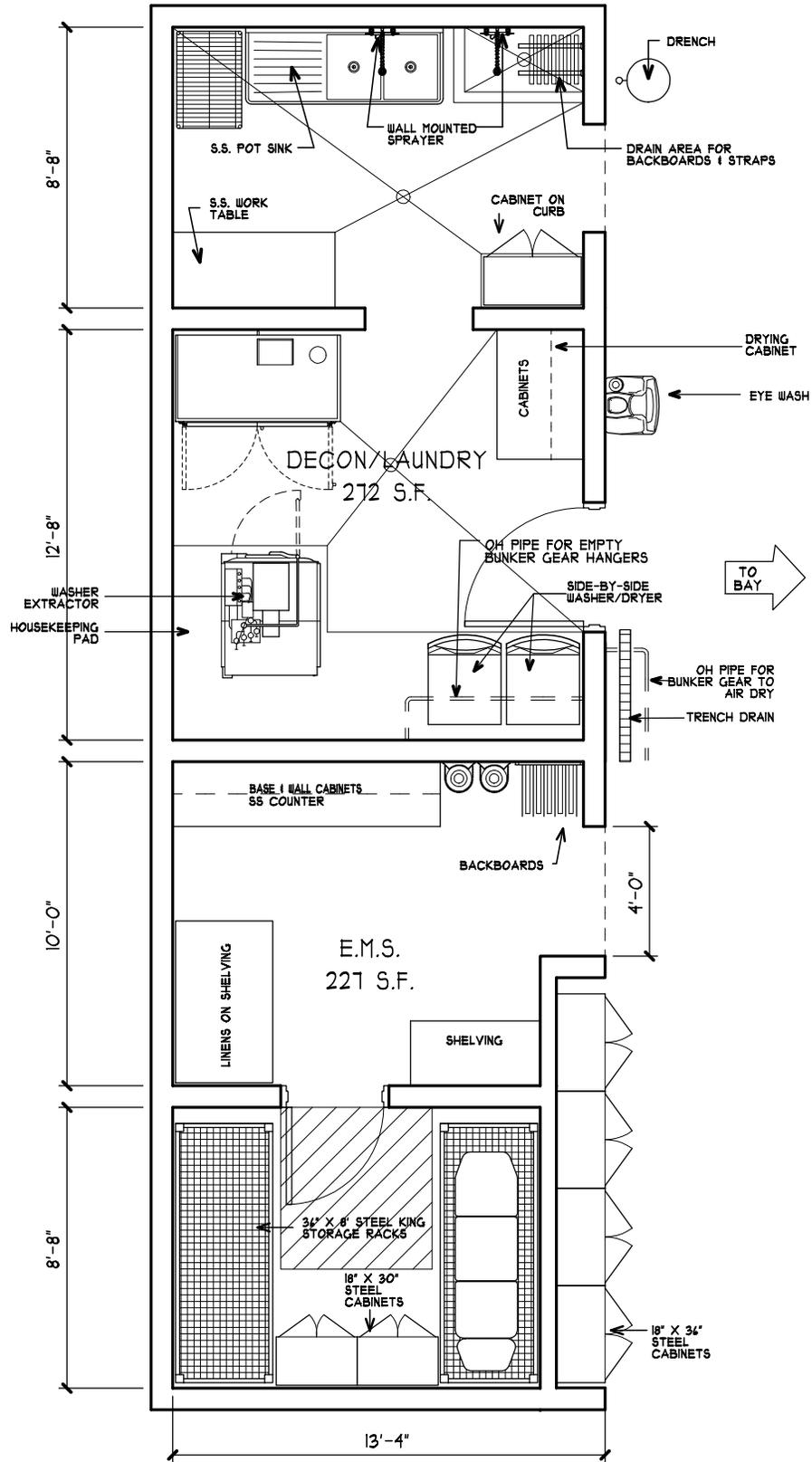
SCALE: 1/4" = 1'-0"

DATE: 10/24/2016

06

S:\J Drive\Lewiston\HQ\Individual Rooms\I - Apparatus Bay & Firematic Support\06 - Hose Storage

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

DECON/LAUNDRY & EMS

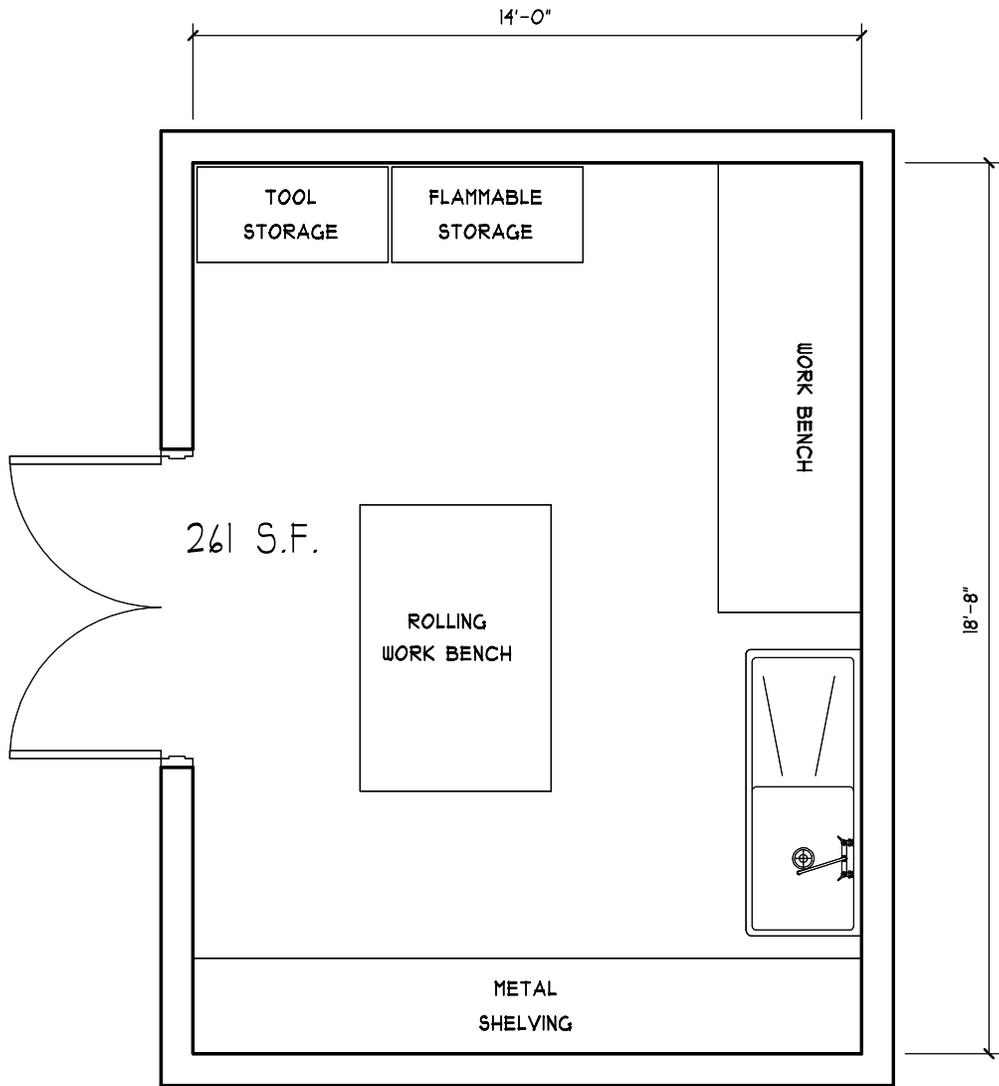
SCALE: 3/16" = 1'-0"

DATE: 10/24/2016

01 & 08

S:\J Drive\Lewiston\HQ\Individual Rooms\ - Apparatus Bay & Firematic Support\01 & 08 - EMS-Decon-Laundry

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

MECHANICS WORKROOM

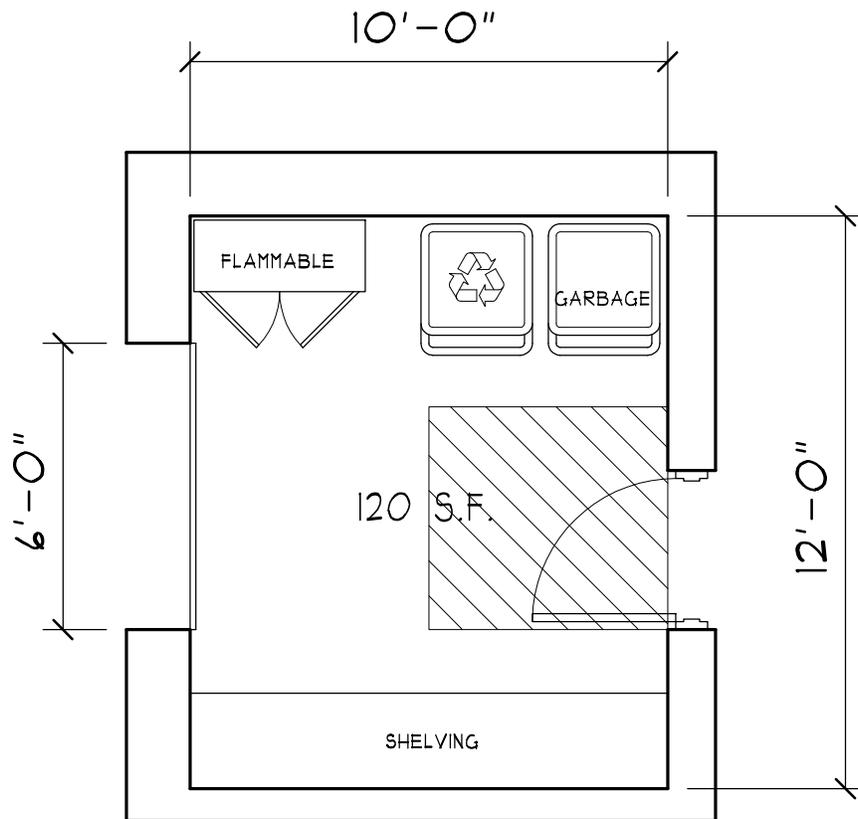
SCALE: 1/4" = 1'-0"

DATE: 10/24/2016

09

S:\J Drive\Lewiston\HQ\Individual Rooms\ - Apparatus Bay & Firematic Support\09 - Work Room

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

HAZARDOUS & ARSON

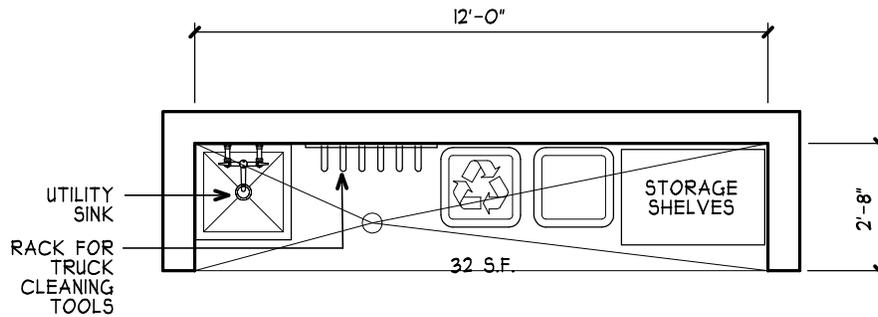
SCALE: 1/4" = 1'-0"

DATE: 11/1/2016

10

S:\ Drive\Lewiston\HQ\Individual Rooms\ - Apparatus Bay & Firematic Support\10 - Hazardous Waste & Arson Investigation

ROOM #



MITCHELL
ASSOCIATES
ARCHITECTS

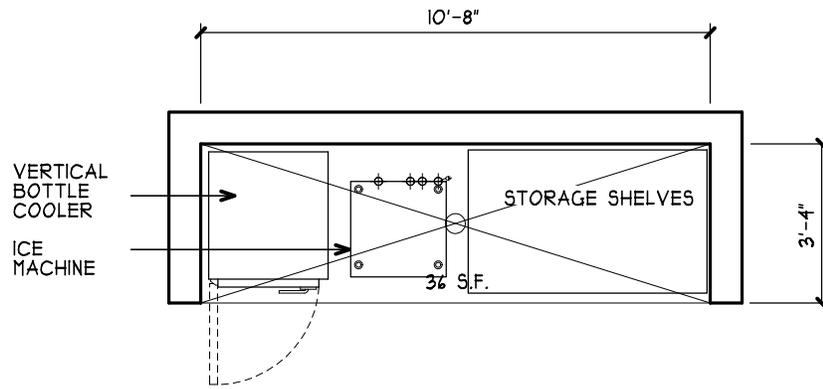
UTILITY RECESS

SCALE: 1/4" = 1'-0"

DATE: 10/24/2016

S:\W Drive\Lewiston\HQ\Individual Rooms\ - Apparatus Bay & Firematic Support\ - Utility Recess

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

HYDRATION

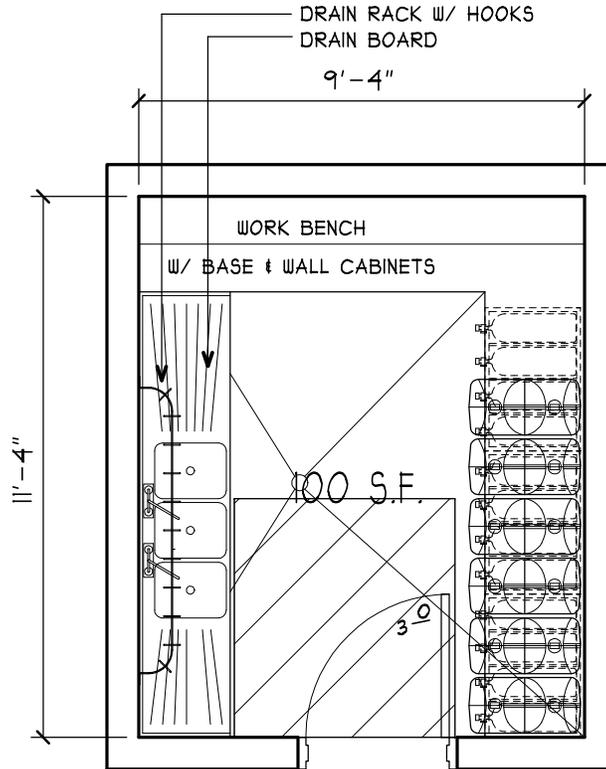
SCALE: 1/4" = 1'-0"

DATE: 10/24/2016

12

S:\ Drive\Lewiston\HQ\Individual Rooms\ - Apparatus Bay 4 Firematic Support\12 - Hydration

ROOM #



MITCHELL
ASSOCIATES
ARCHITECTS

SCBA CLEANING ROOM

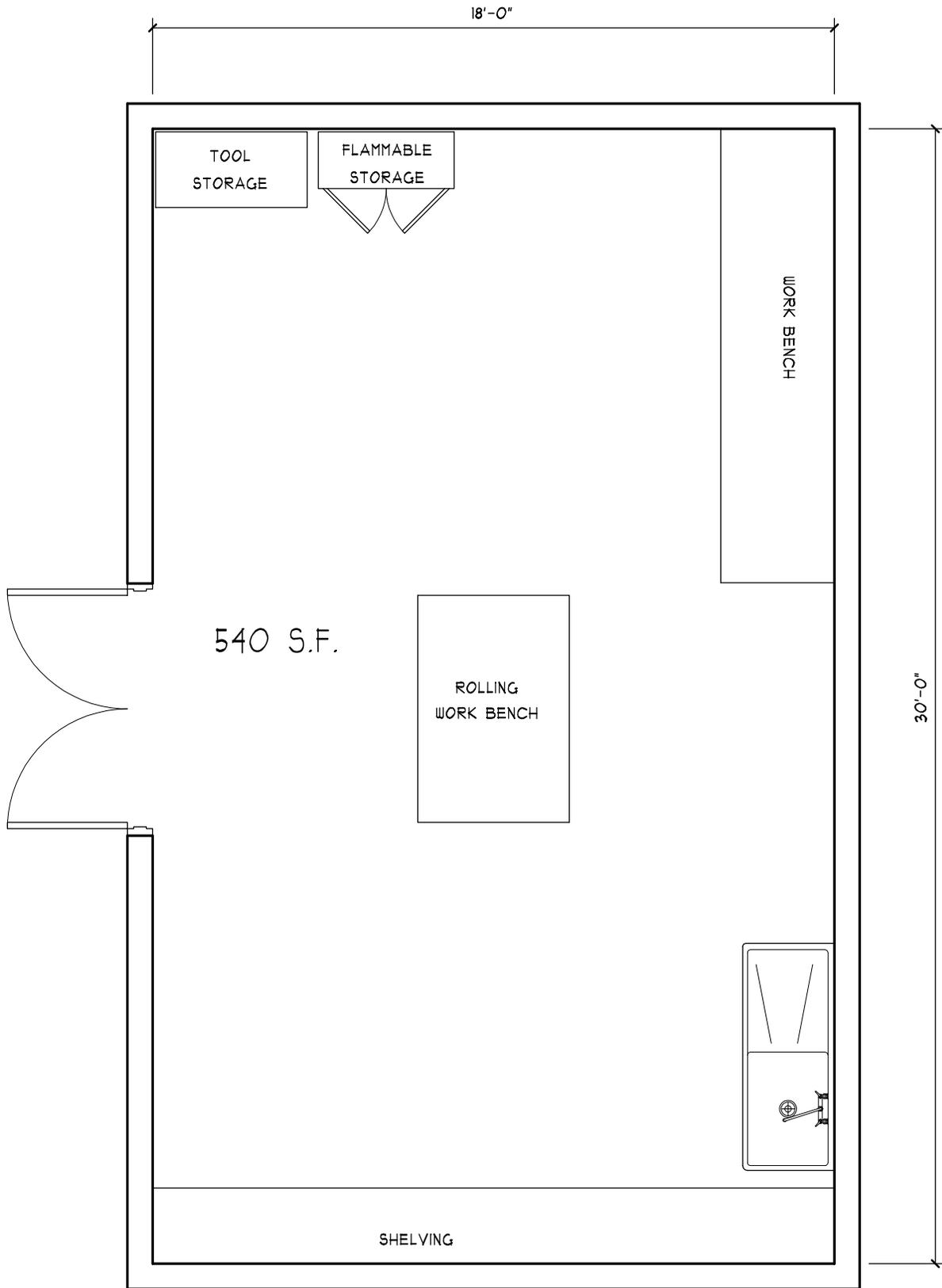
SCALE: 1/4" = 1'-0"

DATE: 10/26/2016

13

S:\J Drive\Lewiston\HQ\Individual Rooms\ - Apparatus Bay & Firematic Support\03 - SCBA Cleaning

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

MAINTENANCE TECHNICIAN

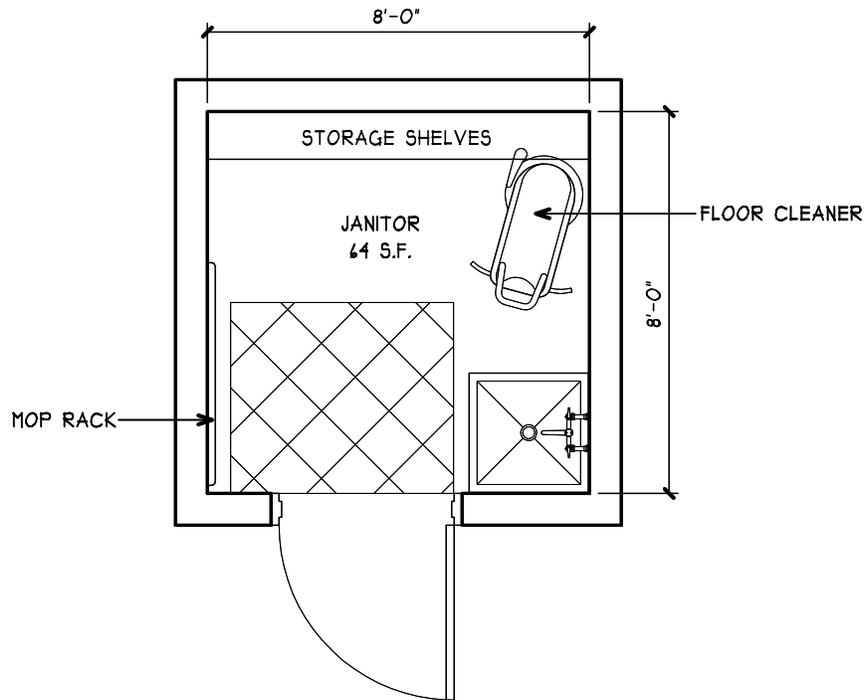
SCALE: 1/4" = 1'-0"

DATE: 11/1/2016

13A

S:\J Drive\Lewiston\HQ\Individual Rooms\ - Apparatus Bay & Firematic Support\13A - Maintenance Technician

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

JANITOR'S CLOSET

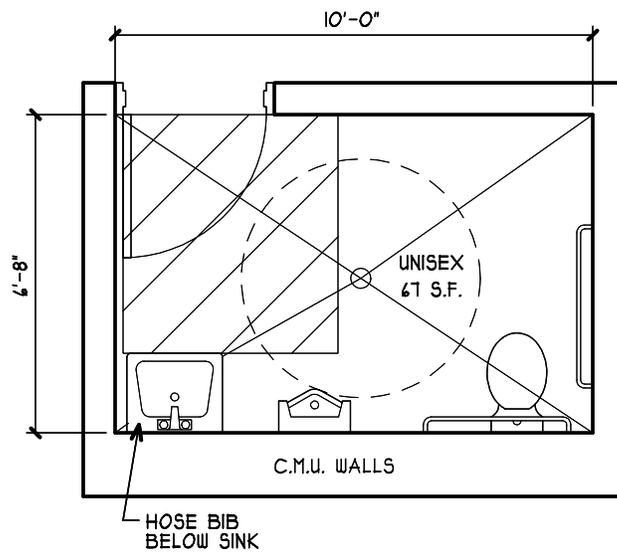
SCALE: 1/4" = 1'-0"

DATE: 10/26/2016

15

ROOM #

S:\J Drive\Lewiston\HQ\Individual Rooms\ - Apparatus Bay & Firematic Support\15 - Janitor



**MITCHELL
ASSOCIATES
ARCHITECTS**

ADA UNISEX BAY BATHROOM

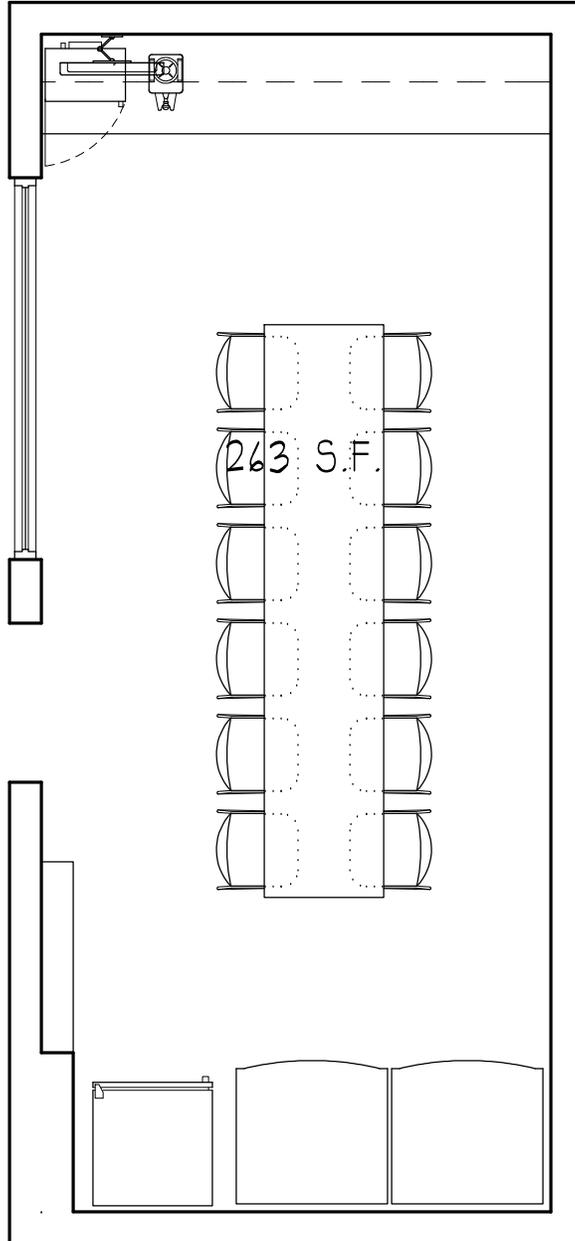
SCALE: 1/4" = 1'-0"

DATE: 10/26/2016

S:\ Drive\Lewiston\HQ\Individual Rooms\ - Apparatus Bay & Firematic Support\16 - Unisex Bay Bathroom

16

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

BREAK ROOM

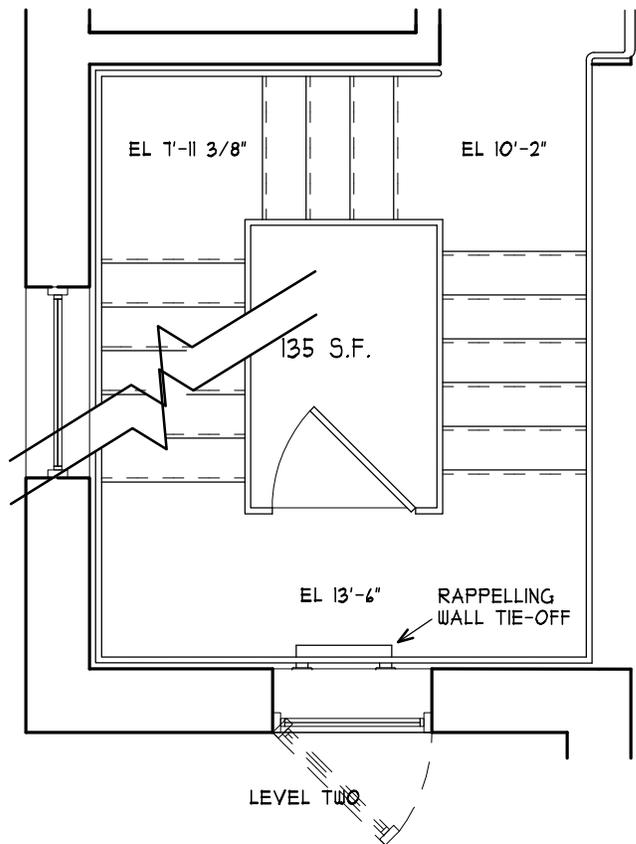
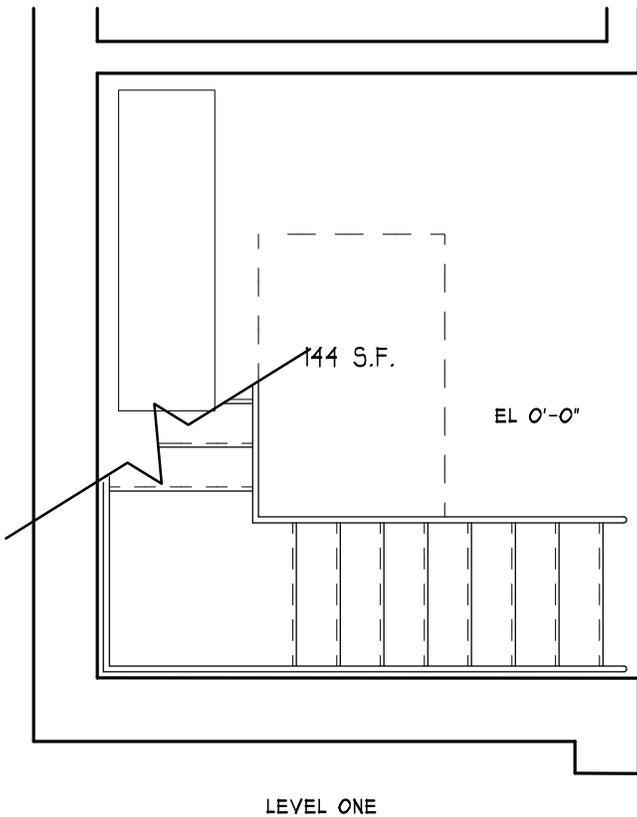
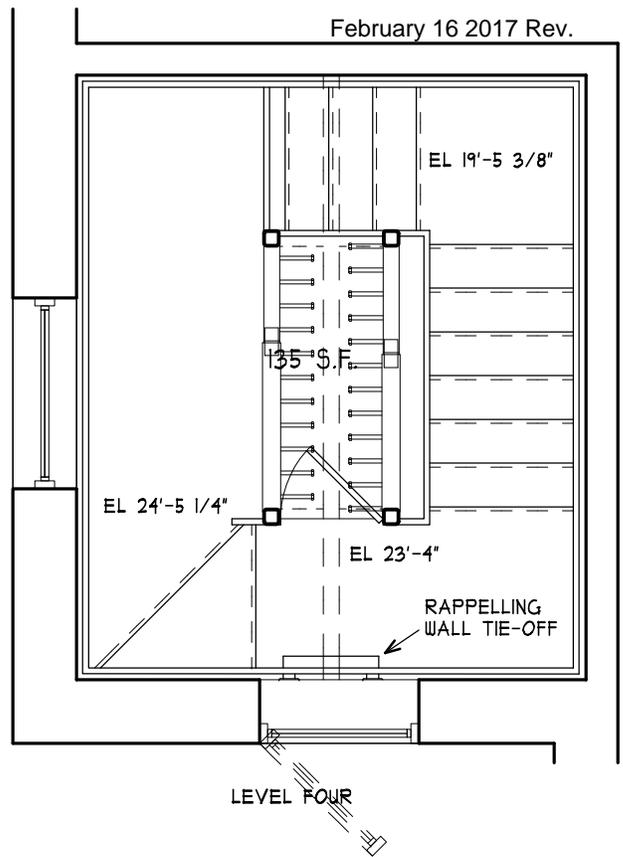
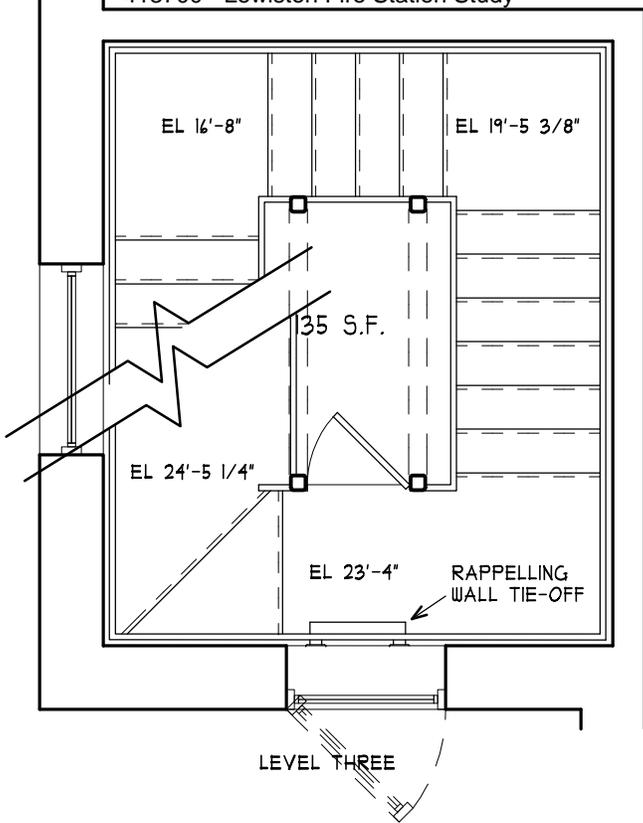
SCALE: 1/4" = 1'-0"

DATE: 10/31/2016

17

S:\J Drive\Lewiston\HQ\Individual Rooms\ - Apparatus Bay & Firematic Support\17 - Break Room

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

4 STORY HOSE TOWER

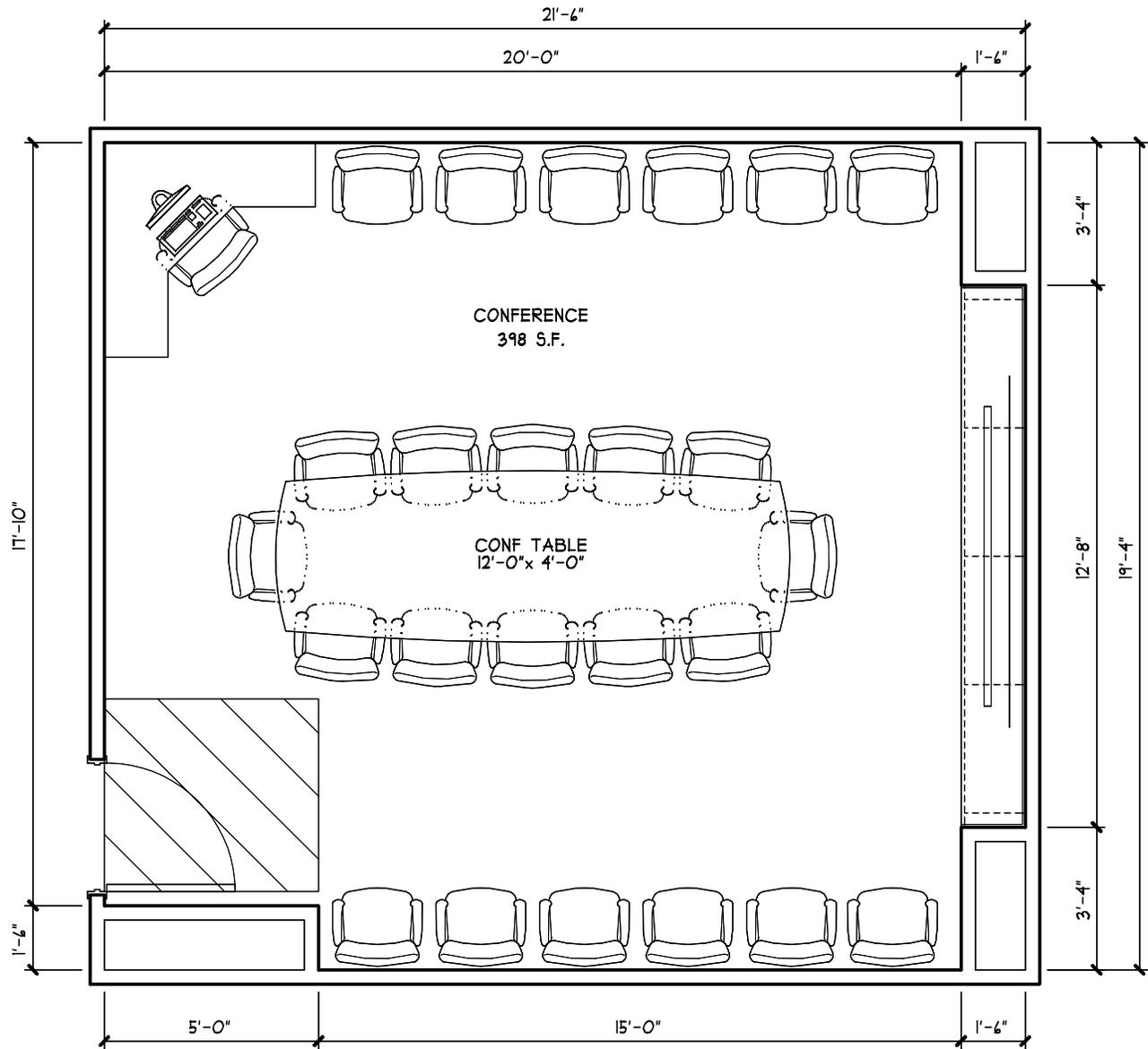
SCALE: 1/4" = 1'-0"

DATE: 10/26/2016

18

S:\J Drive\Lewiston\HQ\Individual Rooms\1 - Apparatus Bay & Firematic Support\18 - Hose Tower

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

CONFERENCE ROOM

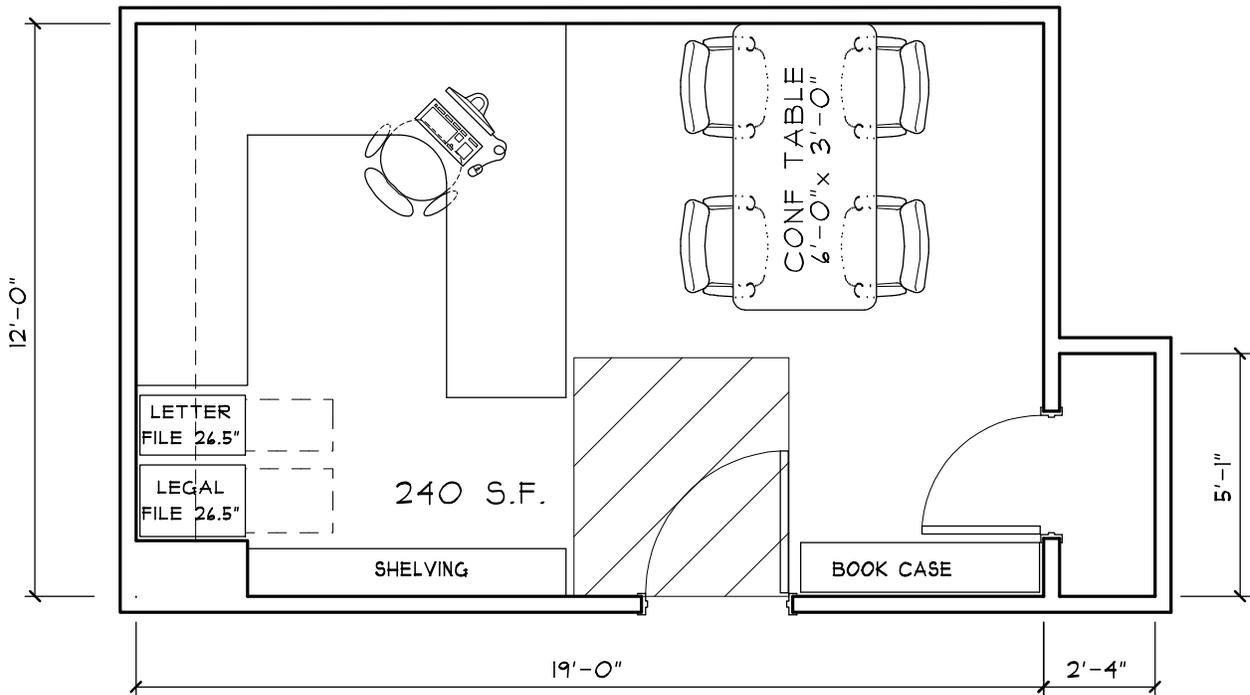
SCALE: 1/4" = 1'-0"

DATE: 10/24/2016

20

ROOM #

S:\J Drive\Lewiston\HQ\Individual Rooms\2- Administration\20 - Conference



**MITCHELL
ASSOCIATES
ARCHITECTS**

CHIEF

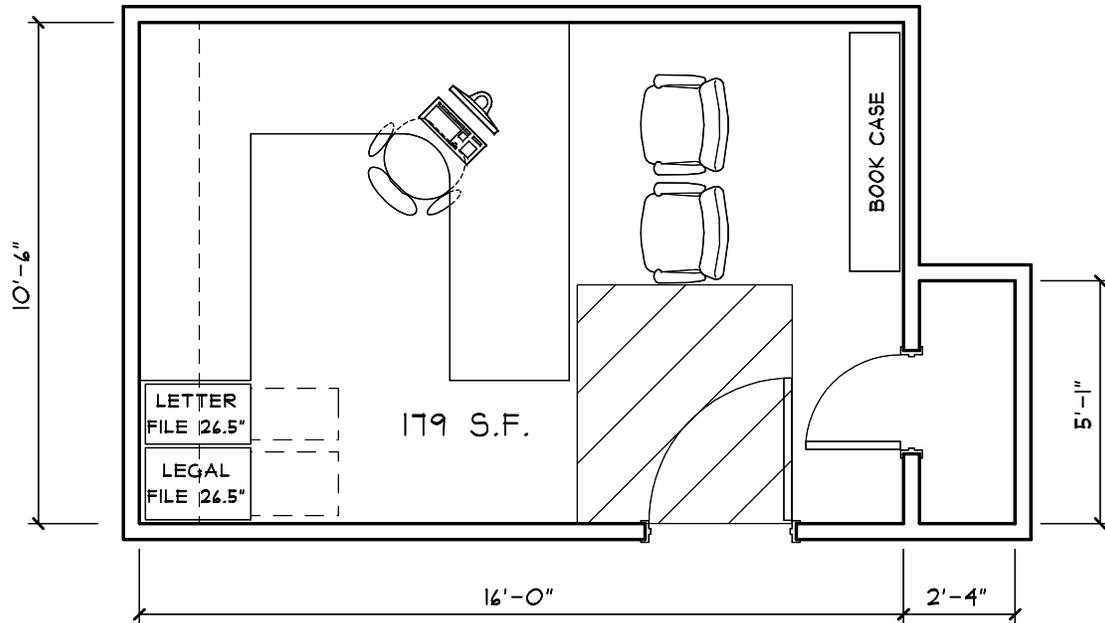
SCALE: 1/4"

DATE: 10/24/2016

21

ROOM #

S:\J Drive\Lewiston\HQ\Individual Rooms\2- Administration\21 - Chief



**MITCHELL
ASSOCIATES
ARCHITECTS**

ASSISTANT CHIEF

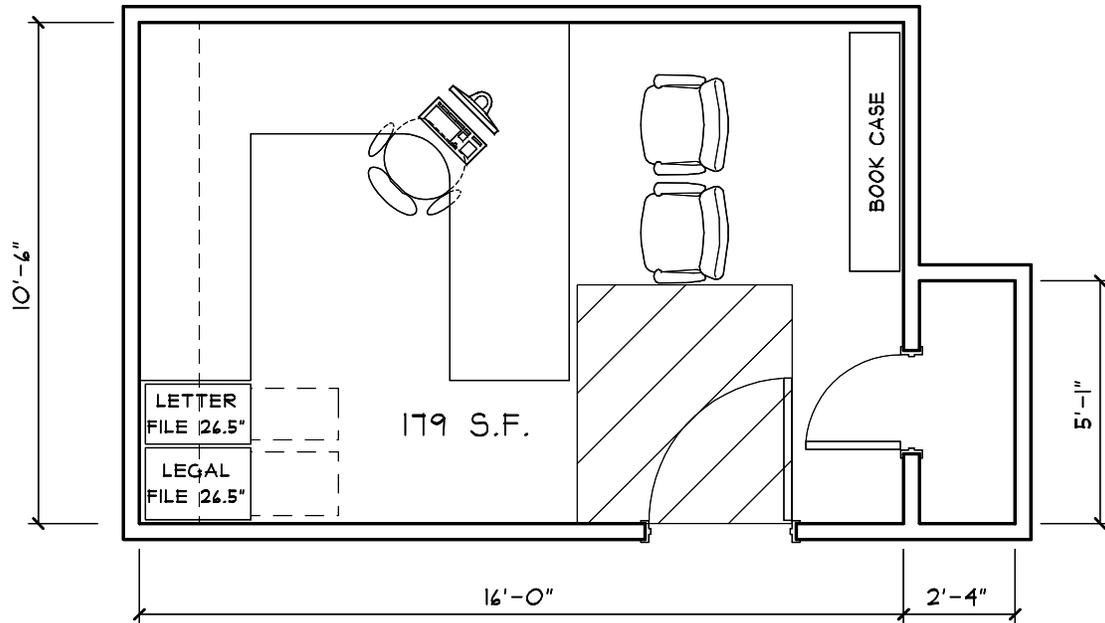
SCALE: 1/4"

DATE: 10/24/2016

22

ROOM #

S:\J Drive\Lewiston\HQ\Individual Rooms\2 - Administration\22 - Assistant Chief



**MITCHELL
ASSOCIATES
ARCHITECTS**

CAPTAINS

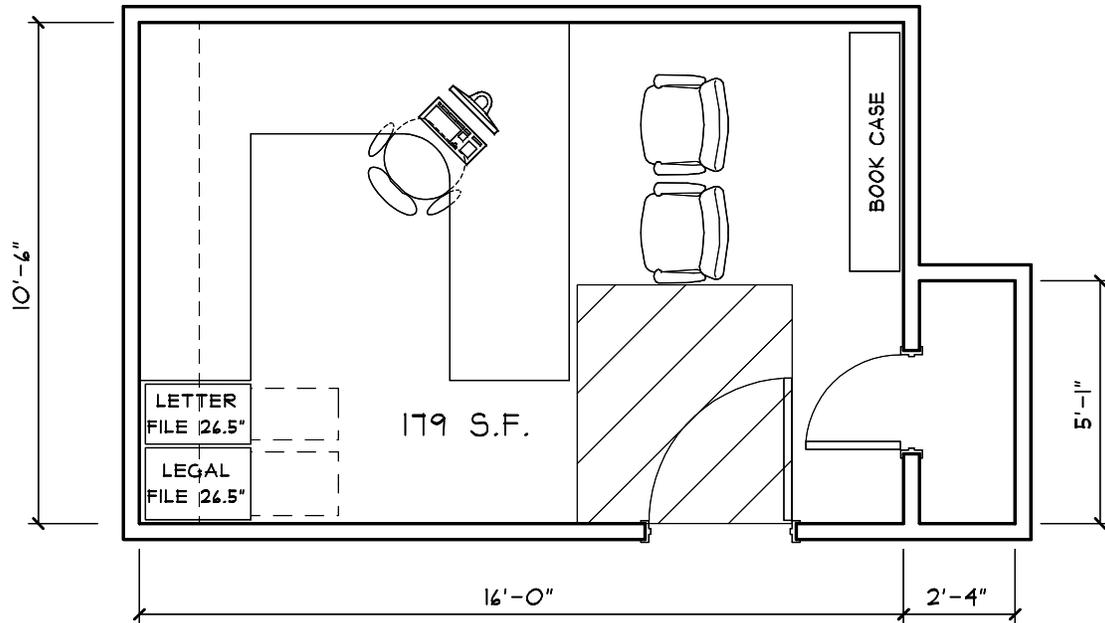
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DATE: 12/1/2016

22A

ROOM #

S:\J Drive\Lewiston\HQ\Individual Rooms\2- Administration\22A - ACaptains



**MITCHELL
ASSOCIATES
ARCHITECTS**

ADMINISTRATIVE ASSISTANT

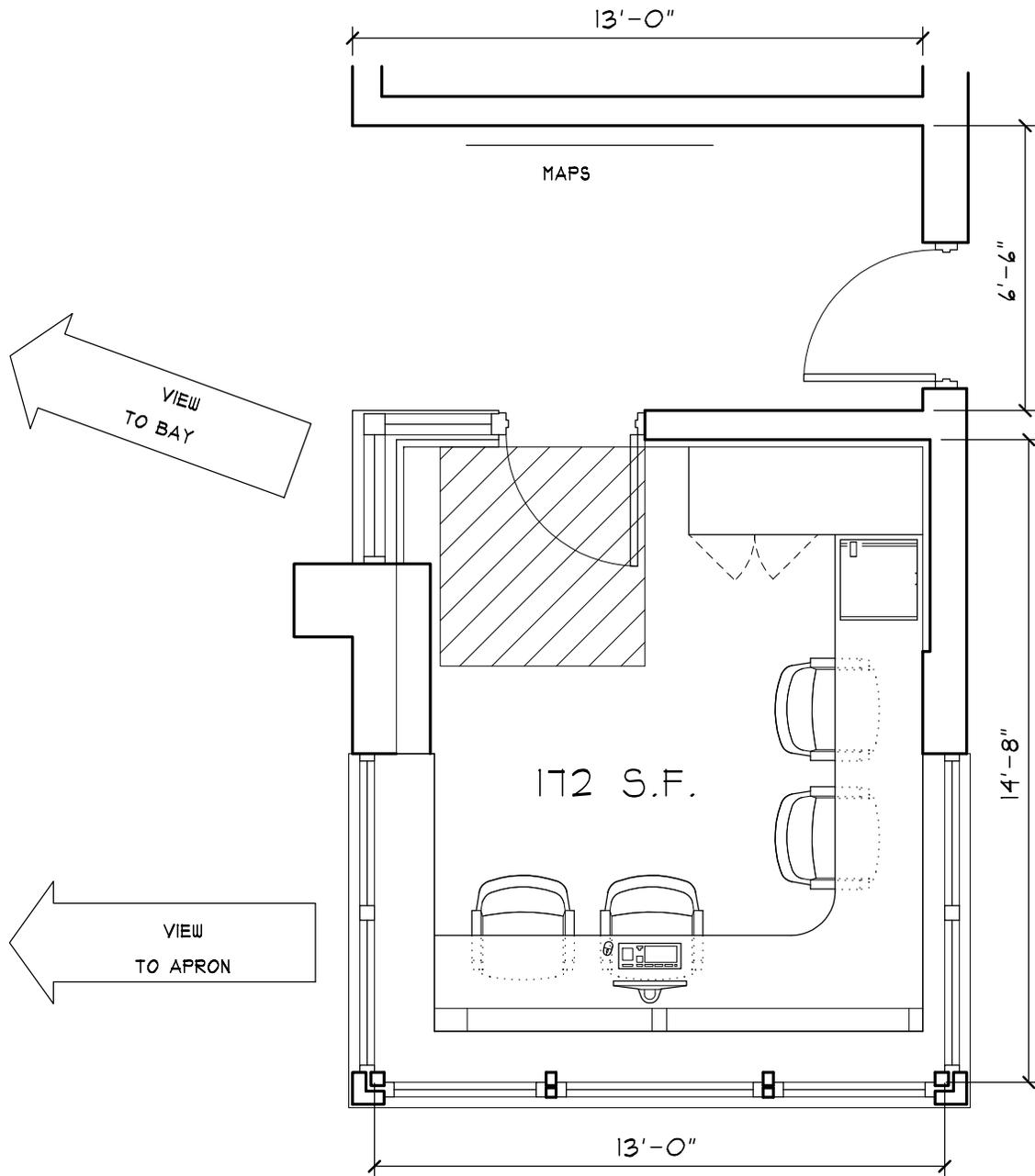
SCALE: 1/4"

DATE: 10/24/2016

22

ROOM #

S:\J Drive\Lewiston\HQ\Individual Rooms\2- Administration\22 - Admin Assistant



**MITCHELL
ASSOCIATES
ARCHITECTS**

LIEUTENANTS

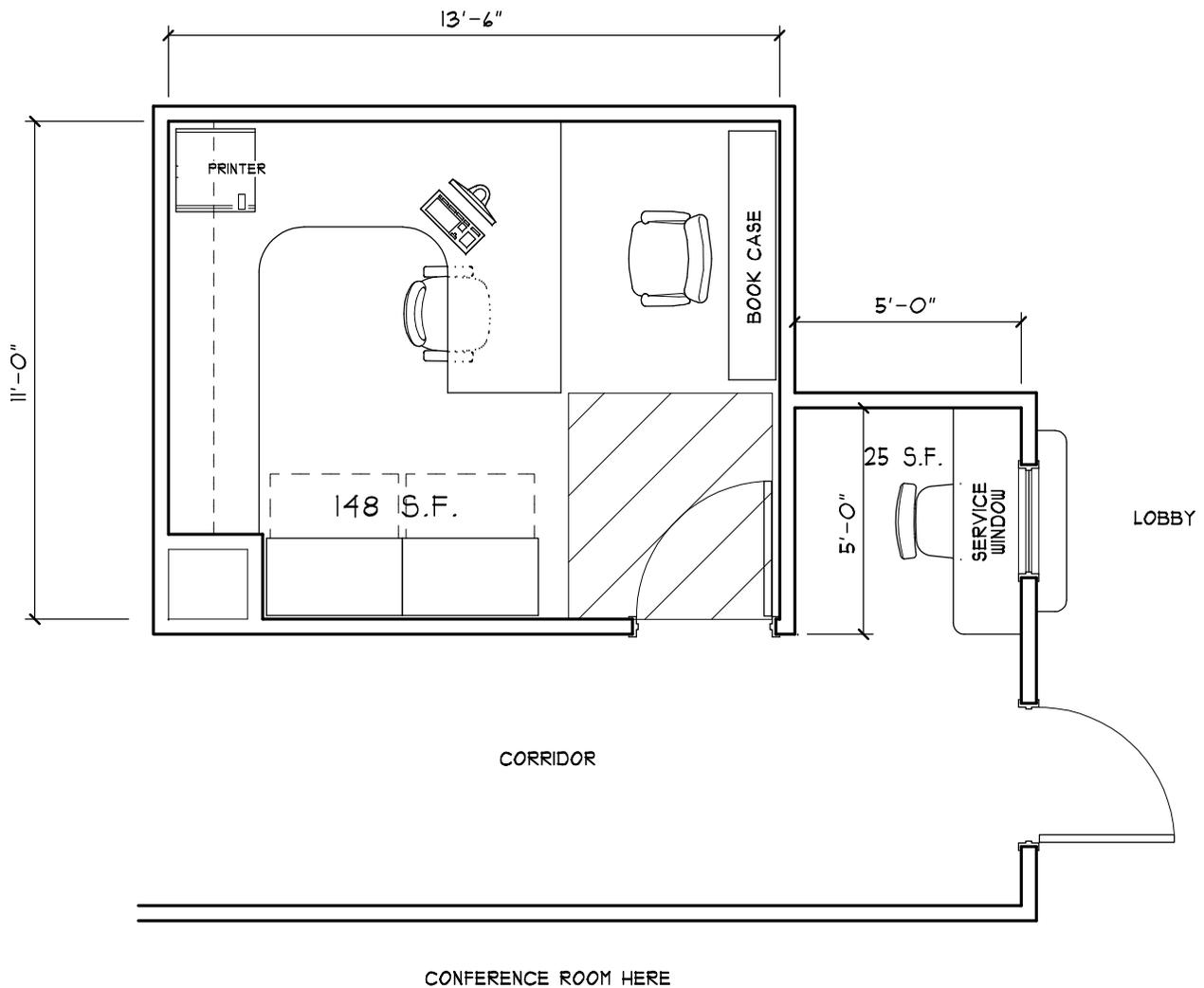
SCALE: 1/4" = 1'-0"

DATE: 10/31/2016

00

S:\J Drive\Lewiston\HQ\Individual Rooms\2- Administration\24 - Lieutenant's Office

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

FIRE PREVENTION CLERK

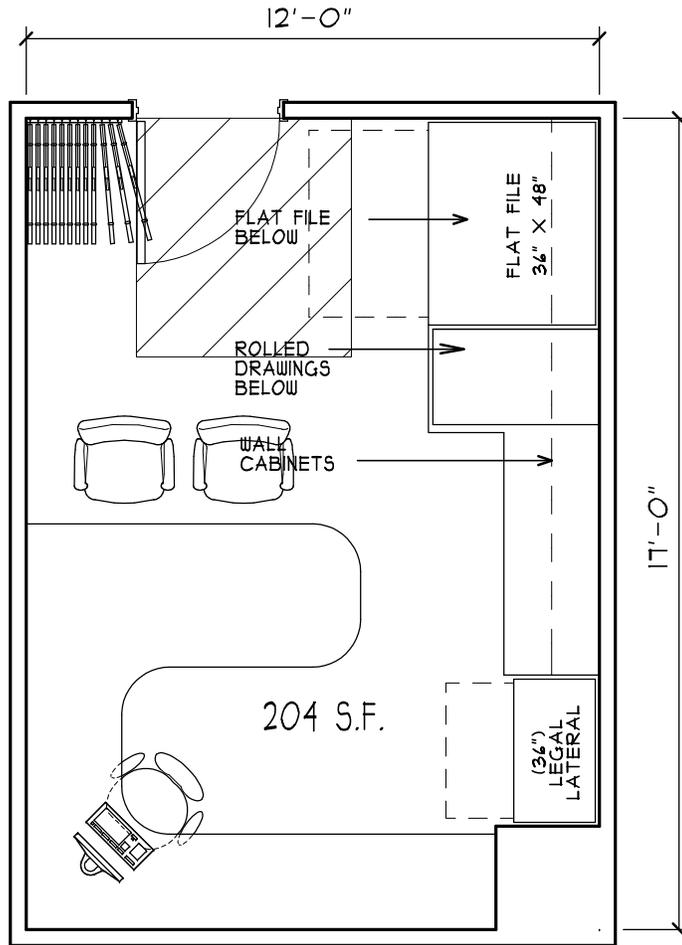
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DATE: 10/26/2016

25 & 26

S:\J Drive\Lewiston\HQ\Individual Rooms\2- Administration\25 & 26 - Fire Prevention Clerk

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

FIRE PREVENTION

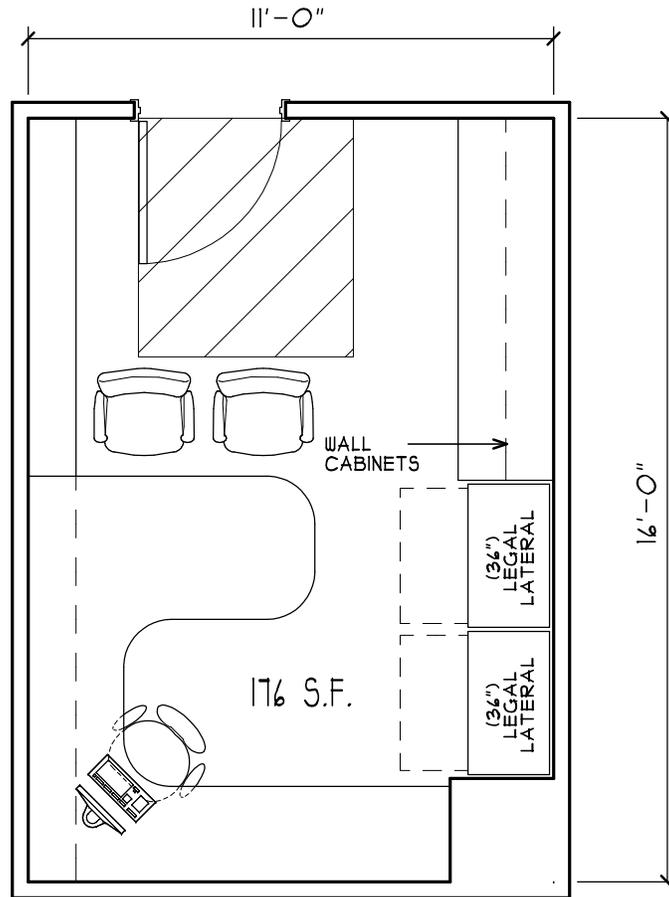
SCALE: 1/4"

DATE: 10/26/2016

21

S:\J Drive\Lewiston\HQ\Individual Rooms\2- Administration\21 - Fire Prevention

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

TRAINING OFFICER

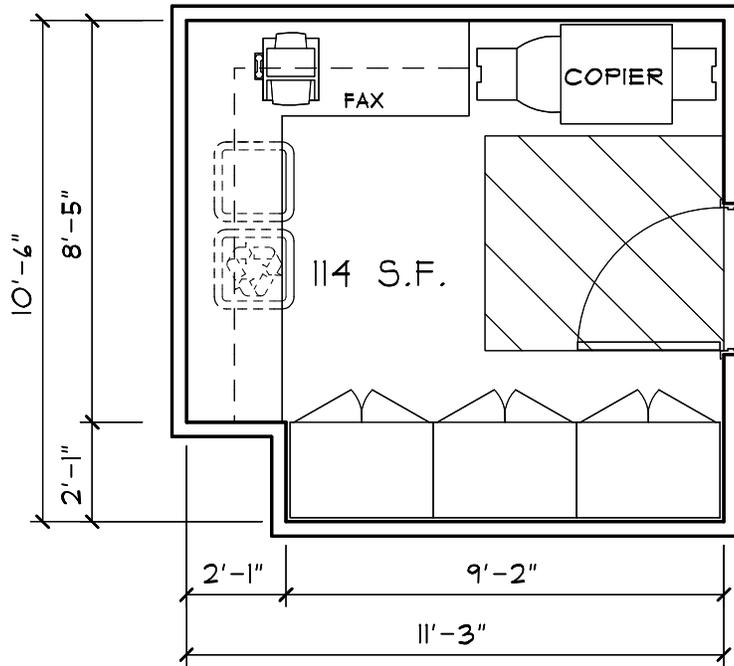
SCALE: 1/4"

DATE: 10/26/2016

28

S:\J Drive\Lewiston\HQ\Individual Rooms\2- Administration\28 - Training Officer

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

OFFICE SUPPORT

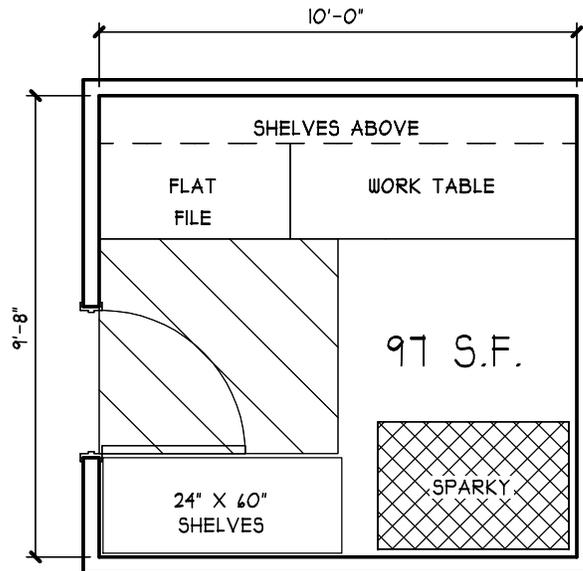
SCALE: 1/4"

DATE: 10/26/2016

29

S:\J Drive\Lewiston\HQ\Individual Rooms\2- Administration\29 - Office Support

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

FIRE PREVENTION EDUCATION

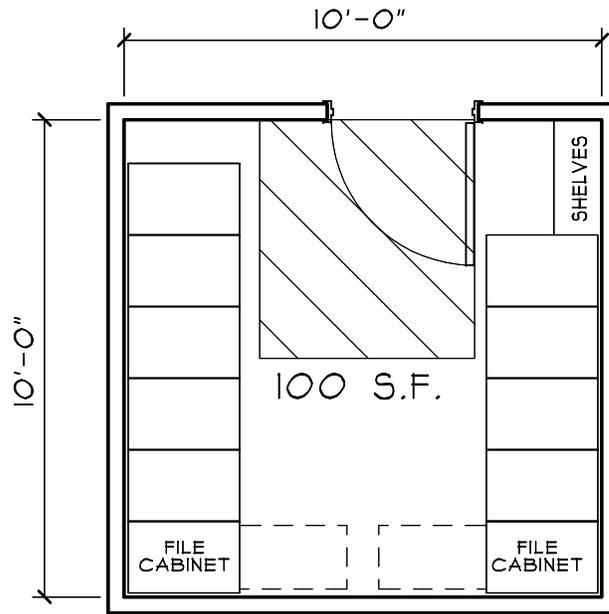
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DATE: 10/31/2016

30

S:\J Drive\Lewiston\HQ\Individual Rooms\2- Administration\30 - Fire Prev + Educ Storage

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

RECORDS

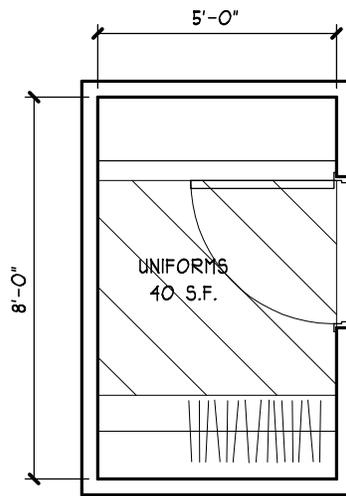
SCALE: 1/4" = 1'-0"

DATE: 10/26/2016

31

S:\J Drive\Lewiston\HQ\Individual Rooms\2- Administration\31 - Records

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

PARADE STORAGE

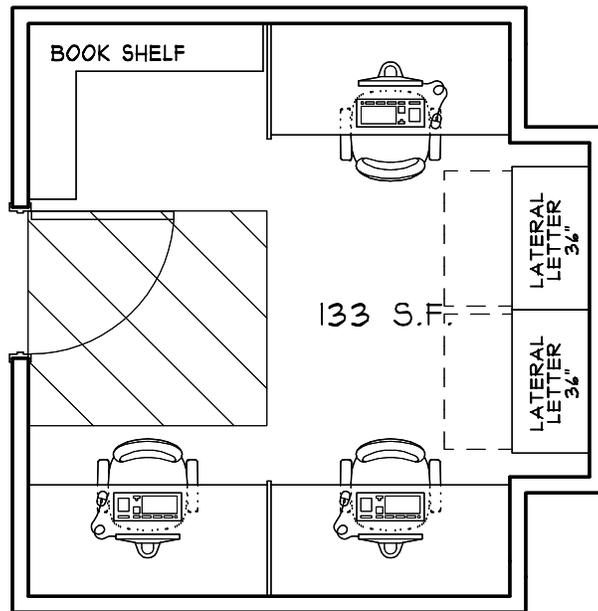
SCALE: 1/4" = 1'-0"

DATE: 10/26/2016

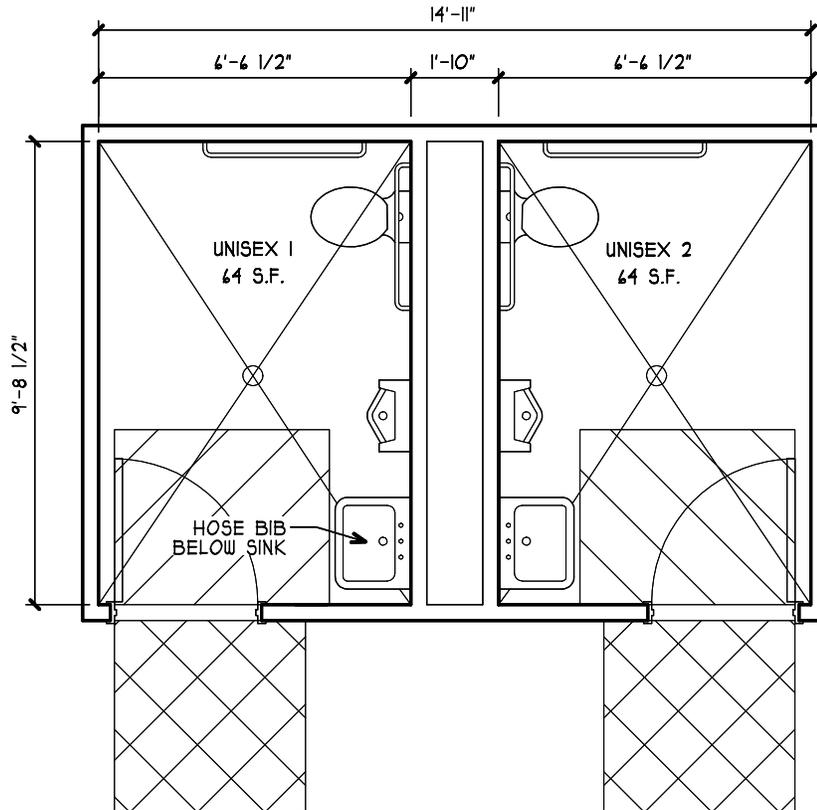
S:\J Drive\Lewiston\HQ\Individual Rooms\2- Administration\32 - Parade Storage

32

ROOM #



	MITCHELL ASSOCIATES ARCHITECTS	FIREFIGHTER'S ASSOCIATION		33
		SCALE: 1/4" = 1'-0"	DATE: 10/26/2016	
S:\J Drive\Lewiston\HQ\Individual Rooms\2- Administration\33 - Firefighter's Association				ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

OFFICE AREA BATHROOMS

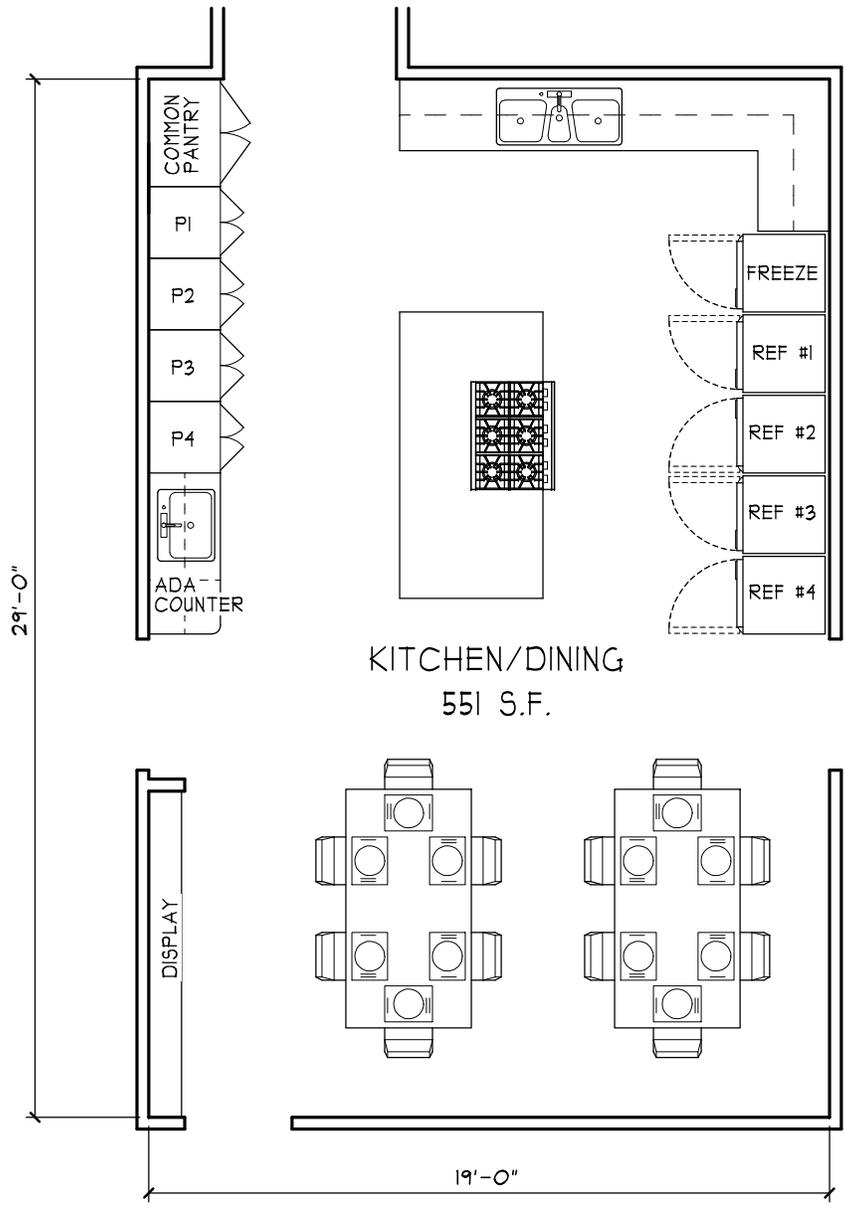
SCALE: 1/4" = 1'-0"

DATE: 10/31/2016

S:\J Drive\Lewiston\HQ\Individual Rooms\2- Administration\34 - Office Area Bathrooms

34

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

KITCHEN/DINING

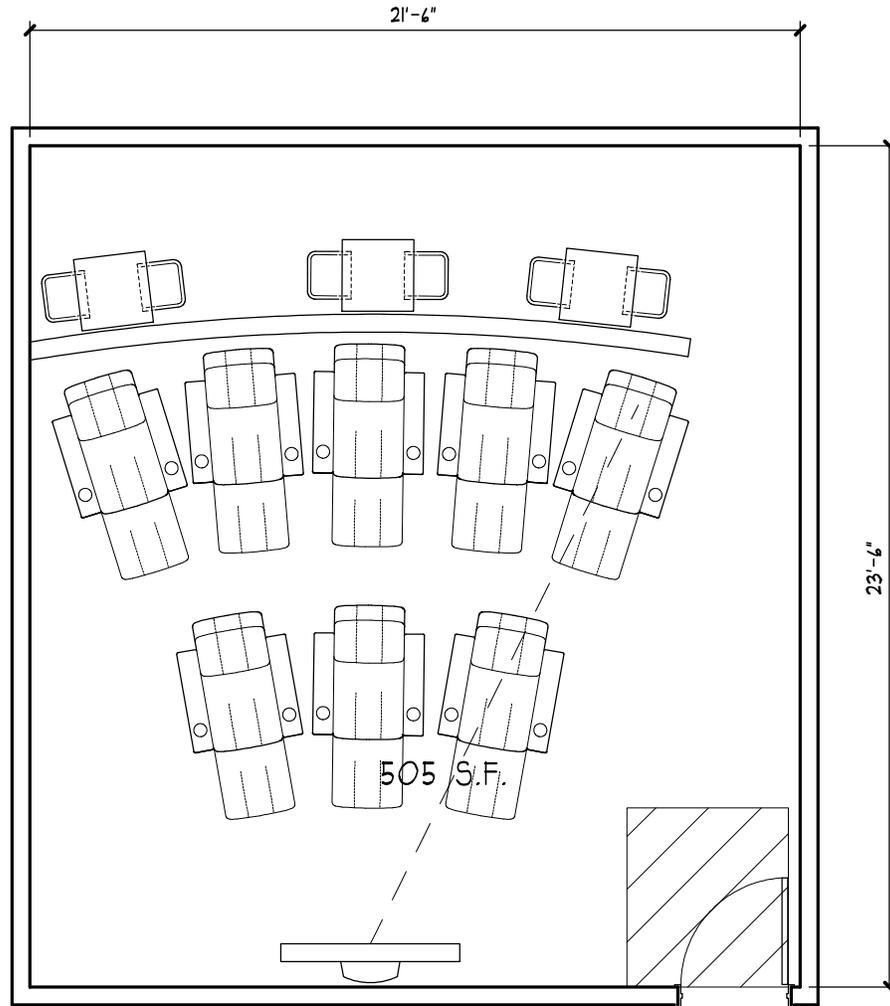
SCALE: 3/16" = 1'-0"

DATE: 10/31/2016

S:\J Drive\Lewiston\HQ\Individual Rooms\3 - Firefighters\35 - Kitchen-Dining

35

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

REC ROOM

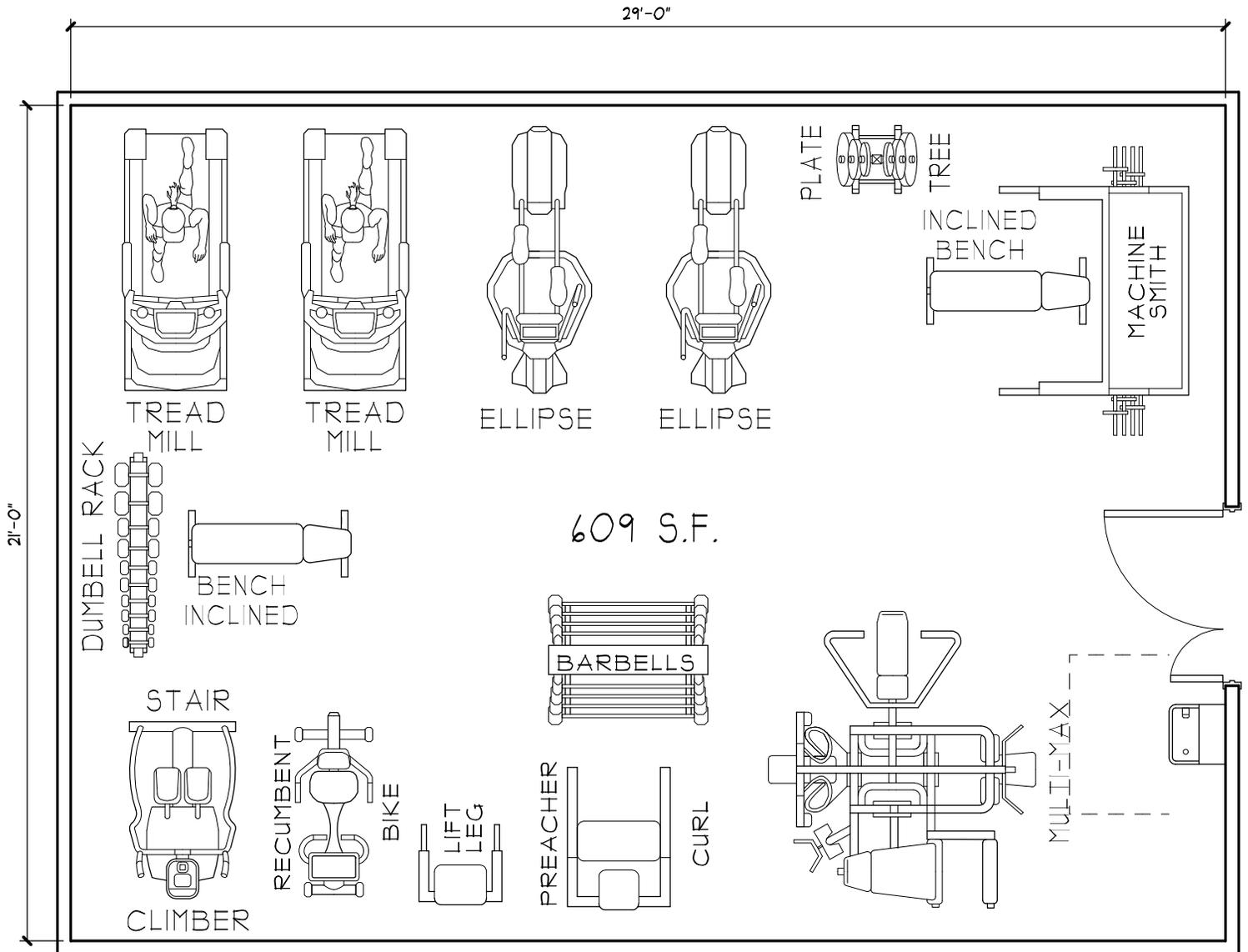
SCALE: 3/16" = 1'-0"

DATE: 10/31/2016

36

ROOM #

S:\J Drive\Lewiston\HQ\Individual Rooms\3 - Firefighters\36 - Rec Room



**MITCHELL
ASSOCIATES
ARCHITECTS**

EXERCISE

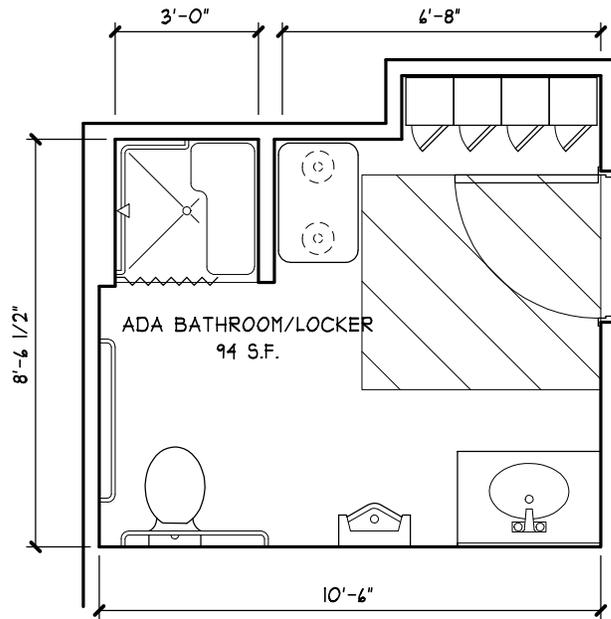
SCALE: 1/4" = 1'-0"

DATE: 10/31/2016

37

S:\J Drive\Lewiston\HQ\Individual Rooms\3 - Firefighters\31 - Exercise

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

LOCKER/BATH

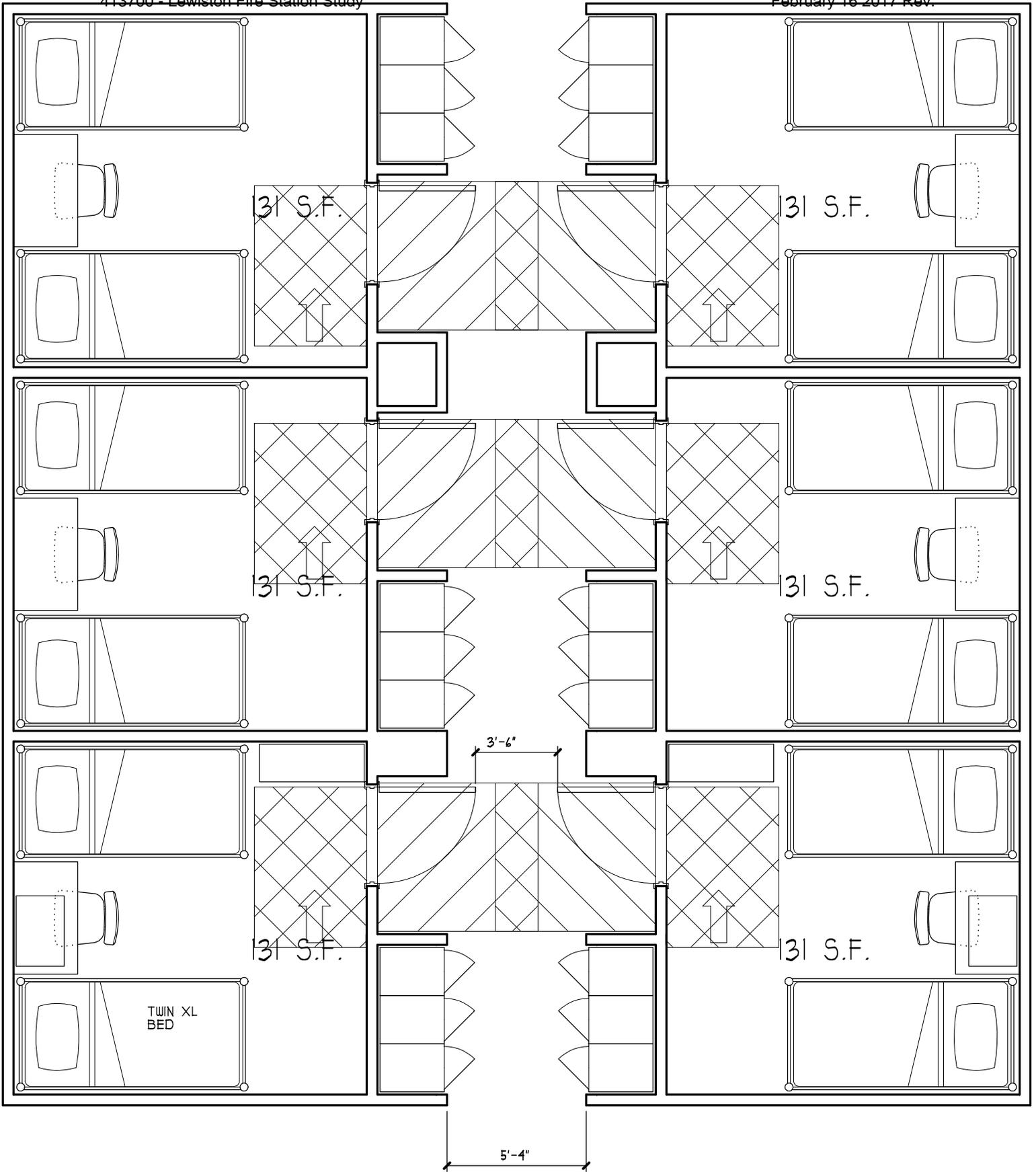
SCALE: 1/4" = 1'-0"

DATE: 10/31/2016

38

S:\J Drive\Lewiston\HQ\Individual Rooms\3 - Firefighters\38 - Locker-Bath

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

BUNK ROOMS

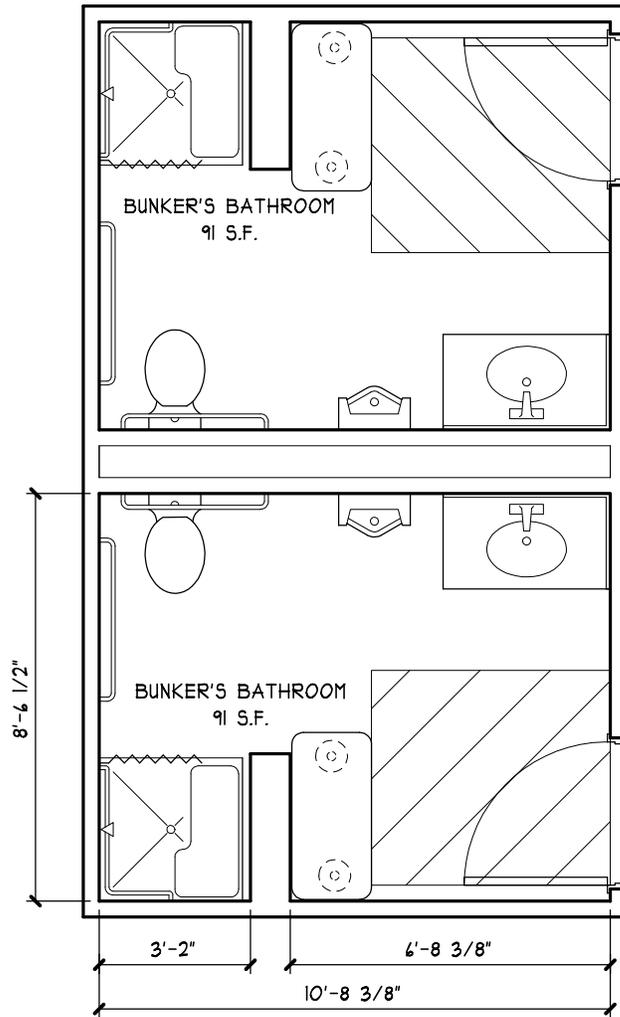
SCALE: 1/4" = 1'-0"

DATE: 2/9/2017

39

S:\J Drive\Lewiston\HQ\Individual Rooms\3 - Firefighters\39 - Bunkroom

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

BUNKER'S BATHROOM

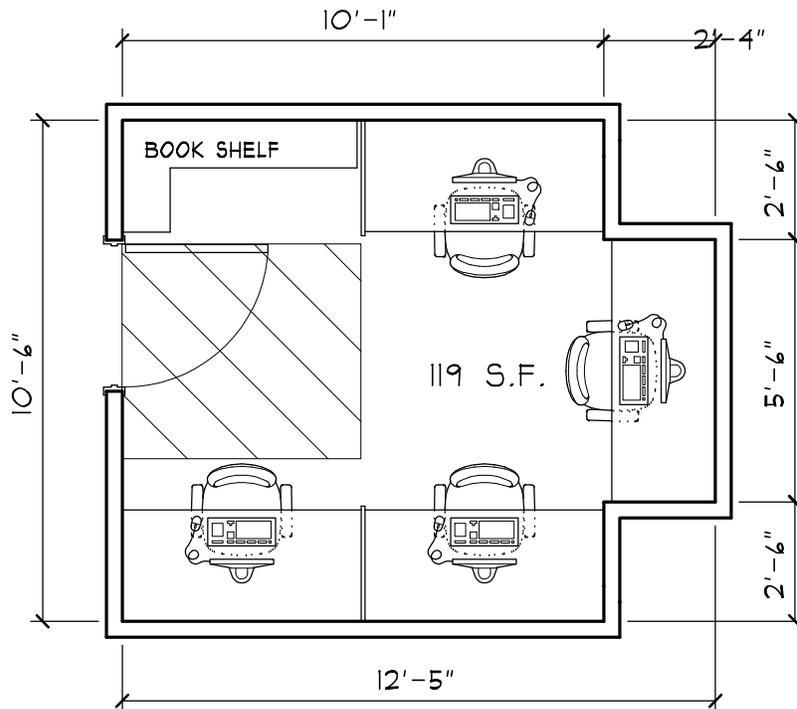
SCALE: 1/4" = 1'-0"

DATE: 10/31/2016

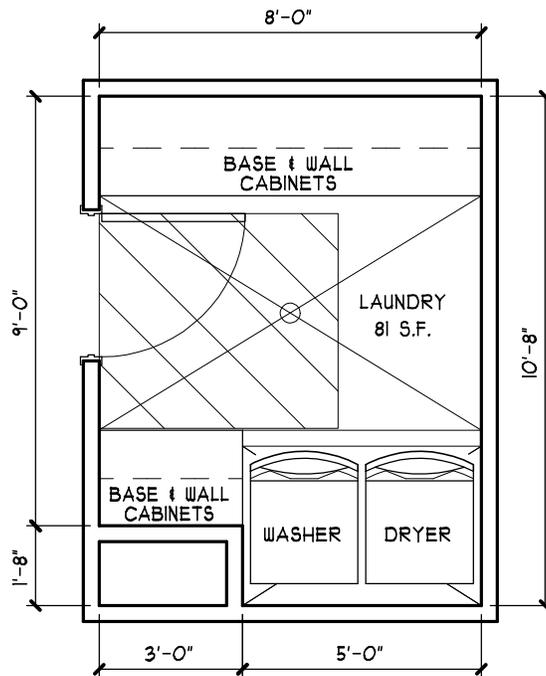
S:\J Drive\Lewiston\HQ\Individual Rooms\3 - Firefighters\40 - Bunker's Bathroom

40

ROOM #



 MITCHELL ASSOCIATES ARCHITECTS	STUDY		41
	SCALE: 1/4" = 1'-0"	DATE: 10/31/2016	ROOM #
S:\J Drive\Lewiston\HQ\Individual Rooms\3 - Firefighters\41 - Study			



**MITCHELL
ASSOCIATES
ARCHITECTS**

BUNKER'S AREA LAUNDRY

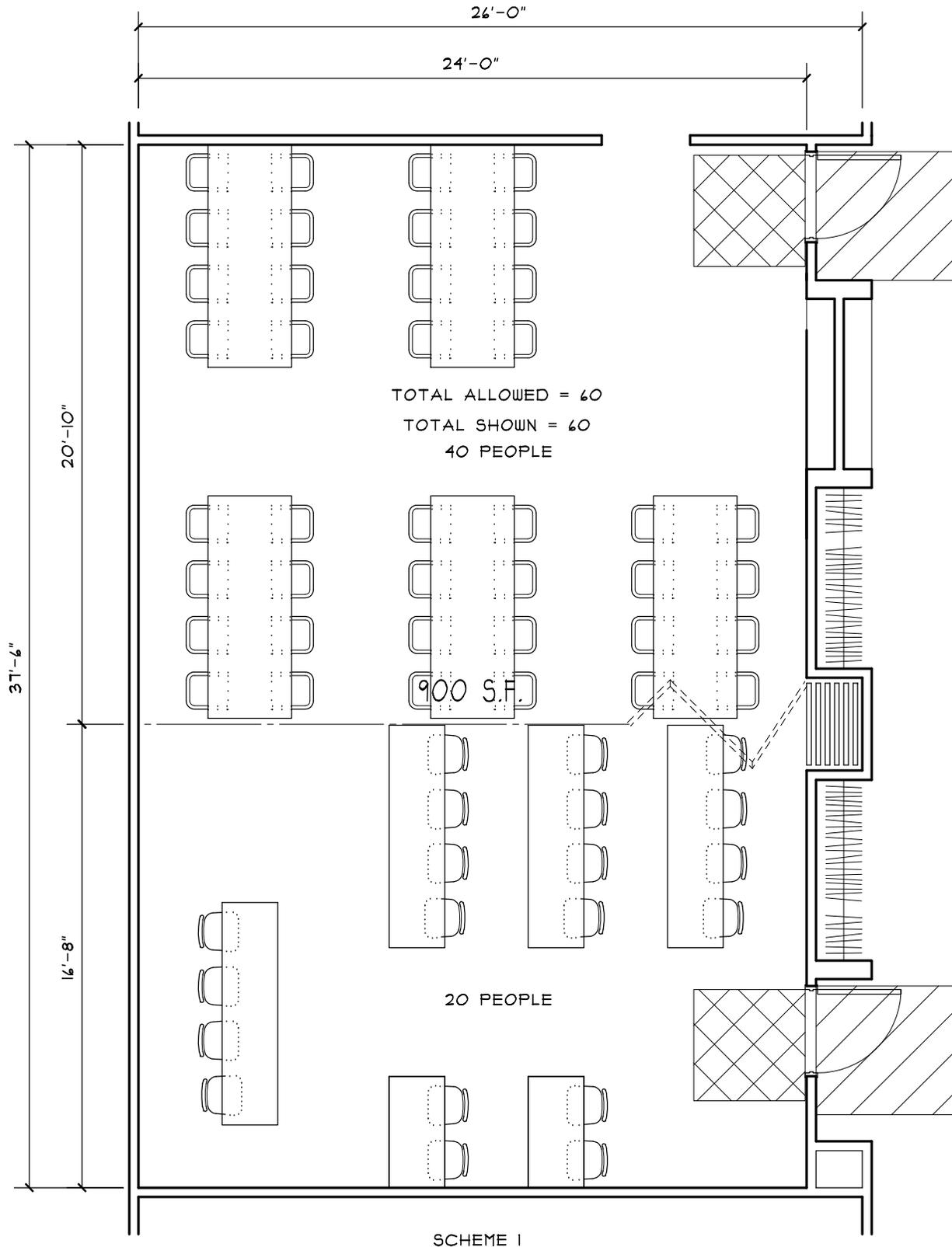
SCALE: 1/4" = 1'-0"

DATE: 10/31/2016

42

S:\J Drive\Lewiston\HQ\Individual Rooms\3 - Firefighters\42 - Bunker's Laundry

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

MEETING/TRAINING

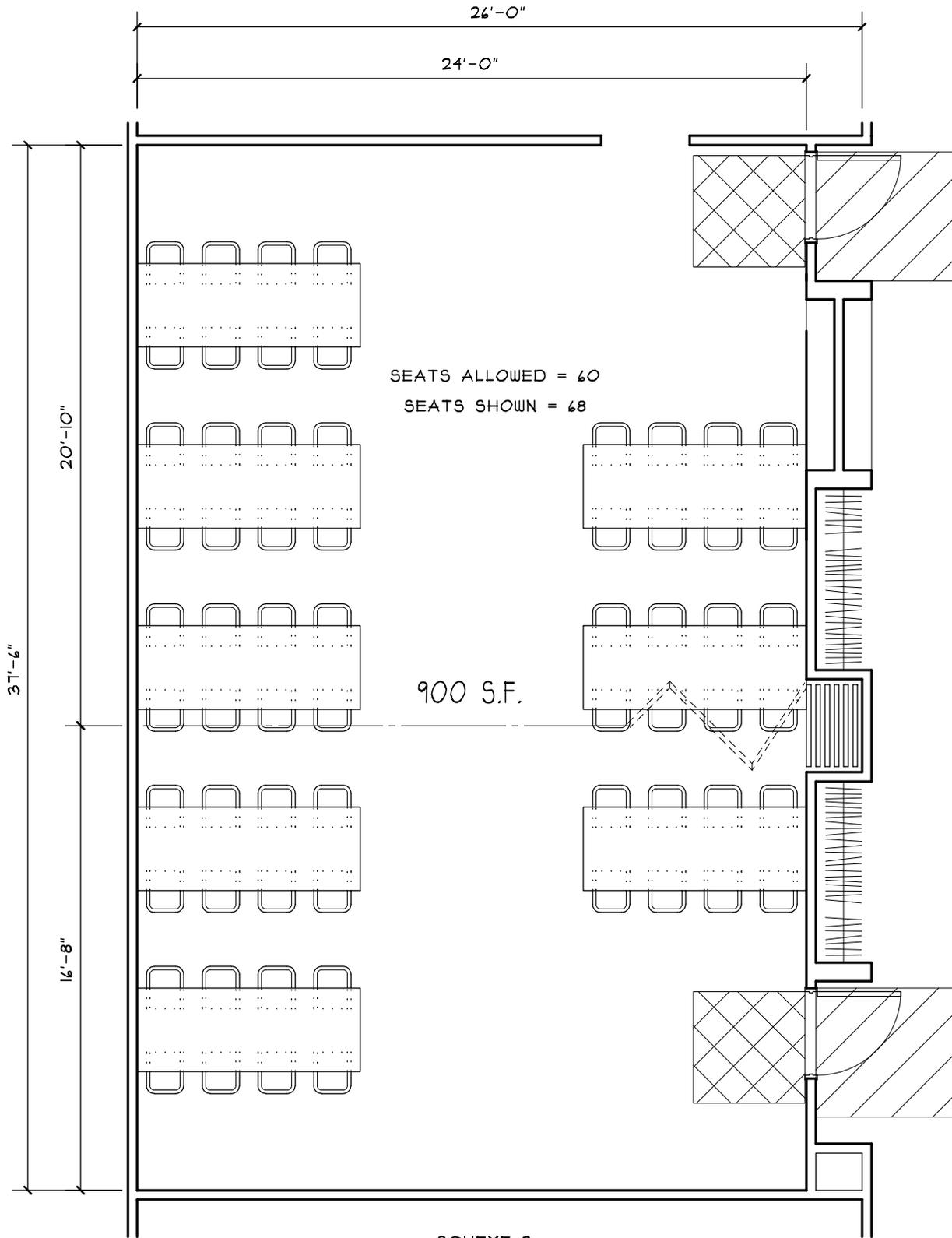
SCALE: 3/16" = 1'-0"

DATE: 10/31/2016

S:\J Drive\Lewiston\HQ\Individual Rooms\4 - Public\44 - Meeting-Training

44

ROOM #



SCHEME 2



**MITCHELL
ASSOCIATES
ARCHITECTS**

MEETING/TRAINING

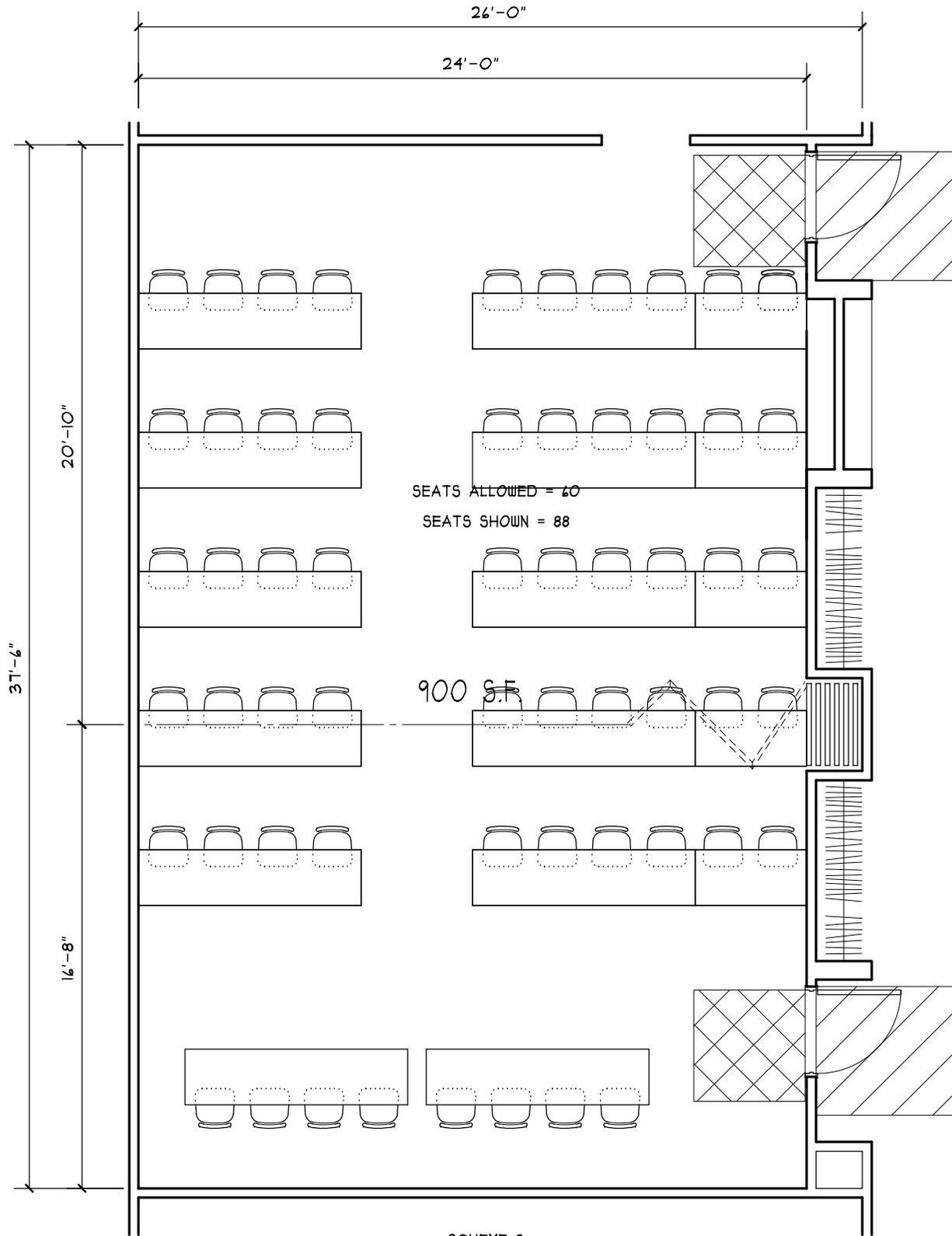
SCALE: 3/16" = 1'-0"

DATE: 10/31/2016

44

S:\J Drive\Lewiston\HQ\Individual Rooms\4 - Public\44 - Meeting-Training

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

MEETING/TRAINING

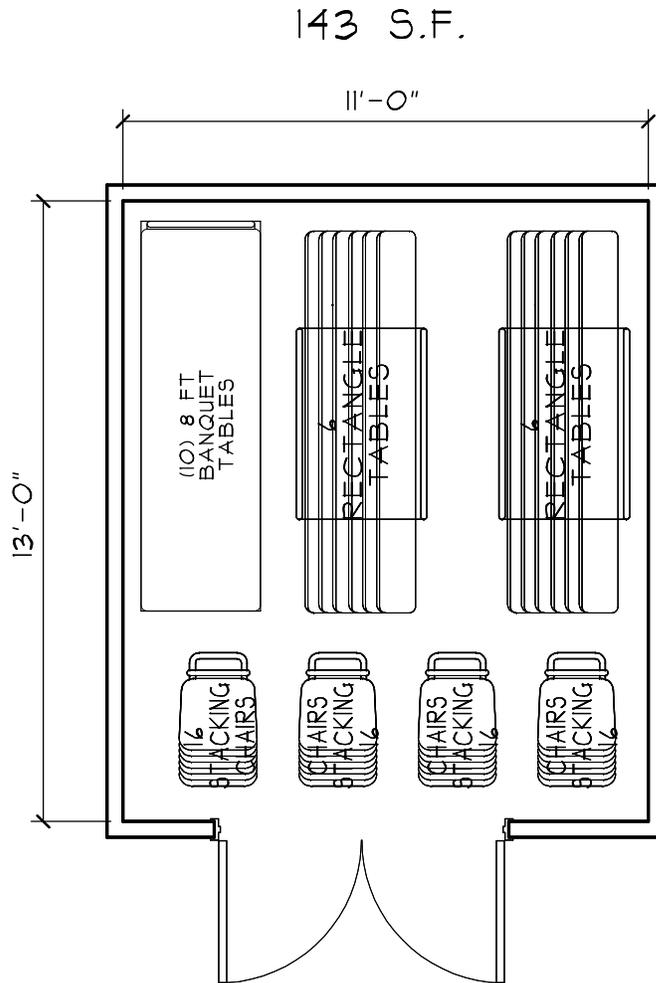
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DATE: 10/31/2016

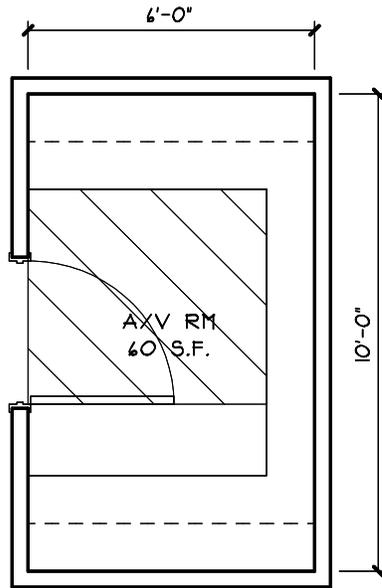
44

S:\J Drive\Lewiston\HQ\Individual Rooms\4 - Public\44 - Meeting-Training

ROOM #



	MITCHELL ASSOCIATES ARCHITECTS	TABLE AND CHAIR STORAGE		45
		SCALE: 1/4" = 1'-0"	DATE: 10/31/2016	ROOM #
S:\J Drive\Lewiston\HQ\Individual Rooms\4 - Public\45 - Tables & Chairs				



MITCHELL
ASSOCIATES
ARCHITECTS

A/V EQUIPMENT

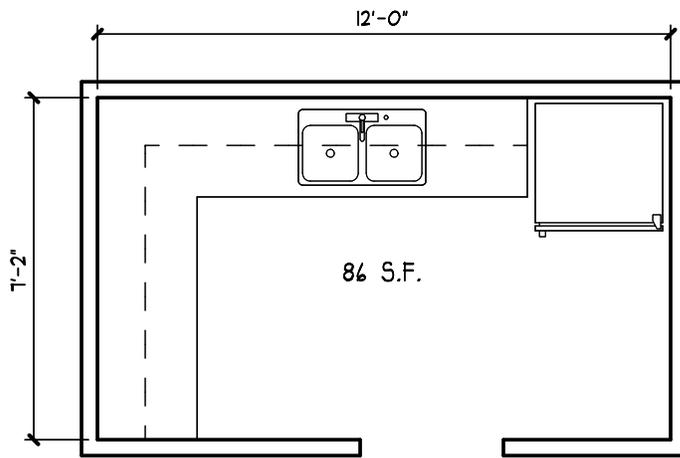
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DATE: 10/31/2016

46

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ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

KITCHENETTE

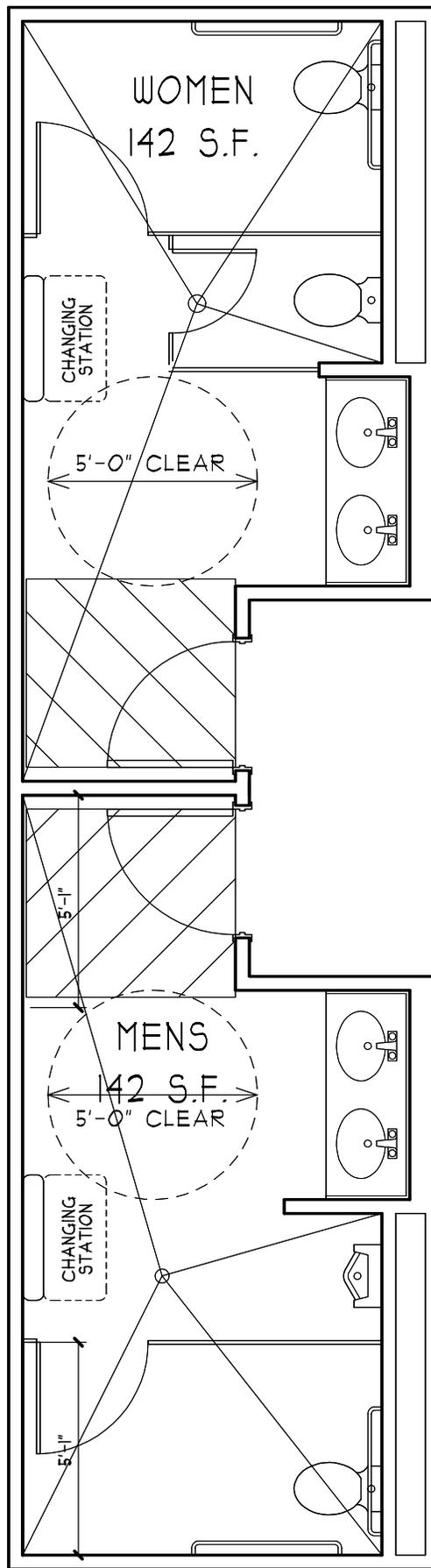
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41

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ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

PUBLIC RESTROOMS

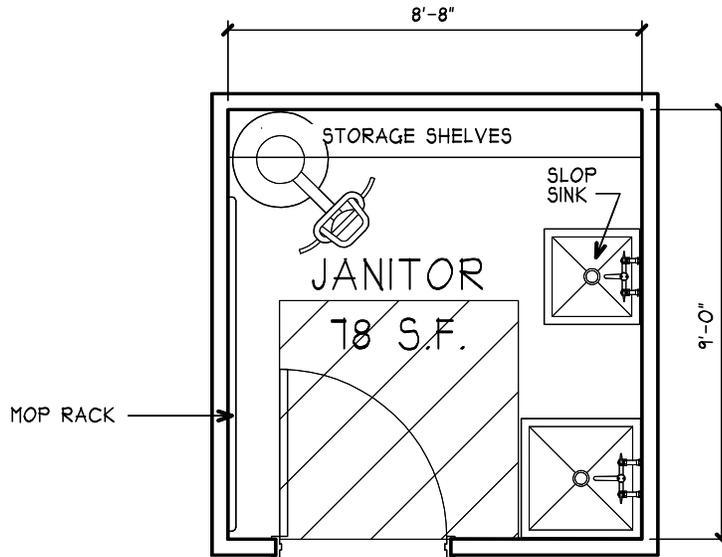
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48

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ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

OFFICE SIDE JANITOR'S CLOSET

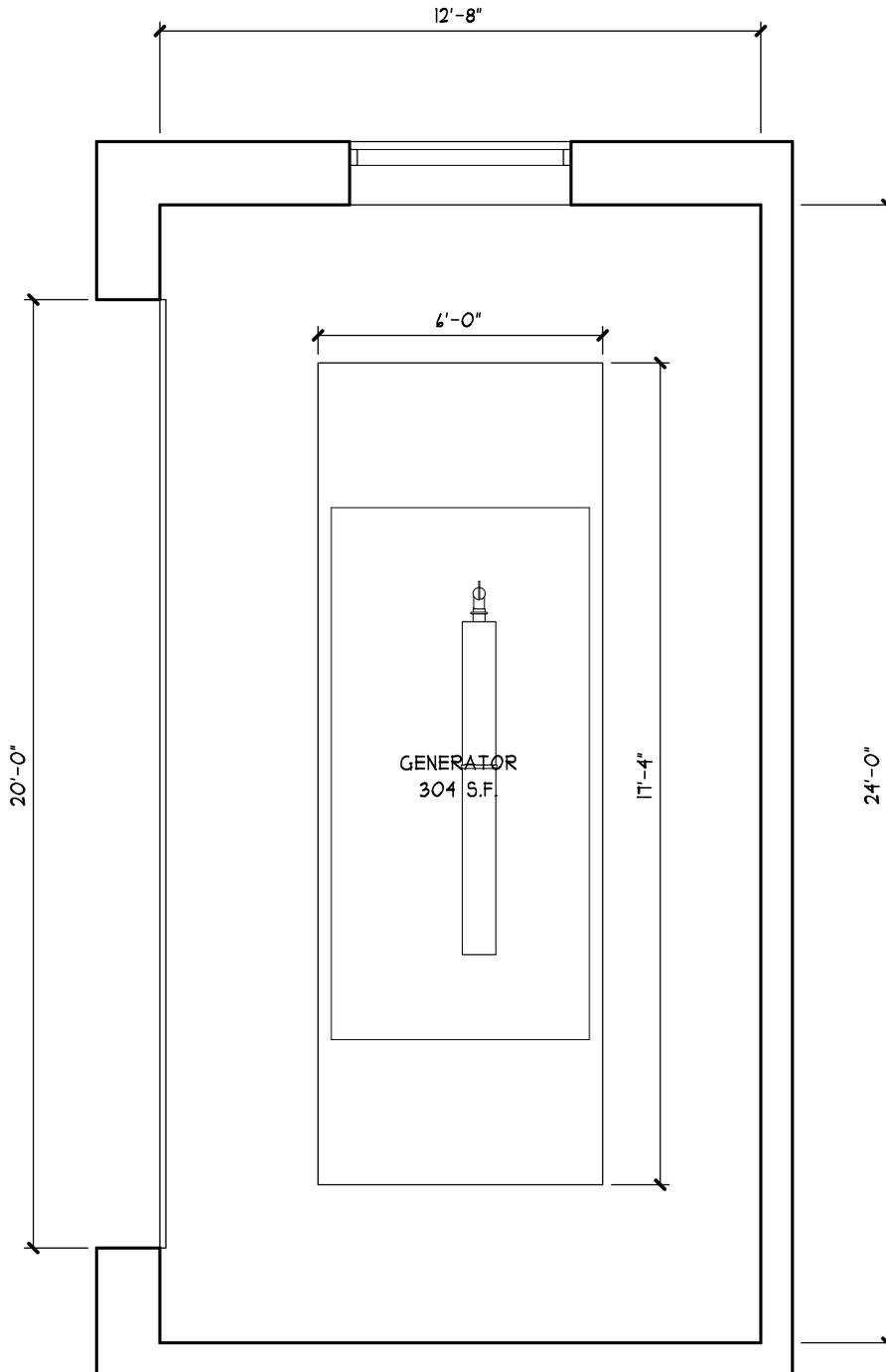
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DATE: 10/31/2016

51

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ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

GENERATOR

SCALE: 1/4" = 1'-0"

DATE: 11/1/2016

52

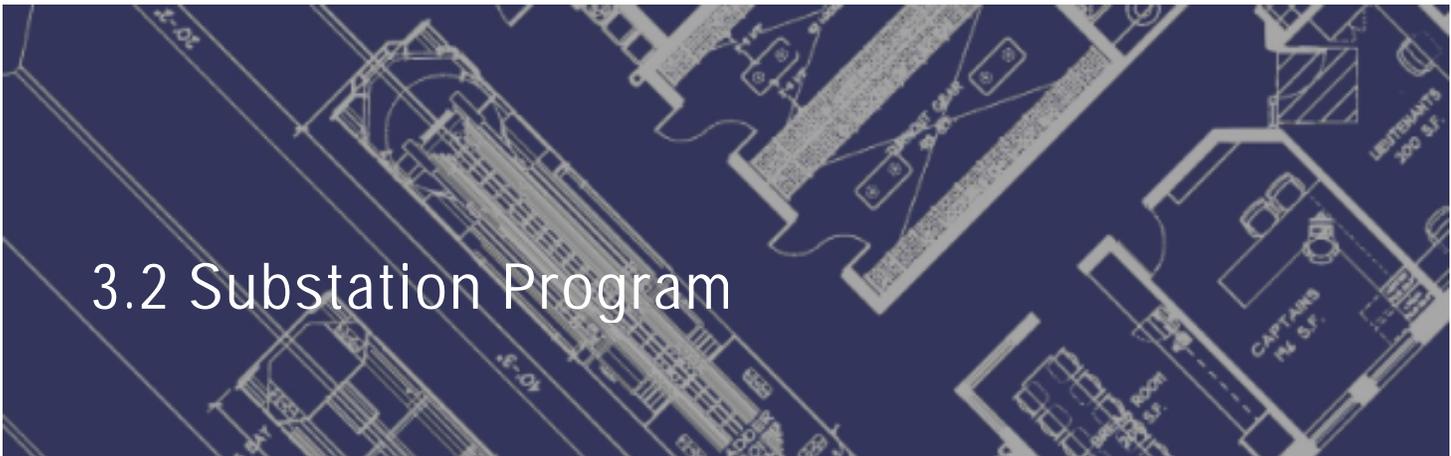
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ROOM #

Lewiston Main Station Schematic Phase Firematic Equipment Schedule & Budget

Room Name	Mfgr. & Model No.	Quant.	Description	Notes	Price per unit	Install Cost/Unit	Total Price
Bay	Plymovent Exhaust Capture System	6	Tailpipe system	Price per drop - Needs more evaluation	\$ 8,500	\$ -	\$ 51,000
	CRT Display	3	46" Flat Screen Monitor for CAD	GC installs brackets, EC provides power & data	\$ 800	\$ 100	\$ 2,700
	Guardian G1540 w/ G1540BA Option	2	Portable Eye Wash Station		\$ 175	\$ 50	\$ 450
	Tennant T-# Floor Scrubber	1	Floor Scrubber		\$ 6,000	\$ -	\$ 6,000
Hydrate	Jimex JFD-48R Refrigerator	1	Chilled Water Bottles		\$ 2,700	\$ 50	\$ 2,750
	Ice-O-Matic ICEU220A	1	Ice Machine; 24.54w x 26.27d x 39h		\$ 2,219	\$ 500	\$ 2,719
Turnout	Gear Grid Standard	40	Wall Mounted Lockers -18"x20"x74-1/2"	Price includes shipping but not installation	\$ 318	\$ 25	\$ 13,720
Decon/ Laundry	Whirlpool WFW88HEAC	2	Residential Clothes Washer with steam sanitize.		\$ 1,299	\$ 200	\$ 2,998
	Whirlpool WED88HEAC	2	Residential Clothes Dryer		\$ 1,299	\$ 200	\$ 2,998
	UniMac #UWN065K1LX	1	Turnout Gear Washer Extractor		\$ 10,877	\$ 400	\$ 11,277
	Cissell #ACG 65	1	Turnout Gear Drying Cabinet		\$ 6,630	\$ 300	\$ 6,930
SCBA	American Airworks AC42071-16	4	Under Counter SCBA Bottle Racks (16 per rack)		\$ 820	\$ 50	\$ 3,480
Hose	Circul-Air-Corp Stationary Econo Rack	1	Hose Rack - 8'-5" long		\$ 1,200	\$ 200	\$ 1,400
EMS	Gear Grid 5' Wall Mount Broom Center #434008-5 - \$127.00	1	Rack for hanging backboards		\$ 127	\$ 50	\$ 177
	Gear Grid Back Board Rack #401059 - \$52.00			\$ 52	\$ 102		
	Gear Grid Back Board Basket #434048 - \$36.00			\$ 36	\$ 86		
	Hydrocollator Wall Mounted Towel Rack (4016-FS-CG)	1	Backboard Strap Drying Rack		\$ 60	\$ 25	\$ 85
Mechanic/Work Room	Basis-of-Design product for Budgeting Purposes: Ingersoll-Rand 2475N7.5-V; 7.5HP; 125 psi; equip only	1	House Air Compressor: IR Model Electric-Driven Two-Stage Air Compressor 80 Gal		\$ 3,500	\$ 200	\$ 3,700
	Global TA237286 Flammable Cabinet	1	Flammable Cabinet w/Manual Double Close Door and 45 Gallon Capacity		\$ 555	\$ 150	\$ 705
	Global T9FB170016	1	6' x 3' x 34" h stationary workbenches?		\$ 1,664	\$ 100	\$ 1,764
	Lyon 2404A Adjustable Leg Work Bench	1	34" x 48" 12-Gauge Steel Work Bench with Stringer, Drawer and Shelf (Dove Gray - DD)		\$ 400	\$ 150	\$ 550
	Global T9A242280	1	15 drawer tool storage cabinet		\$ 589	\$ 50	\$ 639
Shelving	Heavy Duty Shelving	10	Placeholder		\$ 560	\$ 100	\$ 6,600
Lieu-tenants					\$ -	\$ -	\$ -
	CRT Display	1	46" Flat Screen Monitor for CAD	GC installs brackets, EC provides power & data	\$ 800	\$ 50	\$ 850
Vehicle Cleaning		1	Brush Racks		\$ 20	\$ -	\$ 20
	Advance Tabco K-116	1	Pre-Rinse Faucet		\$ 504	\$ -	\$ 504
	Bradley 6542	1	Wall Mounted Soap Dispenser		\$ 45	\$ 50	\$ 95
Misc.	Living Side Floor Cleaner	1	Place Holder		\$ 870	\$ -	\$ 870
	Kitchen Appliances	1	Place Holder		\$ 1,200	\$ -	\$ 1,200
	Day Room T-V	1	Place Holder		\$ 700	\$ 150	\$ 850
Gym	Exercise Room	1	Place Holder		\$ 30,000	\$ -	\$ 30,000
Mezz	L.K. Goodwin Series 5110	1	Electric Powered Davit, 2,000 lb, 60 ft cable		\$ 3,492	\$ 300	\$ 3,792
Site	American Signal Corp. I-Force-3200	0	Siren & Tower - Preliminary budget	\$25,000 for siren, \$15,000 for tower & labor	\$ 40,000	\$ -	\$ -
	Radio Tower	0		Assume \$400/LF plus foundation (1)	\$ 400	\$ -	\$ -
	Fuel Filling Station	0		Monroe Quote - \$60-\$85,000	\$ 75,000	\$ -	\$ -
	Fuel Filling Station Canopy		Priced by sq ft	Monroe Quote - \$20-\$25/sq ft	\$ 25	\$ -	\$ -
TOTAL >>							\$ 161,011

3.0 Program and Space Needs



	Size
2 bay substation planned for expansion	7,953
3 bay substation	8,657
3 bay substation with mechanic	10,546
2 bay substation with mechanic	9,653
HQ	29,453

Program Item	Room Name	1st Floor Area	Mezz	Total Area
	Apparatus Bay			
1	Apparatus Bay	2,952		2,952
	Subtotal - Apparatus	2,952		2,952
2	Firematic Storage	68		68
3	Yard Storage	196		196
4	Turnout Gear Storage	213		213
5	Utility Recess	32		32
6	Workbench Recess	44		44
7	SCBA Cleaning Room	71		71
8	Janitors Closet	64		64
9	Apparatus Floor Uni-Sex ADA Rest Room	67		67
	Subtotal - Firematic Support	755		755
	Administration			
10	Sub-Station Lieutenant	155		155
	Subtotal - Administration	155		155
	Firefighters			
11	Living Room	274		274
12	Kitchen/Dining	308		308
13	Study Room	117		117
14	Exercise	456		456
15	Bunkrooms (6 @ 131sf)	786		786
16	Bathrooms (2 @ 91 sf)	182		182
17	Bunker's Laundry	59		59
	Subtotal - Firefighters	2,182		2,182
	Miscellaneous Space			
18	Entry Vestibules (2 @ 64 sf)	128		128
19	Housekeeping Storage	12		12
20	Janitors Closet	48		48
21	Sprinkler	70		70
22	Mechanical/Electrical	250		250
23	Data/IT	50		50
24	Generator	181		181
	Subtotal - Miscellaneous Spaces	739		739
	Area Subtotals			
	Bay	2,952		2,952
	Firematic Support	755		755
	Mezzanine			0
	Office & Living	3,076		3,076
	Walls & Circulation			
	Apparatus Bay Walls @ 10%	295		295
	Firematic Support Walls @ 18%	136		136
	Firematic Support Circulation @ 18%	136		136
	Office Area Walls @ 18%	554		554
	Office Area Circulation @ 20%	615		615
	Subtotal - Walls & Circulation	1,736	0	1,736
	Total >>	8,519	0	8,519
	Footprint>>	8,519	0	8,519

(8,657 SF with Yard Storage)

MITCHELL ASSOCIATES ARCHITECTS

• EMERGENCY SERVICES FACILITIES •

Fire Station Program Document

Project Name: Lewiston Fire Department Fire Sub Stations; Main St. Lisbon St. Sabattus St.

Printout Date: December 13, 2016

Filename: Lewiston Sub Station Fire Program.docx

This document is not meant to be limited to an inventory of what you currently have.

Indicate what you currently need for proper operations and try to forecast what you will need for the future.

A General Information

A1. Staffing level at station: total: **12** active: **12** female: **1**

A2. Typical Turnout: **3**

A3. On-Call: **9**

A4. Number of calls/year at station: **600-700**

A5. Administrative Staffing: **0**

A6. Building Committee:

A5.1. Chief **Paul LeClair**

A5.2. Captain **Rick Cailler**

A5.3. Citizen **Dennis Thereault**

A5.4. **Mat Ward**

A7. Type of entity:

A7.1. Municipality: **Lewiston**

A8. Number of Companies or Departments involved: **1 Pumper per Station / Lisbon St assigned a Quint**

A8.1. Names: **Sabattus St. Station (976 Sabattus Street)**

A8.2. **Main St. Station (834 Main Street)**

A8.3. **Lisbon St. Station (1046 Lisbon Street)**

A9. **Replacement Order**

A9.1. **Sabattus St.**

A9.2. **Main St.**

A9.3. **Lisbon St.**

A9.4. **Central Station**

B Functional Activities in Building

B1. Types of response:

B1.1. Fire: **X**

B1.2. EMS: **BLS**

B1.3. Heavy Rescue: **No**

B1.4. HAZ MAT: **No**

- B1.5. Water Rescue: @ **Engine #4 Sabattus St.**
- B1.6. Ambulance: **No**
- B1.7. Other: **N/A**
- B2. Training activities in building:
 - B2.1. **N/A**
- B3. Training activities on site:
 - B3.1. **N/A**
- B4. Fuel Filling Station: **N/A**
- B5. Other uses of apparatus bay:
 - B5.1. Social events: **N/A**
 - B5.2. Craft fairs: **N/A**
- B6. Sleeping Over:
 - B6.1. Intermittent, short duration: **Storm coverage about 1 x/year**
 - B6.2. Long term: **24 Hour Shifts – 3 Firefighters Each Station**
- B7. Standing by:
 - B7.1. Will other fire companies park their apparatus in the bay under certain circumstances: **Yes**
 - .7.1.1. Describe: **Mutual Aid fill in and On Duty Joint Training**
 - .7.1.2. Is their access to the building to be limited: **No**
- B8. Emergency Shelter:
 - B8.1. Who stays in building: **N/A**
- B9. Firematic Business:
 - B9.1. Describe: **Current N/A**
- B10. In-Station Meetings: **N/A**
- B11. Social Life:
 - B11.1. Daily recreation – describe: **Daily Exercise beyond Gym Room (cross training, etc.)**
 - B11.2. Outdoor recreation – describe: **Patio, w/ table & grill**
- B12. Misc. Activities **N/A**
- B13. Access control:
 - B13.1. Electronic access: **Allow for wireless system on 4 doors**

C Site

- C1. Traffic control:
 - C1.1. **Warning lights currently @ Lisbon and Sabattus (Tomar system). Traffic control should exist at all sites, and requirement should be site specific.**
- C2. Number of primary responder parking spaces needed: **6**
- C3. Number of other parking spaces needed: **2**
- C4. Number of spaces needed for visiting apparatus: **1**
- C5. Recreation requirements (Pavilion, grill, patio, etc.): **Outdoor space desired**
- C6. Site signage requirements: **Building Sign Only**
- C7. Dumpster: **N/A**
- C8. Utilities in the street at site (if there is a lateral into the site, identify that as well):

- C8.1. Water: **X**
- C8.2. Sewer: **X**
- C8.3. Storm: **X**
- C8.4. Electric: **X**
- C8.5. Gas: **X**, Adequate pressure for generator? **Yes**
- C8.6. Phone: **X**
- C8.7. Cable: **X**
- C9. Electric company: **Central Maine Power**
- C10. Gas company: **Unitil**
- C11. Telephone company: **Oxford Networks and Time Warner**
- C12. Cable company: **Time Warner**
- C13. Alarm/Security company: **N/A**

APPARATUS

1 Apparatus Bays

- 1.1 Number of vehicles: **Currently holds 1, needs to hold a minimum of 2 in future, with a possibility for 3, one of which might accommodate mutual aid (currently mutual aid vehicles cannot typically fit).**
 - Lisbon Street, Engine 3**
 - 1.1.1 Name: **Engine #3**; type: **Quint**; length: **37'-10" (plan for 40')**; weight: **65,000 lbs.**
 - 1.1.2 Name: **Proposed**; type: **Pumper**
 - 1.1.3 Name: **Proposed**; type: **EMS Unit**
 - Sabattus Street, Engine 4**
 - 1.1.4 Name: **Engine #4**; type: **Pumper**; length: **32'-8"**; weight: **53,800 lbs.**
 - 1.1.5 Name: **Proposed**; type: **Pumper**
 - 1.1.6 Name: **Proposed**; type: **EMS Unit**
 - Main Street, Engine 5**
 - 1.1.7 Name: **Engine #5**; type: **Pumper**; length: **31'-2" (plan on 33')**; weight: **49,800 lbs.**
 - 1.1.8 Name: **Proposed**; type: **Pumper**
 - 1.1.9 Name: **Proposed**; type: **EMS Unit**
- 1.2 Type of bays:
 - 1.2.1 Safety considerations support that there should be drive-through bays
- 1.3 Wash bay: **No, trucks are washed in place**
- 1.4 Plan for future expansion of bays: **No**
- 1.5 Overhead doors:
 - 1.5.1.1 Width: **13'-4"**; Height: **14'-0"**
 - 1.5.1.2 Windows: **Yes**
- 1.6 Signage requirements: **T-V monitor for dispatch data**
- 1.7 Trench drains: **Yes**; Layout: **Centerline of trucks**
- 1.8 Wall mounted water hose reels: **Yes** Quantity: **2**; Tempered: **Yes**
- 1.9 Fume exhaust: **All Stations have Plymovent**

- 1.10 Truck fills: **Various sizes supplied by domestic connections wall mounted**
 - 1.10.1 Wall hydrant: **Yes**; Quantity: **One per truck**
 - 1.10.2 Outdoor hydrant: **No**
- 1.11 Overhead electrical drops: **Yes**; Quantity: **3**
- 1.12 Overhead airdrops: **N/A (all units have onboard compressors)**
- 1.13 Compressed air for tools: **Yes for Plymovent and air supply only**
- 1.14 Wall mounted air hose reels: **Yes**; Quantity: **As needed based on reach**
- 1.15 Utility sinks: **1**; Where: **apparatus bay all stations**
- 1.16 Hand wash sinks: **Yes**; Where: **At each doorway to "living spaces"**
- 1.17 Water fountain/bottle filling station: **Yes**
- 1.18 Storage of Diesel Exhaust Fluid: **N/A PWD has Fill Station**
- 1.19 Other equipment: **Lawn Mowers and Generators, Grill? etc.**
- 1.20 Epoxy flooring: **Yes**
- 1.21 Wall construction type: **Cmu**
- 1.22 Size: **2952** sq ft

FIREMATIC SUPPORT

2 Firematic Storage Room

- 2.1 Adjacencies: **Apparatus bay**
- 2.2 Size: **68** sq ft

3 Yard Storage Room

- 3.1 Items to be stored:
 - 3.1.1 **Snow blower**
 - 3.1.2 **Mower**
 - 3.1.3 **Trash**
 - 3.1.4 **Weed whacker**
 - 3.1.5 **Shovels, etc.**
 - 3.1.6 **Flammable cabinet**
 - 3.1.7 **Wall mounted shelving starting at 42" AFF**
- 3.2 **Clear ceiling height to be 10'**
- 3.3 Security: **Lockable**
- 3.4 Adjacencies: **Bay?**
- 3.5 Size: **196** sq ft

4 Turnout Gear Storage Room

- 4.1 Operational Comments:
 - 4.1.1 Response pathway
 - 4.1.1.1 **Place gear at vehicle at start of shift**
- 4.2 Quantity of Lockers: **16-20**
- 4.3 Describe Lockers: **Open mesh**
- 4.4 Locker Size: **24" w x 20" d**

- 4.5 Adjacencies: **Apparatus bay**
- 4.6 Comments: **Non-fixed benches**
- 4.7 Size: **213** sq ft

5 Utility Recess

- 5.1 Operational Comments: **For truck cleaning**
- 5.2 Slop sink: **Yes**
- 5.3 Truck cleaning tool & supplies: **Yes**
- 5.4 Garbage & recycling: **Yes**
- 5.5 Floor drain: **Yes**
- 5.6 Location: **Apparatus bay, towards the rear**
- 5.7 Size: **32** sq ft

6 Workbench Recess

- 6.1 Operational Comments: **Tool repair, etc.**
- 6.2 Work bench description: **Steel top (ss preferred), approx. 10' long**
- 6.3 Rolling tool box: **Yes**
- 6.4 Shelving: **Yes**
- 6.5 Floor drain: **No**
- 6.6 Location: **Apparatus bay, towards the rear**
- 6.7 Size: **44** sq ft

7 SCBA Cleaning Room

- 7.1 Sink: **3 chamber sink, small for masks only. Rack to hang masks to dry**
- 7.2 Security: **No**
- 7.3 Adjacencies: **N/A**
- 7.4 Comments: **SS base & wall cabinets**
- 7.5 Size: **71** sq ft

8 Janitor's Closet

- 8.1 Mop Receptor: **Yes**
- 8.2 Slop Sink: **No**
- 8.3 Floor Machine: **Yes**
- 8.4 Shelving: **Yes**
- 8.5 Mop/Broom Rack: **Yes**
- 8.6 Adjacencies: **Apparatus Bay**
- 8.7 Comments: **Floor drain**
- 8.8 Size: **64**sq ft

9 Apparatus Floor Rest Rooms

- 9.1 Quantity: **One**
- 9.2 Fixture: **Sink, toilet & urinal**
- 9.3 Shower: **No**
- 9.4 Lockers: **No**

- 9.5 Adjacencies: **Apparatus bay**
- 9.6 Comments: **Floor drain**
- 9.7 Size: **67sq ft**

ADMINISTRATION

10 Sub-Station Lieutenant's Office

- 10.1 Seat how many: **3**
- 10.2 Use: **Reports and crew meetings**
- 10.3 Security: **N/A**
- 10.4 Adjacencies: **Apparatus bay & entry**
- 10.5 Comments: **Visual control of apparatus bay, apron & entry**
- 10.6 Size: **155 sq ft**

FIREFIGHTERS

11 Living Room

- 11.1 Uses:
 - 11.1.1 **Separate t-v**
 - 11.1.2 **Provide quite space**
- 11.2 Number of chair seating: **4 to 5 lounge chairs**
- 11.3 TV: **X**; Size: **50 – 55 inch**
- 11.4 Bulletin board: **X**; Size: **2 at standard size**
- 11.5 Adjacencies: **Dining**
- 11.6 Size: **274 sq ft**

12 Kitchen/Dining

- 12.1 Equipment:
 - 12.1.1 **Side by side refrigerator/freezer**
 - 12.1.2 **2 bowl sink**
 - 12.1.3 **Under counter dish washer**
 - 12.1.4 **Semi-commercial stove, w/ commercial hood**
 - 12.1.5 **T-V**
- 12.2 Adjacencies: **Dining & living**
- 12.3 Comments:
 - 12.3.1 **table for six**
 - 12.3.2 **3 shift pantries, plus a common pantry**
 - 12.3.3 **Single shared refrigerator**
- 12.4 Size: **308 sq ft**

13 Study Room

- 13.1 Seating quantity: **2 @ work surface, w/ cubbies above**
- 13.2 Comments: **Training manual review, etc. Quiet space.**
- 13.3 Size: **117 sq f**

14 Exercise

- 14.1 Equipment:
 - 14.1.1 Cardio: **Treadmill, stair & bike**
 - 14.1.2 Weights: **One bench & dumbbell rack**
 - 14.1.3 Weight Machines: **Smith machine & multi-machine**
- 14.2 Comments: **Limit noise getting to balance of living space**
- 14.3 Size: **456 sq ft**

15 Bunkers/Bed Rooms

- 15.1 Number of rooms: **6**
- 15.2 Beds per room: **2**
- 15.3 Storage: **(3) 18"x2'x6' lockable lockers, opening to corridor**
- 15.4 Desks: **One**
- 15.5 Location: **Quiet side**
- 15.6 Size: **131 sq ft**

16 Bunker's Bathrooms

- 16.1 Quantity: **2**
- 16.2 Details: **toilet, urinal, sink, shower, bench**
- 16.3 Adjacencies: **Bunking**
- 16.4 Size: **91 sq ft**

17 Bunker's Area Laundry Room

- 17.1 Location: **Near bunking**
- 17.2 Comments: **ADA compliant washer & dryer**
- 17.3 Size: **59 sq ft**

MISCELLANEOUS SPACES

18 Entry Vestibules (2)

- 18.1 Location: **As needed**
- 18.2 Size: **64 sq ft**

19 House Keeping Storage

- 19.1 Size: **12 sq ft**

20 Living Side Janitors Closet

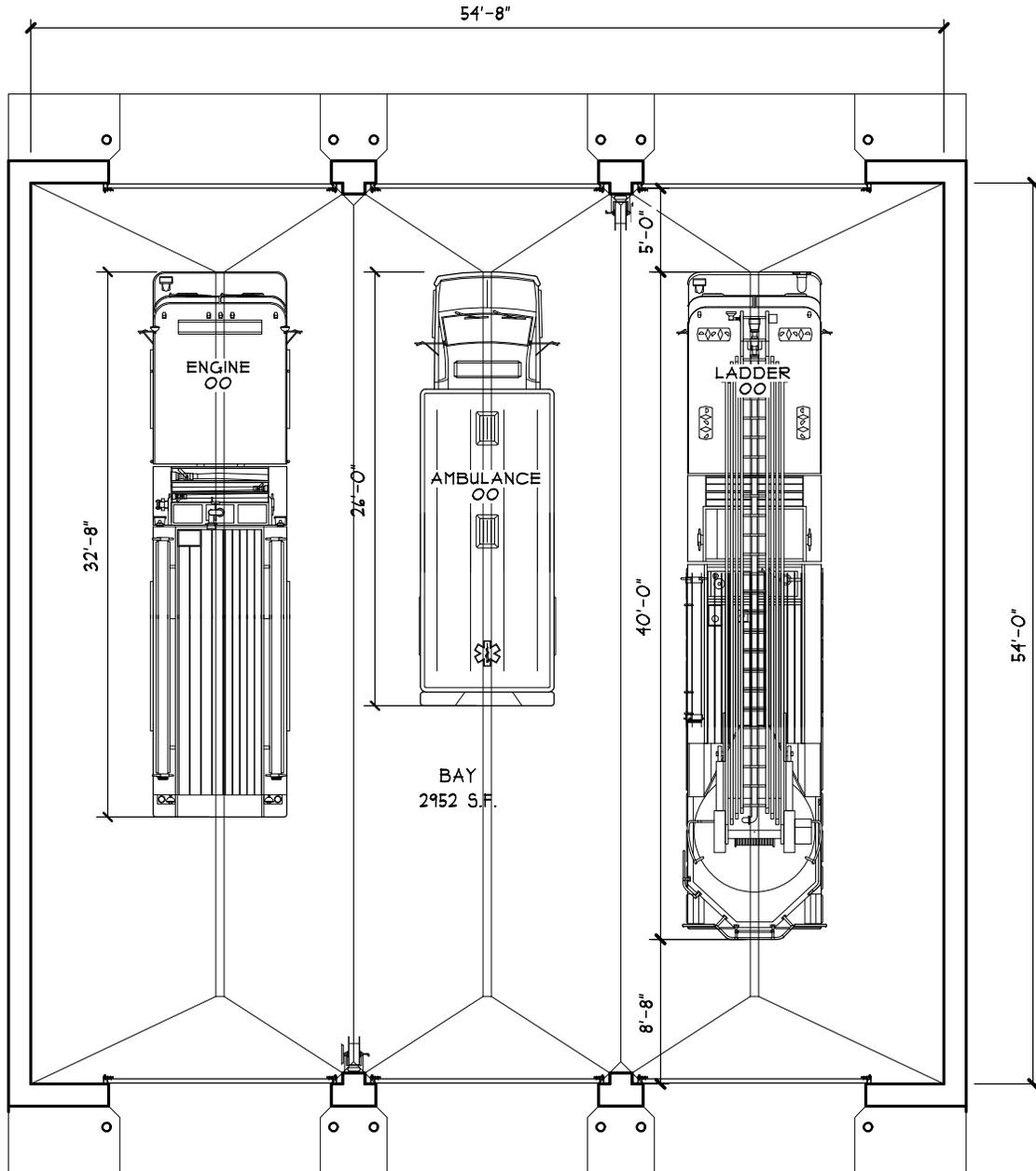
- 20.1 Mop Receptor: **Yes**
- 20.2 Slop Sink: **No**
- 20.3 Floor Machine: **Yes, small**
- 20.4 Shelving: **Yes**
- 20.5 Mop/Broom Rack: **Yes**
- 20.6 Adjacencies: **N/A**
- 20.7 Comments: **Floor drain**
- 20.8 Size: **48** sq ft

21 Sprinkler Room

- 21.1 Assume **70** sq ft

22 Mechanical, Electrical, Plumbing, HVAC, Sprinkler, Alarm, etc.

- 22.1 Fuel type at site: **Natural Gas**
- 22.2 Heating type in apparatus bay: **In-floor**
- 22.3 Heating type elsewhere: **Ducted air**
- 22.4 Snow Melt System for Apron: **If cost effective.**
- 22.5 Building to be sprinklered: **Yes**
- 22.6 Hose bibs for exterior: **Yes**
- 22.7 Bay lighting type: **LED**
- 22.8 Site lighting type: **LED**
- 22.9 Generator: **Yes**
 - 22.9.1 Fuel: **Natural gas**
 - 22.9.2 Location of generator: **Outdoors**
- 22.10 Circuits on generator: **Sized to run entire building**
- 22.11 Describe Security Type: **Wireless prox. Device, security cameras**
- 22.12 Alarm: **Interconnected smoke, pull station at entrance, etc.**
- 22.13 Siren: **No**
- 22.14 Fire Dept. Connection: **No**
- 22.15 Hazardous waste handling: **N/A**
- 22.16 Size: **250** sq ft



**MITCHELL
ASSOCIATES
ARCHITECTS**

APPARATUS BAY

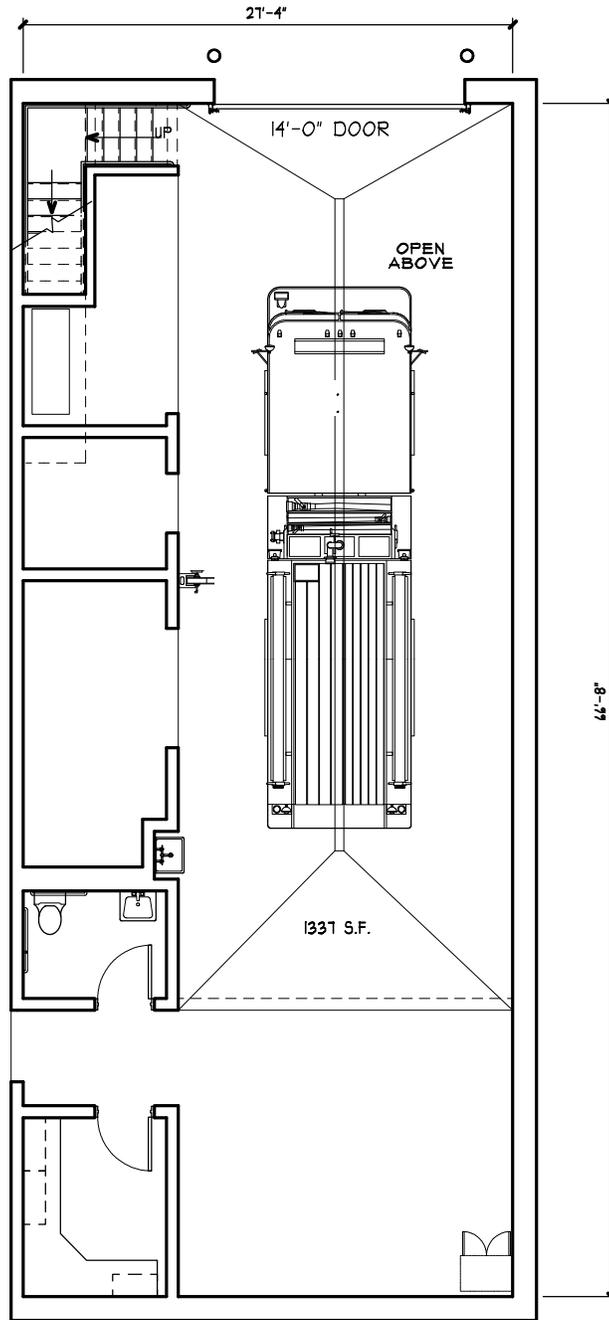
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ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

MECHANIC'S BAY

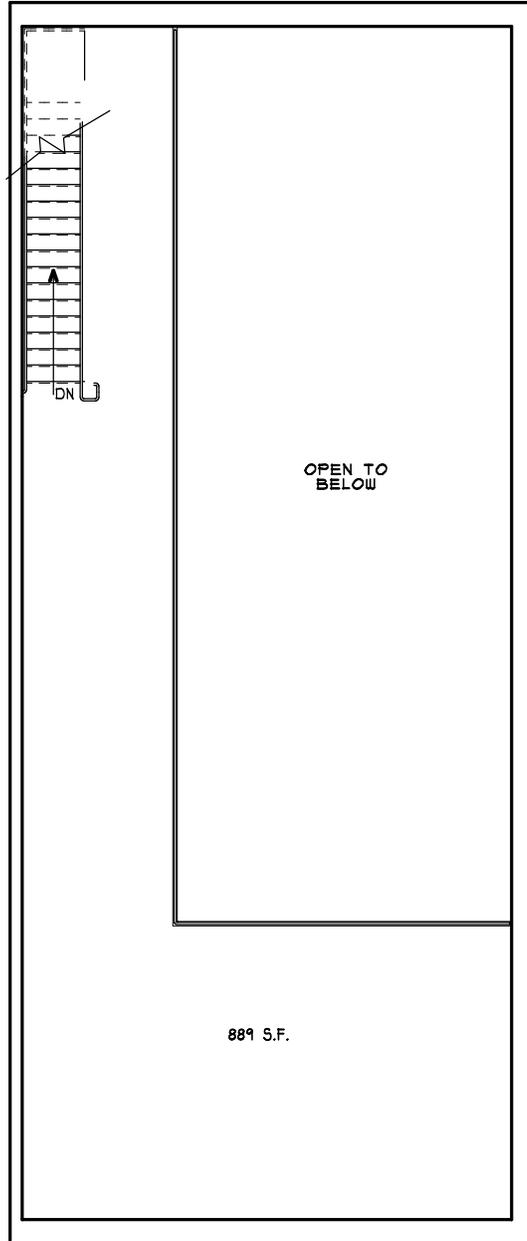
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DATE: 11/1/2016

OIA

S:\J Drive\Lewiston\Sub Stations\Individual Rooms\I - Apparatus Bay & Firematic Support\OIA - Mechanic's Bay

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

MECHANIC'S BAY MEZZANINE

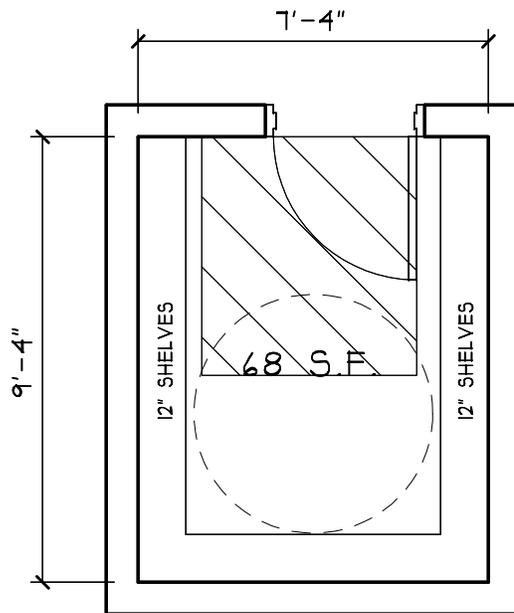
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DATE: 11/1/2016

OIAI

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ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

FIREMATIC STORAGE

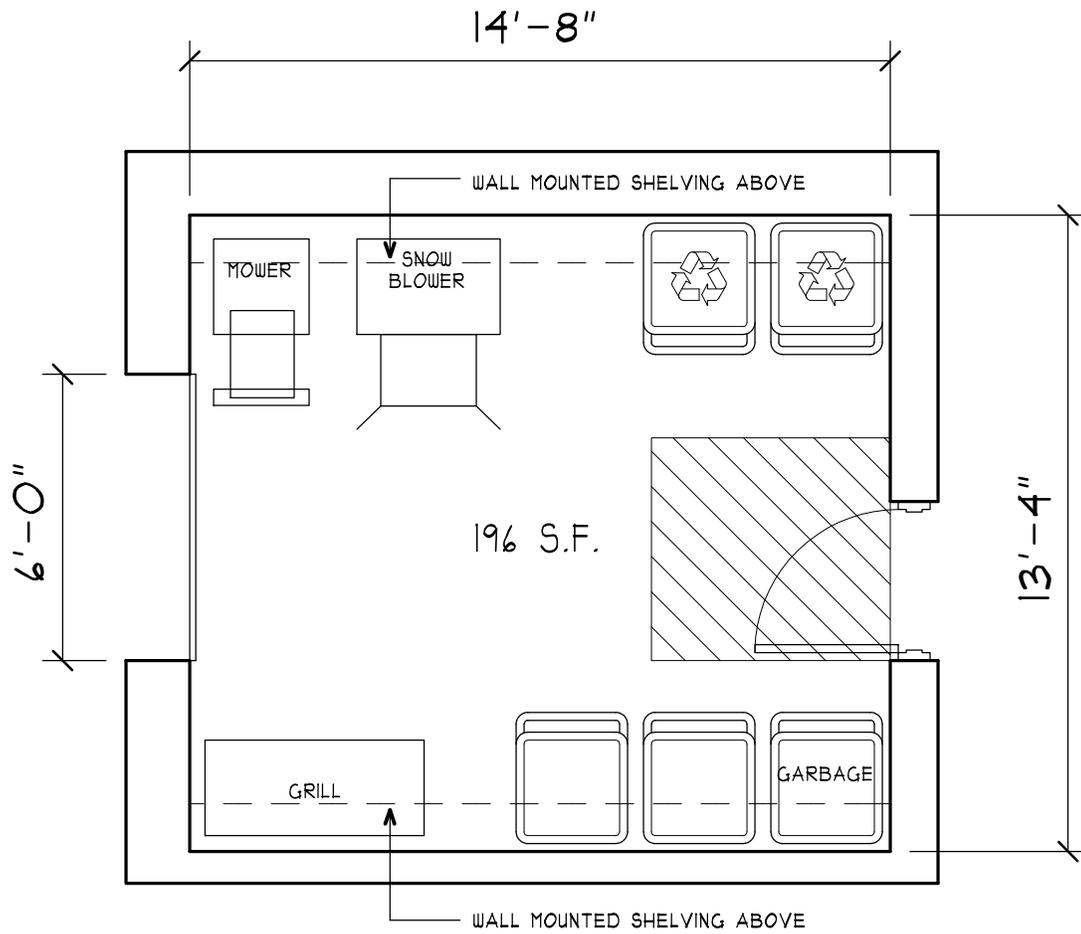
SCALE: 1/4" = 1'-0"

DATE: 10/10/2016

02

S:\ Drive\Lewiston\Sub Stations\Individual Rooms\ - Apparatus Bay 4 Firematic Support\02 - Firematic Storage

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

YARD STORAGE

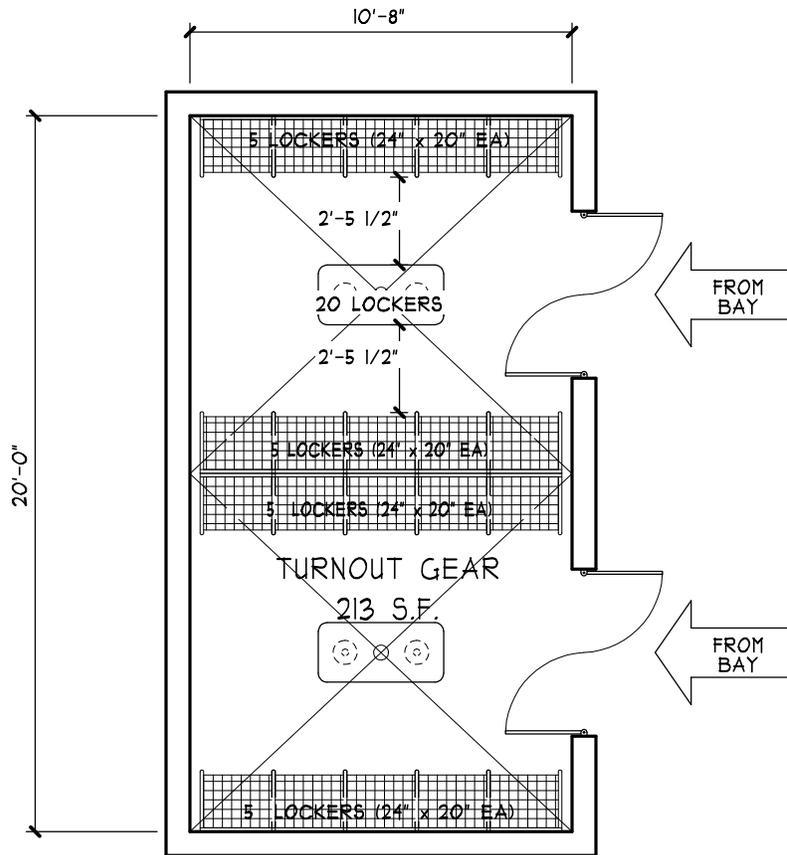
SCALE: 1/4" = 1'-0"

DATE: 10/13/2016

03

S:\J Drive\Lewiston\Sub Stations\Individual Rooms\ - Apparatus Bay & Firematic Support\03 - Yard Storage

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

TURNOUT GEAR

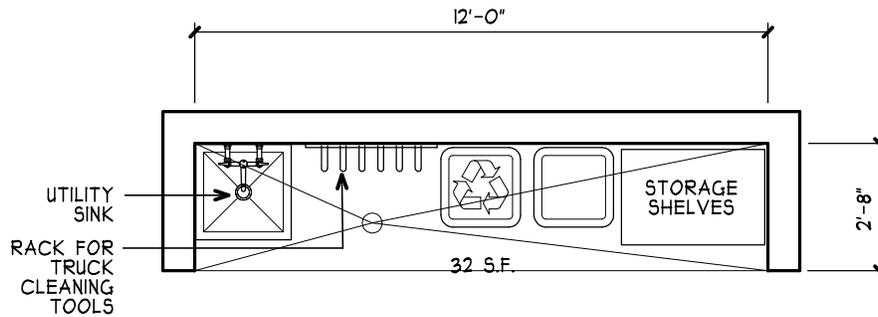
SCALE: 3/16" = 1'-0"

DATE: 10/21/2016

04

S:\J Drive\Lewiston\Sub Stations\Individual Rooms\ - Apparatus Bay & Firematic Support\04 - Turnout Gear

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

UTILITY RECESS

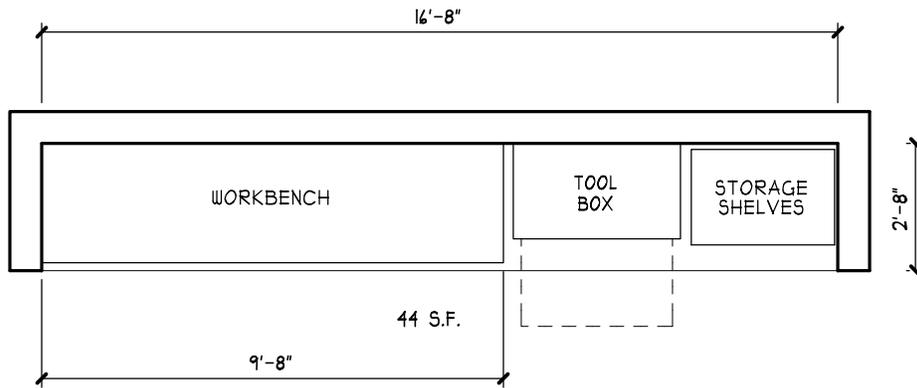
SCALE: 1/4" = 1'-0"

DATE: 10/10/2016

05

S:\J Drive\Lewiston\Sub Stations\Individual Rooms\ - Apparatus Bay & Firematic Support\05 - Utility Recess

ROOM #



MITCHELL
ASSOCIATES
ARCHITECTS

WORKBENCH RECESS

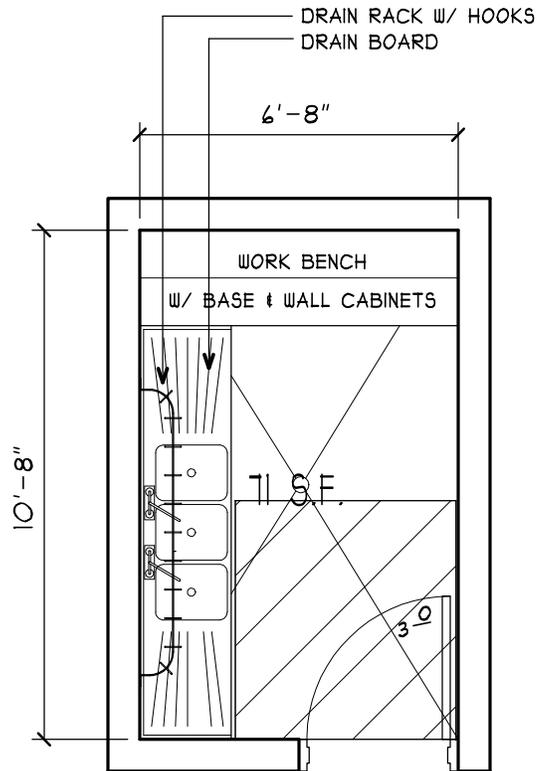
SCALE: 1/4" = 1'-0"

DATE: 10/10/2016

S:\W Drive\A_Master Plans\Gymnasiums\06 - Workbench Recess

06

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

SCBA CLEANING ROOM

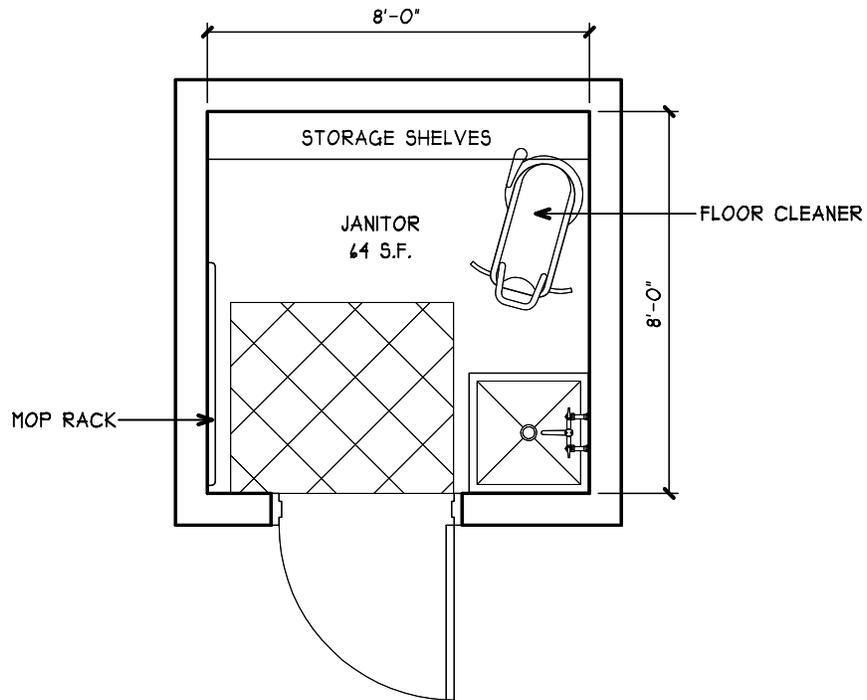
SCALE: 1/4" = 1'-0"

DATE: 10/10/2016

01

S:\J Drive\Lewiston\Sub Stations\Individual Rooms\ - Apparatus Bay & Firematic Support\01 - SCBA Cleaning

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

JANITOR'S CLOSET

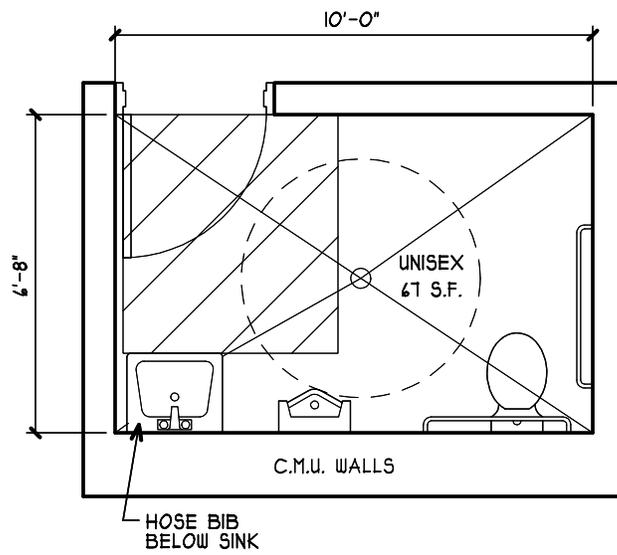
SCALE: 1/4" = 1'-0"

DATE: 10/10/2016

08

S:\J Drive\Lewiston\Sub Stations\Individual Rooms\ - Apparatus Bay + Firematic Support\08 - Janitor

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

ADA UNISEX BAY BATHROOM

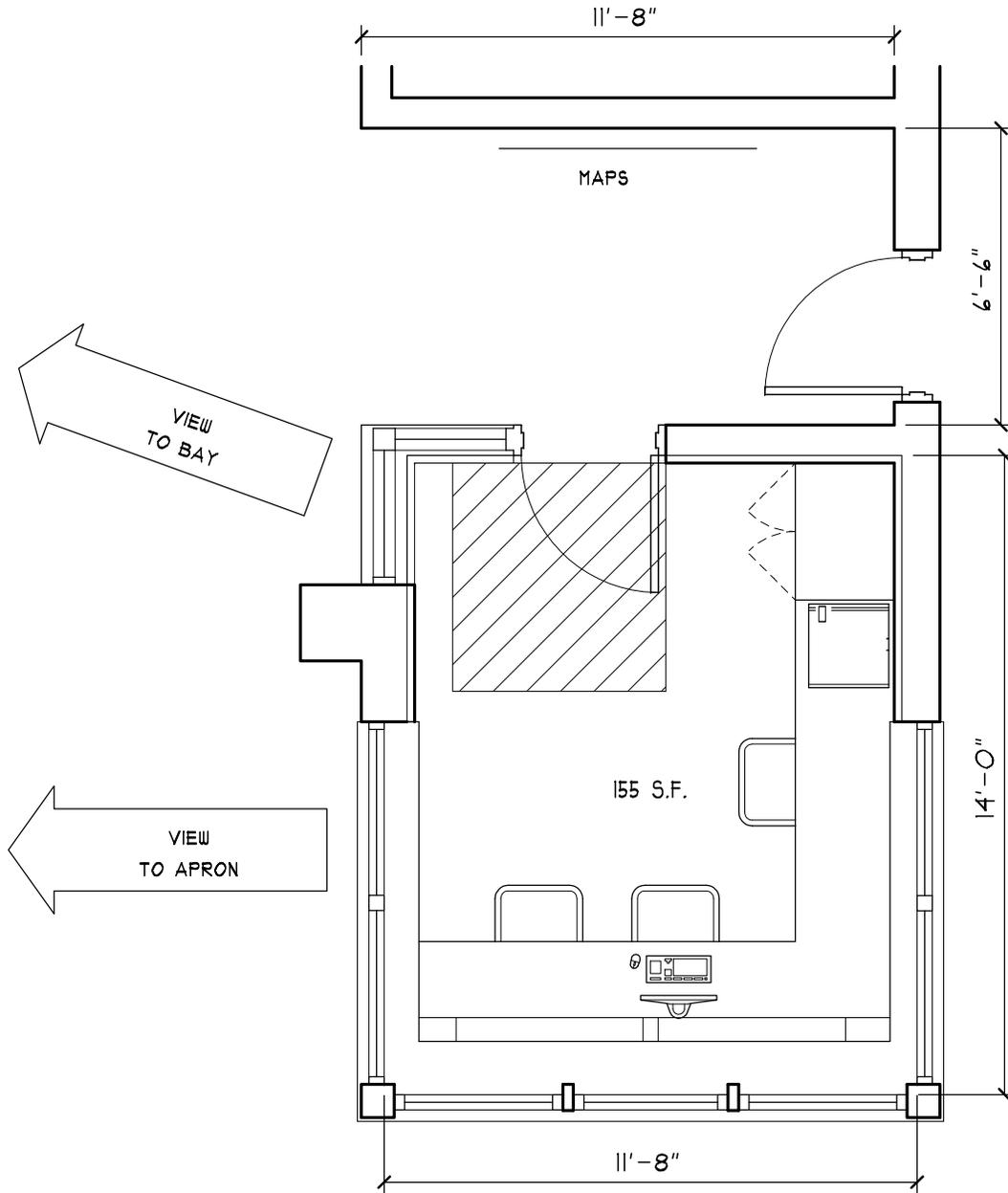
SCALE: 1/4" = 1'-0"

DATE: 10/10/2016

09

S:\V Drive\Lewiston\Sub Stations\Individual Rooms\ - Apparatus Bay & Firematic Support\09 - Unisex Bay Bathroom

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

LIEUTENANT'S OFFICE

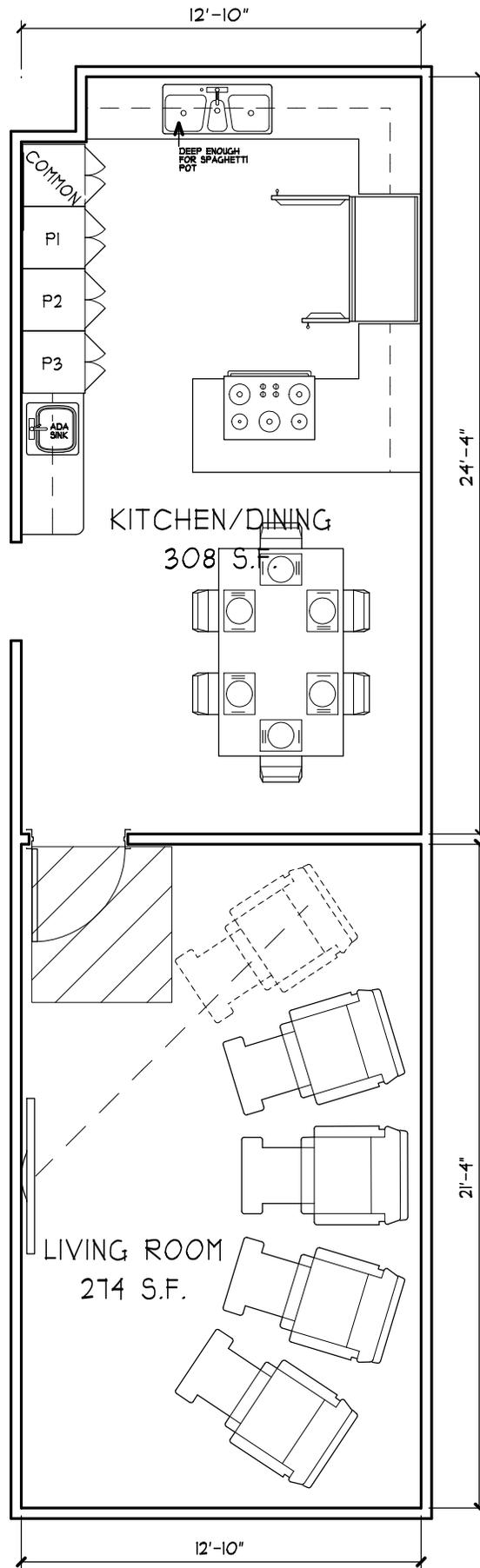
SCALE: 1/4" = 1'-0"

DATE: 10/13/2016

S:\J Drive\Lewiston\Sub Stations\Individual Rooms\2- Administration\10 - Lieutenant's Office

10

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

LIVING/KITCHEN/DINING

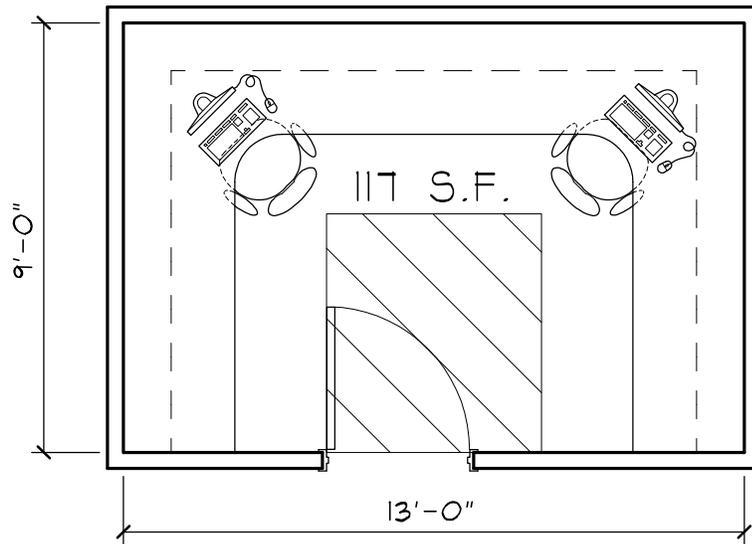
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DATE: 10/21/2016

S:\J Drive\Lewiston\Sub Stations\Individual Rooms\3 - Firefighters\11 & 12 - Living-Kitchen-Dining

11 & 12

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

STUDY

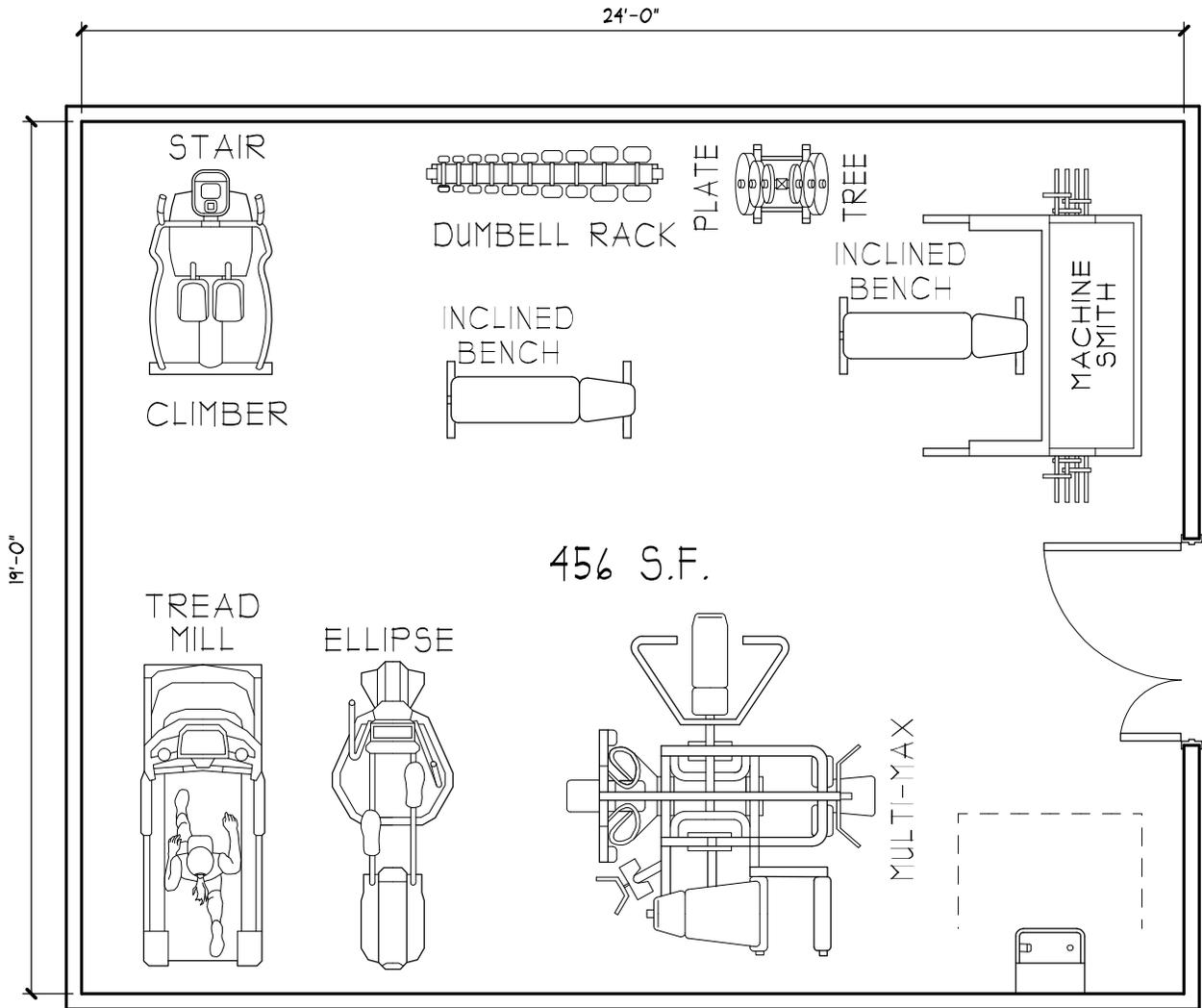
SCALE: 1/4"

DATE: 10/10/2016

13

S:\J Drive\Lewiston\Sub Stations\Individual Rooms\3 - Firefighters\3 - Study

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

EXERCISE

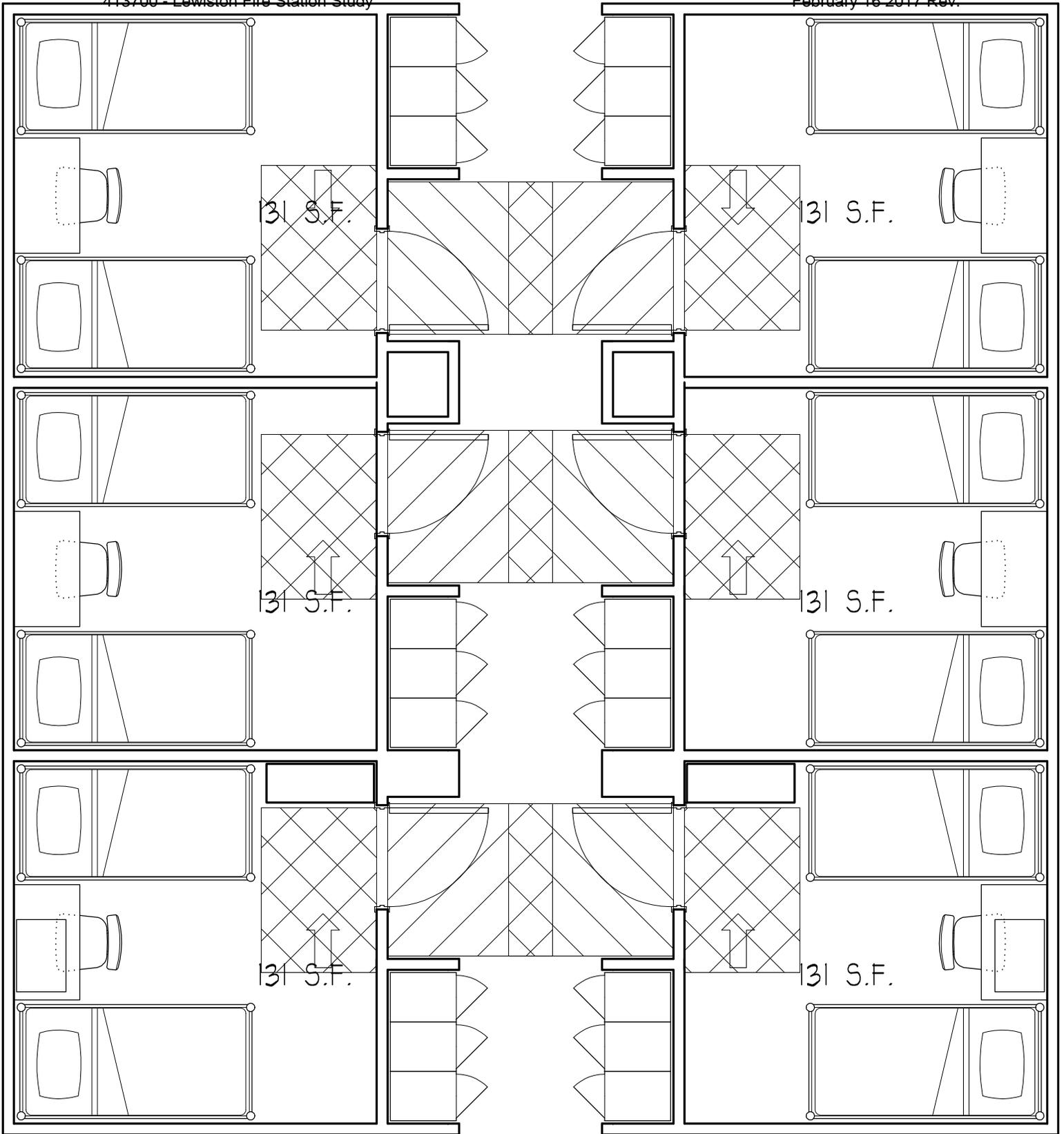
SCALE: 1/4" = 1'-0"

DATE: 10/10/2016

14

ROOM #

S:\J Drive\Lewiston\Sub Stations\Individual Rooms\3 - Firefighters\14 - Exercise



**MITCHELL
ASSOCIATES
ARCHITECTS**

BUNK ROOMS

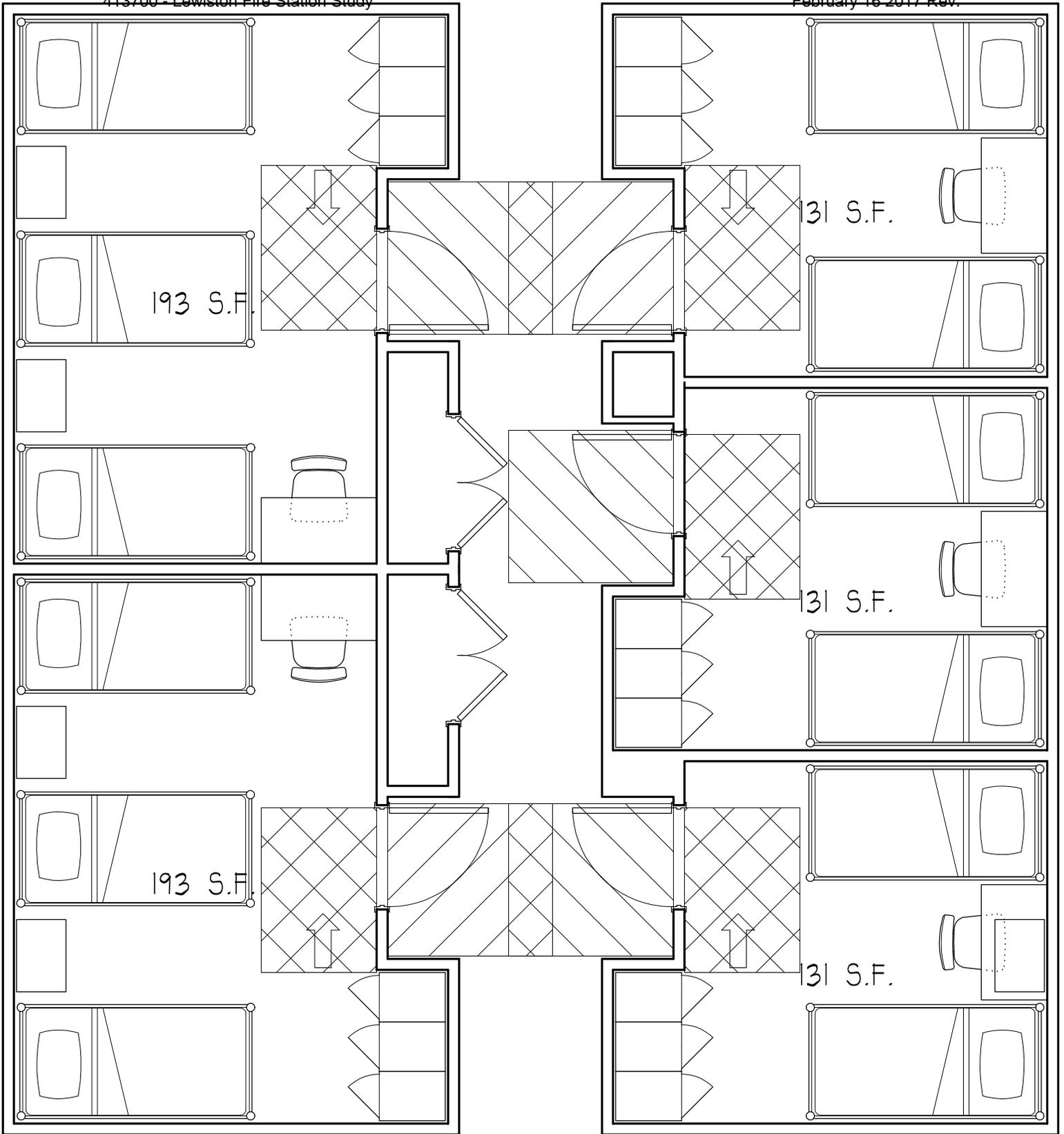
SCALE: 1/4" = 1'-0"

DATE: 10/26/2016

15

S:\J Drive\Lewiston\Sub Stations\Individual Rooms\3 - Firefighters\5 - Bunkroom

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

ALTERNATE BUNK ROOMS

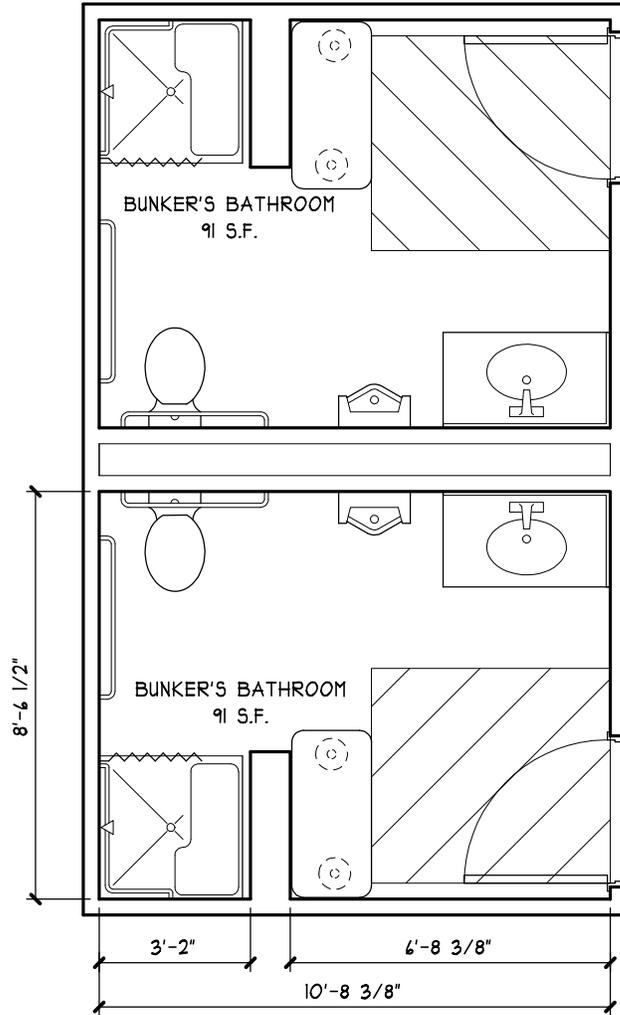
SCALE: 1/4" = 1'-0"

DATE: 10/13/2016

15A

S:\J Drive\Lewiston\Sub Stations\Individual Rooms\3 - Firefighters\5 - Bunkroom

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

BUNKER'S BATHROOM

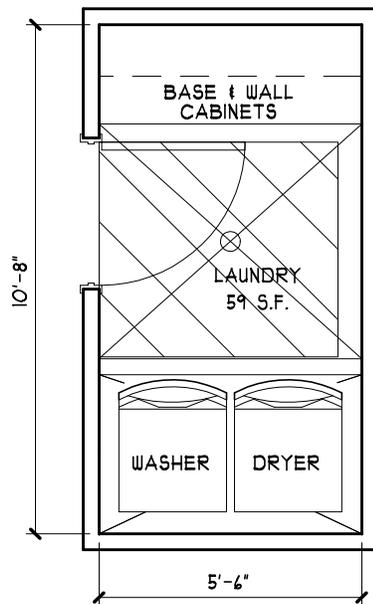
SCALE: 1/4" = 1'-0"

DATE: 10/10/2016

S:\J Drive\Lewiston\Sub Stations\Individual Rooms\3 - Firefighters\6 - Bunker's Bathroom

16

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

BUNKER'S LAUNDRY

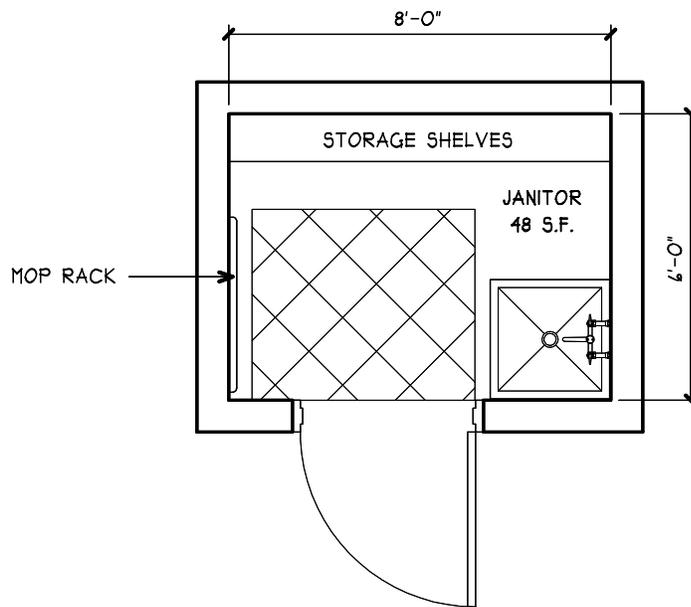
SCALE: 1/4" = 1'-0"

DATE: 10/10/2016

17

S:\J Drive\Lewiston\Sub Stations\Individual Rooms\3 - Firefighters\1 - Bunker's Laundry

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

LIVING SIDE JANITOR

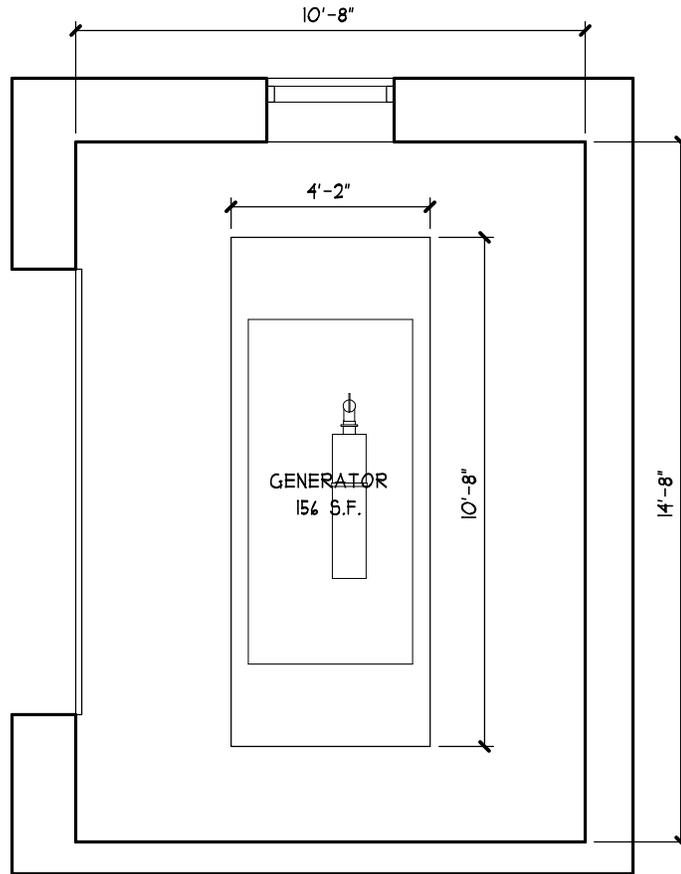
SCALE: 1/4" = 1'-0"

DATE: 10/10/2016

20

S:\J Drive\Lewiston\Sub Stations\Individual Rooms\5 - Miscellaneous\20 - Living Side Janitor

ROOM #



**MITCHELL
ASSOCIATES
ARCHITECTS**

EMERGENCY GENERATOR

SCALE: 1/4" = 1'-0"

DATE: 11/8/2016

23

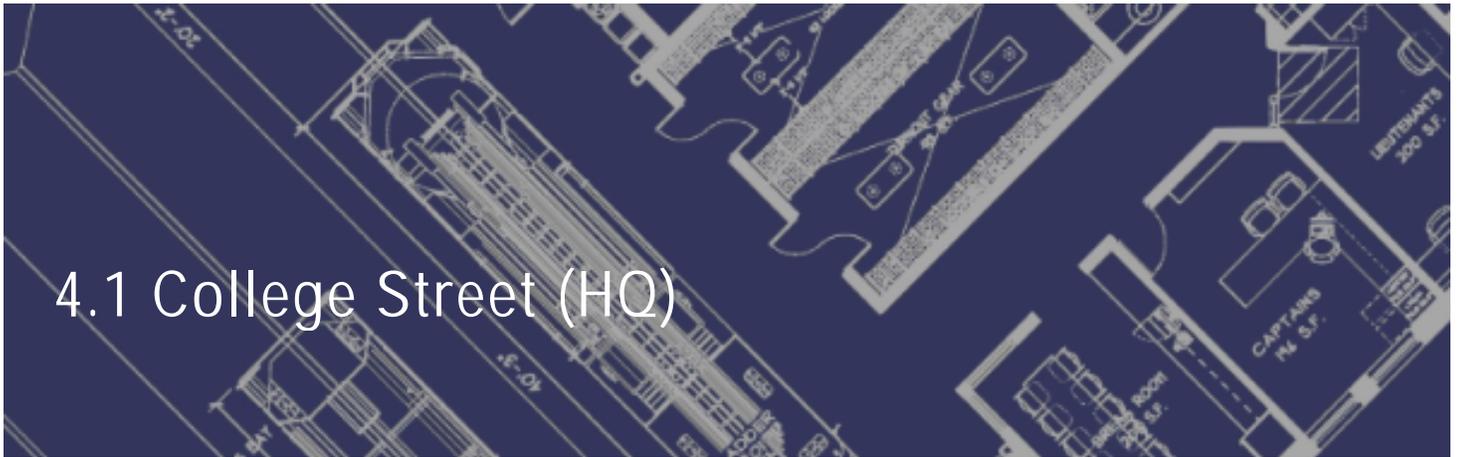
S:\J Drive\Lewiston\Sub Stations\Individual Rooms\5 - Miscellaneous\23 - Generator

ROOM #

Room Name	Mfgr. & Model No.	Quant.	Description	Notes	Price per unit	Install Cost/Unit	Total Price
Bay & Adjacent	Plymovent Exhaust Capture System	2	Tailpipe system	Price per drop - Needs	\$ 8,500	\$ -	\$ 17,000
	CRT Display	2	46" Flat Screen Monitor for CAD	GC installs brackets, EC provides power & data	\$ 800	\$ 100	\$ 1,800
	Guardian G1540 w/ G1540BA Option	1	Portable Eye Wash Station		\$ 175	\$ 50	\$ 225
	Tennant T-# Floor Scrubber	1	Floor Scrubber		\$ 6,000	\$ -	\$ 6,000
	Jimex JFD-48R Refrigerator	1	Chilled Water Bottles		\$ 2,700	\$ 50	\$ 2,750
	Ice-O-Matic ICEU220A	1	Ice Machine; 24.54w x 26.27d x 39h		\$ 2,219	\$ 500	\$ 2,719
Turnout Gear	Gear Grid Standard	21	Wall Mounted Lockers -18"x20"x74-1/2"	Price includes shipping but not installation	\$ 318	\$ 25	\$ 7,203
Mechanic & Mech Room	Basis-of-Design product for Budgeting Purposes: Ingersoll-Rand 2475N7.5-V; 7.5HP; 125 psi; equip only	1	House Air Compressor: IR Model Electric-Driven Two-Stage Air Compressor 80 Gal		\$ 3,500	\$ 200	\$ 3,700
	Global T9FB170016	1	6' x 3' x 34" h stationary workbenches?		\$ 1,664	\$ 100	\$ 1,764
	Lyon 2404A Adjustable Leg Work Bench	1	34" x 48" 12-Gauge Steel Work Bench with Stringer, Drawer and Shelf (Dove Gray - DD)		\$ 400	\$ 150	\$ 550
	Global T9A242280	1	15 drawer tool storage cabinet		\$ 589	\$ 50	\$ 639
Shelving	Lyon 8006SX (Starters)	2	Extra Heavy Duty Shelving 36w x 18d x 84h with 5 Shelves; 18 gauge; 1300# shelf capacity; Add-On Unit		\$ 208	\$ 100	\$ 616
	Lyon 8006X (Add-Ons)	4	Extra Heavy Duty Shelving 36w x 18d x 84h with 5 Shelves; 18 gauge; 1300# shelf capacity; Add-On Unit		\$ 171	\$ 100	\$ 1,084
	Lyon 8342X (Add-Ons)	2	Extra Heavy Duty Shelving 48w x 24d x 84h with 5 Shelves; 18 gauge; 750# shelf capacity; Add-On Unit		\$ 259	\$ 100	\$ 718
	Lyon 8007SX (Starters)	1	Extra Heavy Duty Shelving 36w x 24d x 84h with 5 Shelves; 18 gauge; 750# shelf capacity; Add-On Unit		\$ 236	\$ 100	\$ 336
Radio					\$ -	\$ -	\$ -
	CRT Display	1	46" Flat Screen Monitor for CAD	GC installs brackets, EC provides power & data	\$ 800	\$ 50	\$ 850
					\$ -	\$ -	\$ -
Vehicle Cleaning		1	Brush Racks		\$ 20	\$ -	\$ 20
	Advance Tabco K-116	1	Pre-Rinse Faucet		\$ 504	\$ -	\$ 504
	Bradley 6542	1	Wall Mounted Soap Dispenser		\$ 45	\$ 50	\$ 95
Laun dry	Whirlpool WFW88HEAC	1	Residential Clothes Washer with steam sanitize.		\$ 1,299	\$ 200	\$ 1,499
	Whirlpool WED88HEAC	1	Residential Clothes Dryer		\$ 1,299	\$ 200	\$ 1,499
TOTAL >>							\$ 51,571

4.0 Functional Assessment

4.1 College Street (HQ)



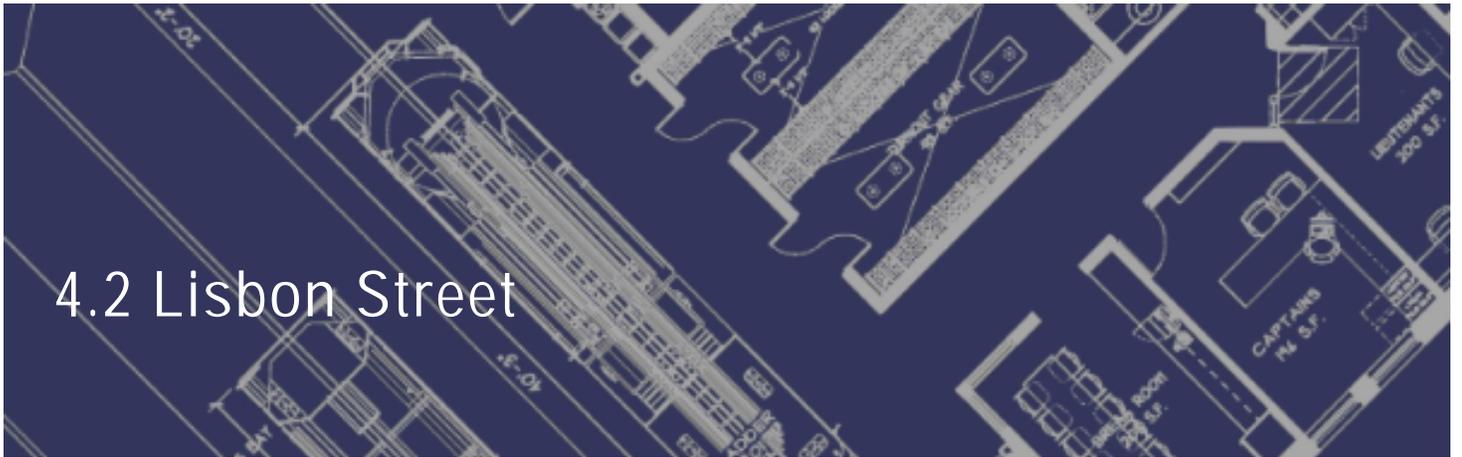
Lewiston Fire Stations Functional Assessment

Headquarters

1. Site
 - a. Inadequate apron depth
 - i. Back-in procedure exposes personnel to excessive traffic injury risk
 - b. Inadequate parking space
 - i. Congested
 - ii. Cannot fit both shifts at shift change
 - iii. Only two guest parking space
 - c. Lot is too small to allow building expansion
2. Apparatus Bay
 - a. Miscellaneous
 - i. No proper floor drains with oil/water separator
 - ii. No proper hose reels
 - iii. No pipes air to maintain truck brakes
 - iv. Items that should be stored in separate rooms create trip hazards
 - v. Improper coefficient of friction of floor creates slip hazard
 - vi. Lacks second code compliant means of egress
 - vii. Lacks CO monitor, alarm & exhaust
 - viii. No SCBA cleaning room
 - ix. No "dirty side" janitor's closet
 - x. No "dirty side" bathroom
3. Turnout Gear
 - a. No separate, clean space possible
4. Bathroom (1st floor)
 - a. Only one bathroom for rank & file
 - b. Does not comply with ANSI or ADA
 - c. No gender parity
 - d. No legal means of egress
 - e. Contaminated by proximity to, and traffic from apparatus bay
 - f. No accessible bathrooms to support public participation
5. Janitor's closets (separate for bay & living)
 - a. None is provided
6. General
 - a. Building does not comply with ANSI or ADA, which is a legal requirement of a public facility
7. Bedrooms
 - a. Lacks fire separation from apparatus bay
 - b. Lacks isolation from apparatus bay pollutants
 - c. No legal means of egress for handicapped
 - d. Does not comply with ANSI or ADA
8. Bunker's Laundry
 - a. None is provided

9. Lounge
 - a. Adequate space
 - b. Lacks isolation from apparatus bay pollutants
 - c. No legal means of egress
 - d. Does not comply with ANSI or ADA
10. Kitchen
 - a. Adequate space
 - b. Lacks isolation from apparatus bay pollutants
 - c. No legal means of egress
 - d. Does not comply with ANSI or ADA
11. Office
 - a. One line office is provided
 - b. Administrative offices are too small
 - i. Inadequate separation of day to day traffic
 - ii. Limited records storage
 - iii. Current meeting & conference is not accessible, therefore cannot be used by public.
 - iv. Offices are scatter through basement and 1st floor of the building undermining good management practices and collaborative effort
12. Public Spaces
 - a. Building is unable to provide modern, accessible public meeting space
13. Study Room
 - a. None is provided
14. Exercise
 - a. Adequate
15. Mechanical Room
 - a. Below grade – Damp & subject to water infiltration
 - b. No legal means of egress
 - c. Does not comply with ANSI or ADA
 - d. Lacks mechanical systems to maintain adequate air exchange to support ventilation and operation of all building systems
16. Housekeeping storage
 - a. None is provided
17. Data/IT closet
 - a. None is provided
18. Sprinkler system
 - a. None is provided
19. Generator
 - a. None is provided
20. Airlock entry vestibules
 - a. None is provided
21. Basement
 - a. Numerous program spaces, none of which are accessible

4.0 Functional Assessment



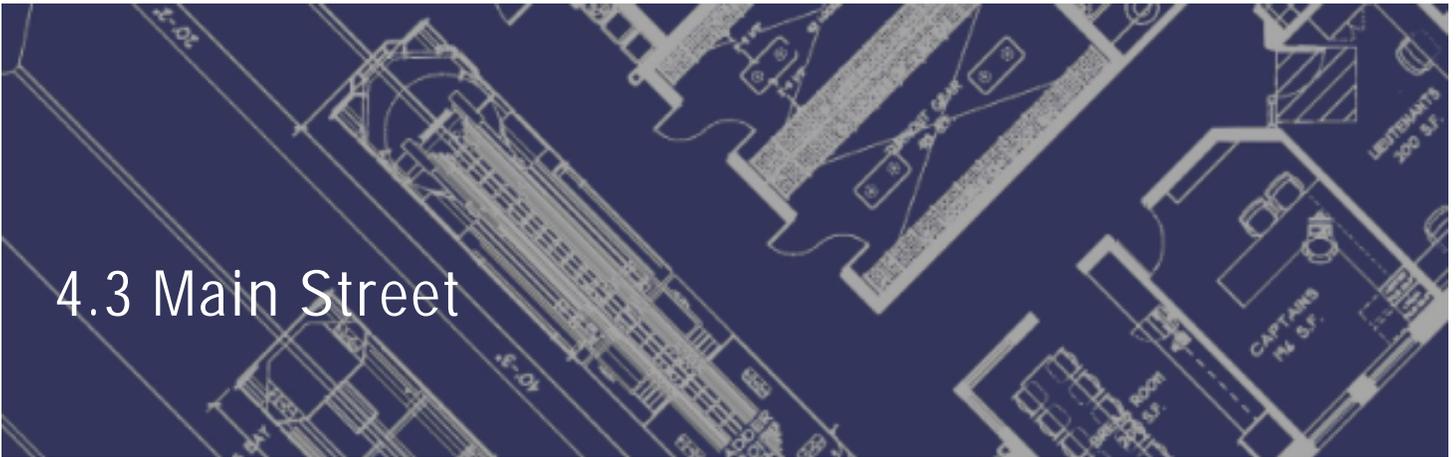
Lewiston Fire Stations Functional Assessment

Lisbon Street Sub-Station

1. Site
 - a. Inadequate apron depth
 - i. Parked apparatus overhangs sidewalk
 - ii. Back-in procedure exposes personnel to excessive traffic injury risk
 - b. Inadequate parking space
 - i. Congested
 - ii. Difficulty accommodating personal vehicles at change of shift
 - iii. Only one guest parking space
 - c. Lot is too small to allow building or parking expansion
2. Apparatus Bay
 - a. Size is too small to allow a second vehicle
 - i. Lacks proper vertical clearance at OH door
 - ii. Cannot assign an additional crew
 - b. Miscellaneous
 - i. No proper floor drains with oil/water separator
 - ii. No proper hose reels
 - iii. No piped air to maintain truck brakes
 - iv. Items that should be stored in separate rooms create trip hazards
 - v. Improper coefficient of friction of floor creates slip hazard
 - vi. Lacks second means of egress
 - vii. Lacks CO monitor, alarm & exhaust
 - viii. Lack of clean space to locate beverage vending machine
 - ix. No SCBA cleaning room
 - x. No "dirty side" janitor's closet
 - xi. No "dirty side" bathroom
3. Turnout Gear
 - a. No separate, clean space possible
4. Bathroom
 - a. Only one bathroom
 - b. Does not comply with ANSI or ADA
 - c. No gender parity
 - d. No legal means of egress
 - e. Contaminated by proximity to, and traffic from apparatus bay
5. Janitor's closets (requires separate for bay & living)
 - a. None is provided
6. Bedrooms
 - a. Lacks isolation from apparatus bay pollutants
 - b. No legal means of egress
 - c. Does not comply with ANSI or ADA
 - d. No proper individual personal property lockers

7. Bunker's Laundry
 - a. None is provided
8. Lounge
 - a. Lacks isolation from apparatus bay pollutants
 - b. Serves too many purposes for the size (relaxing, t-v, eating, study, training, officer's desk & computer)
 - c. Lacks isolation from apparatus bay pollutants
 - d. No legal means of egress
 - e. Does not comply with ANSI or ADA
9. Kitchen
 - a. Needs equipment upgrades
10. Office
 - a. None is provided
11. Study Room
 - a. None is provided
12. Stair to basement
 - a. Does not meet code requirements
13. Exercise
 - a. Below grade – Damp & subject to water infiltration
 - b. No legal means of egress
 - c. Does not comply with ANSI or ADA
 - d. Lacks mechanical systems to maintain acceptable environment for elevated rate of metabolism & respiration
14. Mechanical Room
 - a. Below grade – Damp & subject to water infiltration
 - b. No legal means of egress
 - c. Does not comply with ANSI or ADA
 - d. Lacks mechanical systems to maintain adequate air exchange to support ventilation and operation of all building systems
15. Housekeeping storage
 - a. None is provided
16. Data/IT closet
 - a. None is provided
17. Sprinkler system
 - a. None is provided
18. Generator
 - a. None is provided
19. Airlock entry vestibules
 - a. None is provided

4.0 Functional Assessment



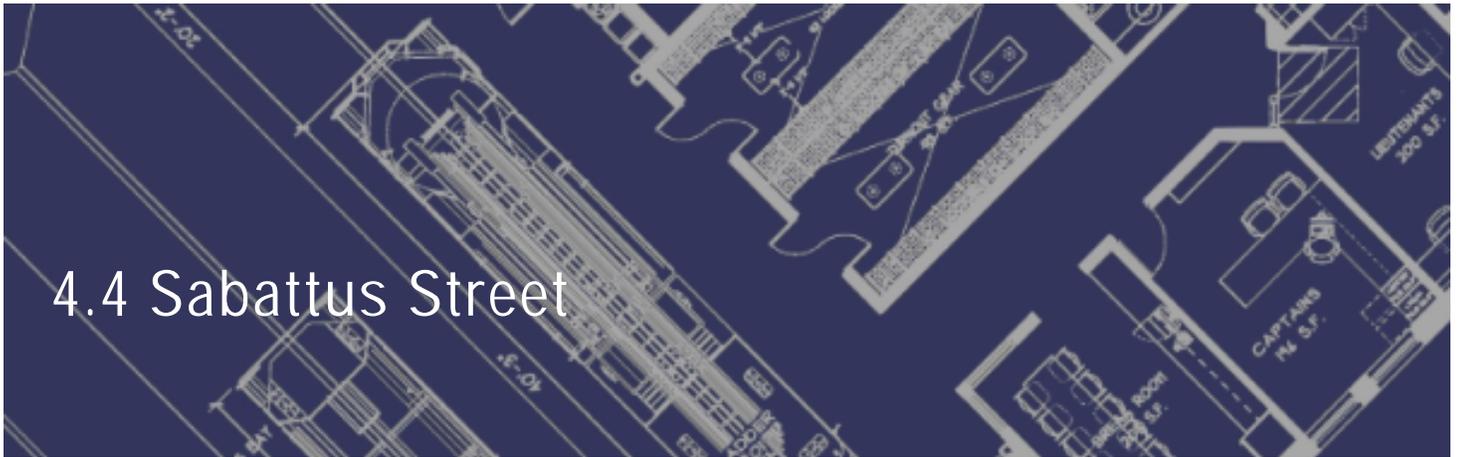
Lewiston Fire Stations Functional Assessment

Main Street Sub-Station

1. Site
 - a. Inadequate apron depth
 - i. Parked apparatus overhangs sidewalk
 - ii. Back-in procedure exposes personnel to excessive traffic injury risk
 - b. Inadequate parking space
 - i. Congested
 - ii. Difficulty accommodating personal vehicles at change of shift
 - iii. Only one guest parking space
 - c. Lot is too small to allow building expansion
2. Apparatus Bay
 - a. Size is too small
 - i. Lacks proper clearance around trucks
 - ii. Cannot assign an additional crew
 - iii. Inadequate clearance between truck and OH door opening
 - iv. Inadequate clearance above truck does not allow personnel to safely be on top of truck.
 - b. Miscellaneous
 - i. No proper floor drains with oil/water separator
 - ii. No proper hose reels
 - iii. No piped air to maintain truck brakes
 - iv. Items that should be stored in separate rooms create trip hazards
 - v. Improper coefficient of friction of floor creates slip hazard
 - vi. Lacks second means of egress
 - vii. Lacks CO monitor, alarm & exhaust
 - viii. Lack of clean space to locate beverage vending machine
 - ix. No workbench
 - x. No utility recess to support truck cleaning & maintenance
 - xi. No SCBA cleaning room
 - xii. No "dirty side" janitor's closet
 - xiii. No "dirty side" bathroom
3. Turnout Gear
 - a. No separate, clean space possible
4. Bathroom
 - a. Only one bathroom
 - b. Does not comply with ANSI or ADA
 - c. No gender parity
 - d. No legal means of egress
 - e. Contaminated by proximity to, and traffic from apparatus bay
5. Janitor's closets (requires separate for bay & living)
 - a. None is provided
6. Bedrooms

- a. Lacks isolation from apparatus bay pollutants
 - b. No legal means of egress
 - c. Does not comply with ANSI or ADA
 - d. Individual personal property lockers create code violation regarding corridor width
7. Bunker's Laundry
- a. None is provided
8. Lounge
- a. Serves too many purposes for the size (relaxing, t-v, eating, study, training, officer's desk & computer)
 - b. Lacks isolation from apparatus bay pollutants
 - c. No legal means of egress
 - d. Does not comply with ANSI or ADA
9. Kitchen
- a. Grossly inadequate in all regards
10. Office
- a. None is provided, officer works in corridor in violation of egress code
11. Study Room
- a. None is provided
12. Stair to basement
- a. Unsafe – violates codes
13. Exercise
- a. In apparatus bay, does provide adequate space and separation for a complete gym operation.
 - b. Does not comply with ANSI or ADA
14. Mechanical Room
- a. Below grade – Damp & subject to water infiltration and sewer backup
 - b. No legal means of egress
 - c. Does not comply with ANSI or ADA
 - d. Lacks mechanical systems to maintain adequate air exchange to support ventilation and operation of all building systems.
15. Housekeeping storage
- a. None is provided
16. Data/IT closet
- a. None is provided
17. Sprinkler system
- a. None is provided
18. Generator
- a. None is provided
19. Airlock entry vestibules
- a. None is provided

4.0 Functional Assessment



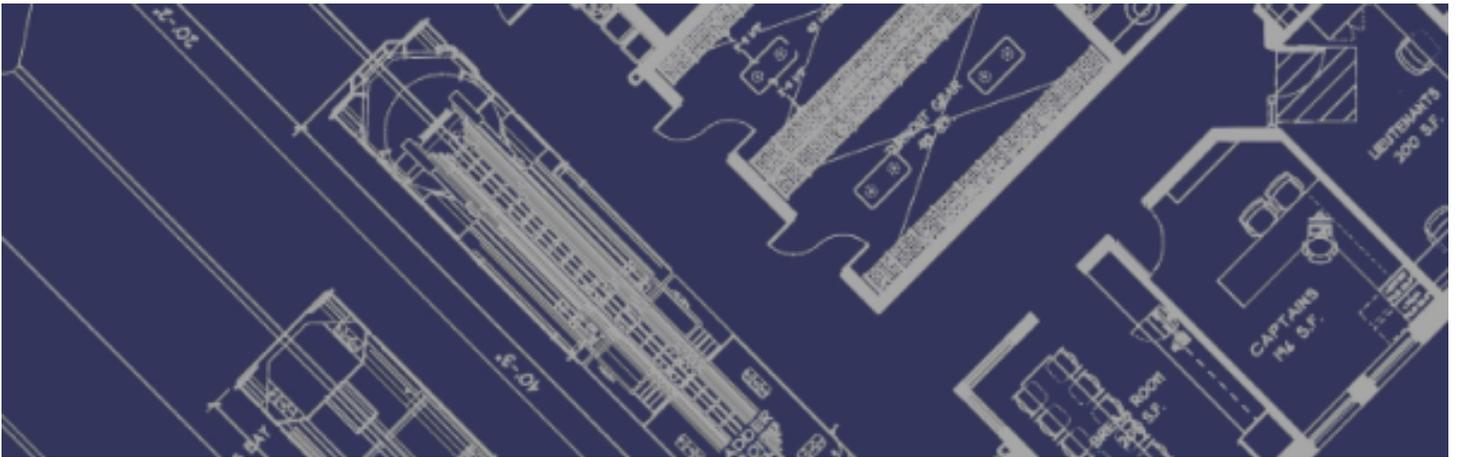
Lewiston Fire Stations Functional Assessment

Sabbatus Street Sub-Station

1. Site
 - a. Inadequate apron depth
 - i. Parked apparatus overhangs sidewalk
 - ii. Back-in procedure exposes personnel to excessive traffic injury risk
 - b. Inadequate parking space
 - i. Congested
 - ii. Cannot accommodate both shifts at shift change
 - iii. Only one guest parking space
 - c. Lot is too small to allow building or parking expansion
2. Apparatus Bay
 - a. Size is too small
 - i. Lacks proper clearance around trucks
 - ii. Cannot assign an additional crew
 - iii. Inadequate clearance between truck and OH door opening
 - iv. Inadequate clearance above truck does not allow personnel to work safely on top of fire truck.
 - b. Miscellaneous
 - i. No proper floor drains with oil/water separator
 - ii. No proper hose reels
 - iii. No piped air to maintain truck brakes
 - iv. Items that should be stored in separate rooms create trip hazards
 - v. Improper coefficient of friction of floor creates slip hazard
 - vi. Lacks second means of egress
 - vii. Lacks CO monitor, alarm & exhaust
 - viii. Lack of clean space to locate beverage vending machine
 - ix. No workbench
 - x. No utility recess to support truck cleaning & maintenance
 - xi. No SCBA cleaning room
 - xii. No "dirty side" janitor's closet
 - xiii. No "dirty side" bathroom
3. Turnout Gear
 - a. No separate, clean space possible
4. Bathroom
 - a. Only one bathroom
 - b. Does not comply with ANSI or ADA
 - c. No gender parity
 - d. No legal means of egress
 - e. Contaminated by proximity to, and traffic from apparatus bay
5. Janitor's closets (requires separate for bay & living)
 - a. None is provided
6. Bedrooms

- a. Lacks isolation from apparatus bay pollutants
 - b. No legal means of egress
 - c. Does not comply with ANSI or ADA
 - d. No proper individual personal property lockers
7. Bunker's Laundry
- a. None is provided
8. Lounge
- a. Serves too many purposes for the size (relaxing, t-v, eating, study, training, officer's desk & computer)
 - b. Lacks isolation from apparatus bay pollutants
 - c. No legal means of egress
 - d. Does not comply with ANSI or ADA
9. Kitchen
- a. Grossly inadequate in all regards
10. Office
- a. None is provided
11. Study Room
- a. None is provided
12. Stair to basement
- a. Does not meet code requirements
13. Exercise
- a. Below grade – Damp & subject to water infiltration
 - b. No legal means of egress
 - c. Does not comply with ANSI or ADA
 - d. ~~Bad air quality~~— Lacks mechanical systems to maintain acceptable environment for elevated rate of metabolism & respiration
14. Mechanical Room
- a. Below grade – Damp & subject to water infiltration
 - b. No legal means of egress
 - c. Does not comply with ANSI or ADA
 - d. Lacks mechanical systems to maintain adequate air exchange to support ventilation and operation of all building systems.
15. Housekeeping storage
- a. None is provided
16. Data/IT closet
- a. None is provided
17. Sprinkler system
- a. None is provided
18. Generator
- a. None is provided
19. Airlock entry vestibules
- a. None is provided

5.0 New vs. Renovation assessment



New vs. Renovation Analysis

Using results of the space needs analysis, property condition assessments, and functional assessment, the following options were reviewed for comparison in a new vs. renovation scenario.

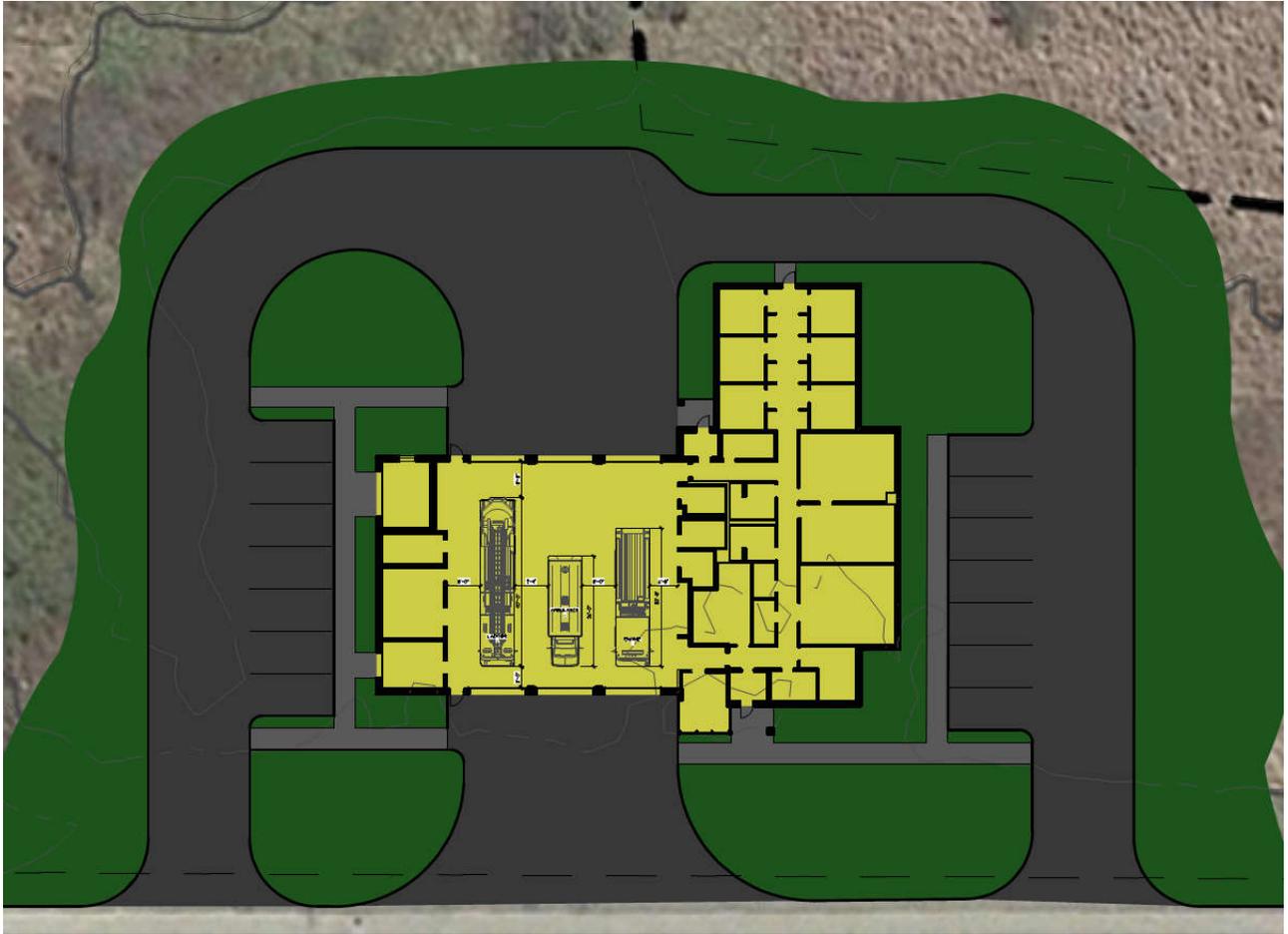
Substation Analysis:

The results of the property condition assessments, space needs assessment, and functional assessment reveal that existing substations are deficient in the following areas:

1. Structural components (roof, walls, floor, etc.) do not meet criteria for a level III critical use facility.
2. Air quality (air change, CO₂, ventilation) is deficient at all substations.
3. Building envelopes do not meet current energy guidelines, and in many cases have enabled infiltration of air and water. This contributes to the poor air quality described above.
4. Existing square footprint of the substations fall below required program area by 50% to 77 %.
5. Current configuration of existing substations (clearances, storage, apparatus bay dimensions) are inadequate for modern firematic operations.
6. There lacks sufficient land area at each substation site to enable expansion to required program area and footprint.
7. Based on the results of the Property condition assessments, it would not be unreasonable to spend between 80% and 94% of the full (new) replacement value of each substation simply to bring it up to current code compliance, without any expanded area or proper reconfiguration of space to meet current program demands.

Conclusion: Given the existing site restrictions and inability of the existing building to physically meet current construction quality or configuration, it was determined that expansion of the existing facility and (replacement in place) of the existing space was not feasible. This report recommends that a new substation be constructed on a new site while the existing substation remains occupied and functioning at its current capacity.

It is recommended that new substation site selection take into consideration a favorable location that meets current response time expectations, and is reasonably within proximity to the existing substation location being replaced. This provides the City the opportunity to explore multiple site options, avoiding the economics of being forced to acquire adjacent land that may or may not be listed or available for a reasonable cost.



New substation on new site



Concept elevation

Based on the findings above, it is recommended that the City allocate roughly \$3.85M to \$4.85M for a new substation containing between 7,953 and 10,546 SF of gross program area, on a parcel of approximately 1.1 (useable) acres, with escalation considering construction starting within one year of the date of this report. *Please note that the zoning restrictions (lot coverage, setbacks, etc.) could require a lot size of up to 6.2 acres (Resource Conservation District).*

It is further recommended that the site selection take into account the potential for future building expansion.

(Section 5.3 contains a breakout of opinions of probable cost for development of a new substation using a prototypical approach at each location. The siting and site selection of the substation parcels is outside the scope of this study.)

Central Station Analysis:

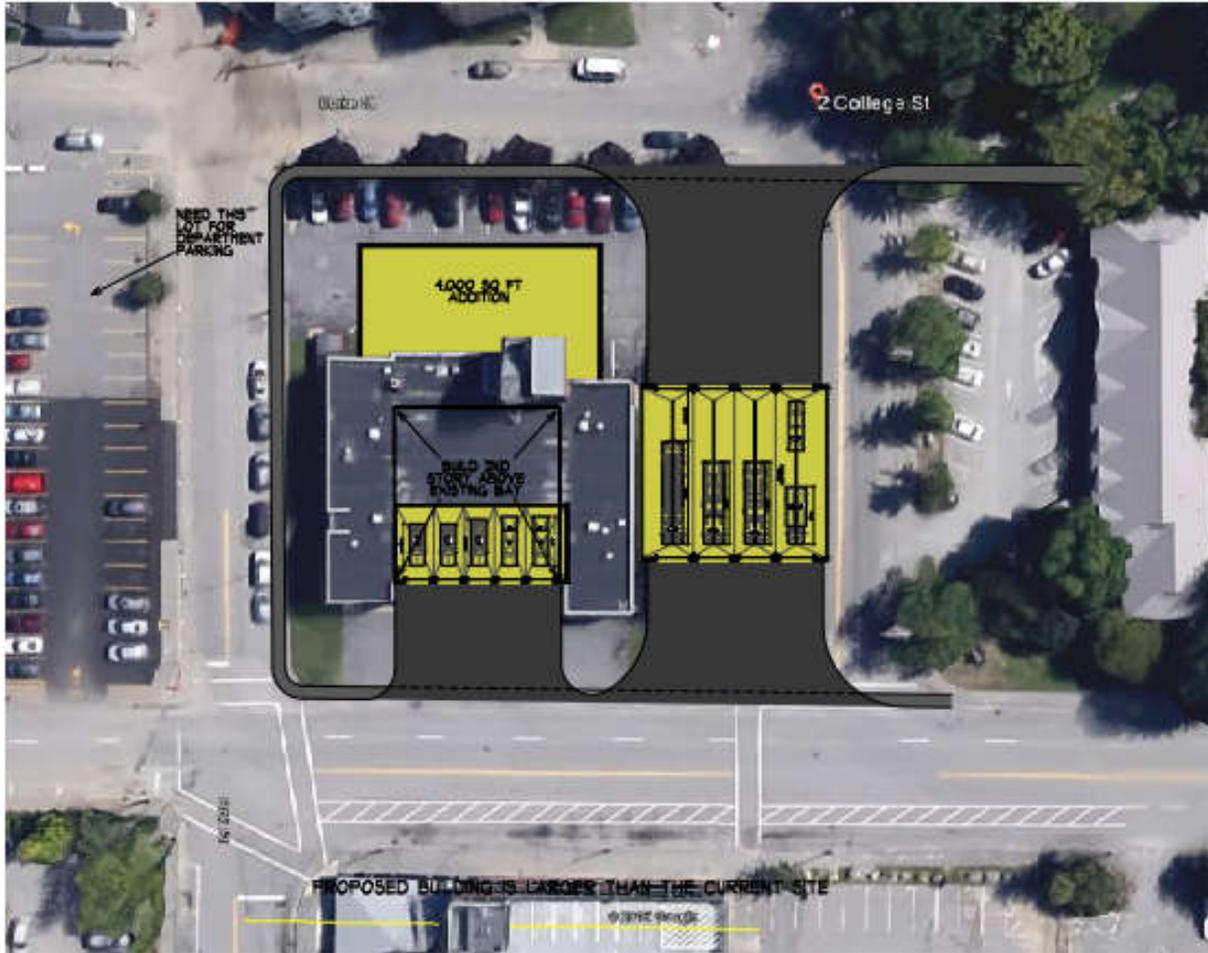
The results of the property condition assessments, space needs assessment, and functional assessment reveal that the existing central station is deficient in the following areas:

1. Structural components (roof, walls, floor) do not meet criteria for a level III critical use facility.
2. Air quality (air change, CO2, ventilation) is deficient.
3. Building envelope performs significantly below current energy guidelines, and in many cases has enabled infiltration of air and water (condensation, etc.). This is a contributor to the poor air quality described above.
4. Existing useable square footprint of the station building falls below required program area by 35%, with gross square footage falling below by 11% (including basement area occupied by non-firematic operations).
5. Current configuration of existing station (clearances, storage, apparatus bay dimensions) are inadequate for modern firematic operations.
6. There lacks sufficient land area at the existing station site to enable expansion to required program area and footprint.
7. Based on the results of the Central Station Property condition assessment, it would not be unreasonable to spend upwards of 77% of the full (new) replacement value simply to bring it up to current code compliance, without any expanded area or proper reconfiguration of space to meet current program demands.
8. Unlike the substations which could be closed during construction if adequate coverage is provided from remaining operable substations, closure of the Central Station without a new temporary operating facility would negatively impact the City's firematic response capabilities.

Conclusion: Given the existing site restrictions and inability of the existing building to physically meet current construction quality or configuration, it was determined that expansion/renovation of the existing facility in phases, or replacement by construction of a new station on a new site were the only two feasible options permitting ongoing operations to continue. This report recommends that a new station be constructed on a new site while the existing station remains occupied and functioning at its current capacity. It is recommended that new station site selection take into consideration an equally favorable "central" location to the existing location while continuing to meet response time expectations.



New station situated on new site



Expansion/renovation illustrated at existing site



Concept elevation

Based on the findings above, it is recommended that the City allocate roughly \$11.6M for a new station or \$14.2M for phased addition/renovation containing 29,314 SF of gross program area, on a parcel of approximately 2.0 (useable) acres, with escalation considering construction starting within one year of the date of this report. *Please note that the zoning restrictions (lot coverage, setbacks, etc.) could require a lot size of up to 2.4 acres (Riverfront District).*

It is further recommended that the site selection take into account the potential for future building expansion.

(Section 5.3 contains a breakout of opinions of probable cost for development of a new or phased expanded/renovated station. The siting and site selection of the new station parcel(s) is outside the scope of this study. The site illustrations used for the expansion/renovation option was developed simply to inform the opinion of probable cost, and should not be considered a recommendation for parcel acquisition.

City Of Lewiston - New Central Station27 Pine Street
Lewiston, ME 04240

		Ft ²	\$\$ per ft ²		TOTAL
A	CONSTRUCTION COSTS				
1	New Construction - Single Phase	29,314	\$ 222.00	\$	6,507,708
2	Demolition and Removal - Salvage Minimal			Lump Sum Estimate	45,000
3	Site Development	<u>15%</u>		Lump Sum Estimate	1,400,000
4	Escalation (1 year)	<u>4%</u>			318,108
5	Design Contingency	<u>10%</u>		Lump Sum Estimate	795,271
Subtotal Section A				\$	9,066,087
				cost/SF	\$309.27
B	ADMINISTRATIVE COST & RESERVE				
6	Land Acquisition (assumed equal to sale of existing bldg and property)			\$	-
7	Moveable Equipment			6.0%	390,462
8	Technology			3.0%	195,231
9	Advertising / Insurance / Legal			Lump Sum Estimate	5,000
10	Bid Contingency			5.0%	453,304
11	Construction Contingency			5.0%	453,304
Subtotal Section B				\$	1,497,302
C	FEES AND SERVICES				
12	Architect/Engineer - Schematic Design thru Construction Admin. (\$9-15M)			9.5% \$	861,278
13	A/E Reimbursable			Lump Sum Estimate	15,000
14	Fire Marshall Permits			Lump Sum Estimate	3,000
15	Topo and Utility Survey			Lump Sum Estimate	7,500
16	Geo-tech and Materials Testing			Lump Sum Estimate	25,000
17	Special Structural Inspections per Chapter 17 of the IBC			Lump Sum Estimate	12,000
18	Utility Connection Fee			Lump Sum Estimate	55,000
19	Commissioning Agent			Lump Sum Estimate	55,000
Subtotal Section C				\$	1,033,778
D	TOTAL OF Sections A, B, and C				\$11,597,168
				cost/SF	\$395.62



City Of Lewiston - Add/Reno Central Station

27 Pine Street
Lewiston, ME 04240



TOTAL

A CONSTRUCTION COSTS		Ft ²	\$\$ per ft ²		
1a	New/Infill Construction - Phased/ Occupied	9,457	\$ 247.00	\$	2,335,879
1b	Renovation Construction - Phased/ Occupied	19,866	\$ 247.00	\$	4,906,902
2	Selective Demolition and Removal - Phased	19,866	\$ 25.00		498,650
3	Site Development	<u>12%</u>		Lump Sum Estimate	1,250,000
4	Escalation (1 year)	<u>4%</u>			359,577
5	Design Contingency	<u>10%</u>		Lump Sum Estimate	898,943
Subtotal Section A				\$	10,247,951
				cost/SF	\$349.49
B ADMINISTRATIVE COST & RESERVE					
6	Land Acquisition, Street closure, traffic & utility relocation costs			Allowance	\$ 900,000
7	Moveable Equipment			LS	390,000
8	Technology			LS	195,000
9	Advertising / Insurance / Legal			Lump Sum Estimate	5,000
10	Bid Contingency			5.0%	512,398
11	Construction Contingency			5.0%	512,398
Subtotal Section B				\$	2,514,795
C FEES AND SERVICES					
12a	Architect/Engineer - Schematic Design thru Construction Admin. - New (\$9-15M)			9.5%	\$ 973,555
12b	Architect/Engineer - Schematic Design thru Construction Admin. - Reno (\$9-15M)			3.0%	\$ 307,439
13	A/E Reimbursable			Lump Sum Estimate	15,000
14	Fire Marshall Permits			Lump Sum Estimate	3,000
15	Topo and Utility Survey			Lump Sum Estimate	7,500
16	Geo-tech and Materials Testing			Lump Sum Estimate	25,000
17	Special Structural Inspections per Chapter 17 of the IBC			Lump Sum Estimate	12,000
18	Utility Connection Fee			Lump Sum Estimate	55,000
19	Commissioning Agent			Lump Sum Estimate	55,000
Subtotal Section C				\$	1,453,494
D TOTAL OF Sections A, B, and C					\$14,216,240
				cost/SF	\$484.82



City Of Lewiston - New Sub-Station (2Bay)

27 Pine Street
Lewiston, ME 04240



				TOTAL
A	CONSTRUCTION COSTS	Ft ²	\$\$ per ft ²	
1	New Construction - Single phase	7,953	\$ 265.00	\$ 2,107,545
2	Demolition and Removal		Lump Sum Estimate	45,000
3	Site Development	<u>16%</u>	Lump Sum Estimate	475,000
4	Escalation (1 year)	<u>4%</u>		105,102
5	Design Contingency	<u>10%</u>	Lump Sum Estimate	262,755
Subtotal Section A				\$ 2,995,401
				cost/SF \$376.64
B	ADMINISTRATIVE COST & RESERVE			
6	Land (assumed equal to sale of existing building and property)			\$ -
7	Moveable Equipment		6.0%	126,453
8	Technology		3.0%	63,226
9	Advertising / Insurance / Legal		Lump Sum Estimate	5,000
10	Bid Contingency		5.0%	149,770
11	Construction Contingency		5.0%	149,770
Subtotal Section B				\$ 494,219
C	FEES AND SERVICES			
12	Architect/Engineer - Schematic Design thru Construction Admin.* (\$2.0-4.0M)		9.5%	\$ 284,563
13	A/E Reimbursable		Lump Sum Estimate	7,500
14	Fire Marshall Permits		Lump Sum Estimate	1,000
15	Topo and Utility Survey		Lump Sum Estimate	7,500
16	Geo-tech and Materials Testing		Lump Sum Estimate	15,000
17	Special Structural Inspections per Chapter 17 of the IBC		Lump Sum Estimate	6,000
18	Utility Connection Fee		Lump Sum Estimate	30,000
19	Commissioning Agent		Lump Sum Estimate	12,500
Subtotal Section C				\$ 364,063
D	TOTAL OF Sections A, B, and C			\$3,853,684
				cost/SF \$484.56



* Fee is likely to decrease if prototypical station design is used multiple times

City Of Lewiston - New Sub-Station (3Bay)

27 Pine Street
Lewiston, ME 04240



				TOTAL
A	CONSTRUCTION COSTS	Ft ²	\$\$ per ft ²	
1	New Construction - Single phase	8,519	\$ 265.00	\$ 2,257,535
2	Demolition and Removal		Lump Sum Estimate	45,000
3	Site Development	<u>15%</u>	Lump Sum Estimate	475,000
4	Escalation (1 year)	<u>4%</u>		111,101
5	Design Contingency	<u>10%</u>	Lump Sum Estimate	277,754
Subtotal Section A				\$ 3,166,390
				cost/SF \$371.69
B	ADMINISTRATIVE COST & RESERVE			
6	Land (assumed equal to sale of existing building and property)			\$ -
7	Moveable Equipment		6.0%	135,452
8	Technology		3.0%	67,726
9	Advertising / Insurance / Legal		Lump Sum Estimate	5,000
10	Bid Contingency		5.0%	158,319
11	Construction Contingency		5.0%	158,319
Subtotal Section B				\$ 524,817
C	FEES AND SERVICES			
12	Architect/Engineer - Schematic Design thru Construction Admin.* (\$2.0-4.0M)		9.5%	\$ 300,807
13	A/E Reimbursable		Lump Sum Estimate	7,500
14	Fire Marshall Permits		Lump Sum Estimate	1,000
15	Topo and Utility Survey		Lump Sum Estimate	7,500
16	Geo-tech and Materials Testing		Lump Sum Estimate	15,000
17	Special Structural Inspections per Chapter 17 of the IBC		Lump Sum Estimate	6,000
18	Utility Connection Fee		Lump Sum Estimate	30,000
19	Commissioning Agent		Lump Sum Estimate	12,500
Subtotal Section C				\$ 380,307
D	TOTAL OF Sections A, B, and C			\$4,071,514
				cost/SF \$477.93



* Fee is likely to decrease if prototypical station design is used multiple times

City Of Lewiston - New Sub-Station (3Bay with Yard Storage)

27 Pine Street
Lewiston, ME 04240



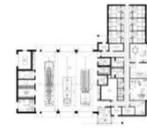
		Ft ²	\$\$ per ft ²		TOTAL
A	CONSTRUCTION COSTS				
1	New Construction - Single phase	8,657	\$ 265.00	\$	2,294,105
2	Demolition and Removal			Lump Sum Estimate	45,000
3	Site Development		<u>15%</u>	Lump Sum Estimate	475,000
4	Escalation (1 year)		<u>4%</u>		112,564
5	Design Contingency		<u>10%</u>	Lump Sum Estimate	281,411
Subtotal Section A				\$	3,208,080
				cost/SF	\$370.58
B	ADMINISTRATIVE COST & RESERVE				
6	Land (assumed equal to sale of existing building and property)			\$	-
7	Moveable Equipment			6.0%	137,646
8	Technology			3.0%	68,823
9	Advertising / Insurance / Legal			Lump Sum Estimate	5,000
10	Bid Contingency			5.0%	160,404
11	Construction Contingency			5.0%	160,404
Subtotal Section B				\$	532,277
C	FEES AND SERVICES				
12	Architect/Engineer - Schematic Design thru Construction Admin.* (\$2.0-4.0M)			9.5% \$	304,768
13	A/E Reimbursable			Lump Sum Estimate	7,500
14	Fire Marshall Permits			Lump Sum Estimate	1,000
15	Topo and Utility Survey			Lump Sum Estimate	7,500
16	Geo-tech and Materials Testing			Lump Sum Estimate	15,000
17	Special Structural Inspections per Chapter 17 of the IBC			Lump Sum Estimate	6,000
18	Utility Connection Fee			Lump Sum Estimate	30,000
19	Commissioning Agent			Lump Sum Estimate	12,500
Subtotal Section C				\$	384,268
D	TOTAL OF Sections A, B, and C				\$4,124,625
				cost/SF	\$476.45



* Fee is likely to decrease if prototypical station design is used multiple times

City Of Lewiston - New Sub-Station (3Bay w/ Mechanics storage)

27 Pine Street
Lewiston, ME 04240

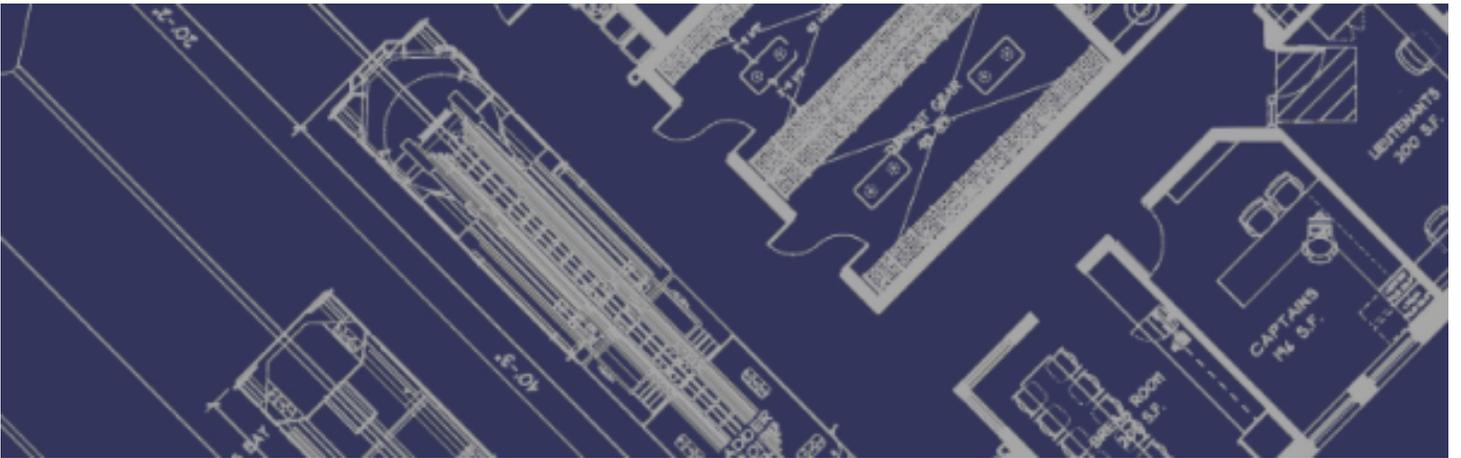


		Ft ²	\$\$ per ft ²		TOTAL
A	CONSTRUCTION COSTS				
1	New Construction - Single phase	10,546	\$ 265.00	\$	2,794,690
2	Demolition and Removal			Lump Sum Estimate	45,000
3	Site Development	<u>13%</u>		Lump Sum Estimate	475,000
4	Escalation (1 year)	<u>4%</u>			132,588
5	Design Contingency	<u>10%</u>		Lump Sum Estimate	331,469
Subtotal Section A				\$	3,778,747
				cost/SF	\$358.31
B	ADMINISTRATIVE COST & RESERVE				
6	Land (assumed equal to sale of existing building and property)			\$	-
7	Moveable Equipment			6.0%	167,681
8	Technology			3.0%	83,841
9	Advertising / Insurance / Legal			Lump Sum Estimate	5,000
10	Bid Contingency			5.0%	188,937
11	Construction Contingency			5.0%	188,937
Subtotal Section B				\$	634,397
C	FEES AND SERVICES				
12	Architect/Engineer - Schematic Design thru Construction Admin.* (\$2.0-4.0M)			9.5% \$	358,981
13	A/E Reimbursable			Lump Sum Estimate	7,500
14	Fire Marshall Permits			Lump Sum Estimate	1,000
15	Topo and Utility Survey			Lump Sum Estimate	7,500
16	Geo-tech and Materials Testing			Lump Sum Estimate	15,000
17	Special Structural Inspections per Chapter 17 of the IBC			Lump Sum Estimate	6,000
18	Utility Connection Fee			Lump Sum Estimate	30,000
19	Commissioning Agent			Lump Sum Estimate	12,500
Subtotal Section C				\$	438,481
D	TOTAL OF Sections A, B, and C				\$4,851,624
				cost/SF	\$460.04



* Fee is likely to decrease if prototypical station design is used multiple times

6.0 Concept Design





PROPOSED FIRE HEADQUARTERS
SCALE: NOT AT SCALE

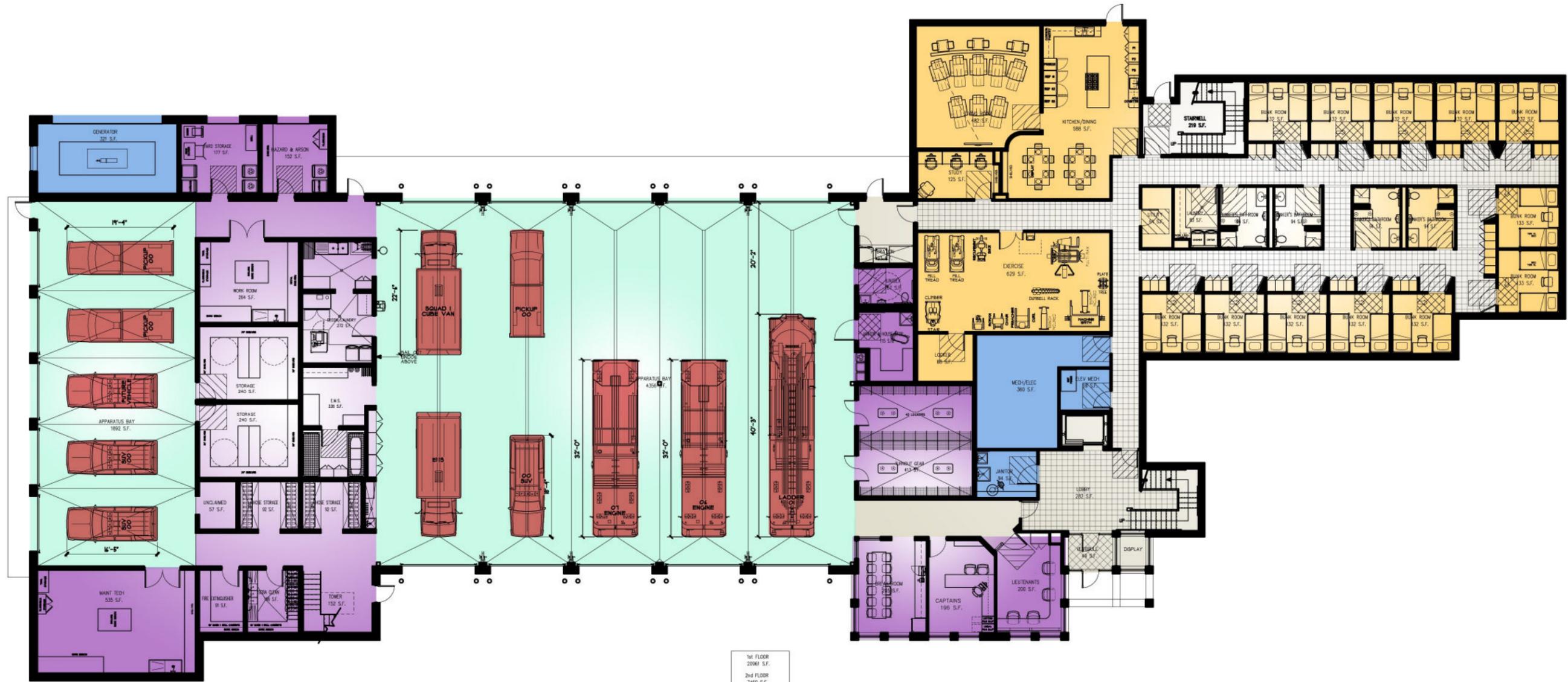
Scale: AS SHOWN

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Fire Station Study

City of Lewiston, Maine





1st FLOOR
20961 S.F.
2nd FLOOR
7460 S.F.
WEZZANNE & STAIR
1032 S.F.
TOTAL BUILDING
29453 S.F.

HEADQUARTERS
FIRST FLOOR PLAN
SCALE: 1" = 20'

Scale: AS SHOWN

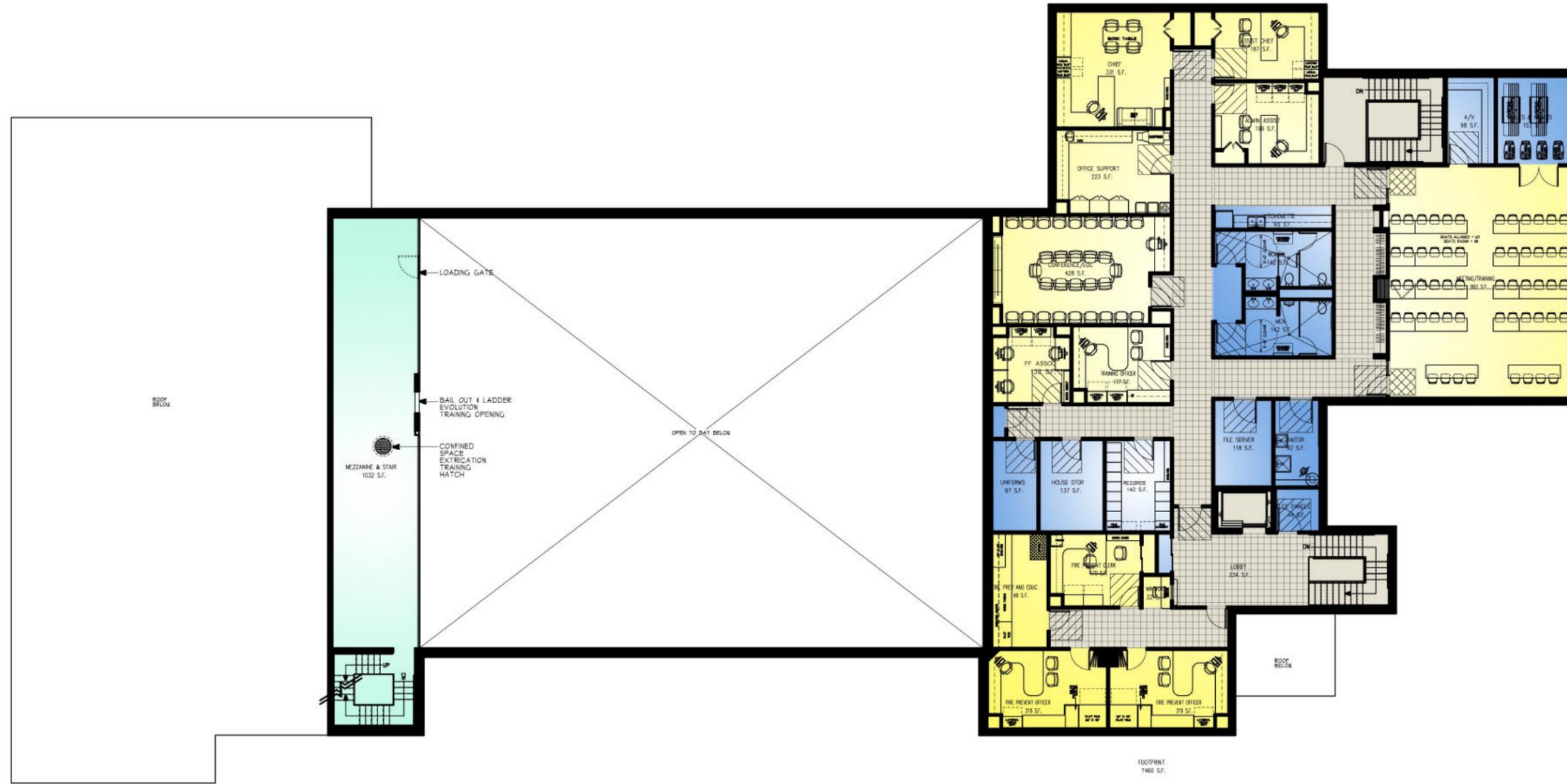
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Fire Station Study

City of Lewiston, Maine



WBRC
Architects • Engineers
Bangor Portland Sarasota



HEADQUARTERS
 SECOND FLOOR PLAN
 SCALE: 1" = 20'

Scale: AS SHOWN

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Fire Station Study

City of Lewiston, Maine

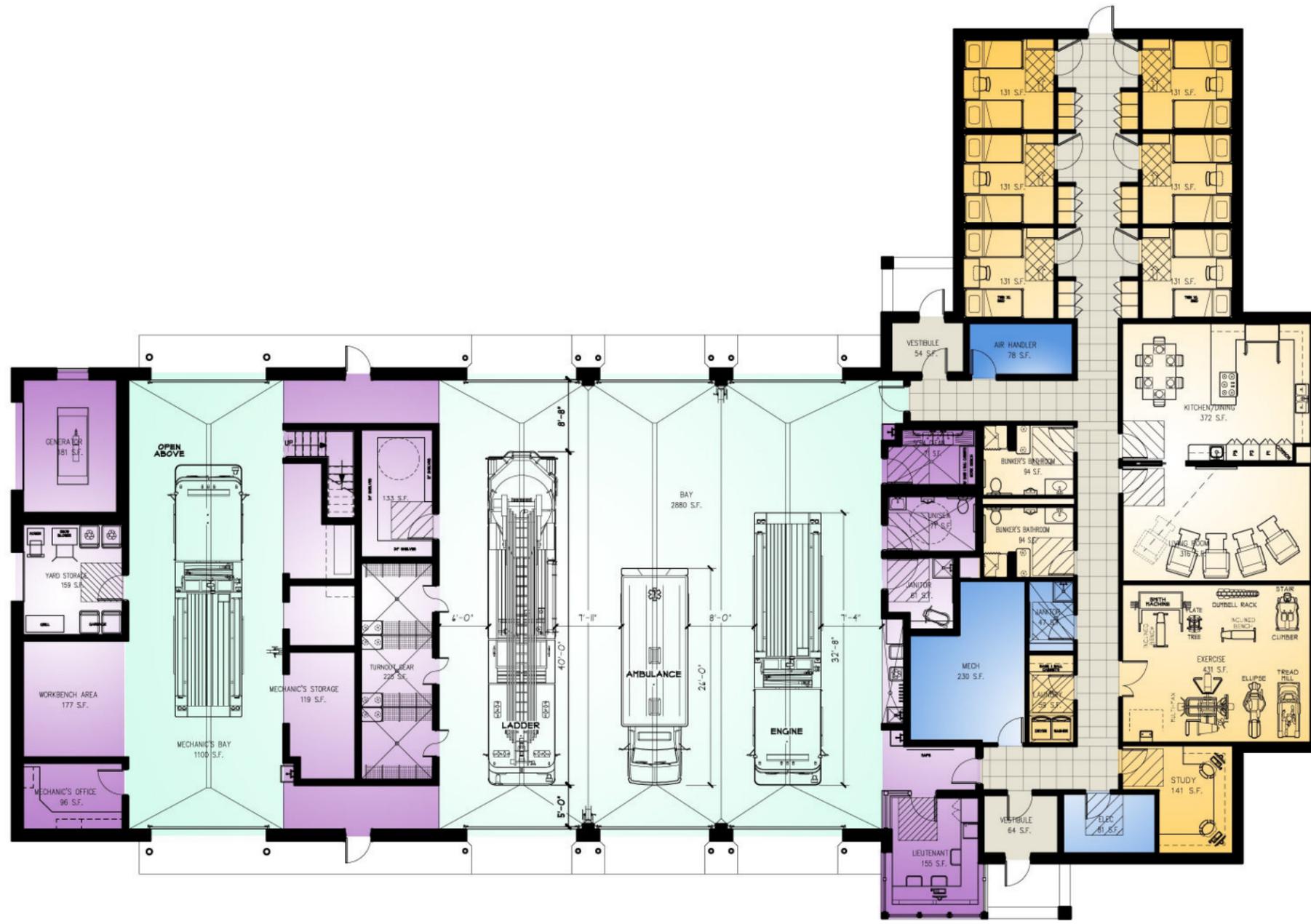


Bangor Portland Sarasota





SUBSTATION
3 BAY STATION FLOOR PLAN
 SCALE: 1/16" = 1'-0"



FOOTPRINT
10546 S.F.

SUBSTATION
3 BAY STATION W/ MECHANICAL BAY
SCALE: 1/16" = 1'-0"

Scale: AS SHOWN

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Fire Station Study

City of Lewiston, Maine



WBRC
Architects • Engineers
Bangor Portland Sarasota

Lewiston Central Fire Station: The optimal parcel for the proposed Central Fire Station is a 210' x 420' rectangular parcel approximately 2 acres in size, with the long edges of the parcel fronting on a public two-way street. The parcel should be centrally located in one of the zoning districts identified in Table 1. The proposed building footprint is approximately 26,000 SF, the proposed floor area is approximately 29,000 SF, and the required impervious surface is approximately 52,000 SF. Due to the lot coverage standard in the Riverfront district, lot size would have to be at least 2.39 acres. Site must be served by municipal water with adequate fire protection water pressure, municipal wastewater disposal, three-phase electrical service and natural gas service.

Table 1. Allowable zoning districts for the Central Fire Station

District	Municipal Buildings & Facilities	Height	Lot Coverage (Max.)	Min. Lot Size per Lot Coverage Standard (acres)	Impervious Surface Ratio (Max.)	Min. Lot Size per Impervious Surface Ratio Standard (acres)
Riverfront	Permitted	75' max.	0.25	2.39	0.75	1.57
Neighborhood Conservation B	Conditional	65' max.	0.65	0.92	0.85	1.38
Downtown Residential	Permitted	60' max.	--	--	0.75	1.57
Institutional Office	Conditional	75' max.	0.75	0.80	0.75	1.57
Highway Business	Permitted	65' max.	0.50	1.19	0.75	1.57
Centreville	Permitted	20' min. height/ 150' max.	1.00	0.60	1.00	1.18
Office Service	Permitted	75' max.	0.50	1.19	0.75	1.57
Industrial	Permitted	100' max.	0.75	0.80	0.75	1.57
Urban Enterprise	Permitted	80' max.	0.60	1.00	0.80	1.47
Mill	Permitted	100' max.	1.00	0.60	0.90	1.31



**MITCHELL
ASSOCIATES
ARCHITECTS**

LEWISTON FIRE HQ

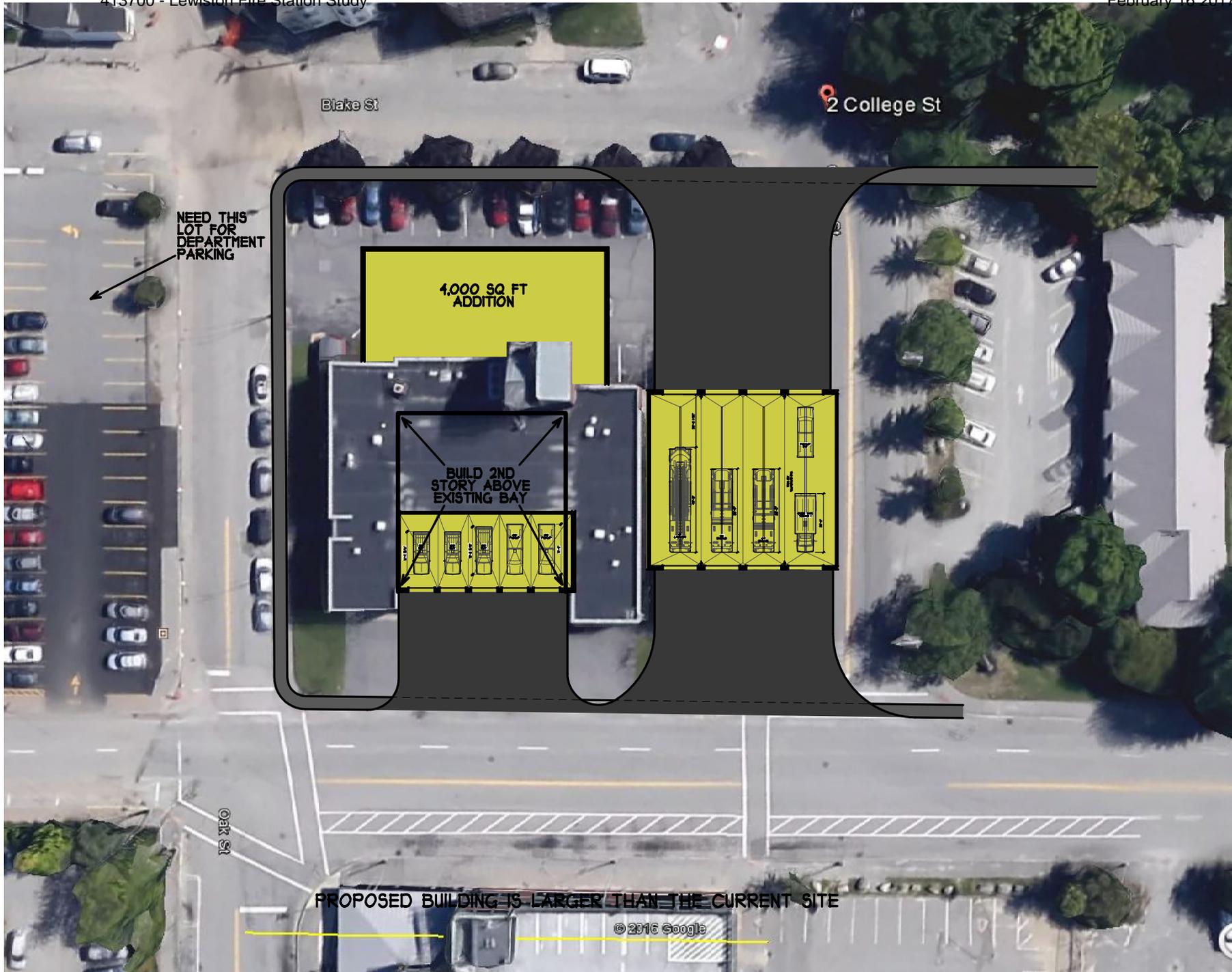
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DATE: 12/14/2016

03

S:\J Drive\Lewiston\HQ\Sites\HQ Site 2

SITE#



Scale: AS SHOWN

© December 2016

Fire Station Study

City of Lewiston, Maine





PROPOSED BUILDING IS LARGER THAN THE CURRENT SITE



**MITCHELL
ASSOCIATES
ARCHITECTS**

LEWISTON FIRE HQ

SCALE: 1:50

DATE: 12/14/2016

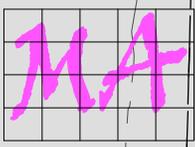
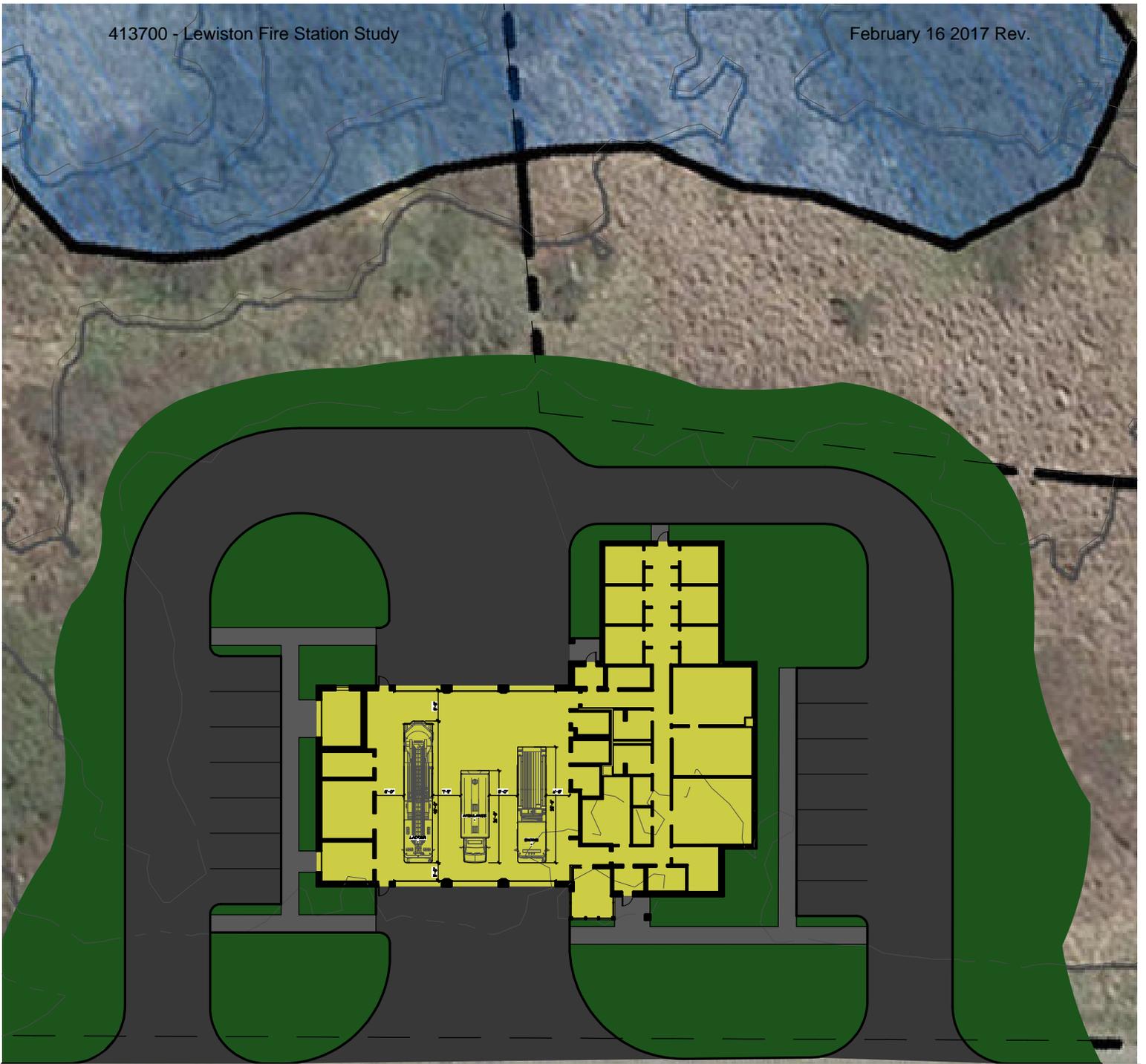
S:\V Drive\Lewiston\HQ\Sites\Existing HQ Site

SITE#

Lewiston Fire Sub-Stations: The optimal parcel for the proposed Sub-stations is a 180' x 260' rectangular parcel approximately 1.1 acres in size, with the long edge of the parcel fronting on a public two-way street. The proposed sub-stations are permitted or conditional uses in all of the City's zoning districts (see Table 2). The parcel should be appropriately located within the portion of the City being served to provide the shortest possible response time. The proposed building footprint and floor area is approximately 8500 SF, and the required impervious surface is approximately 27,000 SF. Due to the lot coverage standard in the Rural Agricultural district, lot size would have to be at least 1.30 acres. Due to the impervious surface ratio standard in the Resource Conservation district, lot size would have to be at least 6.20 acres. Site must be served by municipal water with adequate fire protection water pressure, municipal wastewater disposal, three-phase electrical service and natural gas service. If the parcel is located in the Jepson Brook or Dill Brook watersheds, a stormwater permit from the Maine Department of Environmental Protection will be required, which may require additional area.

Table 2. Allowable zoning districts for the Sub-stations

District	Municipal Buildings & Facilities	Lot Coverage (Max.)	Min. Lot Size per Lot Coverage Standard (acres)	Impervious Surface Ratio (Max.)	Min. Lot Size per Impervious Surface Ratio Standard (acres)
Rural Agricultural	Conditional	0.15	1.30	--	--
Low Density Residential	Conditional	0.30	0.65	--	--
Suburban Residential	Conditional	0.20	0.98	--	--
Medium Density Residential	Conditional	0.30	0.65	--	--
Riverfront	Permitted	0.25	0.78	0.75	0.83
Neighborhood Conservation A	Conditional	0.40	0.49	--	--
Neighborhood Conservation B	Conditional	0.65	0.30	0.85	0.73
Office Residential	Conditional	0.30	0.65	0.60	1.03
Downtown Residential	Permitted	--	--	0.75	0.83
Institutional Office	Conditional	0.75	0.26	0.75	0.83
Community Business	Permitted	0.50	0.39	0.75	0.83
Highway Business	Permitted	0.50	0.39	0.75	0.83
Centreville	Permitted	1.00	0.20	1.00	0.62
Office Service	Permitted	0.50	0.39	0.75	0.83
Industrial	Permitted	0.75	0.26	0.75	0.83
Urban Enterprise	Permitted	0.60	0.33	0.80	0.77
Mill	Permitted	1.00	0.20	0.90	0.69
Resource Conservation	Conditional	0.10	1.95	0.10	6.20



**MITCHELL
ASSOCIATES
ARCHITECTS**

LEWISTON FIRE SUBSTATION

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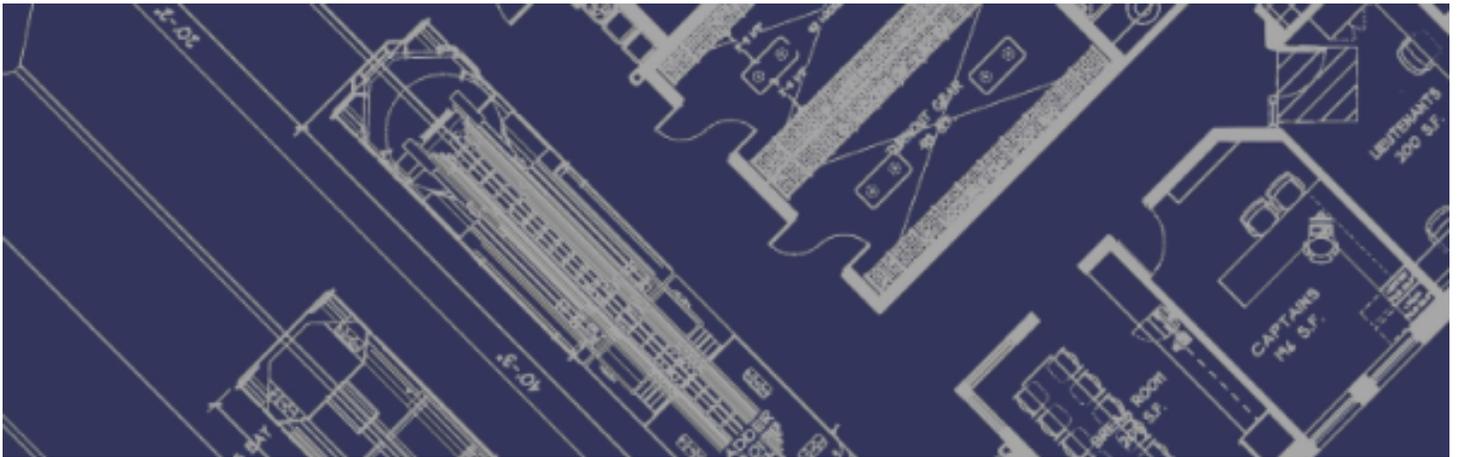
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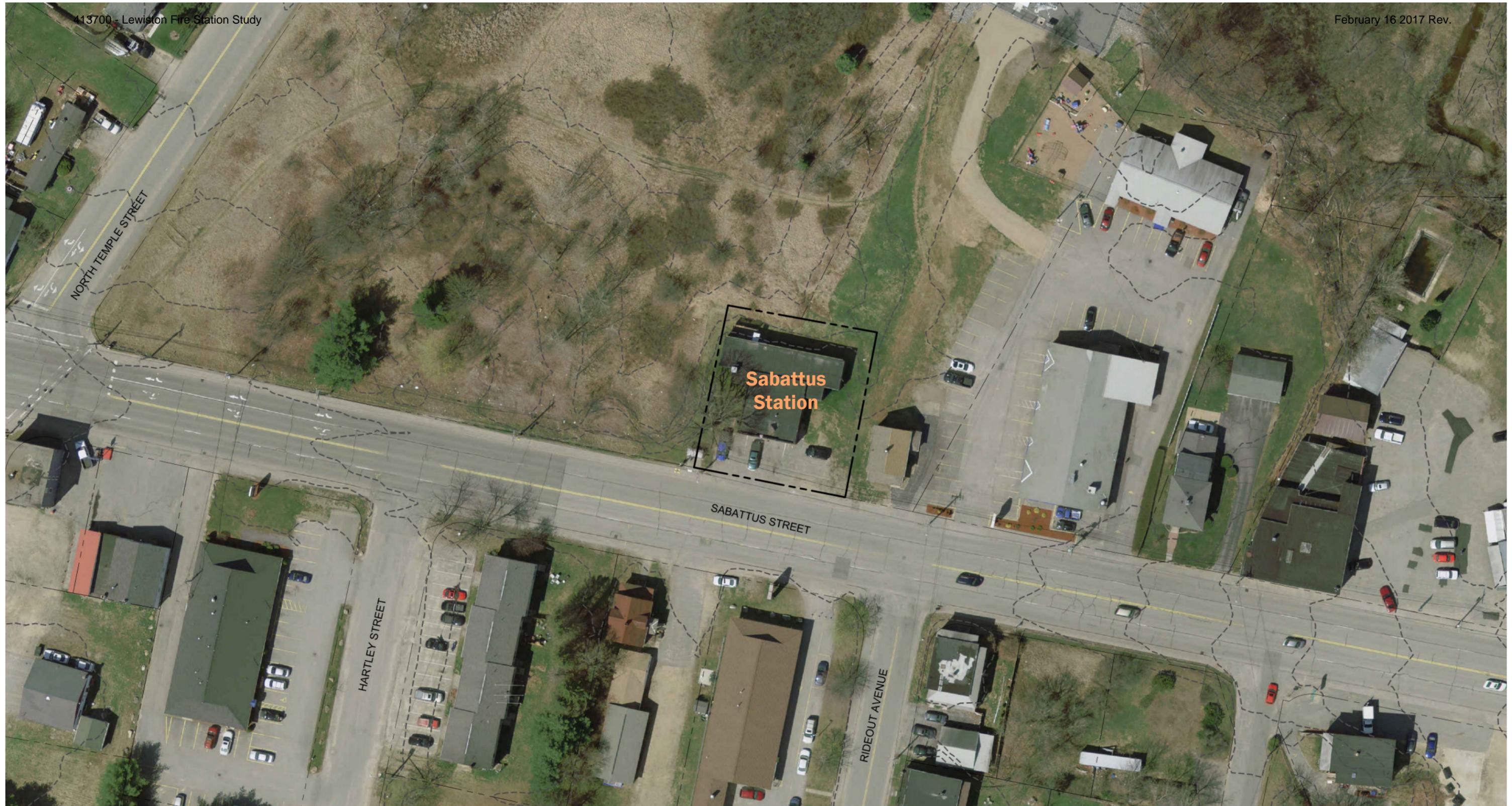
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SITE#

Appendix A - Existing Site Plans



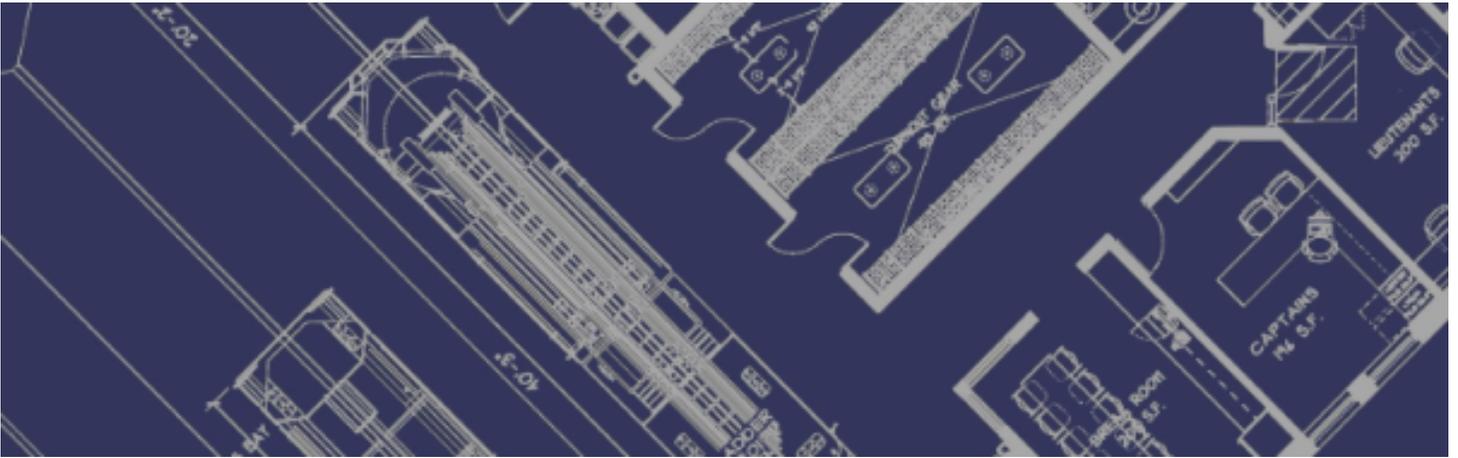








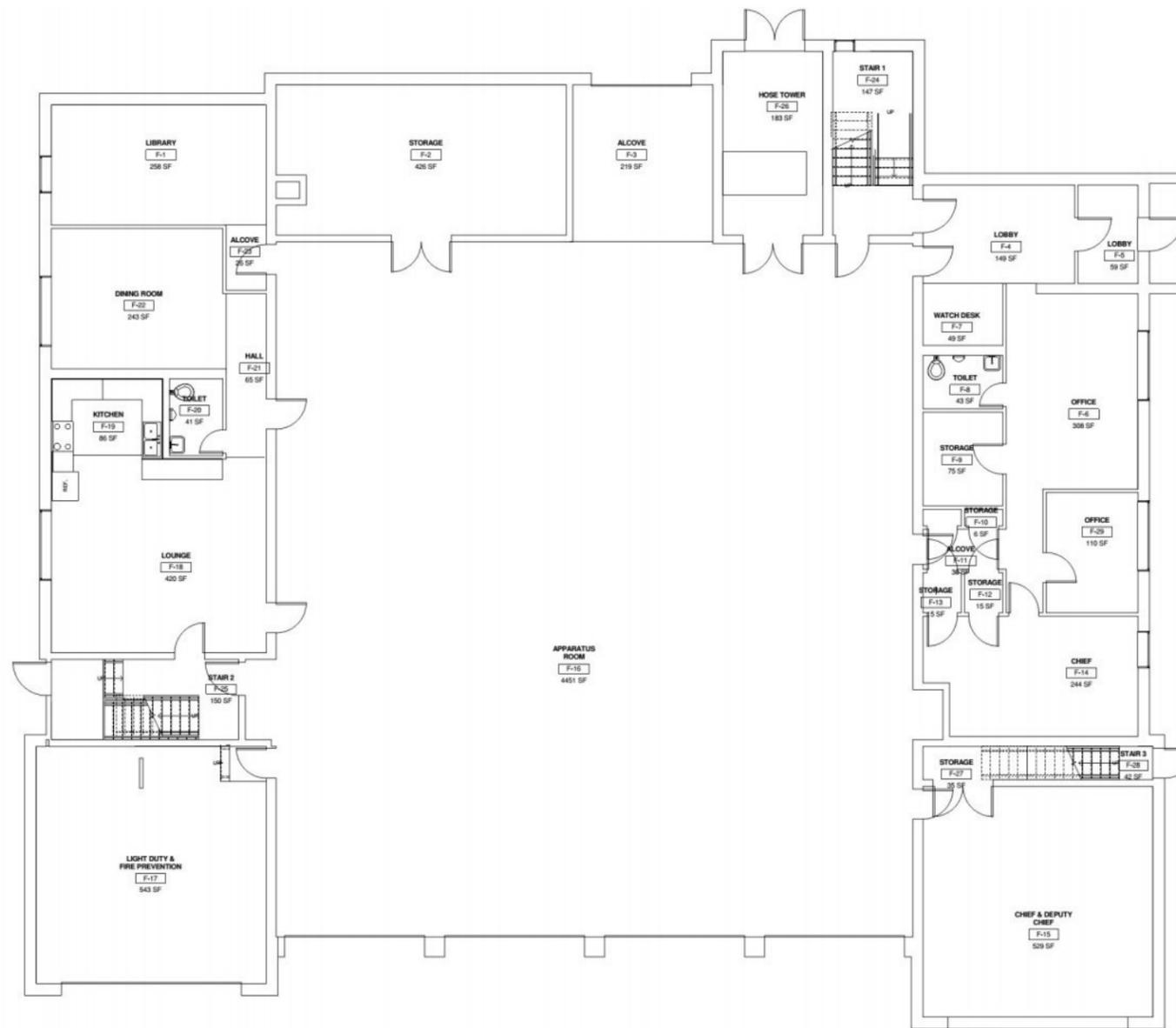
Appendix B - Existing Building Plans





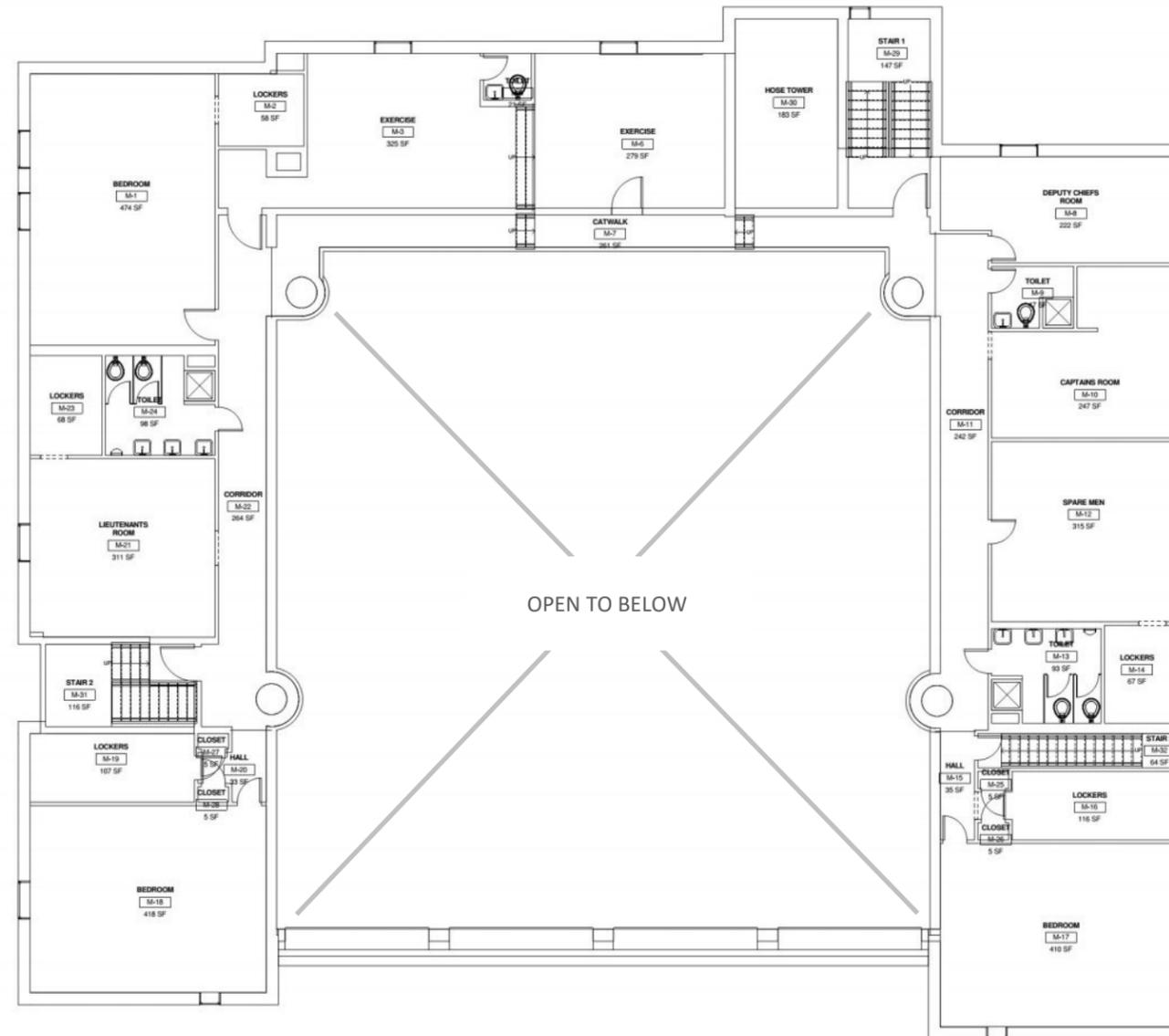
Basement Floor Plan





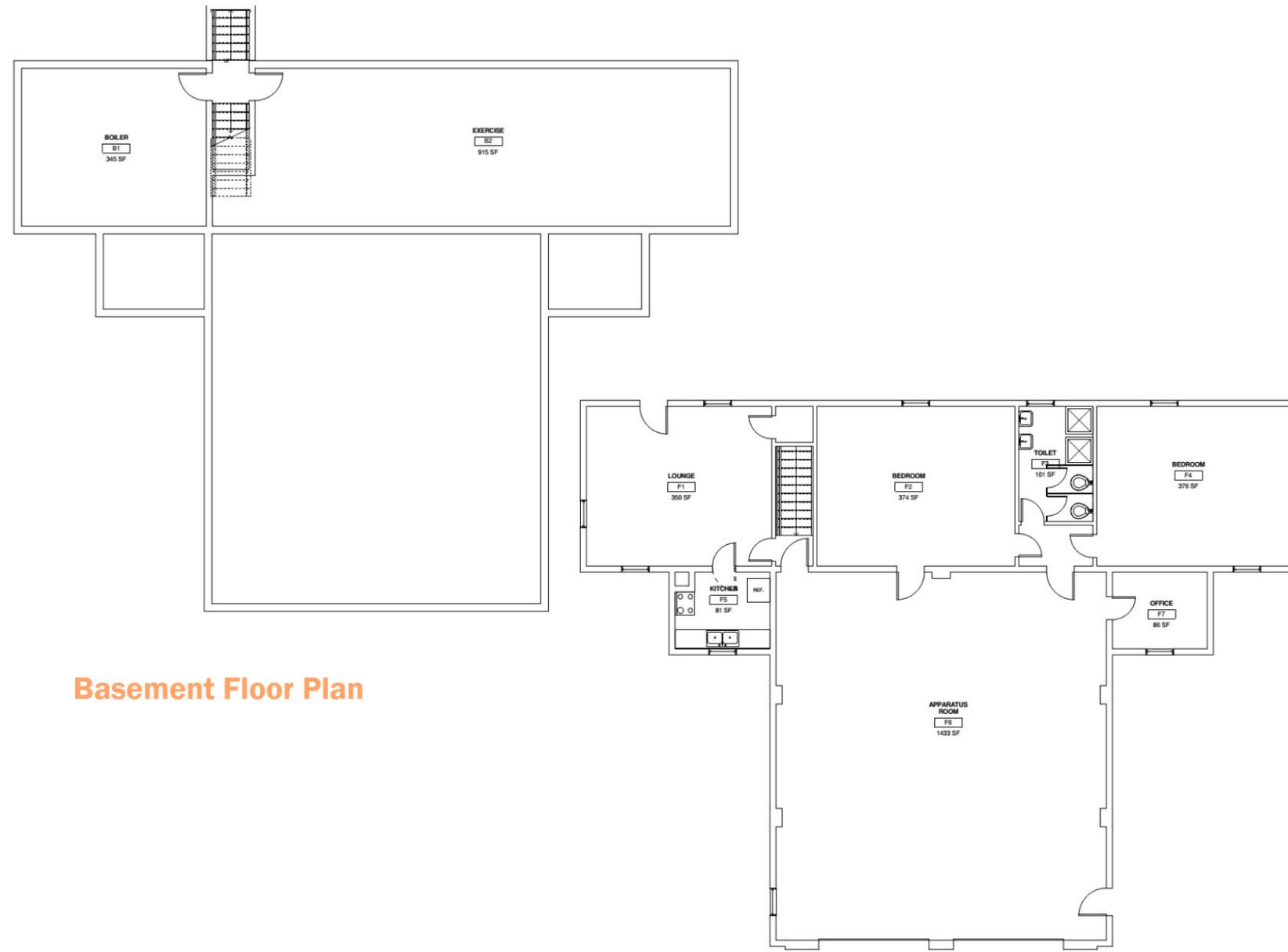
First Floor Plan





Second Floor Plan





Basement Floor Plan

First Floor Plan

Sabattus Street Substation - Existing Floor Plans

Fire Station Study

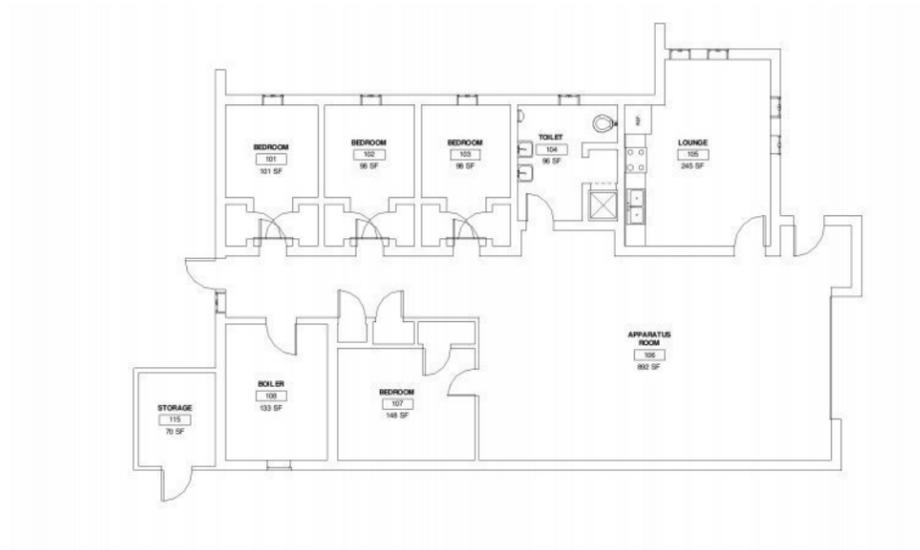
City of Lewiston, Maine

Scale: 1/16" = 1'

drawn by:
CEL

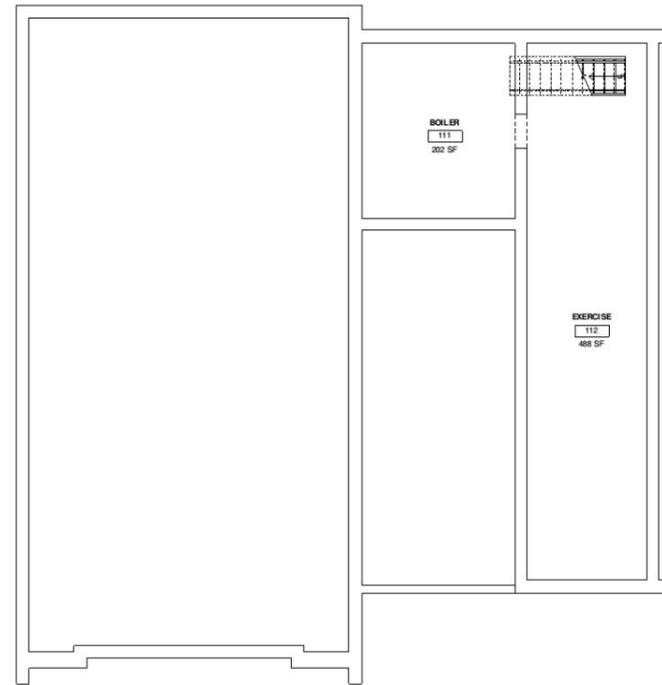
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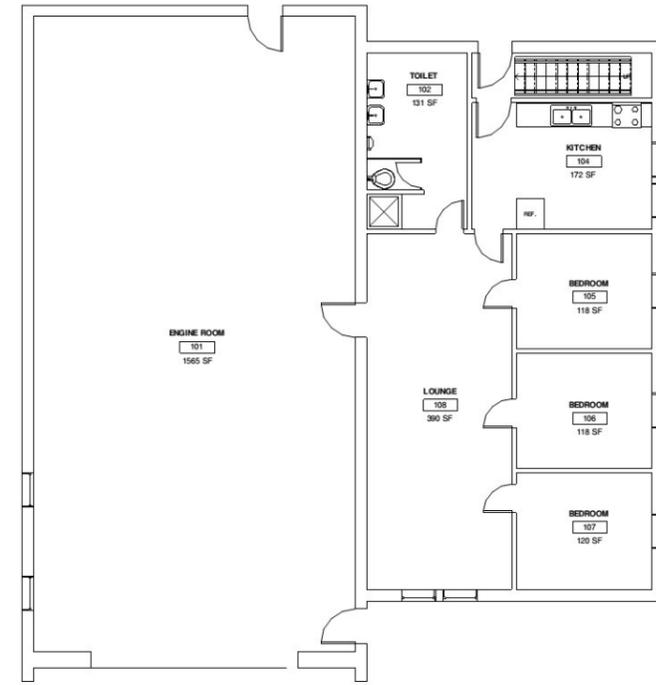


Ground Floor Plan





Basement Floor Plan



First Floor Plan

