



**BAR HARBOR PUBLIC SAFETY BUILDING  
FEASIBILITY STUDY**

October 8, 2012

ARCHITECT  
Design Group Collaborative  
Ellsworth, Maine

CIVIL & STRUCTURAL ENGINEER  
Hedefine Engineering and Design

ELECTRICAL ENGINEER  
Swiftcurrent Engineering

MECHANICAL ENGINEER  
J.M. Kilby

PROGRAMMING  
SMRT

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# I. INTRODUCTION & HISTORY

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In 2011 the Town of Bar Harbor engaged the architecture firm, Design Group Collaborative (DGC) to provide a Space Needs Assessment and a Feasibility Study of existing available sites for the provision of Public Safety Services. Due to the limited number of town owned sites available in the downtown area, we have been asked to focus our study on the potentials of the existing site located on Fire Fly Lane across from the Bar Harbor Village Green. Based on this directive, the Site Analysis portion of the report explores the Fire Fly Lane property design options.

The Existing Conditions Report is the first phase in the Feasibility Study process. The review and space programming meetings took place under the direction of Bar Harbor Police Chief Nathan Young and includes discussions with Police Department staff and Bar Harbor Fire Chief Joey Kane. (See Appendix for Meeting Notes)

The Existing Conditions Report includes plan documentation of the existing facilities confirmed by field measurements, the use of questionnaire responses from department heads, and a site walkthrough of the facility and site by DGC and the consultant team. The 1988 site survey documented by Ames Corporation was used as background for the site plan options.

The original Bar Harbor Fire Department building was built in 1882 and cost \$2,200. It was known as the Fountain Rodick Engine Company #1. In 1891 the Town of Eden authorized organizing a hook and ladder company. It was known as the W.M. Roberts Hook and Ladder Company. The sign is visible in the image.<sup>1</sup> The site was determined because it is on high ground and centrally located in the downtown area.



The existing Fire Department building was designed by Fred Savage, Architect in 1910 and built on the same site in 1911. The four bay building was originally designed for fire carts that were pulled by horses. The station was built with a tower. The tower's first floor was used to hang the fire hoses to dry, and the second floor was living quarters for then Fire Chief Roy Hamor and his wife. The tower was removed due to deterioration in the early 1950's.<sup>2</sup>



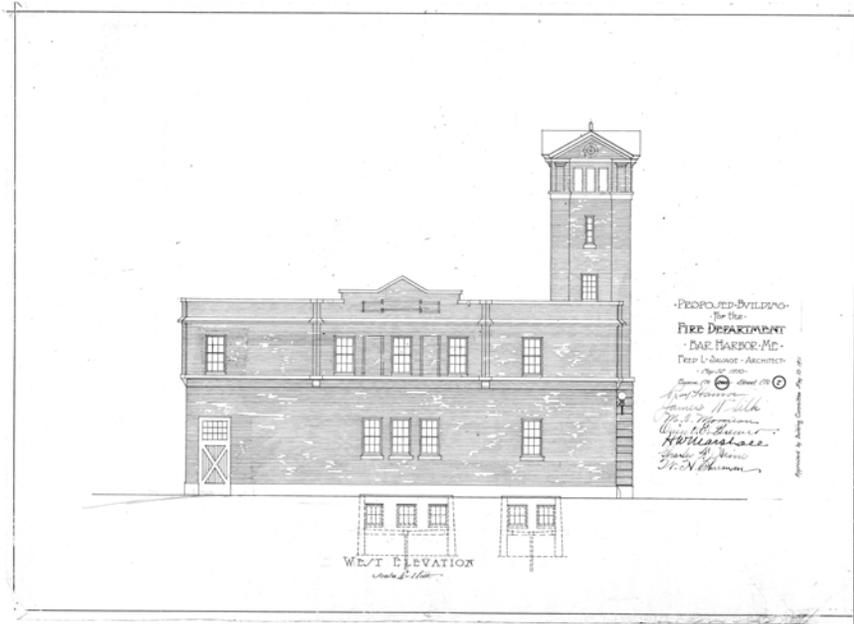
The original Police Department and local Court House was located at 38 Rodick Street. In 1988 the Police Station moved to it's current location linked to the Fire Department. A public restroom facility was also included in the 1988

<sup>1</sup> [Maine Memory Network - Search Results for ::Bar Harbor Fire Department](http://www.mainememory.net/Item/17456)

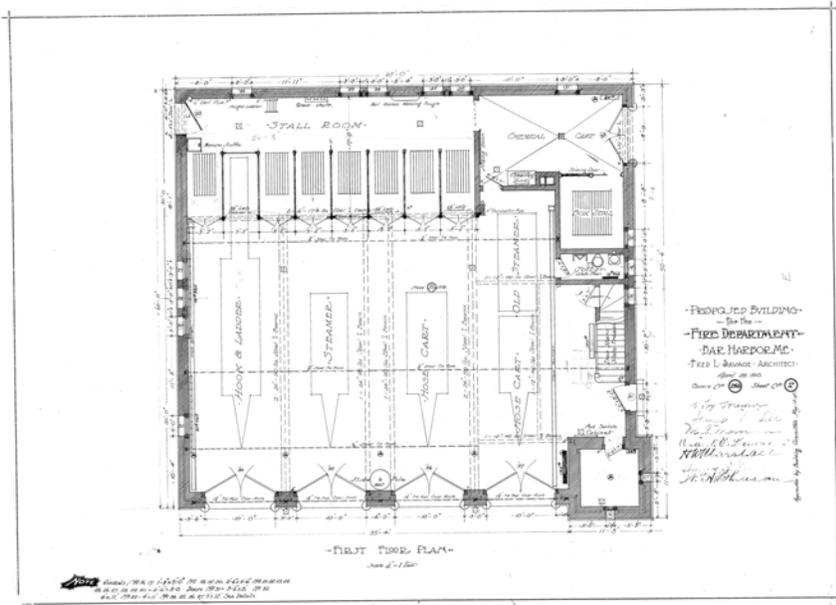
[www.mainememory.net](http://www.mainememory.net)

<sup>2</sup> Town of Bar Harbor, 2011 Annual Report

building. The public restroom is accessed separately from the public parking lot adjacent to the building. The original "Comfort Station" located on the same Fire Fly Lane property is leased by the Island Explorer bus service and is used as an information center and Acadia National Park Pass sales location.



West Elevation, 1910



First Floor Plan, 1910

## II. EXECUTIVE SUMMARY

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The Bar Harbor Public Safety Buildings Feasibility Study and Existing Conditions Report focuses on the Fire Department Building built in 1911 and the Bar Harbor Police Department Addition built in 1988.

The following observations have been made regarding the building's most urgent issues including maintenance and repair:

- The Police Station Space Program for current needs to 20 years in the future has determined that the current facility is 4 times smaller than current standards.
- The existing restrooms in both facilities do not meet ADA requirements. ADA requirements including elevator access to the second floor level will need to be considered if extensive renovation occurs in the future.
- The Fire Station should be considered for listing on the National Register of Historic Places. Benefits include relaxed code compliance and grant funding opportunities.
- Some 1<sup>st</sup> floor steel support members in the Fire Station show evidence of deterioration. The damage that is visible appears to be related to water intrusion through the first floor slab system. It is likely that additional damage to the structure exists that is not visible. Further examination is recommended.
- The Police Station and Public Restroom ventilation and air conditioning systems are inadequate and should be replaced even if no renovations occur in the immediate future.
- A lack of smoke detectors and carbon monoxide detectors outside of the sleeping chambers was observed. There are other ADA notification device issues that should be brought up to current requirements.

Recommendations:

- The Police Station is substantially undersized. Based on the limits of the existing property the building should be replaced since the structure was not designed to bear a second floor load.
- The Fire Station apparatus bay concrete slab is exposed to water from washing and winter snow melt. This exposure will cause further deterioration of the floor slab in the future. The Town should consider a dry use for the building that will not cause further damage.
- The preferred plan option renovates the existing Fire Station for the Police Department and provides a new Fire Department Building and Public Restroom structure on the site.

### III. FIELD OBSERVATIONS

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This Existing Conditions review focuses on Building, Life Safety, and ADA code compliance for the existing Bar Harbor Fire & Police Department and its surrounding site. A structural analysis section provided in this report will tie to some of the items mentioned below.

The Bar Harbor Fire and Police Department buildings are iconic structures that lend to the ambiance consistent with a traditional New England town center. The Fire Department building is not listed on the National Register for Historic Places although this listing would provide protections with regard to code and ADA compliance if future renovations to the building were to occur. The reference to “historic properties” would apply if the building were placed on the National Register of Historic Places.

#### **CODE REVIEW**

##### ADA Compliance (ADA 2010):

In 1990 Congress passed the Americans with Disabilities Act (ADA). The ADA has five titles. Title II prohibits discrimination against people with disabilities by public entities. Public entities include any state or local government and any of its departments, agencies, or other instrumentalities. All activities, services, and programs of public entities are covered, including activities of state legislatures and courts, town meetings, police and fire departments, motor vehicle licensing, and employment.<sup>3</sup>

Alterations to historic properties shall comply, to the maximum extent feasible, with the provisions applicable to historic properties in the design standards specified in Section 35.151 (c). If it is not feasible to provide physical access to an historic property in a manner that will not threaten or destroy the historic significance of the building or facility, alternative methods of access shall be provided pursuant to the requirements of Section 35.150.<sup>4</sup>

The alternative requirements for historic buildings or facilities provide a minimal level of access. For example:

(1) The existing ADA bathroom in the Police Station does not meet current standards for toilet facilities. The existing restrooms in the Fire Station do not meet ADA standards. Only one accessible toilet is required and it may be unisex. Accessible routes are only required on the level of the accessible entrance.

(2) The existing path of entry to the Police Department vestibule and reception area as well as access to the existing offices and operations area currently meets ADA compliance.

(3) If substantial renovations are planned for the Fire Department building elevator access to the second floor will need to be reviewed by the appropriate State and Local

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<sup>3</sup> 29 USC § 790-794

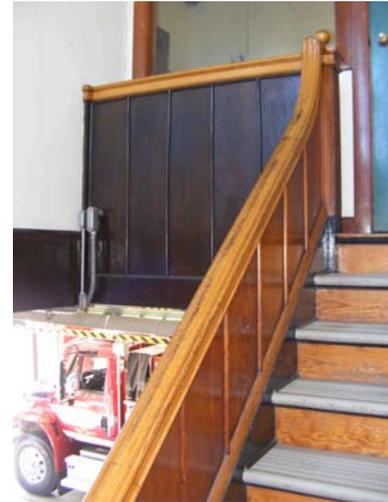
<sup>4</sup> ADA Standards 2010

*ADA Recommendations:*

*Substantial renovations would require conformance with 2010 ADA regulations. This would include upgrading the existing Police Station bathroom to meet ADA turning radius requirements. Providing ADA compliant bathrooms in the Fire Station and access to the second floor.*

Life Safety (NFPA 2006) Fire Station

The existing buildings are not sprinklered. A code analysis (See Appendix A) highlights the requirements that the facility must meet. Under current code requirements the Lower Level Apparatus Bay is seen as an ordinary hazard storage occupancy. The required separation for this use in a non-sprinklered building is with a 1 hour rated wall, floor and ceiling. This separation is decreased by one hour if the building was sprinklered.



A second means of egress is currently required by code from any room or story with occupancy over 50 people. If the Lounge is used for public gatherings a second means of egress would be required from that room.

The occupancy for the second floor requires two means of egress. The existing stair leading from the second floor to the level of exit discharge should be protected with a rated stair enclosure. The existing fire escape on the rear of the building currently provides a second means of egress for the meeting room. Extensive renovations could result in the need for an additional code compliant stair.

See electrical code review for life safety device recommendations.

*Life Safety Recommendations:*

- *Substantial renovations would create an opportunity to provide proper means of egress and separation of uses. The installation of a supervised sprinkler system in the buildings would benefit future renovations.*
- *The Fire Escape should be inspected and recommended repairs implemented.*

**BUILDING SHELL- FIRE DEPARTMENT**

The fire station is located in the center of Bar Harbor by the Village Green and Island Explorer Bus Service. There is also a substation in the Town Hill section of town at the intersection of Route 102 and Crooked Road. Recent improvements to the downtown fire station included replacement of tanks that store heating oil in 2004. Eventually the heating plant for the fire station will have to be replaced and other repairs such as pointing of the masonry will be needed. There is currently 250 sf of space in the basement that is rented to Verizon and houses a large switching station and cell tower on the Fire Department roof.

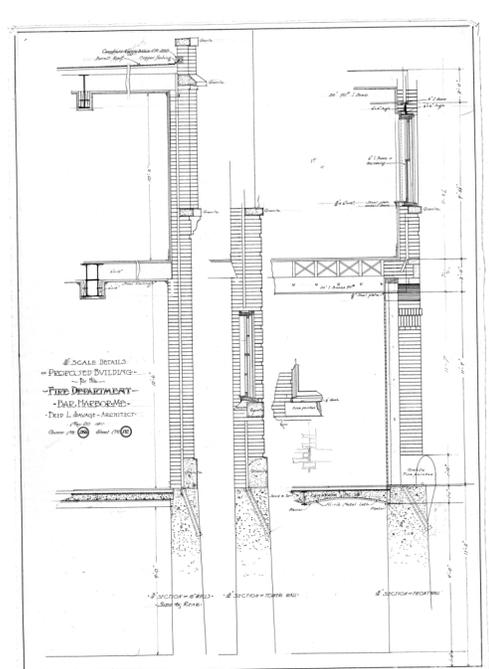
basement that is rented to Verizon and houses a large switching station and cell tower on the Fire Department roof.

The Town of Bar Harbor would benefit from applying the Fire Station Building to the National Register of Historic Places. Aside from the protections that are provided with a registered building, clear benefits also include leniency from some NFPA and ADA code requirements and grant funds that could be available for renovations. If Federal Funds are used for building renovations Maine Historic Preservation Commission will need to review and approve all proposed changes. Certain grant funds may also require Maine State Historic Preservation Office (MSHPO) oversight.

## EXTERIOR

### Building Shell:

The existing exterior walls are two wythe bearing masonry brick walls. The brick was observed for signs of structural cracks, condition of the brick units and for signs of mortar decay (see structural report). The exterior surfaces of the buildings are well maintained. The Fire Department walls were re-pointed and the building completely waterproofed with Omega Seal waterproofing by LE Norwood in 2009. Bangor Roofing replaced the flat roof 4-5 years ago. Leaking was reported at the roof parapet (detected 3 years ago) and Bangor Roofing provided flashing at the parapet edge. Currently no major leaking was detected by the Fire Department. There was one crack detected in the foundation located near the Fairpoint conduit entry into the building. PDQ Doors in Bangor replaced the original wood windows with vinyl windows. Two inch rigid board insulation (R12) has been added to 3 exterior walls at the first floor level in the 1980's.



*Wall Details, 1910*

Rusting was noticed on the underside of some steel window lintels.

## INTERIOR

The existing Fire Department interiors are in good condition and well maintained. In 2011 the upstairs bathroom were renovated. Upgrades included; pipes replaced from the basement up to the bathroom, new fixtures installed, utility closet and mop sink added. The plumbing was original and had never been replaced. The kitchen serves the 4-5 staff that is on duty at any particular time and it may be used for occasional group dinners. The kitchen equipment appears to be serviceable and if any renovations are done to the kitchen the stove may require a fire suppression hood. The kitchen is used for private employee meals and is not a community kitchen.

## **BUILDING SHELL- POLICE DEPARTMENT**

The police station was constructed as an addition to the Fire Department building in 1989.

### EXTERIOR

Building Shell:

The police station was constructed in 1989. The walls are brick veneer with wood stud bearing walls. The brick walls were observed for signs of structural cracks, condition of the brick units and for signs of mortar decay (see structural report). Leaking had been report between the joint that connects the two buildings this has since been fixed.

Minor areas of repair were found at the entry canopy roof flashing and the public bathroom door steel frames are rusting.



*Door Frame outside Bathroom entrance.*

### INTERIOR

The Police Department interior spaces are undersized for current needs. It has three holding cells, four offices, lockers, property storage rooms and a dispatch and records room. Two of the three holding cells are used for storage of evidence and supplies. In addition some records must be stored off the premises.<sup>5</sup> The public restroom facilities are immediately adjacent to the administration offices of the Police Department. This leaves the Police Department in a vulnerable position with regard to un-monitored activity immediately adjacent to their headquarters.

The corridor that runs through the facility is generous in size but is used for storage of miscellaneous items as well as an employee kitchen. The lack of a break room promotes the use of other office areas and the booking room counter for a lunch room. The interview room contains a microwave oven and water dispenser.

The officer administration area is currently open to the booking area. The double hung windows are now bolted shut due to the potential risk of loosing a person in custody through a window.



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<sup>5</sup> ibid

There is one ADA compliant unisex bathroom, one toilet room, one locker room with lockers that are too small to hold officer equipment. There are no shower facilities.

*Building Shell and Interior Recommendations:*

*-The Bar Harbor Public Safety Buildings are in good physical shape. The buildings have benefited from budget allocations of approximately \$5,000 a year towards brick and roof repairs. Proper maintenance and care of these landmark buildings has resulted in very few building envelope issues.*

*-Steel lintels and door frames should be cleaned and repaired and painted.*

*Fire Department Interiors:*

*If the facility were ever used for public dinners, the kitchen would need to meet commercial kitchen standards that require non-porous surfaces for food handling and preparation.*

*Public Restroom Shell and Interiors:*

*-Moisture issues are apparent in the interiors that indicate lack of ventilation. Rusting and damage at the bottom of door steel frames should be repaired.*

*- Future planning should separate the Public Restroom Facility from the Police Department Offices.*

# STRUCTURAL REPORT



September 28, 2008

Carla Haskell  
Design Group Collaborative  
104 Main Street  
Ellsworth, ME 04605

Subject: Bar Harbor Public Safety Building – Structural Evaluation

### **Introduction & Scope**

The Town of Bar Harbor has retained Design Group Collaborative to provide an evaluation and feasibility study of the existing public safety building located in Bar Harbor, Maine. As part of that evaluation, Hedefine Engineering & Design, Incorporated was retained to perform a non-comprehensive structural evaluation of the existing building. Specifically, a visual inspection was performed looking for outward signs of structural distress. Additionally, the existing structure was evaluated with respect to modern structural building codes for outstanding deficiencies. No destructive testing measures were employed during the course of this investigation. The building is a historical structure and has obvious deficiencies when compared to a modern structure. These include deflections of structural members, minor cracking of structural members, minor water intrusion, likely some hidden deterioration of members, lack of adequate bracing systems for modern seismic codes and similar issues. The basic premise of this report is not to identify all deficiencies, but rather to try and ascertain whether there are major structural defects that would inform the Town in their decision making process as to whether the structure should be renovated or whether a new structure is warranted.

This report is based on a site visit performed on July 17, 2012 and a review of digital copies of the following historic plans:

- 9 sheets entitled “Proposed Building for the Fire Department – Bar Harbor, Maine; prepared by Fred L Savage – Architect; dated April and May of 1910 & 1911.
- 17 sheets entitled “Bar Harbor Police Station – Bar Harbor, Maine; prepared by Ames Corporation; dated April 1, 1988.

Because many structural features of the building are hidden, and the plans are incomplete, this report is limited in scope and detail. A more comprehensive evaluation would entail some destructive testing, detailed calculations evaluating structural members and conditions assessment using specialized equipment. That level of evaluation was not performed for this report. For purposes of this report, the façade of the building facing Village Green is considered South.

## Original Fire House

The original Fire Station, built around 1911, is located in downtown Bar Harbor, Maine. The original building is approximately 5,500 square foot in area and consists of a basement and 1<sup>st</sup> and 2<sup>nd</sup> floors. The roof is a flat roof with roof drains. The building foundation is concrete, typically about 20" thick with a concrete floor in the basement. The 1<sup>st</sup> floor structure is comprised of a series of steel I beams and Lally columns with concrete infill and topping. The 2<sup>nd</sup> floor structure is supported by a series of steel I beams and Lally columns with 2x12 dimensional lumber infill and a finished wood floor. The roof structure appears to be a similar design as the 1<sup>st</sup> and 2<sup>nd</sup> floor however the historical plans do not indicate the size of structural members and the structure is covered so that member sizes were not obtained during the site visit. The roof is protected with a rubber membrane. The exterior walls appear to be unreinforced, load bearing brick masonry. This wall system also appears to be the only lateral support for the structure.

The historical drawings of the original building generally indicate the size and type of structural members proposed for construction of the subject building. However, many of these members are obscured by finishes, so we were generally unable to verify that these proposed members were installed to specification.

The structure generally appears to be in fair to good condition considering its vintage and use. Some 1<sup>st</sup> floor steel support members show evidence of deterioration (see Photos 1 & 2). The damage that is visible appears to be related to water intrusion through the first floor slab system. It is likely that additional damage to the structure exists that is not visible. The efflorescence visible on the masonry also indicates water intrusion and some damage to the concrete deck is likely hidden within the ceiling system. No indications of major structural deflection were noted during the visit and preliminary calculations of the floor system indicate that the structure has capacity to serve the intended purpose. Localized structural damage that is hidden may reduce that capacity. The condition of the hidden structure should be more thoroughly investigated if long term re-use of the structure for vehicular loading is considered. This additional investigation would likely entail some demolition so that hidden connections and members could be uncovered. The use of an elevated floor for vehicular loading and the associated water intrusion into the structure will likely continue to advance any existing deterioration. It is likely that some major renovation to the floor structure would be required if the Town should decide continue the current use for the long term.

No evidence of structural damage or excessive deflections were evident in the second floor or roof system. Preliminary calculations done on the design members for the second floor indicate that floor likely has the capacity to continue to support the anticipated loading. No calculations were done regarding roof members as their sizes are unknown. It should be noted that the current roof system does not appear to have a secondary drain system or roof scuppers and therefore significant ponding could occur on this roof if the primary drain system were plugged. It is unknown if the original design accounted for this potential ponding. If major renovations were anticipated, this ponding affect would need to be evaluated and the roof structure or drainage system may require an upgrade.

The masonry wall system for the building appears to be in good condition for a building of this age. It appears that the building has been well maintained and the masonry cared for with sealants and periodic mortar touch-up. (See Photo 3) Some minor masonry cracking is evident in some areas such as at the garage doors on the south side of the building where efflorescence indicates that water

intrusion is occurring. (See photo 4 & 5). Some areas have been patched and that patching may have used mortar inconsistent with the original brick and mortar, thus leading to some future issues. It was also noted that some window lintels show evidence of rust and local mortar damage due to this steel deterioration. (See photo 6) The concrete foundation appears to be in generally good condition with only minor cracking in isolated locations (See photo 7). The crack in photo 7 appears to be relatively recent and may be associated with work that occurred in connection with the installation of the generator and battery system in this area.

### **Police Station Addition**

An addition to the original structure was constructed around 1988 to house the police department. This addition is approximately 2,300 square foot in size, including two public restrooms which are not directly accessible from the interior of the building. The addition was added to the east side of the original building, is one story and supported on a concrete frost wall and slab-on-ground. The roof consists of steel I beam girders and wooden TJI joists. The roof is protected by a rubber membrane. The walls are wood framed with a brick veneer.

The addition is in generally good condition. The structural system appears adequate. Some water intrusion from the roof is evident on the east side. (See Photo 8) This, or other water intrusion in the past may have contributed to some hidden structural damage, but no major structural deflections or damage was observed during the site visit.

### **Code Considerations for Future Building Modifications**

It is our understanding that potential future modifications to the building are being considered by the Owner. We are unaware if a formal building code was referenced at the time of the building's construction. However, modern building codes adopted by the State of Maine regulate how improvements can be made to existing buildings and when modern codes must be applied. Specifically, codes now indicate if and when structural upgrades to existing buildings are required. This would be especially relevant for an "essential" structure that houses public safety forces.

It is our opinion that the presumably unreinforced masonry structural system in use in the 1911-vintage portion of the building likely does not meet current structural building codes adopted by the State of Maine. These codes include the 2009 International Building Code (IBC). The use of structural unreinforced masonry is significantly restricted by modern building codes for new construction. Despite the widespread construction of such buildings in the past, seismic events have demonstrated that such buildings typically incur substantial damage during such events. Therefore, in the interest of life safety, modern codes proscribe such structural systems in many new buildings depending on a variety of factors including the earthquake risk in the area and the proposed use and occupancy of the building. It is likely that the Bar Harbor Public Safety Building would require a substantially different structural system (for example: structural steel or reinforced concrete) for lateral support if built today.

For existing buildings – such as this one– that do not meet modern structural code requirements, the International Existing Building Code (IEBC) outlines scenarios in which a structural upgrade to an existing building would be required. The subject building can potentially be exempted from these structural upgrade requirements provided two conditions are met: (1) The building is listed on a state or federal list of historic/protected buildings, and (2) The local code enforcement officer waives the

structural upgrade requirement. The latter requirement would need case-by-case approval by the local code enforcement officer considering the scope of proposed work and the risk to life safety of not incorporating structural upgrades into the scope of work.

Even if such upgrades are not required by code, any significant alteration or renovation of the structure should include some structural modifications to provide some level of additional lateral reinforcement. This is especially true if the building will remain in use as a code-defined “Essential Facility” that exists for the protection of the community. The level of upgrades and reinforcement would likely depend on the level of renovation envisioned and how structural upgrades might impact the historical features of the structure.

## **Conclusion**

Based on a non-comprehensive visual investigation, the Bar Harbor Public Safety Building generally appears to be in fair to good condition. Masonry cracking and some deterioration of the structural steel has been observed in a number of locations, and this problem appears to correlate to a moisture intrusion problem. Continued maintenance and re-pointing of the masonry in these areas is recommended, along with ongoing monitoring the building. Finally, future improvements to the building will need to consider the implications of any upgrades recommended or required by the current structural building codes. The implications of these upgrades will be determined by the level of renovation envisioned.

Sincerely,  
***Hedefine Engineering & Design, Inc***

Eero Hedefine, P.E., LEED AP  
President



Photo 1: 1<sup>st</sup> floor steel beam deterioration and water damage



Photo 2: 1<sup>st</sup> floor steel beam deterioration and water damage



Photo 3: North side of building. Brick in generally good condition



Photo 4: Garage door at South side of building. Efflorescence visible on brick indicating water intrusion



Photo 5: Efflorescence on inside of south wall column near overhead door due to water intrusion into wall.

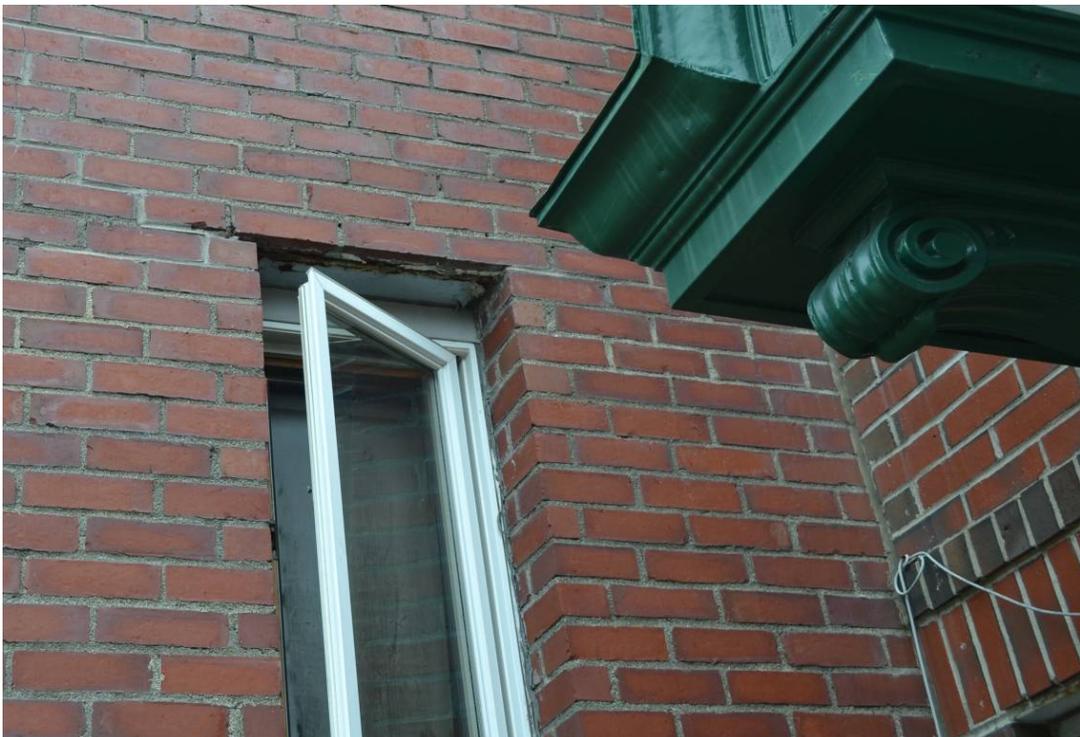


Photo 6: Lintel damage and associated masonry damage



Photo 7: Crack in concrete foundation on west wall where conduits enter



Photo 8: Water leaking from roof at east side of Police addition

# MECHANICAL & PLUMBING REPORT

**MECHANICAL SYSTEMS ASSESSMENT  
BAR HARBOR PUBLIC SAFETY BUILDING**

**BAR HARBOR, MAINE**

**Summer 2012**

**I. Overview:**

J.M. Kilby Engineering, P.A (JMKE) was requested by Carla Haskell of Design Group Collaborative Architects to review the mechanical systems at the Town of Bar Harbor Public Safety Building. A visit to the facility was conducted on July 17, 2012.

The focus of this review will be to document and assess the mechanical systems and prepare a written report with suggested upgrades, repairs, expansions and/or replacements.

**II. Executive Summary:**

- If the existing Fire Station is to be extensively renovated, the steam heating system should be converted to a hot water system. If the Fire Station is to remain nearly “as is”, the economics do not justify replacing the heating system.
- The Police Station ventilation and air conditioning systems are inadequate and should be replaced even if no renovations are done to the building.
- There are a few minor issues to be addressed such as Boiler Room Combustion Air, Lining the Chimney Flues and possibly adding an Exhaust Hood above the Fire Station Kitchen Range.

**III. Description of Existing Systems:**

A. General: The facility that exists today was built in two major stages:

1. 1919 – The main Fire Station was constructed. (10,500 square feet)
  - a. The 3,500 SF main story is used as the apparatus bay.
  - b. The 3,500 SF second story currently contains sleeping quarters, a lounge, the Fire Chief’s Office, a training room, bathroom and a small kitchen.
  - c. The 3,500 basement is used for service and utility space, hose drying, Police and Fire Department storage. A 250 SF area is leased to Verizon Communications for telecommunications equipment.

2. 1986 – The 1,725 SF Police Department was added.
  - a. The single story addition contains a lobby, offices, a booking area, three short-term holding cells, a dispatch center, evidence storage, two toilet rooms and a small locker room.
  - b. The 1986 addition also contains public male and female restrooms with a separate entrance.

B. Plumbing:

1. Water Supply: The building is on the public water system with the 1” water entrance located in the basement. The building is not sprinklered.
2. Sewer: The building is served by the public sewer system. The connection is in the basement. The 1986 addition fixtures drain through a 4” sanitary which ties-in to main sewer in the Fire Department basement.
3. Water Heating: Domestic hot water is produced by a tankless coil in the smaller boiler serving the Police Department. **There is also a small instantaneous water heater in the Fire Department Kitchen on the 2<sup>nd</sup> Floor.**
4. Fixtures: Plumbing fixtures appear to be in good condition but may need to be replaced due to ADA or programmatic considerations.

- C. Heating Systems: The Fire Department is served by a low-pressure steam heating system. A single boiler produces steam which feeds a variety of wall-hung and free-standing cast-iron radiators. Many of the upstairs radiators are equipped with thermostatic valves for zone control. The 1986 Police Department Addition is served by a hydronic (hot water) system fed by a separate hot water boiler. The hot water system supplies (4) hydronic fan coil units and perimeter fin-tube radiation.

*Note: The Police Addition was originally heated by a steam-to-water heat exchanger off an earlier steam boiler that served the entire building. However the steam boiler and heat exchanger was removed in 1997 and replaced with the current two-boiler arrangement.*

1. Heating Boilers:

- a. Fire Department Boiler: The steam boiler is a Weil-McLain Model 78 cast-iron sectional type with a Carlin burner. It has a net heating capacity of 482,000 Btu/hr. and was installed in 1997. According to ASHRAE, the estimated service life is 30-35 years for this type of boiler and 21 years for the burner. Tankless coils often fail and need replacement prior to the boiler. The time depends on the water quality and treatment.

- i. Hose Drying System: The boiler is fitted with a “tankless coil” which is typically used to provide domestic hot water. However, this coil appears to provide heating water to warm the hose drying rack in the basement.
    - ii. Boiler Feed System: The boiler feed/condensate return is located next to the boiler. It appears to have been installed with the boiler in 1997. The expected life of such systems is 15-20 years.
  - b. Police Department Boiler: The hot water boiler is a Weil-McLain Model P-468-WT cast iron sectional type with a Beckett burner. It has a net heating capacity of 131,000 Btu/hr. and was installed in 1997. The boiler and burner estimated service lives are the same as the Fire Department Boiler.
    - i. The boiler is equipped with a tankless hot water coil which appears to supply domestic hot water to the entire building. Tankless coils often fail and need replacement prior to the boiler. The time depends on the water quality and treatment.
- 2. Combustion Air: The boilers do not appear to have a proper source of combustion air. Provision for code-mandated combustion air is required.
- 3. Fuel Oil Storage: Fuel oil is stored in two 330-gallon steel tanks located in a dedicated room in the basement next to the boiler room. The tanks appear to be in good condition.
- 4. Chimney: The flue serving the Fire Department boiler may not be lined. If not, it will be necessary to line the chimney. The bottom of the flue at the cleanout was completely filled with soot and debris.

D. Ventilation & Air Conditioning Systems:

- 1. Ventilation Systems:
  - a. Fire Station Vehicle Exhaust: The apparatus bays are equipped with a Plymovent vehicle exhaust system. The main blower exhausts through the upper part of a window in the back of the bay through spiral duct which terminates above the roof line. The system appears to be in good condition.
  - b. Police Station: The Police Department receives ventilation and make-up air through a Fan Coil unit mounted above the Lobby ceiling. Outside air is drawn through a gooseneck duct on the roof. It is unlikely the ventilation rates meet today’s standards. According to ASHRAE, the

estimated service life of Fan Coils is 20 years. The units are near the end of their expected service life.

c. Exhaust Fans:

- i. EF-1: First Floor Fire Station Toilet Room
- ii. EF-2: Holding Cells
- iii. EF-3: Police Dept. Locker Room
- iv. EF-4: Police Dept. Toilet Room & Janitor Closet
- v. EF-5: Police Dept. ADA Toilet Room
- vi. EF-6: Public Restrooms
- vii. EF-?: Second Floor Fire Station Toilet Room

d. Kitchen Ventilation: The 2<sup>nd</sup> Floor kitchen range is not equipped with a range hood. The hood should be equipped with a NFPA 96 compliant hood with fire suppression, unless the requirement has been waived by the local "authority having jurisdiction".

2. Air Conditioning: Neither the original building or the addition was planned to be air conditioned. Through-window AC units have been installed in some of the Fire Station sleeping rooms and Police department offices. A Sanyo model ductless has been installed to cool the Police Dispatch area. The indoor unit is mounted above the ceiling and the outdoor unit is located on the roof of the Police Station.

a. Verizon Equipment: The telecommunications equipment is cooled via two 5-ton air conditioning units located adjacent to the building.

#### **IV. Energy Use:**

A. Utility Data: Fuel oil consumption data from July 2011 through June 2012 was obtained from the Town of Bar Harbor and compared to heating degree-days calculated for the local area (Acadia National Park) for the same time period. Electric Bill for the same period were also obtained and tabulated.

- a. The building used 3,442 gallons of #2 Fuel Oil during the 2011-2012 heating season and 74,013 kWh of electricity. This period was warmer than the historical average.
- b. Adjusting for a more typical heating season, the building could be expected to use 3,800 gallons of oil and 75,000 kWh of electricity.

- B. Energy Utilization Index: The calculated source EUI for the building is 159 kBtu/SF/year which is just over the national average of 157 kBtu/SF/year for Police & Fire Stations. In other words, the building uses slightly more energy per square foot than the median Police and Fire Station.
- C. Opportunities for HVAC Energy Savings: The largest energy savings potential is likely with the Building Envelope (insulation/windows) and Lighting, not the HVAC systems.
- a. Heating: Replacing the existing steam heating system with a hydronic (hot water) system utilizing high-efficiency LP-gas boilers might reduce heating energy costs by 10 – 15%. Assuming \$3.00/gal. oil equivalent energy costs, this would result in only about \$1,200 to \$1,800 savings per year.
    - i. Therefore, changing the system cannot be justified based on economic payback alone. Refer to the next section for more information on this upgrade.
    - ii. However, converting from the existing oil-fired steam system to a high efficiency propane-fired hot water system would decrease the CO<sub>2</sub> emissions from the heating system from about 85,000 lbs./year to about 65,000 lbs./year.
  - b. Ventilation & Air Conditioning: The Police Department ventilation and air conditioning systems are not adequate. Air conditioning capacity and ventilation rates are likely to increase with any renovations. Therefore, energy costs will likely not be reduced and may increase modestly even with newer, more efficient equipment.

## V. Suggested Upgrades, Repairs and Replacements:

- A. Steam vs. Hot Water: If the existing Fire Station is renovated, the Town should consider converting the approximately 10,500 square foot area of the building currently heated by steam to a hydronic (hot water) system.
1. Although steam is a relatively efficient method of transferring heat to spaces, steam systems are difficult to rework to accommodate architectural changes because constant pitch must be maintained on piping. Also, much of the steam and return piping is older and fittings will likely be difficult to break and rework.
  2. The hot water conversion would require a large outlay of funds. The hot water heating can be controlled more effectively than steam and would be modestly more efficient to operate with high efficient LP-gas boilers. There would be about a 20,000 lbs./year reduction in CO<sub>2</sub> emissions.

3. Heating Fuel: The building is currently heated with #2 fuel oil. However, the cost of fuel oil may be rising faster than the costs of other fuels. Any major renovations or system upgrades should consider LP-gas or heat pumps in lieu of another oil-fired system.
  - a. The Site Plan should accommodate the placement of future LP-gas storage tanks, either aboveground or underground.
- B. Police Station HVAC: The police department's HVAC systems are aging and inadequate. A replacement system would meet current requirements for ventilation air and use high efficiency cooling equipment.
- C. Chimney: Confirm whether the existing flues are lined. If not, then line chimney or insert stainless steel chimney liner system.
- D. Heating Distribution Piping: Pipe insulation and steam trap maintenance will save energy and improve comfort.
  1. Identify any steam and condensate piping without insulation and insulate. This is especially important in areas where the exposed piping can contribute to overheating.
  2. Steam Traps: Identify and map all steam traps throughout the facility. Establish a steam trap maintenance program to routinely check their operation and repair as necessary.

## **VI. Opinion of Improvement Costs:**

The following are "order-of-magnitude" budget costs based on a very brief walk-through of the building and before any actual design has been completed. There is no warranty, expressed or implied, that the cost of the work will not vary (perhaps significantly) from these figures. None of the costs include asbestos abatement, architectural modifications or design fees.

### **A. Square foot costs to complete Steam to Hot Water Conversion:**

Area of Steam Heating: 10,500 SF x \$18.75/SF\* = \$200,000 (+/-)  
 + New Boiler Plant: \$50,000 (+/-) = Total: \$250,000

\* *Square Foot cost assumes \$15.00 SF for hydronic heating multiplied by 1.25 to because of the removals and difficulties associated with renovation work. This is for the current "open" configuration. Dividing the area into more spaces will increase the costs.*

B. Square foot costs to replace Police Station HVAC:

Police Station Area: 1,725 SF x \$56.25/SF\* = \$100,000 (+/-)

\* *Square Foot cost of \$56.25 assumes \$45.00 SF for high efficiency HVAC system demand control ventilation multiplied by 1.25 to because of the removals and difficulties associated with renovation work.*

C. Costs & Priority for Items to Improve Existing Systems:  
(Assuming Fire Station Steam System to Remain)

<u>Item</u>	<u>Description</u>	<u>Qty</u>	<u>Unit</u>	<u>Cost</u>	<u>Priority</u>
1.	Provide Combustion Air to Boilers	1	LS	\$ 7,500	High
2.	Line Chimney	1	LS	10,000	High
3.	Add NFPA Kitchen Range Hood	1	LS	15,000	Medium
4.	Insulate Pipe / Repair Steam Traps	1	LS	7,500	Medium
5.	Replace Police Station HVAC	1	LS	100,000	Medium

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TOTAL: \$140,000

Note: Budget \$1,500 - \$2,000 for each plumbing fixture required to accommodate architectural renovations. This assumes a new rough-in location for each fixture.

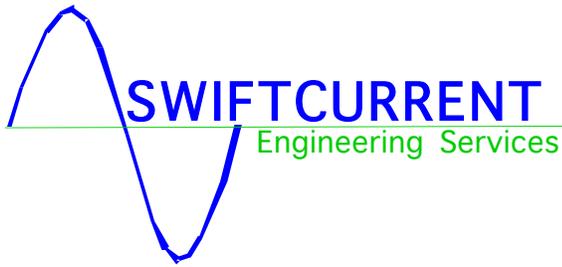
Report Submitted by:

*J.M. Kilby Engineering, P.A.*

*DRAFT VERSION*  
*8/22/2012*

John M. Kilby, P.E.

# ELECTRICAL REPORT



Electrical Design Narrative – Bar Harbor Public Safety Building, Bar Harbor, ME  
August 22, 2012

Electrical Service:

This building currently has two separate 120/208V services one 200 amp service serving the fire and police stations and a separate 200 amp service feeding the telephone equipment in the space leased to the telephone company in the basement. The services enter the building from pole mounted transformers overhead to a set of conduits with weatherheads on the east side of the fire station.

Each service has a separate LP gas generator. The generator feeding the public safety building feeds a 150A automatic transfer switch in the basement. It should be noted that the wiring of the electrical distribution equipment is in many cases older equipment and appears to have been re-wired such that the existing equipment could be re-used during previous renovations to this building. There are numerous taps to lines and panels or equipment enclosures being used as raceways, making the wiring of this system difficult to decipher in some places.

Based on the age and condition of some of the equipment, especially panelboards, should be replaced as they have probably reached their expected 30-year life expectancy.

Fire Alarm:

During our visit we noticed that there were parts of the fire alarm system for the facility that could be brought up to current code. There were some areas especially with respect to the lack of smoke detectors and carbon monoxide detectors outside of the sleeping chambers and other ADA notification device issues that would be brought up to current requirements.

Also in the police station we observed un-sprinklered rooms that were not furnished with smoke detectors.

Emergency Lighting:

The amount of emergency lighting in the facility did not appear to meet current NFPA 101 Life Safety minimum foot-candle levels. I realize that the lighting fixtures in many of these areas are on the generator, however, based on the fact that the life safety system is not separated from the standby generator power, these lights do not qualify as life safety lighting.

Also we observed areas where battery operated lighted exit signs could be installed to clearly demark egress paths.

Respectfully Submitted,  
Swiftcurrent Engineering Services,

Timothy D. Matthews, P.E.

## IV. PROGRAMMING & SITE FEASIBILITY PLANS

## IV. PROGRAMMING & SITE FEASIBILITY PLANS

The Feasibility Study looks at the Bar Harbor Police and Fire Department operations as they exist now and in the next 20 years. A questionnaire of program information was distributed to the Police and Fire Department Chiefs. A series of meetings took place at the Fire Department meeting room to discuss specific aspects of the daily routine and facility needs.

The Police and Fire Department program spaces describe more square footage than either building currently provides. Shared use was taken into account with regard to the fitness area, and conference room. The Police Department program needs is projected to be approximately four times greater than their current space. See Appendix for the actual program breakdown.

### **FIRE DEPARTMENT**

The Bar Harbor Fire Department's mission is to provide a range of programs and services, including fire prevention, fire suppression, and emergency medical services designed to protect the lives and property of the citizens and visitors to the Town of Bar Harbor from adverse effects of fire, medical emergencies and other man made or natural disasters.<sup>6</sup> The BHFD now provides ambulance service, in addition to fire protection, with ten full time members and fourteen call members and a sub-station manned by volunteers in Town Hill. All personnel are trained firefighters with five specialized as EMT's and four as paramedics. The ambulance service responded to 1235 runs and the department responded to 454 fire calls for 2011. Bar Harbor's year round population is 5,020.

The Fire Chief over sees all aspects of the Fire Department operations. There are 3 shifts with each shift having an Officer who is in charge of the day-to-day operations that answers directly to the Fire Chief. Three fulltime staff members are on duty for 24 hours a day. The number of staff is not expected to increase over the next 20 years.

There are six fire trucks ranging in years of service. Vehicles Include: Rescue 1, Engine 3, Rescue 2, Engine 5, Ladder 4, Mass Casualty Pick Up truck, Chiefs truck  
The Department has plans and reserve funding for the replacement of fire fighting vehicles when they are thirty years old. Engine #4, the ladder truck, will be replaced in FY24, Engine #5, the 1250 gpm pumper will be replaced in FY24 and Engine #2 will be replaced in FY33.<sup>7</sup>The apparatus bay ceiling height is 12'7" the doors are 10' high with a modified bay at 12'. Fourteen-foot doors are standard heights. The ladder truck currently has telescopic mounts that need to be taken off before they drive into the bay.

Current spaces that are shared with other departments include the Fire Department meeting room (classroom). This room is used as the Town of Bar Harbor's Emergency Operation Center. There is also a fitness area set up in the rear one of the apparatus bays that is used by both the Fire Department and Police Department.

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<sup>6</sup> Bar Harbor Fire Department Questionnaire, 2012

<sup>7</sup> Bar Harbor Public Safety Review 2005

As stated in the questionnaire, the best aspects of the Fire Department layout is the location and the stacked layout with apparatus bay's on the first floor and the sleeping and office areas on the second floor. The building constraints include; the limited number of parking spaces, the lack of space for outdoor training, the lack of offices and office file and equipment storage.



## **POLICE DEPARTMENT**

The Police Department's mission is to protect and serve the community, to protect life and property, and prevent crime by vigorously delivering the best possible services when crime occurs. The BHPD employs thirteen full-time employees including the Police Chief, a Lieutenant, two sergeants, nine patrol officers and three dispatchers. The Department does not engage seasonal officers, with the exception of parking enforcement staff. The department sees an increase from 17 full time employees to 21 within the next 20 years. The police fleet currently includes 3 cruisers, 1 spare, and 1 pickup truck.



As described in the questionnaire and substantiated by the site visit, the facility has a severe lack of office/work and equipment space, file and evidence storage as well as a lack of locker room and secure booking area.

Future additional staff will require more office space, appropriate locker room space with shower facilities, break room, evidence storage and sally port entry. These are basic needs that should be provided a Police Department operation in a town such as Bar Harbor.

### *Recommendations:*

*Fire Department- Given the constraints of the site provide for appropriate sized apparatus bays that will allow for the anticipate growth in the size of equipment. At a minimum provide offices including dispatch office and office file and equipment storage.*

*Police Department- Provide ventilated offices and operations areas, ADA compliant restrooms, separate Break Room, secure Sally Port entrance, Public Reception staff, appropriately sized locker rooms with showers.*

*Common Use Spaces- A Fitness Room with Locker Facilities that will accommodate female employees, Meeting Room for training and large interdepartmental meetings.*

## SITE

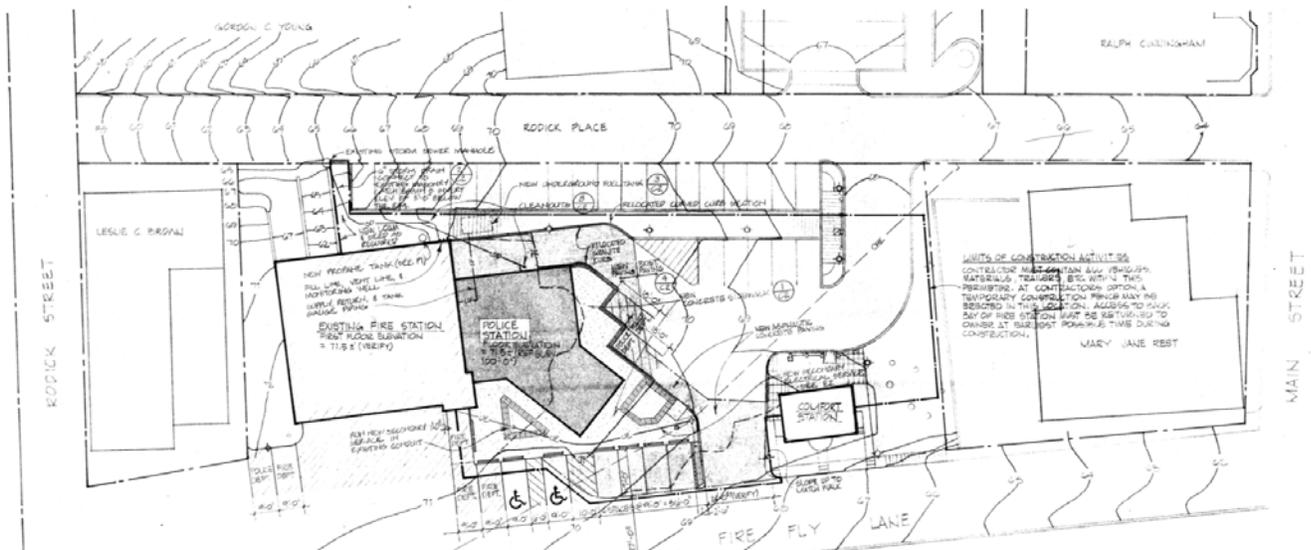
The site is centrally located in the downtown village district. As stated in the Introduction due to the limited number of town owned sites available in the downtown area, we have been asked to focus our study on the potentials of the existing site located on Fire Fly Lane across from the Bar Harbor Village Green. (See attached Bar Harbor Downtown Public Facility Map from the Bar Harbor Comprehensive Plan) The height restriction for buildings in this zone is 45' high. The property includes the Fire Department and Police Station building and the existing Comfort Station. The Town has recently signed a 10-year lease with the Island Explorer for their Information Center to be located in the Comfort Station. The Island Explorer Bus services are located on the Village Green directly opposite the Police and Fire Station. The Island Explorer does not foresee a decrease in their growth and they acknowledge that there is a lot going on in the building. The Island Explorer has trained their drivers to defer to the emergency response and daily activities of the Police and Fire Departments.



There is a public street that bisects the property and allows access to a few exist public parking spaces. The site is constrained by car and pedestrian traffic on all sides and through the site. It has excellent visibility and public access. The size of the property limits the departments programming and conflicts with vehicular and pedestrian traffic during the summer months.



The lack of personnel parking is an issue for the Police Department and Fire Department. The rear entrance of the Police Department is used as a staff entrance and to transfer suspects to and from Police vehicles. This entrance is highly visible to the public.







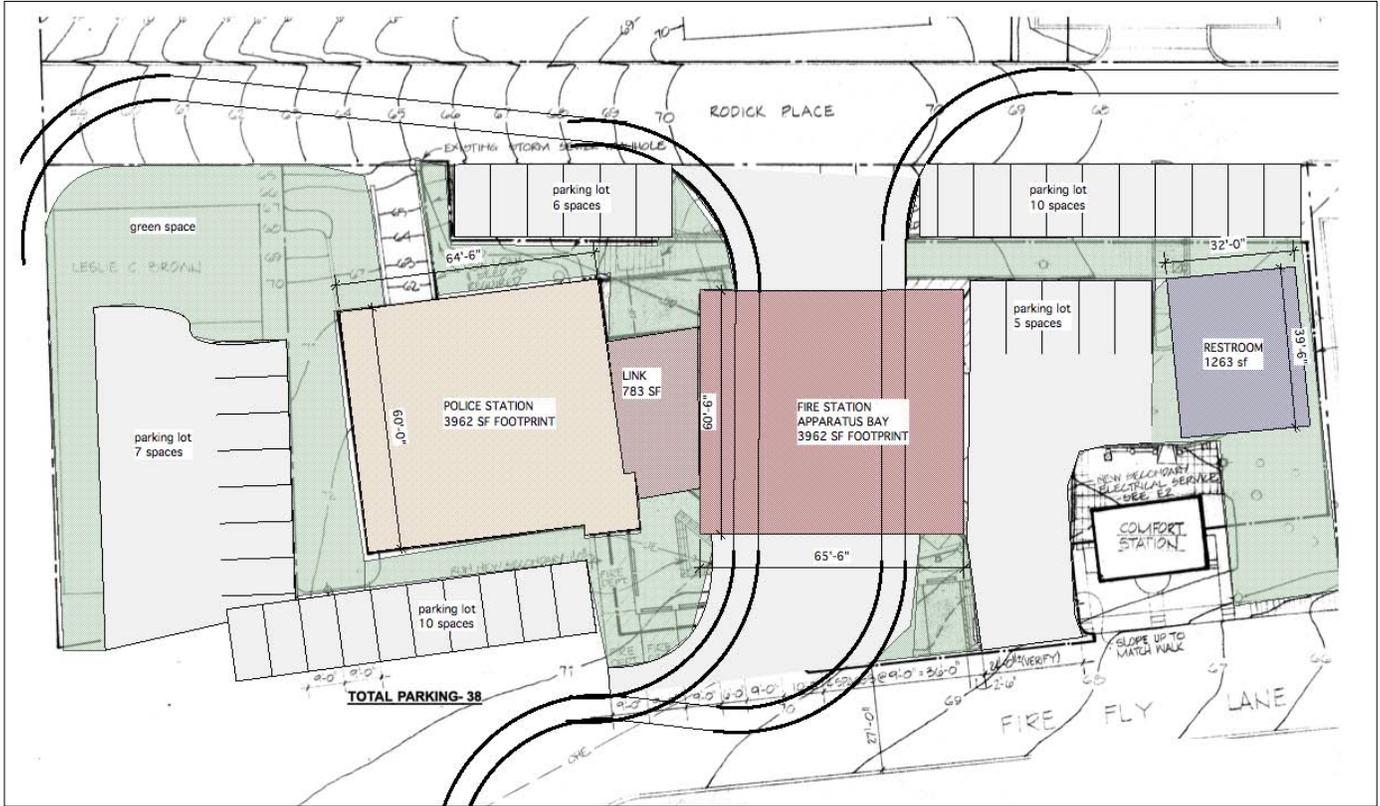
**Option 2:**

Presents the option to buy the neighboring lot. The assessed value is \$750,000. The Police Department builds a new apparatus bay on this lot with lower level parking. The public road that cuts through the parking lot is eliminated and the lot for PD use only. The restrooms are remotely located on the site. This allows the Fire Department to phase construction.



Site Model Option 2

**Option 3:** Explores the Police Department use of the existing Fire Department building- This design includes a shared entry link, new 2-story Fire Department structure and a separate restroom facility with parking on the neighboring lot. The lot has the capacity for a two story parking structure for approximately 28 spaces.

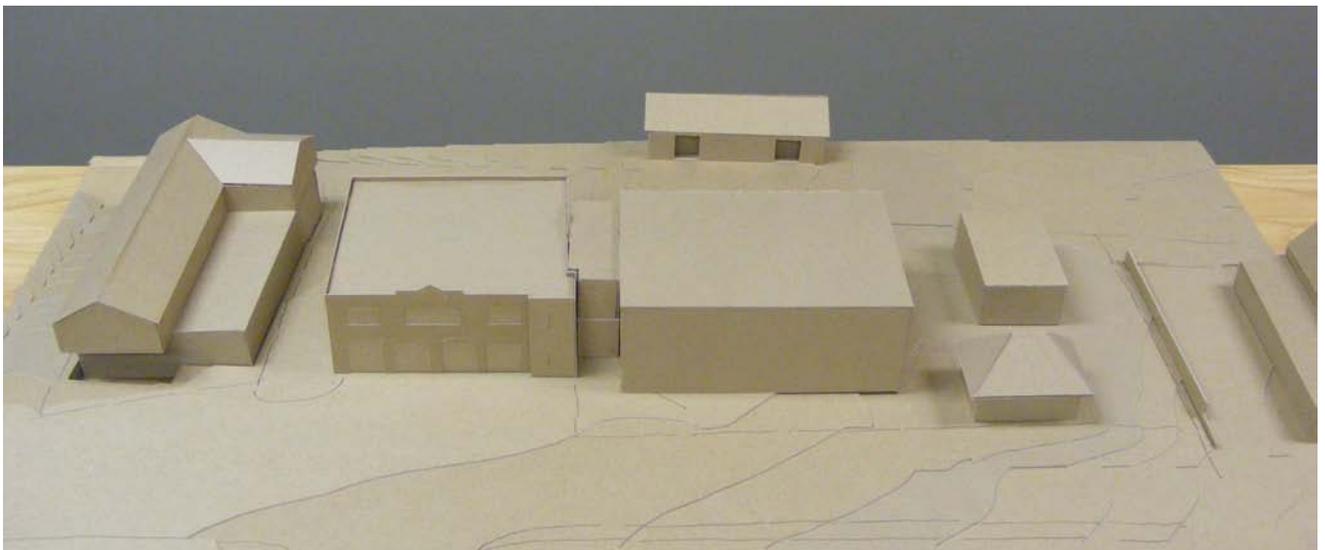


Site Model Option 3

**Option 3 Design revised based on BHFD and BHPD Input:**

The discussion concluded that buying the neighboring lot is infeasible due to cost. The number of parking spaces may not be an issue due to Ferry Terminal planning for expanded parking and bus shuttles. A double entry fire apparatus bay structure was considered not feasible. Chief Kane suggested moving the Fire Department building towards Rodick Place to allow apparatus parking outside the facility on Fire Fly Lane.

The reuse of the existing Fire Department building for the Police Station was reviewed. A rear PD staff entrance and sally port is still possible using the existing Fire Department wash bay. The connecting link will provide a two-story elevator to access to both department building. The conflict with Island Explore buses that are now parked on this side of the Village Green will need to be addressed.



*Site Model Option 3 revised*

## Construction Opinion of Cost:

## Option 1

	floors	footprint	square ft.	\$/sf	lower est.	\$/sf	upper est.
1. Renovate Existing Fire Station	3	3962	11886	\$100	\$1,188,600	\$150	\$1,782,900
2. Link	1	783	783	\$250	\$195,750	\$300	\$234,900
3. Apparatus Bay	1	3270	3270	\$250	\$817,500	\$300	\$981,000
4. Police Station (2 floors)	2	2500	5000	\$250	\$1,250,000	\$300	\$1,500,000
5. Public Restroom	1	1263	1263	\$250	\$315,750	\$300	\$378,900
<u>6. Site &amp; Utility Upgrades</u>					\$200,000		\$250,000
Approximate Total Cost			22202		\$3,967,600		\$5,127,700

## Option 2

	floors	footprint	square ft.	\$/sf	lower est.	\$/sf	upper est.
1. Renovate Existing Fire Station	3	3962	11886	\$100	\$1,188,600	\$150	\$1,782,900
2. Link	2	783	1566	\$250	\$391,500	\$300	\$469,800
3. Police Station (2 floors)	2	2500	5000	\$250	\$1,250,000	\$300	\$1,500,000
4. Public Restroom	1	1263	1263	\$250	\$315,750	\$300	\$378,900
5. Purchase Property					\$750,000		\$1,000,000
6. Apparatus Bay & lower level parking	2	3270	6540	\$250	\$1,635,000	\$300	\$1,962,000
<u>7. Site &amp; Utility Upgrades</u>					\$350,000		\$400,000
Approximate Total Cost			26255		\$5,880,850		\$7,493,600

## Option 3

	floors	footprint	square ft.	\$/sf	lower est.	\$/sf	upper est.
1. Renovate Existing Fire Station for Police Station	3	3962	11886	\$100	\$1,188,600	\$150	\$1,782,900
2. Link	2	783	1566	\$250	\$391,500	\$300	\$469,800
3. Fire Station with Apparatus Bay	2	3270	6540	\$250	\$1,635,000	\$300	\$1,962,000
4. Public Restroom	1	1263	1263	\$250	\$315,750	\$300	\$378,900
5. Purchase Property					\$750,000		\$1,000,000
6. Parking Structure (14 spaces per level)	2	14	28	12500	\$350,000	15000	\$420,000
<u>7. Site &amp; Utility Upgrades</u>					\$300,000		\$400,000
Approximate Total Cost			21283		\$4,930,850		\$6,413,600

Option 3- preferred plan revised

	floors	footprint	square ft.	\$/sf	lower est.	\$/sf	upper est.
1. Renovate Existing Fire Station for Police Station	3	3962	11886	\$100	\$1,188,600	\$150	\$1,782,900
2. Link	2	783	1566	\$250	\$391,500	\$300	\$469,800
3. Fire Station with Apparatus Bay	2	3270	6540	\$250	\$1,635,000	\$300	\$1,962,000
4. Public Restroom	1	1263	1263	\$250	\$315,750	\$300	\$378,900
<u>5. Site &amp; Utility Upgrades</u>					\$200,000		\$250,000
Approximate Total Cost			21255		\$3,730,850		\$4,843,600

Project Costs= Construction Costs x 17%-25%

Construction Costs

Fees (Architect, Engineers, Legal)

Furnishings and equipment

Permitting

Contingency

Land Costs

## V. APPENDIX

APPENDIX  
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- VI. APPENDIX
- Meeting Notes
  - Code Review
  - Questionnaires
  - Space Program
  - Site Turning Radius Options
  - Stacking Diagram
  - Existing Conditions Drawings- DGC Architects
    - A 101 – Existing First Floor Plans
    - A 102 – Existing Second Floor Plans
    - A 103 – Existing Third Floor Plans
    - A 201 – Existing Elevations
    - A 301 – Existing Section

April 1, 1988- Site Plan- Ames Corp.

April 26, 1910- Floor Plans and Elevations – Fred L. Savage Architect

**MEETING NOTES**



## Meeting Notes 1

- PROJECT:** Bar Harbor Public Safety Buildings-  
Feasibility Study
- DATE/TIME:** July 17, 2012 2:00-4:00 pm
- LOCATION:** Harbor Master's Office
- ATTENDEES:** **Owner:**  
Fire Chief Lyman (Joe) Kane  
Police Chief Nathan Young  
Sergeant Dave Kearns  
**Design Team:**  
Carla Haskell, (DGC)- 664-0569 (c) 669-2104  
Eero Hedefine, Hedefine Engineering & Design  
(structural and civil)  
Tim Mathews, Swiftcurrent Engineering (electrical)  
John Kilby, JM Kilby Engineering (mechanical)  
Arthur Thompson, SMRT, Inc (Public Safety  
Programming)

ITEMS DISTRIBUTED: Questionnaires

### **ITEMS TRANSMITTED AT MEETING:**

- 1.0 AGENDA
- 1.1 Introductions
  - 1.2 Review of Project Goals
  - 1.3 Building Facility Existing Conditions
  - 1.4 Brief update on morning's review of building tour
  - 1.5 Feedback on Existing Building positive & negative aspects
  - 1.6 Site Discussion- positive & negative aspects
  - 1.7 Programming Discussion
  - 1.8 Review Questionnaires
- 2.0 **DISCUSSION**
- 2.1 Project Scope of Work- To assess the public safety building existing site, building conditions, size and use for the Bar Harbor Fire and Police Departments. The assessment will include an Existing Building Assessment, an Energy Use Audit and recommendations, and a space-use and programming assessment at present and for the next 20 years.
- 2.2 Fire Department Building- The building was designed by Fredrick Savage and built in 1910-11 (MCMXI on Façade). The building appeared in good shape and well maintained. The flat roof was replaced by Bangor Roofing 4-5 years ago. Leaking at the parapet

was detected 3 years ago at the parapet and the 1990's leak. The brick was re-pointed and flashing repaired. LE Norwood waterproofed the brick 3 years ago. Windows were replaced by PDQ Doors in Bangor, rigid insulation add to 3 walls at the Street level garage in the 80's. Currently no major leaking or architectural issues expressed by the Fire Department. (ACTION: DGC will provide an existing conditions report including architectural, structural, electrical and mechanical evaluation in final report.

- 2.3 Structural Review- preliminary review shows some minor scaling on some steel beams in the basement, the foundation and brick walls appear in good shape.
- 2.4 Heating and Plumbing- Chief Young described the original steam system was to serve both the existing Fire House and the added Police Station. It failed after a few years and a new boiler was installed. There is a summer switch on the boiler. There are cooling units on the roof and condensate lines run in the ceiling.
- 2.5 Electrical & Life Safety Devices- Today's code requires more exit signs, emergency lights smoke detectors and carbon monoxide than currently provided. All electrical is currently on the generator. The elec service would need to be upgraded if the building were added on. The existing generator is 25 KW.
- 2.6 Public Restroom- Public Works takes care of the facilities. Chief Young expressed concern regarding the vulnerability of the public restroom next to the Police Department.
- 2.7 Verizon rents space in the basement of the Fire Department and installed a generator and a propane tank on the outside yard. The Town gets an income of approx \$20,000 annually for this arrangement.
- 2.8 Site Circulation and Parking- Site circulation is poor due to traffic cutting through site and proximity of busy public circulation in summer to parking and garage access.
- 2.9 Island Explorer Building and bus loading- Island Explorer expanded their bus loading area from North South to East West Fire Fly Lane- sometimes obstructs Fire Truck exiting and entering truck bays. (ACTION: A follow up discussion with Director of Transportation Paul Murphy at Island Explorer was ok with Nate.)
- 2.10 On-Site Vehicle Parking-Typically 2 Fire Department pick-up trucks, 4 employee spaces. The Police Department has 3 cruiser spaces, 2 visitor spots, spaces for 5 officers plus dispatch. Total site parking needs- Fire Dept.- 6 spaces, Police Department- 11 spaces
- 2.11 Site Lighting- Fire Fly Lane side of building is lit by street lights and building. The Rodick Place side of the building is poorly lit. Not sure who owns the street lights.
- 2.12 Responses to Questionnaires- Arthur (SMRT) received hardcopies of the questionnaires for review during the meeting. (ACTION: Copy of both questionnaires to be distributed to the design team)

- 2.13 Site Property Expansion possibilities- Both departments want to maintain proximity to downtown. A two story apartment building is to the west and the Town owned Island Explorer information building is to the East. The only other lot that the Town owns in town that would have enough room for the departments is the Kid's Corner lot on Michigan St. Considering possible expansion opportunities in the existing location, the lot next door to the Fire Department on the corner of Rodick St. is a possibility. It was sold and purchased by a private buyer 5-6 years ago. (ACTION: Carla (DGC) to check on purchase price of neighboring property with Town Assessor).
- 2.14 Space Programming- A brief review of the conversation will be provided – The Police Department personnel will not be decreasing. (ACTION: SMRT will provide a programming and space use evaluation in final report.)
- 2.15 Storage- Police Department 1- 3 year Files are kept on site. Older files kept at the Municipal Building. PD sees paper file storage needs decreasing over time.
- 2.16 Growth Plans- The Chamber of Commerce and Cruise Ship Studies are available for public viewing. Population in Bar Harbor varies from 5,300 in winter to 22,000 in summer.
- 2.17 Fire Department- traditionally number of calls are declining or holding steady.
- 2.18 FD Equipment- They are currently maintaining what they have- no plans to purchase new equipment. Future Joint Training Center may be looking at sharing service calls. Telescoping cannon has to be taken off to get into the apparatus bay.
- 2.19 Police Department- There are now 13 full time employees. In 20 years may add an Assistant Chief (Lieutenant) and an Investigator. Seasonal staff (2) are parking ticket staff. Reception is currently staffed by the dispatch. Not ideal. Preferred to have day reception staffed by a civilian and at night an officer. Current administrative duties are shared by all staff.
- 2.20 Evidence- currently use lockup areas- not ideal. Would like a pass through locker arrangement.
- 2.21 A training room for 50 people is needed.
- 2.22 Fitness room- currently using floor space in the Fire Department Apparatus Bay and sharing with Fire Department staff. The current locker room is severely undersized- no room for officer gear bags
- 2.23 File Storage- using less space over time. Archiving laws require retaining accident reports for 20 years and sexual assault kits for 6 years. Gun Storage- there is no formal armory. All guns are in the vehicle except if out for repair. Trailer in parking lot now houses air conditioners and spare equipment.
- 2.24 Fire Department- 10 full time staff- not seeing any additional positions except for the addition of one paramedic per shift- (3

- people) If consolidation happens in the future their needs will go down, if not their needs will go up.
- 2.25 Dispatch is currently in the Day room. Sleeping rooms are currently shared. Current trends are to have shared rooms with each officer having their own bed.
  - 2.26 Hose storage- new equipment will trend to smaller and lighter weight hoses that will not require the traditional drying rack method.
  - 2.27 Plans and Review area- Not sure they will need this space in house. Could possibly use the Municipal Building planning office for this.

### **3.0 ACTION ITEMS** *(new action items compiled from above)*

- 3.1 DGC will provide an existing conditions report including architectural, structural, electrical and mechanical evaluation in final report.
- 3.2 A follow up discussion with Director of Transportation Paul Murphy at Island Explorer was ok with Nate.
- 3.3 Copy of both questionnaires to be distributed to the design team
- 3.4 Carla (DGC) to check on purchase price of neighboring property with Town Assessor
- 3.5 SMRT will provide a programming and space use evaluation in final report.

Next Steps- Next meeting in August to look at space assessment for future growth and option diagrams for consideration by the Police and Fire Departments.

Attachments: None

Submitted by  
Carla Haskell  
DGC Architects  
Please advise of any corrections.



## Meeting Notes 2

- PROJECT:** Bar Harbor Public Safety Buildings-  
Feasibility Study
- DATE/TIME:** August, 2012 2:00-4:00 pm
- LOCATION:** Fire Department Conference Room
- ATTENDEES:** **Owner:**  
Fire Chief Lyman (Joe) Kane  
Police Chief Nathan Young  
**Design Team:**  
Carla Haskell, (DGC)- 664-0569 (c) 669-2104  
Eero Hedefine, Hedefine Engineering & Design  
(structural and civil)  
Arthur Thompson, SMRT, Inc (Public Safety  
Programming)

ITEMS DISTRIBUTED: Site Plans, Building Model, Draft Program dated 8/27/12

### **ITEMS TRANSMITTED AT MEETING:**

#### 1.0 AGENDA

- 1.1 Review Existing Conditions Report – Code, Energy, Structural
- 1.2 Review Space Program Needs
- 1.3 Site Circulation and site options
- 1.4 Building Options

#### 2.0 **DISCUSSION**

- 2.1 Existing Conditions Report- Carla provided a review of the Executive Summary highlights. Issues of immediate concern with the existing buildings mechanical systems were the lack of cooling & ventilation in both buildings. (Action: DGC to issue final draft of existing conditions report based on feedback from the meeting)
- 2.2 Structural Review- Eero Hedefine provided an overview of the Fire Department structural system. The Fire Department first floor apparatus bay is a suspended concrete slab with steel structural support. Based on his findings, there is evidence of water damage on the First Floor in the apparatus bays and the wash bay. Further investigation will need to take place to find out the extent of the damage. The current use of the first floor will cause further damage to the existing slab as time passes. There is no evidence of structural failure at this time. (ACTION: Structural investigation of the first floor structure is recommended.)

- 2.3 Site Circulation- A study of truck circulation to the rear of the existing property from Rodick Place was presented. The study confirmed that a drive through apparatus bay was possible on the existing site. It was agreed that existing heavy traffic, especially in the summer, would create daily difficulty for the Fire Department staff.
- 2.4 A rear entrance for a PD sally port and wash bay is still possible.
- 2.5 Space Program- (see attached report for updated program) The existing gross square footage for the Police Department building is 1871 sf, the program uses and future staff requirements result in a gross square footage 4 times larger. The existing Fire Department building is 11,790 sf (three floors including the basement) the projected program square footage is 13, 532 sf.
- 2.6 Space Programming Review- A few space uses were clarified- A common Lobby was acceptable to both departments. A PD staff entrance is needed near the Sally Port. A shared exercise area is acceptable- the space would not be open to the public or other department use. The PD would like stove or cooktop for staff use only. (ACTION: SMRT to issue revised program based on meeting comments and feedback.)
- 2.7 Parking- The number of parking spaces may not be an issue due to Ferry Terminal planning.
- 2.8 Planning Options-  
 Option 1 describes the following: Fire Department maintains use of the existing building, a new double entry apparatus bay structure, a 2 story Police Station, and larger restroom facility. This has the least number of parking spaces. This option explores whether the property could contain the required program.  
 Option 2: Phased development- Presents the option to buy the neighboring lot. The assessed value is \$750,000. The Police Department builds a new structure to meet it's program requirements, the parking lot is for FD and PD use only, and the restrooms are remotely located. At a future date the Fire Department will abandon use of the existing apparatus bay and build a new facility either on the neighboring property  
 Option 3: Explores the Police Department use of the existing Fire Department building, a shared entry link, new Fire Department structure and a separate restroom facility with parking on the neighboring lot. The lot has the capacity for a two story parking structure for approximately 30 spaces.
- 2.9 Discussion Option 1 has determined the property can contain all of the structures with no onsite parking. Looking at the massing model it would be a dense development of the site.
- 2.10 Discussion Option 2- The parking lot seems to be a lot of area for few spaces. The number of bays in the new apparatus facility is limited (5- 14' bays is required)
- 2.11 Discussion Option 3- It was decided that the cost to develop the neighboring lot was not worth the cost. Renovating the existing Fire

Department building is feasible if the connecting link provided a two story elevator access to both departments. The Rodick Place access was determined not user friendly but Chief Kane suggested moving the Fire Department building back towards Rodick Place to allow Fire Truck parking outside the facility on Fire Fly Lane. There would be a conflict with Island Explore buses that are now parked on this side of the Village Green. This was determined to be the preferred option. (ACTION: DGC will explore how the spaces could be laid out in Option 3)

### **3.0 ACTION ITEMS** *(new action items compiled from above)*

- 3.1 DGC to issue final draft of existing conditions report based on feedback from the meeting
- 3.2 HED recommends that a structural investigation of the first floor structure take place within the next 1-2 years.
- 3.3 SMRT to issue revised program based on meeting comments and feedback.)
- 3.4 DGC will explore how the spaces could be laid out in Option 3

Next Steps- Confirm meeting in September to review development of the preferred option and issue final report.

Attachments: Revised space program

Submitted by  
Carla Haskell  
DGC Architects  
Please advise of any corrections.

## CODE REVIEW

**PRELIMINARY CODE SUMMARY: Bar Harbor Public Safety Buildings**

**PROJECT DESCRIPTION:** Existing Building Review

**GENERAL INFORMATION:**

DATE PREPARED: September 27, 2012

CODES USED: Maine Uniform Building and Energy Code, 2010 Edition  
 International Building Code (IBC), 2009 Edition  
 NFPA 101 Life Safety Code, 2006 edition  
 Americans with Disabilities Act (ADAAG), 2010 Standards  
 Mechanical: International Building Code, 2006 Edition  
 Plumbing: Maine Plumbing Code, 2006 Edition  
 Electrical: National Electrical Code, 2008 Edition  
 Energy: ASHRAE Standard 90.1  
 Fuel Gas: NFPA 58 – Liquid Petroleum  
 Ventilation/ Indoor Air Quality: ASHRAE Standard 62.1

SPRINKLERED: Non- Sprinklered

EXISTING & NEW CONSTRUCTION TYPE: IBC- TYPE V  
 NFPA- TYPE V (0,0,0)

OCCUPANCY CLASSIFICATION: IBC: Assembly A3/ Business  
 NFPA 101: CHAPTER 38, Business  
 Chapter 12, Existing Assembly  
 Chapter 42, Storage Occupancy  
 42.8.1.5 Parking Structures used only for the storage of vehicles shall be classified as ordinary hazard in accordance with Section 6.2.

REQUIRED SEPARATION: NFPA 101: Assembly/ Business = 1 hour  
 Business/ Storage (Ordinary Hazard) 1 hour (1 hour reduction taken for approved sprinkler system)

<b>Police Department First Floor</b>	<b>1,871 sf</b>	
Police Offices	638.5/ 100sf per person=	7 people
Lobby	161/ 7 per person =	23 people
Cells	1 person per cell =	3 people
Subtotal		33 people

<b>Fire Department First Floor</b>	<b>3930 sf</b>	
Dispatch	70/ 100sf per person=	8 people
Fire Department Garage	3187.5/ 500 per person=	4 people
Subtotal		23 people

<b>Fire Department Second Floor</b>	<b>3930 sf</b>	
Lounge (Staff Use only)	1020/ 15sf per person=	68 people
Offices	496/ 100 per person=	5 people

Kitchen	201/ 100 per person=	2 people
Bedrooms	8 / 1 per person=	8 people
Training Room	511/ 15 per person	34 people
Subtotal		126 people
<b>Fire Department Basement</b>	<b>3930 sf</b>	
Dispatch	70/ 100sf per person=	8 people
Fire Department Garage	3187.5/ 500 per person=	4 people
Subtotal		23 people

**Fire Department Occupancy 149 people**

**COMBINED BUSINESS & PARKING STRUCTURE:** Fire Barrier required having a fire resistive rating of not less than 2 hours in un-sprinklered building. NFPA 38.1.2.2.2

**MEANS OF EGRESS, GENERAL:**

Exits: NFPA: Openings in a required separation shall be protected by fire door assemblies equipped with door closers.

CONTINUITY: IBC: The required capacity of a means of egress system shall not be diminished along the path of travel. 1003.6

**MEANS OF EGRESS:** Vertical Openings- Every vertical opening between floors of a building shall be suitably enclosed **or protected** as necessary. NFPA 4.5.5

**Means of Egress Requirements (NFPA)- (NS)=NON SPRINKLERED, (S)=SPRINKLERED**

Capacity of Means of Egress: Not less than 36". (7.3.4.1) Minimum clear width 44" for any corridor or passageway serving 50 occupant or more. (38.2.3.2)

Number of Exits: Not less than 2 exits from every story. (38.2.4)

Common Path of Travel Limit: 75 feet (NS), 100' (S)

Dead End Corridor Limit: 20 feet (NS), 50 FEET (S)

Travel Distance Limit: 200 feet (NS), 300 Feet (S)

**Protection Requirements (NFPA)**

**Protection of Vertical Openings:** Unenclosed vertical openings in accordance with 8.6.8.2 shall be permitted (38.3.1 (1)).

**Corridor Separation:** Fire resistance rating not required for a space occupied by a single tenant. (A 38.3.6.1 (2))

**Single Means of Egress from Second Floor:** A business occupancy not exceeding 3 floors and not exceeding 30 people per floor are permitted a single exit providing travel distance does not exceed 100', where the exit is enclosed, and where the exit discharges directly outside.

**ACCESSIBLE MEANS OF EGRESS:**

NUMBER REQUIRED: IBC: Not less than one accessible means of egress per accessible space. Where more than one means of egress is required, not less than two shall be accessible. 1007.1

**ACCESSIBLE EXIT STAIRWAYS:**

Stairs not required to be accessible must provide signage indicating the location of accessible means of egress, Section 1007.7.

NFPA: Unless only one exit is required, two accessible means of egress are required. Section 7.5.4.

**MEANS OF EGRESS, DOORS:**

DOORS: IBC: Doors shall provide a clear width of 32" wide min., nominal 48" wide max. and 80" high min., Section 1008.1.1. Doors shall swing in the direction of travel when serving an occupant load of 50 or more persons. Section 1008.1.1.

NFPA: Doors shall provide a clear width of 32" min. Section 7.2.1.2.4. Doors shall swing in the direction of travel when serving an occupant load of 50 or more, in exit enclosures, and in high hazard contents areas. Section 7.2.1.4.2. & 3. During its swing, a door shall leave not less than one half of the required width of an aisle, a corridor, a passageway, or a landing unobstructed and shall not project more than 7" into this width when fully open, Section 7.2.1.4.4.

DOORS IN SERIES: IBC: The space between the doors shall be 48" plus the dimension of the door swing. Section 1008.1.7.

NUMBER OF EXITS: IBC: Two exits or two exit access doorways from any space shall be provided where the occupant load exceeds 50. Section 1015.1.

NFPA: Two exits or two exit access doorways from any space shall be provided except that a single exit is allowed to be common for the common path of travel allowed. Review Assembly occupancy

NFPA: In low hazard storage occupancies, a single means of egress is allowed. NFPA 42.2.4.1

**DOOR ARRANGEMENT:**

IBC: In a non sprinklered building, if two doors are required from an area, they must be a distance apart at least as great as 1/2 the greatest diagonal dimension. Section 1015.2.1 E 2.

NFPA: Two exits shall be located at a dist. apart from each other at least 1/2 the length of the max. overall dimension; if more than two exits are required, at least two shall meet the separation requirement and the rest located such that if one is blocked by fire, the rest are available. Sections 7.5.1.3.2

**MEANS OF EGRESS, EXIT ACCESS:**

INTERVENING SPACES: IBC: Egress can pass through intervening spaces that are accessory to the area being served. Egress cannot pass through kitchens, storage rooms, closets, or spaces used for similar purposes. Egress cannot pass through rooms that can be locked to prevent egress. NFPA 7.5.1.6 Section 1014.

NFPA: If the corridors are not required to be rated, they can discharge into open plan areas. Section 7.5.1.2.2.

EXIT SIGNS In all spaces required to have more than one exit or exit access. Every point in egress corridor within 100' of a sign

**POWER SUPPLY FOR EXIT SIGNS & ILLUMINATION**

Battery packs or generator

Fire Detection Must be tied into an approved building fire alarm system

FIRE EXTINGUISHERS: Max 75' distance between FE in egress access NFPA 10

# QUESTIONNAIRES

# Bar Harbor Police Department Request for Information

Name/Title of person completing this form: Nathan Young Chief of Police

Telephone Number: (207) -288-3391

Fax Number: (207) -288-2120

E mail Address: nyoung@barharbormaine.gov

Date:

Note: Questions regarding this questionnaire should be addressed to: Arthur Thompson@ 207-321-3800, fax 207-772-1070, cell 941-350-5910, e-mail athompson@smrtinc.com.

1. Please provide a mission statement for your department/division.

The Bar Harbor Police Department's primary mission is, and will continue to be, to protect and serve our community to the greatest extent possible, to protect life and property, and prevent crime by vigorously delivering the best possible services when crime occurs.

2. Briefly describe the services or functions provided by this office.

Law enforcement functions, including but not limited to Patrol, investigations, arrest processing, evidence handling and storage, interviews, dispatch/ radio operations call-taking/processing, public walk-up information and crime reporting

3. Please provide a complete organization chart for your department/division illustrating normal and seasonal staffing.

Chief of Police, Lieutenant, two Sergeants, nine patrol officers... Dispatch-Head Dispatcher, three dispatcher

4. Are all staff located at this location? If not, please indicate the location of the other staff.

Yes

## Bar Harbor Police Department Request for Information

5. Please indicate the number of full time equivalent employees, FTE's, working in your department. Two half-time employees are equivalent to one FTE.

FY12	FY17	FY22	FY27	FY32
17	17	19	19	21

6. Please indicate the number of FTE's for each personnel category.

Employee (FTE) Category	FY12	FY17	FY22	FY27	FY32
Police	13	13	14	14	16
Dispatch	4	4	5	5	5

7. Provide a brief explanation of any anticipated personnel growth or reduction in this department/division. Identify the factors that may impact these changes.

Population growth, increased tourism, increased cruise ship visits

8. If any non-departmental or agency personnel are housed in this area, indicate which department or agency they are from, the number of personnel, and their function. Indicate if these personnel were included in your counts above.


9. Please indicate any likely changes that may impact these non-departmental personnel. Please quantify and identify the time frame to the best of your knowledge.


## Bar Harbor Police Department Request for Information

10. Do volunteers, summer interns, or seasonal employees work in this office? Do they require additional work or storage space in the office? Please quantify number of seasonal employees

Two seasonal parking ticket officers.
Yes, additional work space for ticket process, storage, and computer input of tickets

Seasonal Employee (FTE) Category	FY12	FY17	FY22	FY27	FY32
Parking	2	2	2	3	3

11. Describe any services or spaces that are shared with other departments/divisions. For example: copy center, equipment, personnel, lockers, training, fitness, etc.

File storage at the Municipal building, fitness equipment at the Fire Department

12. Please indicate the areas you have now that are adequate for your current needs. Indicate those areas you do not have but need or that you have but are inadequate. Include quantities of personnel, furniture, and equipment. Add any space not listed. Please be prepared to specify the number of people, frequency of use, and amount of space needed.

Space/Function	Have	Need	Qty/Size	Furniture/Equip.	Shared With?
Waiting					
Counter Area					
Conference Rm					
Meeting Rm					
Interview Rm					
Lounge/Break Rm					
Equipment Storage					
Computer Rm					
Library/Resource Rm.					
Copy/ work Rm					
Storage/Supply Rm					



## Bar Harbor Police Department Request for Information

16. How are these visitors usually handled? Do they meet in conference rooms, interview rooms, private offices, or are they handled at a counter? Do they require access to other portions of the office.?


17. Describe the relationship of this department/divisions to other departments/divisions. Which departments is it important to be close to? Does your department need a separate entrance?

Dispatch important to be close we utilize in daily
operations. Yes we need separate entrance

18. Please indicate the number of file storage units you have including departmental files only. List the number of file drawers not cabinets. If shelving is utilized list the linear feet of shelving. If other types of storage is utilized, please describe and quantify. List quantities separately for lateral files, vertical files, box files, index files, and open shelf files. Please note separately the active and inactive files.


19. Are all your files currently stored in your department/division? If not, where are they stored?

Yes

20. Could your inactive files be stored remotely?

Yes
-----

21. Could your files be stored in high density storage, (rolling files)?

Yes
-----

22. Who outside your office has access to your files?

No one

## Bar Harbor Police Department Request for Information

23. What is the required retention period for your active and inactive files?

Forever

24. Are your files most effectively organized by work station/desk, work group, or centrally organized for the whole department? Do you need a combination of all of these options? Please describe.

Combination of officer files currently working, however centrally organized thereafter.

25. Are micrographics or electronic storage of files currently utilized? If these are utilized in the future, what impact would they have on your file storage needs?

Some are stored in Laserfiche, and this maybe a file reduction method in the future

26. How frequently do you require access to files over two years old?

Frequent but not daily

27. What are the best aspects of your current location and layout?

Easy access and are readily available

28. What are the worst aspects of your current location and layout?

No space / unorganized

## Bar Harbor Police Department Request for Information

29. What are the most critical space problems of your department/division?

No functional office/work space. No ample storage space for equipment, files, or evidence.

30. Describe any special security or communications requirements of your department.

Limited access to building, files, and computers required  
Need secure booking and prisoner area

31. Describe your current computer system and needs.

Town network access, with secure RMS software, video server

32. Are your computer system or needs likely to change in the future? Describe.

No

33. How many staff drive to work each day? Are there any assigned parking spaces? Where do the staff park?

All staff drive to work. There are four parking spaces that are shared with Fire Department. Public parking

34. How many staff are assigned vehicles? Are these vehicles driven home at night?

No

35. Describe other on site equipment storage needs such as boats, signs, etc.

Firearms equipment/trailer, radar trailer, signs, firearms,

**BAR HARBOR FIRE DEPARTMENT REQUEST FOR INFORMATION**

Name of person completing form: Assistant Chief Matthew Bartlett/reviewed by Chief Kane

Telephone number: 288-5533

Fax number: 288-8204

Email address: [mbartlett@barharbormaine.gov](mailto:mbartlett@barharbormaine.gov), [lkane@barharbormaine.gov](mailto:lkane@barharbormaine.gov)

Date: 7-10-12

**1. Provide mission state for FD**

The Bar Harbor Fire Department's Mission is to provide a range of programs and services, including fire prevention, fire suppression, and emergency medical services designed to protect the lives and property of the citizens and visitors to the Town of Bar Harbor from adverse effects of fire, medical emergencies and other man made or natural disasters.

**2. Briefly describe the services or functions provided by the FD**

Provide fire suppression, EMS service, confined space and other rescue situations that may arise during the course of daily operations

**3. Please provide a complete organization chart for FD.**

FIRE CHIEF

A SHIFT	B SHIFT	C SHIFT
CAPTAIN	ASSISTANT CHIEF	CAPTAIN
FIREFIGHTER/EMT	FIREFIGHTER/EMT	FIREFIGHTER/EMT-I
FIREFIGHTER/MEDIC	FIREFIGHTER/MEDIC	FIREFIGHTER/MEDIC

CALL FIREFIGHTERS

Fire Chiefs over sees all aspects of the Fire Department operations. There are 3 shifts with each shift having an Officer who is in charge of the day to day operations that answers directly to the Fire Chief. Three fulltime staff members are on duty for 24 hours a day The Chief also over sees the part time Call Firefighters.

**4. Please indicate which staff are located at the central or substation:**

The central station is the only location that is currently staffed.

**5. Please indicate the number of fulltime equivalent employees, FTE's working in you department**

FY12	FY17	FY22	FY27	FY32
4	4	4	4	4

**6. Please indicate the number of FTE's for each personnel category**

FTE category	FY12	FY17	FY22	FY32
Fire Chief	1	1	1	1
Fire Officer	1	1	1	1
Firefighter/EMT	2	2	2	2

8/12

Others  
to  
sub. by  
Bartlett?

BAR HARBOR FIRE DEPARTMENT REQUEST FOR INFORMATION

7. Provide a brief explanation of any anticipated personnel growth or reduction in the FD. Identify the factors that may impact these changes.

The current budget and anticipated budgets do not allow for more fulltime employees. Increase in call volume and decreasing numbers of call firefighters could play a factor in increasing staff levels in the future. At this time no anticipated growth within fulltime staff.

8. If any non-departmental or agency personnel are housed in this area. Indicate which department or agency they are from, the number of personnel, and their function. Indicate if these personnel were included in your count.

No other agencies are housed or work out of the Fire Station.

9. Please indicate any likely changes that may impact these non-departmental personnel.

No

10. Do volunteers, summer interns, or seasonal employees work in the FD? Do they require additional work or storage space? Please quantify number of seasonal employees

The current call firefighters do not have any day to day work at the fire station. Occasionally the Fire Department will host an intern but it does not require additional work space or work station

11. Describe any services or spaces that are shared with other department/divisions.

The classroom in the FD also doubles as the Town of Bar Harbor's Emergency Operation Center. The Classroom shared with the Police Department and is available to any Town department that needs the space. On the apparatus bay we have a small work out area that we share with the police department.

12. Functional spaces:

Space/function	Have	Need	Qty/size	Equip/furniture	Shared with
Waiting	X			2 chairs	police
Counter area					
Conference room	X		1	Tables and chairs	police
Administrative offices					
Chiefs Office	X			Desk and chair	
OOD office		X			Between shift
Radio room	X	X	Small cubicle	Desk chairs	All employees
Computer room	X	X			Radio room
Copy/work room	X	X			Conference room
Storage/supply		X			
Act. File room	X	X			Shared with day room
Inactive fire room	X				In basement
Rest rooms showers	X		2		
Equip. storage	X	X			In Fire Chief's closet

*No plan review?*

*Shift*

BAR HARBOR FIRE DEPARTMENT REQUEST FOR INFORMATION

Training room	X				Shared conference/work station
Bunk room	X		8		2 rooms are shared
Kitchen	X				
Break room	X				kitchen
Dining	X				kitchen
Radio comms.	X	X	Small		Computer station
Apparatus Bay					
Rescue 1	x				
E-3 and Rsq. 2	x				
E-5	x				
Ladder 4	x				
Pick up truck	x				Shared ramp with PD can not always access
Maintenance	x				
Gear Storage	X	X			Chief's Office
SCBA room					Compressor on apparatus floor. SCBAS in trucks
Haz Mat		x			
Laundry	X				
Work room	X				
Storage		X			
EMS storage		X			Kept in day room. Open to public

**13. Please estimate the many people visit FD each day. Are there seasonal variations to this rate?**

We average approximately 5 to 6 visitors a day. During the season when brush is burned that number increases significantly. During the summer season we have many walk in visitors that want to see the Fire station or ask general questions.

**14. What is the largest number of visitors at one time? When and how often does this occur?**

We can have 4 or 5 people at the station at one time. This happens at any time during the year

**15. What types of visitors are usually involved?**

We have visitors to meet with the Fire Chief, people in to obtain burning permits; we conduct blood pressure checks on request. We host EMS and Fire related meetings. We welcome the general public for tours of the station on request. Host school groups

BAR HARBOR FIRE DEPARTMENT REQUEST FOR INFORMATION

16. How those visitors are usually handled? Do they meet in conference rooms, interview rooms, private offices or are they handled at a counter? Do they require access to other portions of the office?

Visitors are usually met at the main entrance to the fire station on the apparatus floor. If someone is there to see the Fire Chief they are either taken or told to head to his office. Or they are met on the apparatus floor. If an individual needs a burning permit then they meet a firefighter on the apparatus floor and taken to the small cubicle/radio/office downstairs to get their permit. If attending meetings they are directed to the training room/conference room on the second floor of the station.

17. Describe the relationship of this department/division to other departments/divisions. Which department is it important to be close to? Does your department need a separate entrance?

We working closest with the PD as we both work in public safety. We interact on a daily basis. We currently have a lobby which serves both FD/PD with each a separate entrance to each department. This current system works fine.

18. Please indicate the number of file storage units you have including departmental files only. List the number of file drawers not cabinets. If shelving utilized list the linear feet of shelving. If other types of storage are utilized, please describe and quantify. List quantities of lateral files, vertical files, box files index files, and open shelf files.

We currently have 5 files cabinets for file storage. We use approximately 24 feet of shelving for storage of manual, books and other mandatory files we must keep on file. In the basement we store our Fire/EMS incident reports in boxes kept on top of air tanks that are no longer in use. We using about 20 sq. ft. of storage in the basement

19. Are all your files currently stored in your department?

All of the FD files are kept at the station

20. Could your inactive files be stored elsewhere?

Yes files could be stored remotely. HIPPA regulations would dictate who would have access to the locations and security to the files

21. Do you store building plans?

We have had building plans that are associated with fire inspections

22. Who outside your office has access to your files?

No outside individuals have access to our files

23. What is the required retention period for your active and inactive files?

24. Are micrographics or electronic storage currently utilized? If these are utilized in the future, what impact would they have on your file storage needs?

We are currently storing our EMS runs sheets electronically through Maine EMS electronic run reporting. We will continue to seek out opportunities to files electronically. If we keep moving in the direction our file storage will not continue to grow.

25. How frequently do you require access to your files over two years old?

Seldom

26. What are your best aspects of your current location and layout?

The current location of the fire department is excellent. The location provides us with the access to the entire town and the options to go in any directions we may need. The Fire Station

Permits  
&  
Tourists

## BAR HARBOR FIRE DEPARTMENT REQUEST FOR INFORMATION

is easily found by people needing to come to the station. Current layout of having 2 stories is definitely an advantage. We have our apparatus floor and our living quarters and kitchen on the 2<sup>nd</sup> floor.

**27. What are the worst aspects of your current location and layout?**

Limited parking for Call Firefighters when they need to come to the station. Location does not allow us to have training during the summer. No parking and no place conduct outside training. We are definitely in need of office space and storage space. Current layout does not provide for an easy solution to either problem.

**28. What are the most critical space problems of your department?**

Office or work stations and storage of both fire equipment and EMS supplies.

**29. Describe any special security or communication requirements of your department**

Only security we have is the overhead doors being closed and a locked door leading from the lobby. If we respond to a call and we do not close the overhead door the station is wide open with no way to secure building. Some dispatch centers can close doors remotely from their location. We have an antiquated system for receiving call within the fire department. The current system comes through a radio and out speakers on each floor. No in house alert system in each bedroom. Firefighters have to take radio, pager or both in their room at night to receive calls.

**30. Describe your current computer system and needs**

We currently have 3 in house desktop computers. One computer designated for the Chief. On duty Shift Officers share a computer. Two on duty firefighters share a computer. Assistant Chief and Captain have their own laptops.

**31. Are your computer system needs likely to change in the future? Describe**

Yes.

**32. How many staff drive to work each day? Are there any assigned parking spaces? Where do staff park?**

3 staff members drive to work daily. No assigned parking. Firefighters will either park in the 2 spots adjacent to the fire station, in the designated public safety sports behind PD or in the parking spaces in front of the station.

**33. How many staff are assigned vehicles? Are these vehicles driven home at night?**

Fire Chief is only staff person assigned a care. Chief does take vehicle home at night

**34. Describe other on site equipment storage needs such as boats, signs, etc.**

We currently have a Mass Casualty Trailer stored at the Town Hill Station. No room for the trailer to be stored at the Central Station.

**SPACE PROGRAM**

Bar Harbor Fire and Police  
Study Space Program  
9/15/2012

No.	Component	Persons/Units Per Area	Number of Areas	Space Requirement	NSF	Gross Factor	GSF	Notes	1st	2nd	B
<b>POLICE DEPARTMENT</b>											
<b>1.00 Administration</b>											
1.01	Chief	1	1	200 /area	160	1.40	224	Private Office			
1.02	Lieutenant (Asst' Chief)	1	1	160 /area	120	1.40	168	Private Office			2
1.03	Admin. Assistant	1	1	100 /area	100	1.40	140	Adjacent to Chief and Lieutenant			2
1.04	Public Lobby	6	1	200 /area	200	1.40	280	Waiting area with security pass-through and glass to police receptionist. Emergency after hours phone with direct connection to dispatch. Shared with Fire Dept.	1		
1.05	Vestibule	2	1	40 /area	40	1.40	56		1		
1.06	Records Clerk/ Reception	1	1	100 /area	100	1.40	140		1		
1.07	Records	1	1	110 /area	110	1.40	154	6 file cabinets (plus files in archive storage off site).	1		
<b>TOTAL</b>					<b>830</b>		<b>1,162</b>				
<b>2.00 Operations</b>											
2.01	Sergeants	3	1	80 /area	240	1.40	336	Shared Office for 3	1		
2.02	Detective	1	1	100 /area	100	1.40	140				2
2.03	Patrol	4	1	80 /person	320	1.40	448	Shared work area for report preparation, four work stations (1 future). Each work station will be equipped with a two drawer file.	1		
2.04	Equipment Storage	1	1	200 /area	200	1.40	280		1		
2.04	Booking	2	1	80 /area	160	1.40	224	Secured area, separate from public areas. Rear access for release to exterior. Two stations for data entry, fingerprint and photo area with sink.	1		
2.05	Booking Waiting	4	1	100 /area	100	1.40	140	Bench with cuff loop for retaining prisoners.	1		
2.06	Wet Holding Cell	1	1	70 /area	70	1.40	98	ADA accessible, secure glazing, bench and combi fixture. All surfaces durable construction.	1		
2.07	Prisoner Toilet	1	1	50 /area	50	1.40	70	Unisex, ADA accessible.	1		
2.08	Vehicle Sally Port	1	1	350 /area	350	1.40	490	Door operation by officer in..... Interlock with interior door. Fit large evidence cage as possible.	1		
2.09	Interview	4	3	100 /area	300	1.40	420	Camera recording. Sound isolation. One interview room with access to lobby for use with public and by bail bondsman.	1		
2.10	A/V Room	1	1	100 /area	100	1.40	140		1		
2.11	Evidence Processing	1	1	80 /area	80	1.40	112	Pass-through evidence locker, work counter and sink. Access to evidence storage. Vapor hood to exterior. Include a closet for weapons storage.	1		
2.12	Evidence Storage	1	1	400 /area	400	1.40	560		1		
2.13	Seasonal Parking officers	1	1	80 /area	80	1.40	112		1		
2.14	Armory	2	1	100 /area	100	1.40	140	Window height rolling door, special ventilation, and humidity control, dry fire suppression, fire and smoke detectors, work table, storage racks for shotguns/rifles, cabinet for handguns	1		
2.15	Copy Room	2	1	60 /area	60	1.40	84	Work counter copy/fax/scan machine			2
2.16	Conference Room	12	1	25 /person	300	1.30	390	Table, chairs, white board.			2
2.17	Dispatch	3	1	90 /area	270	1.50	405	Three systems work stations with book case and secure locked drawer. Maintain a min ch of 9 feet for maps etc.			2
2.18	Storage Closet		1	50 /area	50	1.40	70	Shelves for paper ink cartridges, etc.			2
2.19	Rest Room	1	1	50 /area	50	1.40	70	Accessible.			2
2.20	IT/Dispatch Elect.Equip. Rm.	1	1	125 /area	125	1.40	175	W.S. separated from server equipment area with sliding glass door.			2
<b>TOTAL</b>					<b>3,505</b>		<b>4,904</b>				

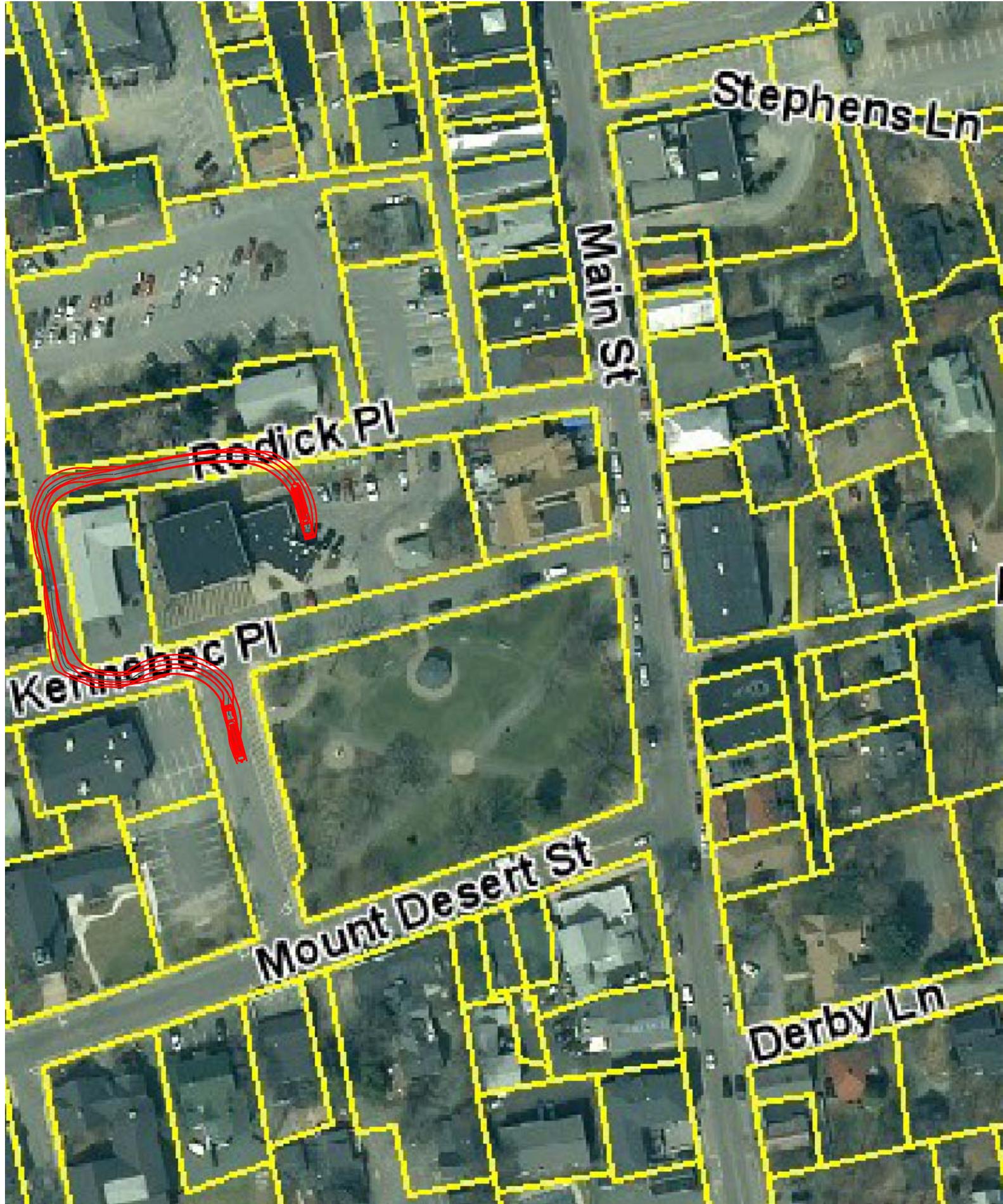
Bar Harbor Fire and Police  
Study Space Program  
9/15/2012

No.	Component	Persons/Units Per Area	Number of Areas	Space Requirement	NSF	Gross Factor	GSF	Notes	1st	2nd	B
3.00	Training/Support										
3.01	Break Room	4	1	120 /area	120	1.40	168	Counter, sink, 2 burner cook top, refrigerator, microwave, coffee maker table, chairs		2	
3.02	Misc. Storage		1	120 /area	120	1.40	168			2	
3.03	Men Lockers	15	1	20 /area	300	1.40	420	3' double door lockers for patrol, 1' wide for other staff		2	
3.04	Mens Showers/Toilet		1	160 /area	160	1.40	224	One toilet, one urinal, one sink, one shower		2	
3.05	Women Lockers	5	1	20 /person	100	1.40	140	3' double door lockers, 1' wide for other staff		2	
3.06	Women Showers/Toilet		1	150 /area	150	1.40	210	One toilet, one sink, one shower		2	
3.07	Exercise	8	1	50 /area	400	1.40	0	See Fire Department			
3.08	Training Room	40	1	20 /person	0	1.40	0	See Fire Department			
3.09	Secure Archives		1	/area	0	1.40	0	Off-site			
3.10	Equipment Storage		1	300 /vehicle	300	1.25	375	Bicycles, radar trailer, signs, trailer			B
<b>TOTAL</b>					<b>1,650</b>		<b>1,705</b>				
<b>4.00 Building Services</b>											
4.01	Janitor		2	40 /area	80	1.40	112		1	2	
4.02	Electrical		2	50 /area	100	1.40	140		1	2	
<b>TOTAL</b>					<b>180</b>		<b>252</b>		<b>4,326</b>	<b>3,322</b>	<b>375</b>
<b>POLICE DEPARTMENT TOTAL</b>					<b>6,165</b>		<b>8,023</b>				
<b>FIRE DEPARTMENT</b>											
<b>5.00 Apparatus</b>											
5.01	Engine 1		1	840 /area	840	1.20	1,008	14 foot doors, protect entrances, 14 x 60 bays	1		
5.02	Engine 2		1	840 /area	840	1.20	1,008	14 foot doors, protect entrances, 14 x 60 bays	1		
5.03	Aerial Ladder		1	840 /area	840	1.20	1,008	14 foot doors, protect entrances, 14 x 60 bays	1		
5.04	Ambulance	2	1	840 /area	840	1.20	1,008	14 foot doors, protect entrances, 14 x 60 bays	1		
5.05	Future Bay		1	840 /area	840	1.20	1,008	Wash bay	1		
<b>TOTAL</b>					<b>4,200</b>		<b>5,040</b>				
<b>6.00 Administration</b>											
6.01	Fire Chief	4	1	160 /area	160	1.40	224	Private Office, small conference table/3 chairs, storage for drawings		2	
6.02	Assistant Chief	2	1	120 /area	120	1.40	168			2	
6.03	Conference	6	1	140 /area	140	1.40	196			2	
6.04	Fire Fighters' Report Area	2	1	160 /area	160	1.40	224	Two work stations, Communications interface, computers, printer		2	
6.05	Communications Closet		1	40 /area	40	1.40	56			2	
6.06	Administrative Assist.	1	1	100 /area	100	1.40	140			2	
6.07	Copy/Work Room		1	100 /area	100	1.40	140	copy, fax, work counter		2	
<b>TOTAL</b>					<b>820</b>		<b>1,148</b>				

Bar Harbor Fire and Police  
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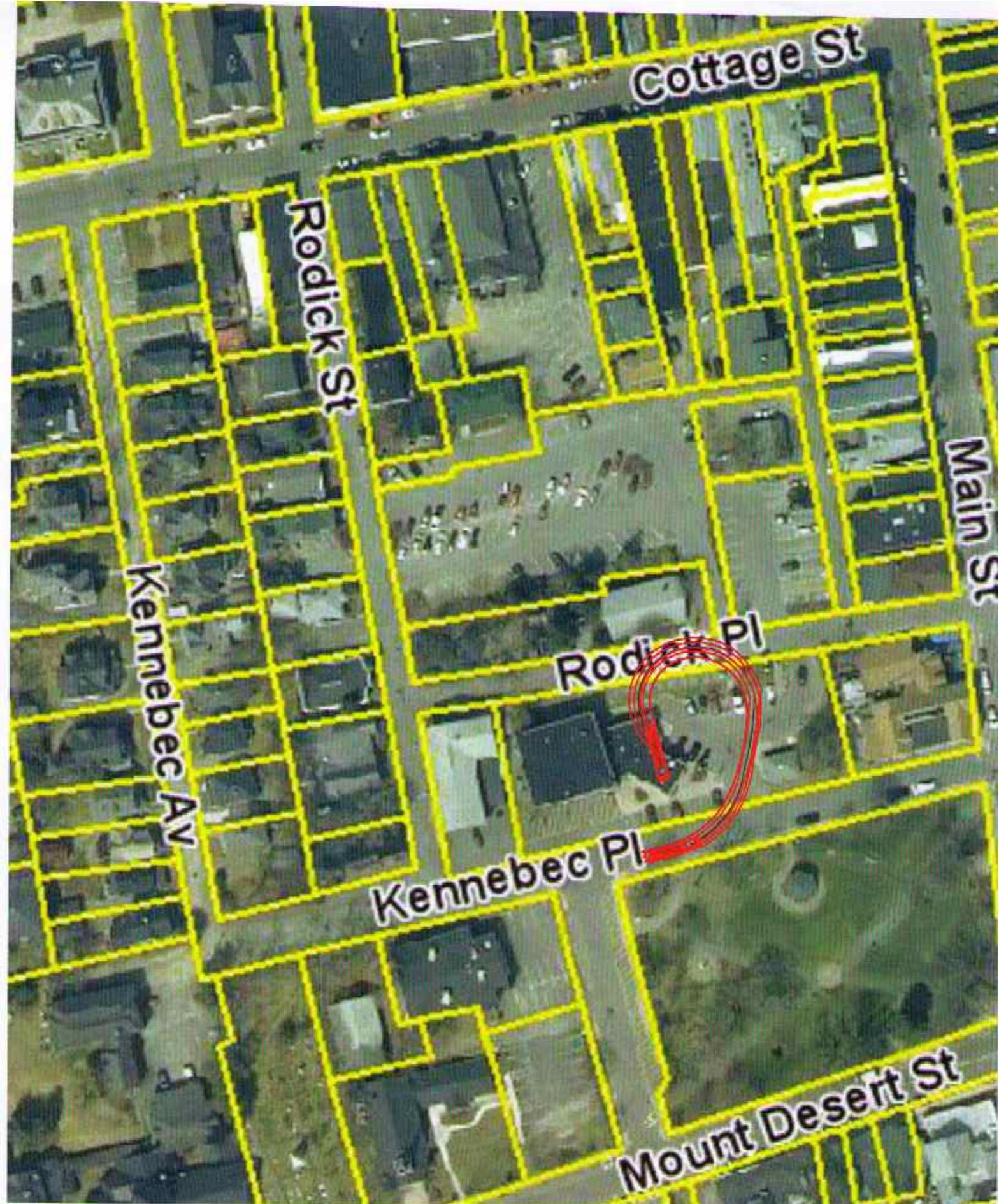
No.	Component	Persons/Units Per Area	Number of Areas	Space Requirement	NSF	Gross Factor	GSF	Notes	1st	2nd	B
<b>7.00</b>	<b>Staff Areas</b>										
7.01	Entry Vestibule	2	1	40 /area	40	1.40	56	Serves shared spaces	1		
7.02	Meeting/Training Room	40	1	20 /person	800	1.30	1,040	Shared with Police, near kitchen. Will serve as emergency management communications room		2	
7.03	Table and Chair Storage	1	1	120 /area	120	1.40	168	Adjacent to Meeting/Training and Day Room/Dining		2	
7.04	Fitness Room	5	1	500 /area	500	1.30	650	Shared facility with Police. Fitness machines, weights.		2	
7.05	Men Public Toilet	1	1	50 /area	50	1.40	70	Toilet, sink accessible		2	
7.06	Women Public Toilet	1	1	50 /area	50	1.40	70	Toilet, sink accessible		2	
7.07	Kitchen	2	1	200 /area	200	1.40	280	Near Meeting/Training Include pantry, refrigerator, 4 burner stove, hood, d.w., sink, island counter		2	
7.08	Dining Area	6	1	20 /person	120	1.40	168	Dining table and chairs		2	
7.09	Day Room	6	1	45 /area	270	1.40	378	Reclining chairs, TV		2	
7.10	Men's Toilet/Shower		1	200 /area	200	1.40	280			2	
7.11	Women's Toilet/Shower		1	100 /area	100	1.40	140			2	
7.12	Shift Officer Sleeping Rm	1	3	100 /room	300	1.40	420			2	
7.13	Sleeping Rooms	1	4	100 /area	100	1.40	560			2	
7.14	Laundry		1	150 /area	150	1.40	210	Bed, three lockers, desk, chair, reading light	1		
7.15	Changing Room/Shower	1	1	40 /area	40	1.40	56	Adjacent to apparatus bay, changing room, washer, dryer, gear, washer, counter, sink		1	
7.16	Staff Toilet	1	1	50 /area	50	1.40	70	Door into laundry, hooks, shower		1	
<b>TOTAL</b>					<b>3,090</b>		<b>4,616</b>	Off Apparatus Bay.			
<b>8.00</b>	<b>Equipment/ Gear</b>										
8.01	Gear Storage	15	1	12 /person	180	1.40	252	Rack storage	1		
8.02	EMS Storage/Work Room		1	400 /area	400	1.30	520	Storage shelves, work counter	1		
8.03	Air Packs		1	120 /area	120	1.40	168	Adjacent to apparatus bays, maintenance room.	1		
8.04	Maintenance/ Tool Room		1	240 /area	240	1.40	336	Adjacent to apparatus bays	1		
8.05	Hose Dry		1	240 /area	240	1.20	288	In apparatus bay, Electric Dryer	1		
<b>TOTAL</b>					<b>1,180</b>		<b>1,564</b>				
<b>9.00</b>	<b>Building Services</b>										
9.01	Boiler/ HVAC		1	400 /area	400	1.30	520	Boiler, HVAC equipment, emergency generator			B
9.02	Janitor Closet		2	40 /area	80	1.40	112	1 at apparatus bay, 1 at living areas, slop sink, mop rack, shelf	1	2	
9.03	Electrical Room		1	80 /area	80	1.40	112	main entrance			B
9.04	Tele/Com		1	40 /area	40	1.40	56				B
<b>TOTAL</b>					<b>600</b>		<b>800</b>				
<b>10.00</b>	<b>Auxiliary Storage</b>										
10.01			1	/area	0	1.40	0				
10.02			1	/area	0	1.40	0				
10.03			1	/area	0	1.40	0				
<b>TOTAL</b>					<b>0</b>		<b>0</b>				
<b>FIRE DEPARTMENT TOTAL</b>					<b>9,890</b>		<b>13,168</b>		<b>7,235</b>	<b>5,344</b>	<b>632</b>

## SITE TURNING RADIUS DIAGRAMS



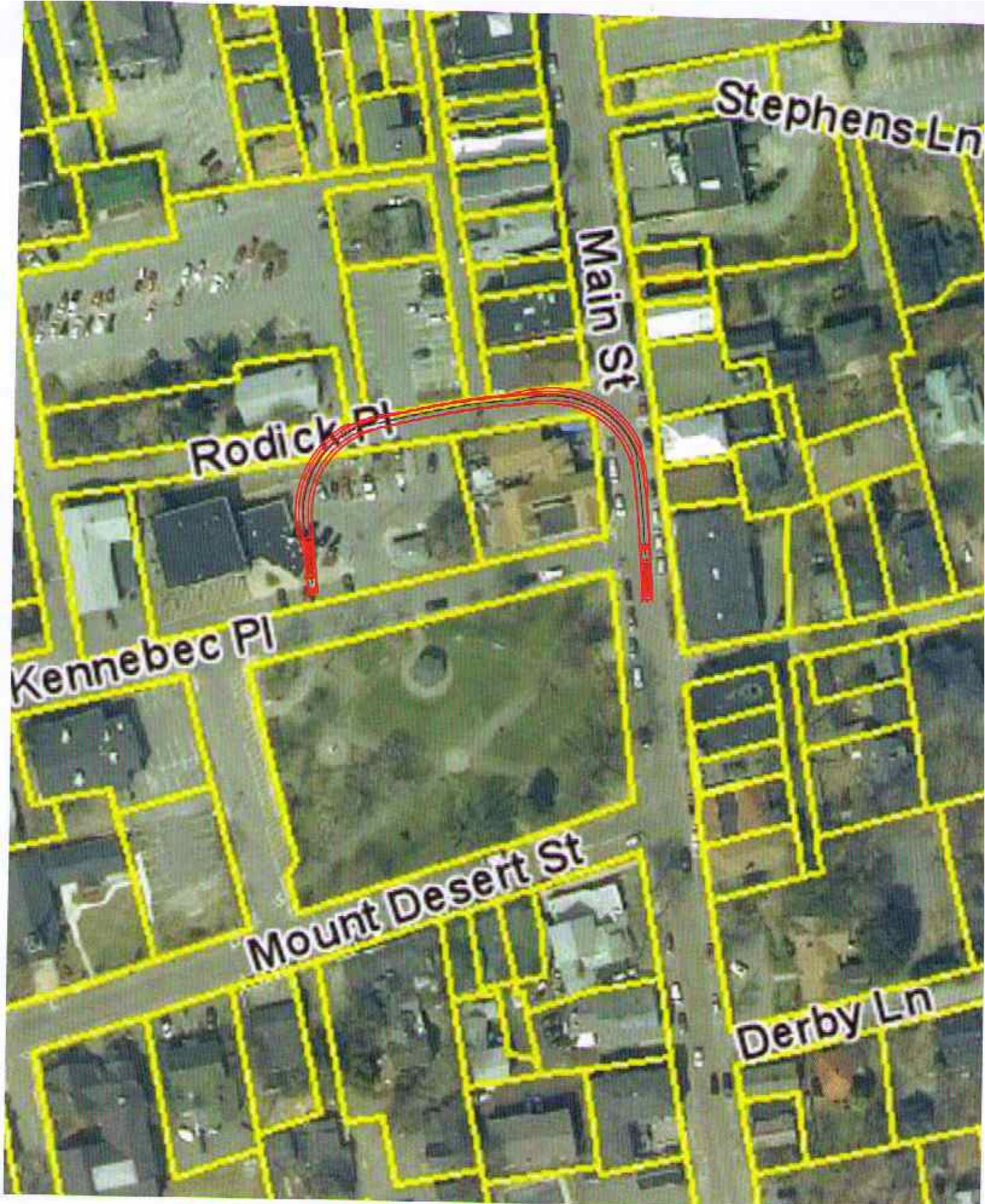
ENTERING FROM KENNEBECK/RODICK

1" = 100'±



ENTERING FROM KENNEBEC PLACE

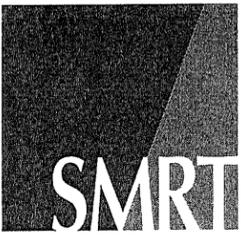
1" = 100'±



ENTERING FROM MAIN STREET

1" = 100'+

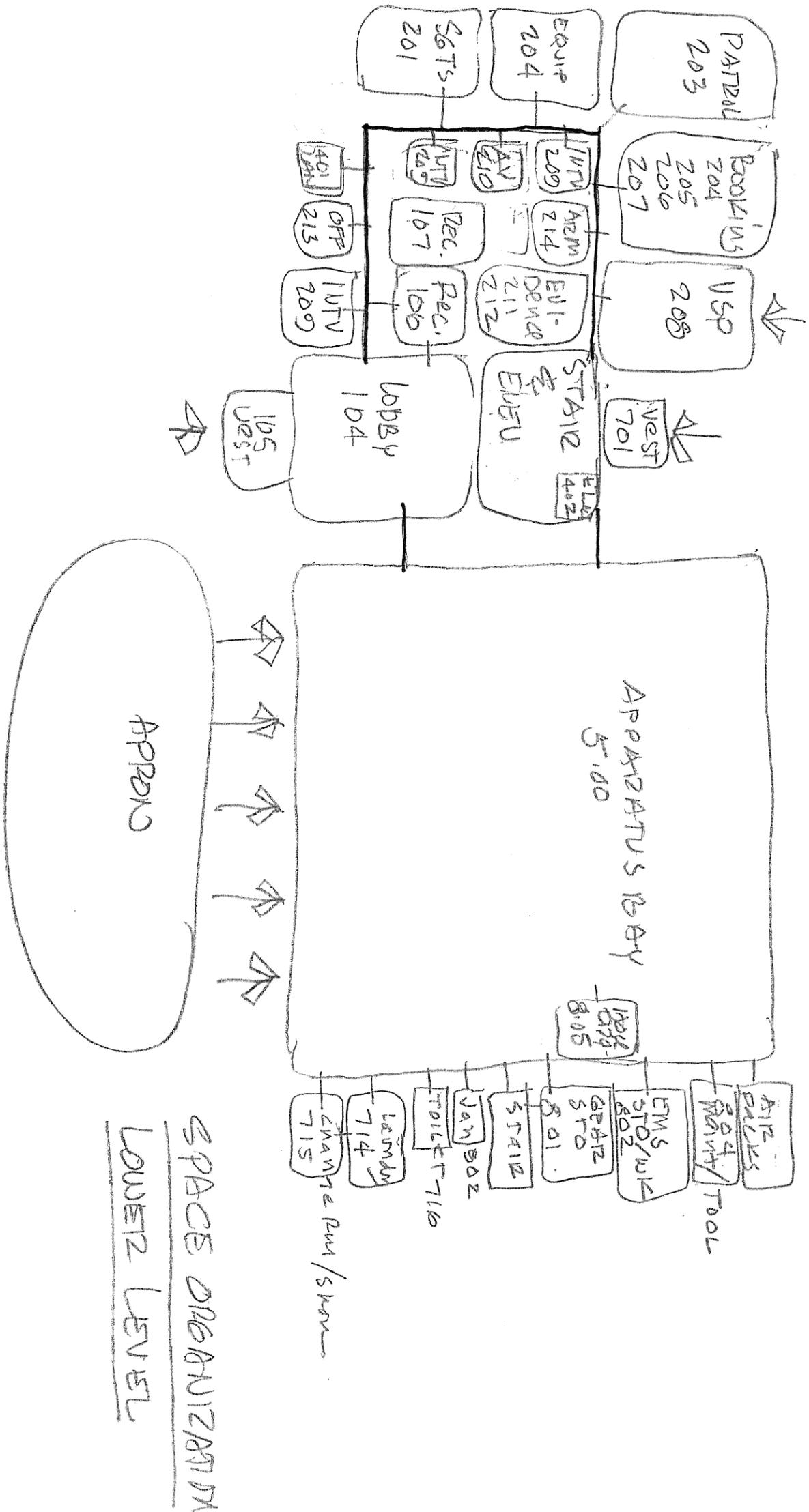
# STACKING DIAGRAM



ARCHITECTURE  
 ENGINEERING  
 PLANNING  
 INTERIOR DESIGN  
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# BARHARBOR POLICE & FIRE

SEPT 15, 2012



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**EXISTING CONDITIONS DRAWINGS**