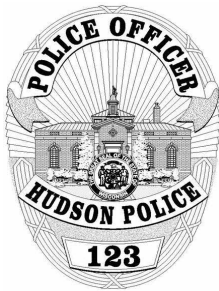


# CITY OF HUDSON

Public Safety space utilization and Facilities Feasibility Study, August 2009



**FRISBIE ARCHITECTS, INC. + COLLABORATIVE DESIGN GROUP, INC.**



17 August 2009

Mr. Devin Willi, Administrator  
City of Hudson  
505 Third Street  
Hudson, Wisconsin 54016

Re.: Public Safety Space Utilization and Facilities Feasibility Study

Dear Mr. Willi,

Frisbie Architects and Collaborative Design Group are pleased to present this report of the Public Safety Space Utilization and Facilities Feasibility Study to the City of Hudson, the honorable Mayor Dean Knudson, the Common Council, and the Public Safety Committee.

Through our meetings with City staff we have gained an understanding of the Police, Fire, and EMS departments' staff, activities, spaces, and equipment, and how they overlap and otherwise interface with the community. In addition to understanding current conditions, we also expanded upon, corroborated, or challenged presumed needs and then began the translation of those needs into more tangible physical definitions. This was followed by evaluating numerous public and privately held sites - both developed and undeveloped - that may accommodate those physical needs and activities.

This process confirmed a high level of collaboration between the Fire and EMS departments and an increasing level between them and the Police Department. These elements, along with building efficiencies, suggest a combined facility for all departments would be preferred over separate ones. One exception to this would be a separate facility for the Police Department to take advantage of sites that would not also accommodate the Fire and EMS departments, or if funding was not available in the near future for a combined facility.

In summary, we are in agreement with the City of Hudson Due Diligence Report of the Ad Hoc Facilities Committee dated 12 June 2008 in so far as it indicates that each of the public safety departments, and in particular the police department, are "pressed for space" to the point where various "areas of operation are inefficient and in many cases have safety issues due to lack of space... (or otherwise inappropriate conditions.)" (p.4) Furthermore, present data indicates that the City and surrounding communities will continue to experience significant growth for the foreseeable future. Accordingly, this report includes recommendations that the City explore the possibility of acquiring one or more parcel(s) for both near-term and future expansion of the departments.

Thank you again for the opportunity to work with the City of Hudson. Please do not hesitate to contact me with any comments or questions.

Sincerely,

Stephen Pederson, AIA, LEED AP

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# ONE: STUDY BACKGROUND, SUMMARY RECOMMENDATIONS

## INTRODUCTION

In August 2008 the City of Hudson issued a Request for Proposal for Professional Services for a Public Safety Space Utilization and Facilities Feasibility Study to “help the City of Hudson make critical decisions to prepare the City’s Police Department, Fire Department, and St. Croix EMS for their space needs for the next thirty years.” The Request also noted “An ad hoc committee consisting of one Council member and the Chiefs of the three departments recently completed an internal facilities space needs study. The Common council has directed that a consultant be retained to verify the findings of the Ad Hoc Facilities Committee report, including potential layouts of a building(s), site selection and cost estimates.”

In February 2009 the City selected the professional team of Frisbie Architects and Collaborative Design Group, (referenced as “Architect’s” herein) for this commission. Meetings between the City and the Architects began in March 2009 for the purposes of understanding goals, needs, services, establishing process, and sharing of information. This report is a summation of this information with recommendations for continuing the process to meet the physical needs of Hudson’s public safety departments. Note, the content and organization of the Report generally follows the City’s RFP outline. Further, information within the Ad Hoc Facilities Committee report is not repeated here, thus the reader should refer to that document as may be appropriate.

## COMMUNITY GOALS AND GROWTH

The City Public Safety departments each serve the City of Hudson, an adjacent portion of the St Croix River, and vary in serving the adjacent Village of North Hudson and towns of Hudson, Troy, and Warren, (each of which are in St Croix County.) Under extreme circumstances, services are also extended to surrounding communities. Hudson’s present goals are to continue to provide this service to each of these communities as they grow; however, it is conceivable any or all of them could obtain services internally, or via other means, thus affecting the quantity, if not breadth of public safety services provided by the City of Hudson.

Hudson and St. Croix County have been one of Wisconsin’s fastest growing cities and counties for many years. In the March 2004 report *Wisconsin Population 2030, A Report on Projected State, County and Municipal Populations and Households for the Period 2000-2030* the Wisconsin Demographic Services Center, Department of Administration indicates “St. Croix (County) will experience the fastest rate of growth (in the State) at 67.9 percent during the 30-year period.” “St. Croix County will also have the largest percentage increases during each of the three decades”; (p. 1.) Further, “during the 40-year period from 1990 to 2030, St.

Croix County will more than double in size from 50,000 to 106,000"; (p. 12) while several adjacent counties will also increase faster than State averages.

The report also notes, "Between 2000 and 2025, the population of Wisconsin's cities is projected to increase by 12.9 percent. Town population will increase by 20.7 percent and village population by 25.8 percent. (Hudson's growth has already far exceeded these numbers, growing approximately 34% from just 2000 to 2007; [<http://www.city-data.com/city/Hudson-Wisconsin.html>]) Further, though Hudson's population is now estimated at over 12,000, the report indicated that Wisconsin's "communities with 5,000-9,999 residents will grow fastest at 28.6 percent" (p. 2) – all of which suggests the surrounding communities served by Hudson's Public Safety departments will also continue to grow significantly.

In an effort to further ascertain department growth and needs, the Architects also considered other comparative demographic information. Though this was less telling than the above information and historical knowledge, it may be of some interest to the study. Specifically, a 2003 report from the Bureau of Justice Statistics, (within the Department of Justice), indicates that for service populations of 10,000 to 25,000 there is an average of 2 police officers per 1000 people. As Hudson's current police staff is close to this, it is reasonable to expect the Department's growth will be concurrent with growth of service population. Factors which may otherwise affect this staffing and assumed growth pattern include Hudson's relationship to the Twin Cities metropolitan and its relative affluence; (Wisconsin's estimated median household income in 2007 was \$50,578 while Hudson's was \$60,980 up from \$50,991 in 2000; (<http://www.city-data.com/city/Hudson-Wisconsin.html>.) Similarly, Hudson's proximity to the St. Croix River likely increases police and EMS calls during recreational months. All of this suggests Hudson's Public Safety physical needs may be a bit higher per capita than the average, but are not extraordinary.

## DEPARTMENT PROGRAMMING

Programming identifies, qualifies, quantifies, and organizes what is known, assumed, required, or desired for a process or project. It is generally accomplished in two phases: gathering information and organizing/analyzing that information. Programming is then followed by, and largely defines the design of a process or project.

To program the Public Safety departments, the Architects met with each department chief, some of their supporting staff, and other City staff both individually and collectively to gain an understanding of the departments' goals, specific activities, the space and staff involved, and how each of those may overlap and otherwise interface with other City activities and staff and the community. The focus of these interviews was to understand current conditions, expand upon, corroborate, or challenge presumed needs, and consider how these needs translate into physical space; the process did not focus on the details or architectural character of spaces and activities, which may be addressed within the scope of future design services. In addition, the Architects programmed short-term growth for each department and reviewed sites with a vision for long-term growth, (see below.) Summary information from this

programming is imbedded in this report while space tables indicating required areas were developed and are bound in this report below.

## **EXISTING FACILITY REVIEW**

Part of programming includes an understanding of the conditions or space in which an activity presently occurs. Accordingly the Architects reviewed the Public Safety department's existing spaces as well as available drawings of them. City staff has also indicated conditions in need of maintenance and the history of previous work. Some of the information from this review is imbedded below, but in summary we are in general agreement with the aforementioned Ad Hoc Committee report regarding the departments' lack of space and their concerns relative to design.

Of particular interest we also noted that in addition to the significant community growth and resultant growth in public safety services, there has been an increase in non-municipal government requirements and changes in practices that require more space, security, and other resources for ideal function of the departments.

The buildings themselves have been relatively well maintained and are not in need of significant maintenance; however their operational costs tend to reflect their age and design characteristics.

While the departments do derive some benefit from being in close proximity to other City staff and resources, they are largely independent in operations, (other than Fire and EMS often working in close collaboration), and could be located remotely to each other without any significant detriment. Items specific to the departments follow.

### **POLICE/CITY HALL**

The Police Department space was added on to and remodeled in 1992, but with little room for growth or storage, and no room for training or ancillary activities. In addition to the significant lack of space for operations, the building design and construction is similar to conventional office facilities - which all tends to increase the lack of security for the department and the affected public. Because the department routinely has much of its staff on patrol, their actual and perceived presence in the community is defined less by their building and its location. Nevertheless, a somewhat more prominent location central to the patrol area may enhance their presence.

While City Hall could continue to provide space for limited police activities, (such as meter collections, community liaison, or summer-time water-front patrol), it is our recommendation that most or all of the department move to more appropriate facilities as soon as possible and the department's existing space be used by other City staff, or possibly be made available for community use.

## PUBLIC SAFETY BUILDING

After more than 30 years since construction, the Fire and EMS facility continues to serve the community, though not as well as when designed for smaller and much less equipment. Today the sloped drives are more challenging and the building's rig door size is marginal, (increasing the possibility of damage to apparatus and building structure); certain service equipment must be moved to access other equipment, (thus losing valuable response time); and storage, training and other support spaces are marginal or non-existent, (thus decreasing efficiencies and possibly increasing exposure to hazardous conditions or materials.) The community room, (which also doubles for training), is generally too small, does not support current media, and is relatively hidden from public view - while the supporting restrooms are lacking handicap accessibility. The adjacent parking lot has also been reduced as spaces are given over to permit use and having to store department rigs on it, (thus increasing maintenance and the possibility of vandalism or other damage to the rigs.) While both departments have a relatively typical level of equipment, they have also identified some additional pieces to consider purchasing over the next five years in response to community growth; however, this would be less feasible without additional space to keep such equipment inside.

The Fire and EMS departments have also benefited from being located adjacent to other City offices; however as staff is primarily volunteer and not routinely out in the community, facility location is critical. Relative to fire service, many of the newer commercial structures beyond Hudson's historic downtown have sprinkler systems and are constructed of non-combustible materials, yet all property is subject to the possibility of a fire emergency; thus the Fire Department's current location at the western edge of their service area is not ideal. As response time is paramount, a more central location could provide easier access to more major roadways and more staffing alternatives with possibly less support (dormitory) needs. Thus while the current Fire and EMS facility could readily be used as a substation, its useful life as the primary station is limited.

## SITE ANALYSIS

Approximately 30 sites were identified by City staff with the Architects as conceivable locations to meet the Public Safety departments' needs. All are either owned by the City, currently listed for sale, or believed to have potentially interested sellers. Many of the sites have some development in place, however several larger green sites were also included.

The Architects evaluated each site using the following criteria:

- **SIZE:** The sites range from approximately 1 to 64 acres. With some consideration for shape and other limiting factors, the size determined if the site was adequate for Police, for Fire and EMS, for all three departments, or for all three departments and possible other community needs.
- **LEVEL A:** Criteria focused on response time to service areas, for volunteer access, and appropriate or best use of site based on context, zoning, current use, etc.
- **LEVEL B:** Criteria focused on development potential and likely costs including location in community, ownership, availability of utilities, etc.

- LEVEL C: Criteria was more subjective, or affected by potential design decisions such as sustainability opportunities, security, community presence, etc.

This evaluation was conducted primarily in two different ways, both of which similarly identified sites that were preferred for one of the following:

- Police Department
- Fire and EMS Departments, (which also allowed space for the Police Department)
- Fire and EMS substation

## DEPARTMENTAL CONSIDERATIONS

In all cases, in order to assure adequate space on a site, it was initially assumed that a new facility would be on one level to facilitate accessibility and general circulation. However, there are some functions for each department which may be preferred to be on another floor, such as sleeping accommodations for Fire and EMS volunteers and - if provided - a shooting range for Police. In addition, utilities, some storage, and certain other functions could be on an adjacent floor.

While the Police Department initially appeared to have several viable options for possible relocation sites based on size, it does require a higher degree of security in both design and construction, (and perhaps location), than many existing buildings offer. And though not requiring a central location for function, it is desirable for the Department to be seen by the community and be readily accessible to the public and certain other City offices; according consideration was thus given to both green and redevelopment sites. Many of the green ones were deemed acceptable for Police, (and for a combined Police / Fire / EMS location.) The acceptable redevelopment sites however, were much more limited.

The Fire and EMS departments require a significant amount of site maneuvering space for rigs and ideally for outdoor training. Again, most of the green sites had acceptable area, but only a few of the redevelopment sites proved to be viable candidates.

(Specific site recommendations for departments are noted below.)

## CONCEPTUAL PLAN DIAGRAMS

In conjunction with evaluating sites, conceptual plan diagrams were developed for both new sites and the existing Public Safety Building for the purposes of confirming that the program could logically allow for expansion potential and provide some flexibility for either a single or a multilevel design response. (These diagrams and further comments are bound in this report below.)

## **COST ISSUES**

Cost issues include property acquisition, physical development, soft costs, FFE, (fixtures, furnishings and equipment), and operation expenses. Property acquisition will presumably be addressed by the City in negotiations with current property owners. Budgets are provided below based on typical square foot costs, however, until the City provides further direction on the recommendations below, property acquisition, and designs are developed, more specific budgets are pending.

## **RECOMMENDATIONS**

Per the City's request we have considered the following options for each department:

- No new facilities
- Upgrading current facilities
- Constructing new facilities
- Combinations of the above options

(Note, regarding the specific sites listed below: availability, potential cost to purchase, and related conditions have not been determined at the time of this report. Further, the order of listing does not necessarily indicate the order of recommendation.)

## **POLICE DEPARTMENT**

Given the very significant restrictions of the existing space, we recommend the Police Department be provided with additional space as soon as possible. While a small substation could remain in the City Hall as noted above, it is not practical to otherwise split the Department or accommodate their needs by upgrading or expanding current facilities. Thus a space with approximately 19,000 square feet - plus site space for expansion, parking, and possibly other development - should be obtained or otherwise developed. The minimum size for this would vary depending on many site and design issues, but is approximated at 121,000 square feet or 2.8 acres for a single story response outside of the downtown. Sites that have been identified as potential locations for the Police Department include:

1. First and Vine, NMC building (Private)

(Note, while this site does not encompass 2.8 acres, it is a multiple story building with some internal parking and significantly reduced setbacks over a typical site that is outside of the downtown area. Also note, in addition to the Police Department, this site could accommodate other City offices or community functions for the near-term future; however it is not recommended for the EMS Department and it is not acceptable for the Fire Department.)

- 2.-6. (See sites below under FIRE AND EMS DEPARTMENTS item B.)

## FIRE AND EMS DEPARTMENTS

We also recommend additional space be provided for the Fire and EMS departments; options include:

- A. Upon the Police Department vacating their existing space, utilize some or all of it for storage, small vehicles, and possibly office functions for one of the departments; provide minimal remodeling of existing facility. (Note, this is not the preferred recommendation, but may be of value for the short term - approximately 5 years or less.)
  
- B. Obtain a site for near-term development of a substation of approximately 12,000 square feet, plus site space for expansion, parking, and possibly other development - with the intention of it eventually becoming the primary station, and the existing facility becoming a substation; remodel a significant portion of the existing facility beyond the apparatus bays. The minimum size for a new site would vary depending on many site and design issues, but is approximated at 145,000 square feet or 3.4 acres for a single story response. Sites that have been identified as potential locations for a future Fire/EMS primary station include:

- 1. Vine and Carmichael, NW corner (County Gov.)
- 2. Carmichael Road west, approx. ½ mile north of I94 (Private)
- 3. Former D.O.T. Welcome/Travel Center (State Gov.)
- 4. Carmichael Road east, approx. ½ mile south of I94 (Private)
- 5. Carmichael Road and I94, NE corner (Private)

(Note: each of these sites were also identified as potential sites for a combined Police and Fire/EMS station which would require a minimum of approximately 214,000 square feet or 5 acres.)

- C. Obtain a site for near-term development of a primary facility of approximately 21,000 square feet - plus site space for expansion, parking and possibly other development; remodel a portion of the existing facility. (Site size and locations are same as item B. above.)
  
- D. Obtain a site for development of a substation. Depending on the direction taken above, this could be developed either in the near or future term; size would vary accordingly. Sites that have been identified as potential locations for only a future Fire/EMS substation include:
  - 1. Hanley and O'Neil, SW corner (Private)

## COMBINED POLICE, FIRE, AND EMS DEPARTMENTS

As noted, if all three departments were combined into one primary facility, area savings would result. Specifically, the above primary facility areas could be reduced approximately 10,000 square feet for total facility size of approximately 40,000 square feet, (plus site space for expansion, parking and possibly other development.)

The primary area savings include combined training and exercise space and secondarily, building circulation, and utility services. Site savings would also result with one grouping of setbacks/green space and by minor reduction in total public parking and driveways.

## TWO: SPACE NEEDS PROGRAM ASSESSMENT

### EXISTING FACILITIES

#### EXISTING POLICE DEPARTMENT SPACE IN CITY HALL

The current Police Station located on the first floor of City Hall occupies approximately 6,600 gross square feet of the building. The following spaces and square footage are allocated for Police Department use:

Lobby/Vestibule	252 sf
Detective	273 sf
Police Chief	150 sf
Lieutenant	150 sf
Sergeants	222 sf
Interview Room	100 sf
Reception/Clerical	336 sf
Evidence	203 sf
Squad Room	300 sf
Records/Copy/Storage	259 sf
Men's Toilet/Locker	313 sf
Women's Toilet/Locker	159 sf
Sally Port/Squad Garage	1047 sf
M/E	208 sf
Maintenance	308 sf
Parking Office	152 sf
<b>TOTAL</b>	<b>4432 square feet</b>

Of the total available square footage on the first floor 32% is allocated to building services, i.e. elevator, stairwells, shafts and structure including walls. This leaves only 4,432 square feet available for use by the Police Department. In addition, most if not all of the current spaces do not meet the current "industry standard" for square footage allocations for a modern police facility. Many spaces critical to the function of the Police Department and the duties they perform for the general public are unsafe and/or currently undersized and ill equipped to meet both regulatory standards and industry standards. Examples of these include:

1. Prisoner Transfer & Sally Port – a critical part of moving a suspect from the squad car to the holding area. A sally port must be secure, must provide an area for securing of weapons and must be able to have remote access control.
2. Holding Area – there is no safe area to hold or process suspects; this is an unsafe condition for both the officers and the suspect.
3. Evidence – the current evidence (property) room is woefully undersized and unfeasible to be properly secured. Properly processing, handling, and storing of evidence is critical in obtaining convictions.

4. Weapons Cleaning and Storage – without a proper area for cleaning and storage of weapons, the likelihood of an accident is increased.
5. Interview Rooms – are a critical part of interviewing both victims and potential assailants. Without a proper area to meet, interviews are not as effective and information gathered from these interviews can come into question.
6. Public Lobby – the current public lobby is very small and uninviting. The current trend in police stations is to make the lobby inviting and more comfortable for two reasons; one to provide for a secure inviting area for a potential victim or others who might show up to the police station for help and secondly to provide an image of public service and pride to the community.
7. Filing and Storage Areas – individual(s) files kept in police stations have many regulatory requirements. Most need to be kept for a numbers of years and have to be held separately (not mixed).
8. Meeting Areas & Roll Call – currently there is no roll call room or sufficient meeting area. Much of today's police work requires a team approach; therefore meeting areas are a critical part of "getting the job done". Without these areas, for example, it would be difficult to discuss the specifics of an investigation or perform ongoing training. There are many examples where properly sized and equipped meeting areas can help a department be more efficient.
9. Squad Garage – currently there is no official squad garage. Moreover, the current indoor parking acts both as a sally port and squad garage. This poses an unsafe condition at best. Unlike squad cars of the past, today's squad is an expensive modern vehicle with an extensive amount of costly on-board electronics. This equipment is easily damaged by extreme changes in temperature. When squad cars are left outside, the lifespan of both the squad and on-board equipment is significantly reduced.

Another area of concern in the existing facility is the lack of proper space or security for incidental equipment that is generally provided in a modern police station. Examples include:

- Pistol & gun lockers
- Weapons cleaning equipment & bench
- Proper staff lockers for storing uniforms and equipment
- Equipment for holding prisoners
- Proper interview room recording equipment
- Digital overhead projection for required training
- Evidence lockers for processing and holding evidence

## EXISTING PUBLIC SAFETY BUILDING

The current Fire Department and St Croix EMS Building, constructed in 1976, is located on the south west corner of Walnut and 3<sup>rd</sup> Streets across from City Hall. It is approximately 10,500 gross square feet with 5 bays for fire apparatus and 2 bays for EMS vehicles along with a Training Room and other spaces. The building is constructed with precast concrete columns and roof system and masonry exterior. The roof was replaced in 2008. The building is built into the hillside along Third Street and the east walls are cast in place retaining walls. The bays are 14'-0" wide with 11'-0" overhead doors. Two of the bays are drive-thru with the rear apron combined with a municipal parking lot.

While the building is in physically good overall condition, there are several issues that should be addressed as a part of any remodeling project. The restrooms need to be replaced and brought up to current ADA standards. The apparatus bay widths and bay doors are low and narrow by current standards. Fire apparatus has increased in overall size and current vehicle widths with mirrors and other projections approached 10 to 10 1/2 feet. The cramped quarters require equipment to be stored outside and, in the case of the EMS ambulances, at the Hudson Hospital. In addition to the security issues, outside storage contributes to the deterioration of the vehicles and equipment.

Likewise the cramped existing spaces present safety challenges to the firefighters, paramedics and EMTs. Overcrowded apparatus floors are unsafe for responding firefighters and crowded ambulance bays limit the ability of paramedics and EMTs to properly clean up and decontaminate their equipment and themselves after a run. The limitations in storage space have contributed to the cluttered, unsafe areas which cause delays in response times. Medical supplies, confidential patient medical reports and other confidential personnel records are not secured due to limited storage space.

Locker and shower areas for cleanup of returning firefighters and EMS responders do not currently exist as these spaces are now used for secure storage of medical supplies and drugs. Crew quarters for on duty full time EMS staff are currently located off-site in rental apartments.

<b>Existing Public Safety Building - St. Croix EMS and Hudson Fire Department</b>						
<b>Space Type</b>	<b>Quantity</b>	<b>Proposed Work Setting</b>	<b>Proposed Area (S.F.)</b>	<b>Total Area (S.F.)</b>	<b>Projected Growth 10/15 Yr. (S.F.)</b>	<b>Comments</b>
<b>Dispatch</b>						
Radio/Watch Room	1		150	150		Radio equipment and computer
<b>Total Dispatch</b>	<b>1</b>			<b>150</b>	<b>0</b>	
<b>Administration</b>						
Office	1		160	160		
Fire Inspector/Code Enforce Office	0		0	0		Full-time, at City Hall
<b>Total Administration</b>	<b>1</b>			<b>160</b>	<b>0</b>	
<b>Storage</b>						
Equipment Storage			180	180		In 'Future Stair'
Storage			80	80		
<b>Total Storage</b>	<b>0</b>			<b>260</b>	<b>0</b>	
<b>Shared Support Areas</b>						
Training Room	1		950	950		
Training Storage	1		180	180		In mechanical room
Kitchen	1		140	140		
EMS M & F Sleeping Quarters	0		0	0		Off site in apartment
Men's Toilet	1		80	80		Not handicapped accessible
Women's Toilet	1		40	40		Not handicapped accessible
<b>Total Shared Support Areas</b>	<b>5</b>			<b>1390</b>	<b>0</b>	
<b>Apparatus Bays</b>						
Apparatus Bays	5	14'x79'	1,106	5,530		Apparatus bays double stacked and storage of small equipment is along walls and between bays; some vehicles stored outside.
EMS Ambulance Bays	2	14'x56'	784	1,568		Room for heavy rescue and one ambulance inside, other vehicles and trailers stored outside or at hospital.
Turnout Gear				230		In apparatus bays
Medical Storage	1		180	180		In old locker room
<b>Total Apparatus Bays</b>	<b>8</b>			<b>7508</b>	<b>0</b>	
<b>Total Fire Department</b>						
<b>Exterior Walls and Corridors</b>	<b>0</b>		<b>0</b>	<b>1094</b>	<b>0</b>	
<b>Grand Total Fire Department</b>	<b>0</b>		<b>0</b>	<b>10562</b>	<b>0</b>	

## FIRE AND EMS VEHICLES AND PROPOSED LOCATIONS

### CURRENT VEHICLES

<u>Fire Department</u>	<u>St. Croix EMS</u>
3160 (ladder truck) 44'10" x 9'10"	3 Type III Ambulances 22'-0" x 10'-0"
3161 (engine) 31'9" x 9'2"	Heavy Rescue Ambulance 30'-0" x 10'-0"
3162 (engine) 35' x 9'8"	1 Dive Trailer 22'-0" x 8'-0"
3163 (engine) 34'2" x 9'8"	1 Crash Trailer 12'-0" x 8'-0"
3164 (tanker) 28'6" x 9'8"	2 Rapid Response SUVs 18'-0" (Outside)
3165 (tanker) 32' x 9'10"	
3166 (suburban) 21'10" x 8'6"	
3167 (brush truck) 19'6" x 7'6"	
3168 (brush truck) 21'10" x 8'6"	
Boat trailer 20' x 8'6"	
Enclosed trailer 27' x 8'6"	
Antique Fire Truck	

### FUTURE VEHICLES - WITHIN THE NEXT 5 YEARS

<u>Fire Department</u>	<u>St. Croix EMS</u>
4x4 - 4 door truck 21'10" x 8'6" In (2009 budget)	Increase ambulance size by 2' in length
Enclosed confined space trailer 27'x 8'6"	
Fire apparatus 35' x 9'8"	

### PROPOSED EQUIPMENT LOCATIONS

#### EXISTING DOWNTOWN STATION

<u>Fire Department</u>	<u>St. Croix EMS</u>
Ladder Truck	Heavy Rescue Ambulance
2 Engines	Dive Trailer
Tanker	MCI (mass casualty incident) Trailer
Brush Truck	
Boat Trailer	
Enclosed Trailer	

#### NEW PUBLIC SAFETY FACILITY

<u>Fire Department</u>	<u>St. Croix EMS</u>
Engine	3 Type III Ambulances
Tanker	2 Rapid Response SUVs (Park Outside)
Brush Truck	
Future Pickup	
Future Hazmat Trailer	
Future Fire Apparatus	
Antique Fire Truck	

## HUDSON POLICE DEPARTMENT – SPACE ALLOTMENTS

### DEPARTMENT OVERVIEW

The City of Hudson Police Department, which is currently located in the first floor of Hudson City Hall, is steeped in a rich history of service to the Citizens of Hudson. The building was originally constructed with approximately 3,600 square feet. In 1991 it was expanded to meet the continued needs of the growing community. Projected growth of the City is estimated to increase by almost 30% over the next 10 years requiring an increase of approximately 5 sworn police officers in order to maintain the current level of service. Continued updating of regulatory requirements may also determine the need for increased staff numbers.

Over the past 18 years members of the Police Department have found it increasingly more difficult to meet their space needs in the current facility. In addition to 18 squad cars, both marked and unmarked, Hudson’s current Police Department includes:

1	Police Chief
1	Lieutenant
1	Detective Sergeant
2	Investigators
3	Patrol Sergeants
14	Officers
1	Administrative Director
2	Clerical
1	School Resource Officer
10	Police Reserve Officers
<hr/>	
36	STAFF TOTAL

### NEW FACILITY

Any consideration of a new facility should include a thorough verification of the program and space needs included in this study (see attached program). A number of factors will affect the successful outcome of the project. In the case of the Hudson Police Station, goals can be established that should be used to guide the design process. These goals outlined below are based on the assessment of the current facility, the space needs program, the relationship diagrams and site analysis.

#### Goal #1 – Improved Functionality.

Improving the “active” spaces in a new police facility will be accomplished by providing appropriate square footage allocations and well thought out spatial relationships. Offices and support areas must be sized correctly in order to function efficiently. Furthermore areas containing a higher level of security will require close scrutiny to make sure they are sized to meet not only regulatory requirements but also the day to day function of the department. Good functionality will also mean installing the proper equipment while an investment in quality equipment will mean a savings of taxpayer dollars as the staff will be better able to do there jobs in a timely and efficient manner.

#### Goal #2 – Provide a Safer Working Environment.

A critical part of any police station is the safety of the public, the Police Department Staff and even the potential assailant. This requires a well thought out floor plan with “zones of safety” as well as good technology in both communications and security equipment. By doing this a potentially bad incident can be avoided and the rights of individuals protected.

#### Goal #3 – Provide a Sense of Community Pride.

A strong sense of community pride is important in most civic buildings but is very important in public safety buildings. Often it provides a sense of community and comfort during challenging events and at critical times. It also can provide a “waypoint” within the community. Ultimately citizens want to see a facility which reflects pride, strength, quality, and a good use of taxpayer dollars.

While there are a number of other factors that will affect the outcome of the project, (including; budget, site, flexibility, circulation, etc.), the three outlined above form the basis for moving forward with a design that will meet the City’s goals. These elements in combination with the attached space program, relationship diagrams and site analysis should be used as you move forward to the next step. Whether a new station is built or an existing location remodeled, these items will need to be considered.

### SUMMARY

A police station can best be thought of as an office building with many of the same requirements and amenities. However, unlike an office building, today’s modern police station can host everything from a grade school tour to the holding of a potential murder suspect. This requires a very different approach to design and a keen understanding of police activities, the process and relationship of building spaces. Items like security are paramount, while at the same time the building needs to be accessible and inviting. As communities grow, so does the police department; however, community growth doesn’t translate to simply adding additional officers. Conversely, it requires that the department not only look at their staff but also look at their services and the best way to economize. Key to a growing community and police department is a facility that will both serve their current needs, as well as future needs. A modern police station must provide flexibility, expansion opportunities, a broad infrastructure, multiple levels of secured space and opportunities for teaming. Hudson’s current facility lacks most if not all of these items, and the key to maintaining recruitment, providing for a safe working environment and planning for the growth of the community will require that a new facility be considered.

### SPACE NEEDS ASSESSMENT

(Note regarding the net to gross space, [“common area”] for walls, circulation, etc.: 30% was used for the Police Department while it was reduced to 25% for the Fire and EMS departments due primarily to the larger apparatus spaces. In both cases however, these are planning estimates only and will fluctuate in the final design.)

<b>HUDSON POLICE DEPARTMENT SPACE NEEDS ASSESSMENT</b>						
Space Type	Quantity	Proposed Work Setting	Proposed Area (S.F.)	Total Area (S.F.)	Projected Growth 10/15 Yr.	Comments
<b>Public</b>						
Lobby/Reception	1		350	350		
Public Restroom	2		70	140		
Public Report Room	1		150	150		
Public Entry Vestibule	1		120	120		
<b>Total Public</b>				<b>760</b>	<b>0</b>	
<b>Administrative Service</b>						
Administrative Director	1		225	225		
Clerical	2		80	160		
Future Staffing	1		80	80		
<b>Sub Total Admin Service</b>				<b>465</b>	<b>0</b>	
<b>Admin Support Areas</b>						
Front Counter/Reception	1		150	150		
Central Files/Records	1		225	225		
Supply Room/Storage	1		285	285		
Copy/Mail/Workroom/Storage	1		150	150		
I.T. Room	1		150	150		
Restroom	2		150	300		
Museum						
<b>Sub Total Admin Support Areas</b>				<b>1,260</b>	<b>0</b>	
<b>Total Administration</b>				<b>1,725</b>	<b>0</b>	
<b>Operations Division</b>						
Police Chief	1		300	300		
Lieutenant	1		250	250		
Conference Room	1		270	270		
Future Second Lieutenant	1		250	250		
<b>Sub Total Operations Division</b>				<b>1070</b>	<b>0</b>	
<b>Investigations</b>						
Detective Sergeant	1		120	120		
Investigator	2		100	200		
Future Staffing	1		100	100		
<b>Sub Total Investigations</b>				<b>420</b>	<b>0</b>	
<b>Total Operations Division</b>				<b>1,490</b>	<b>0</b>	
<b>Patrol Officers</b>						
Patrol Sergeant	3		100	300		
Officer	14		64	448		
Future Patrol Sergeant	1		100	100		
Future Officer	3		64	192		

Space Type	Quantity	Proposed Work Setting	Proposed Area (S.F.)	Total Area (S.F.)	Projected Growth 10/15 Yr. (S.F.)	Comments
Roll Call	1		200	200		
Sub Total Patrol Offices				1240	0	
Part Time						
Community Service Officer	1		120	120		
Police Reserve Officer	10					
Sub Total Part Time				120	0	
Total Patrol Officers				1,360	0	
<b>Operations Support Areas</b>						
Holding Cell	1		80	80		
Holding Cell Accessible	1		120	120		
Holding Cell Juvenile	1		80	80		
Hard Interview Room	1		100	100		
Holding Area General	1		225	225		
Sally Port Garage	1		1,000	1,000		
Squad Garage	1		See Comments	See Comments		In Parking Summary
Evidence/Property Room	1		700	700		
Evidence Lab/Prep Area	1		150	150		
Evidence Garage/Large Property	1		See Comments	See Comments		In Parking Summary
Interview Room	1		150	150		
Recording/Tape Storage	1		64	64		
Training Room	1		900	900		
Break/Kitchen Room	1		450	450		
Men's Locker Room	1		900	900		
Women's Locker Room	1		500	500		
Exercise Room	1		500	500		
CSO & Crime Prevention Storage	1		50	50		
Armory/Weapons	1		80	80		
Weapons Cleaning	1		80	80		
Future Swat	1		200	200	200	
Firing Range	1		2,000	2,000		
Janitor Room	1		64	64		
Mechanical Room	1		250	250		
Electrical Room	1		100	100		
Tele/Comm/Data	1		80	80		
Total Operations Support Areas				8,823	200	
Total Police Department				14,158	200	
30% Common Area Factor				4,247	60	
Grand Total				18,405	260	

## **HUDSON FIRE DEPARTMENT – SPACE ALLOTMENTS**

### **DEPARTMENT OVERVIEW**

The Hudson Fire Department was established in 1873. The department provides fire suppression for the City of Hudson, North Hudson, Town of Hudson, and Town of Troy. The department currently has 40 volunteer fire fighters and administration staff. A paid accounting clerk provides for the part-time accounting and administrative needs, and a full-time Fire Inspector is part of Code Enforcement and has an office in City Hall.

Long-range growth plans and projections for the Fire Department include the additional approximately 10 volunteer firefighters. Future planning also includes the provision for four fulltime firefighters to have a fire engine crew available 24 hours a day.

Current vehicles and equipment would be upgraded and replaced as funding is available. Long range planning includes the purchase of a Hazardous Materials response trailer and a fire apparatus within the 5 years.

The existing Public Safety building presence will continue to be required as it is an ideal location for the downtown Hudson and North Hudson area.

This study programmed Fire Department with separate departmental needs and also configured a new facility with shared and overlapping uses programmed for combined facility with the St. Croix EMS.

Future department configuration will likely see the Fire Department and the EMS Services combined into a single department. The shared facilities as currently configured and the proposed sharing of facilities in a new building will allow for this combination in the future.

### **SPACE NEEDS ASSESSMENT**

The space needs assessment for the Fire Department is based on the current need with some potential for limited growth. Discussions regarding departmental growth indicate that the additional expansion will take place in the form of a satellite station likely located in the area south of Interstate 94. Lateral expansion of the apparatus bay spaces in a new facility would be anticipated in site planning and design of the new facility.

Alternative planning consideration should be given to include space within the proposed apparatus bays for maintenance and washing of fire vehicles and the storage/display of the Department's antique fire truck. A separate wash bay would leave the apparatus floor dry, eliminate splashing on stored equipment and lessen the risk of slip and fall injuries. As Fire Department and EMS personnel perform much of the maintenance work on vehicles in the station, a separate maintenance bay would keep the oil and grease off the floor, reduce exposure to hazardous materials and fumes, allow for the use of a pit or lift and keep the apparatus area clear of clutter associated with mechanical work.

## HUDSON FIRE DEPARTMENT SPACE NEEDS ASSESSMENT

Space Type	Quantity	Proposed Work Setting	Proposed Area (S.F.)	Total Area (S.F.)	Projected Growth 10/15 Yr. (S.F.)	Comments
<b>Dispatch</b>						
Public Lobby	1	120	120	120		Share with EMS
Radio/Watch Room	1		150	150		Radio equipment and computer, share with EMS
Report Writing	2	Cubes	60	120		Computer stations, share with EMS
Emergency Operations Center						Part of shared training room
Communications Equipment						Part of shared training room
Public Restrooms	1		80	80		Unisex accessible
<b>Total Dispatch</b>	<b>5</b>		<b>410</b>	<b>470</b>	<b>0</b>	
<b>Administration</b>						
Chief's Office	1	Office	180	180		4 person table & secure personnel files
Assistant Chief's Office	2	Office	150	300		
Lieutenant's Office	3	Cubes	100	300		
Captains Office	2	Cubes	80	160		
Conference room	1		200	200		Library /study area w/computer access
Clerical Office	1		160	160		Part time, separate from EMS
Fire Inspector/Code Enforce Office	0		0	0		Full Time, at City Hall
Public Education Storage	1		100	100		Closet off copy room
Copy/Workroom	1		150	150		Share with EMS
<b>Total Administration</b>	<b>12</b>		<b>1120</b>	<b>1550</b>	<b>0</b>	
<b>Service Spaces</b>						
Janitor's Closet	1		100	100		
Computer/server room	1		120	120		Shared computer /servers
Equipment Storage	1		150	150		
Maintenance Storage	1		150	150		Oil and other vehicle and equipment maintenance, Share with EMS
Trash/recycling	1		120	120		
<b>Total Storage</b>	<b>5</b>		<b>640</b>	<b>640</b>	<b>0</b>	
<b>Shared Support Areas</b>						
Training Room						Shared with EMS and Police, Use as EOC, room divider
Kitchenette						Shared to serve training and EOC
A/V & Training Storage						Part of shared Training Room
M & F Toilet/Shower/Locker	2	M & W	150	300		Shared with EMS
Exercise Room						Shared with EMS and Police
Firefighter Dayroom	1		350	350		Shared with EMS
Kitchen/Dining	1		600	600		Shared with EMS, seat 40

Space Type	Quantity	Proposed Work Setting	Proposed Area (S.F.)	Total Area (S.F.)	Projected Growth 10/15 Yr. (S.F.)	Comments
M & F Sleeping Quarters	0		0	0		Future
Men's Toilet	1		130	130		
Women's Toilet	1		130	130		
Dirty Toilet/Shower	1		80	80		Off apparatus, with lockers
Emergency Generator	1					Shared with Police and EMS, Exterior enclosure and tank, Emergency power for new facility
<b>Total Shared Support Areas</b>	<b>8</b>		<b>1440</b>	<b>1590</b>	<b>0</b>	
<b>Apparatus Bays</b>						
Apparatus Bays (drive through)	6	16'x84' Bays	1,344	8,064		No walls to EMS bays, Provide 1 bay for maintenance w/pit or lift & wash area in 1 bay
Turnout Gear Lockers	50		6	300		
General Storage	1		450	450		
AFFF Storage	1		120	120		Store on pallets 70 - 80 pails
Hose Room	1		120	120		Ventilation for drying
Decontamination	1		120	120		
Rescue/Rope Storage	1		100	100		Secure storage, 3,000' of rope & gear
Laundry Room	1		150	150		Commercial washer and residential washer & dryer
SCBA/Storage/Air Compressor	1		80	80		Compressor in separate room for noise control
Workbench/mask cleanup	1		120	120		Workbench top and sink
Secure Medical Storage	0		0	0		Share with EMS
Fire Evidence Storage	0		0	0		Share with Police
Flammable liquids storage	1		80	80		In cabinets, Share with EMS
<b>Total Apparatus Bays</b>	<b>65</b>		<b>2690</b>	<b>9704</b>	<b>0</b>	

Total Fire Department			6300	13954	0	
25% Common Area Factor			1575	3488.5	0	
<b>Grand Total Fire Department</b>			<b>7875</b>	<b>17442.5</b>	<b>0</b>	

**HUDSON FIRE DEPARTMENT ALTERNATE SPACES**

Space Type	Quantity	Proposed Work Setting	Proposed Area (S.F.)	Total Area (S.F.)	Comments
Antique Fire Apparatus Bay	1	16' x 64' bay	1024	+ 20% = 1230	Display space visible by public
Vehicle Wash Bay	1	16' x 64' bay	1024	+ 20% = 1230	Separate from the apparatus bays
Vehicle Maintenance Bay	1	16' x 64' bay	1024	+ 20% = 1230	Provide lift or pit
<b>Total Apparatus Bays</b>	<b>65</b>		<b>3,072</b>	<b>3,690</b>	

## **ST. CROIX EMS DEPARTMENT – SPACE ALLOTMENTS**

### **DEPARTMENT OVERVIEW**

St. Croix Emergency Medical Services provide advanced life support services for the City of Hudson and the surrounding communities of North Hudson, Town of Hudson, and Town of Troy. They currently share the Public Safety Building with the Hudson Fire Department and have administrative offices in City Hall. The current staff includes full-time chief, account clerk, and three full-time paramedics. In addition to the full-time staff, there are 12 part-time paramedics and 30 part-time EMTs and drivers.

Long-range growth plans and projections for St. Croix EMS include the additional full-time staff and volunteer EMT staff. Current vehicles and equipment would be upgraded and replaced as funding is available. One new ambulance will be added in the next 10 years.

The existing Public Safety building presence will continue to be required as it is an ideal location for the water rescue boat, heavy rescue vehicle and dive team trailer and equipment.

This study programmed St. Croix Emergency Medical Services as separate departmental needs and configured with shared and overlapping uses programmed and a combined facility with the Hudson Fire Department.

Future department configuration will likely see the fire department and the EMS Services combined into a single department. The shared facilities as currently configured and the proposed sharing of facilities in a new building will allow for this combination in the future.

### **SPACE NEEDS ASSESSMENT**

The space needs assessment for the EMS Department is based on the current need with some potential for limited growth. Discussions regarding departmental growth indicate that the additional expansion will take place in the form of a satellite station likely located in the area south of Interstate 94. Lateral expansion of the apparatus bay spaces in a new facility would be anticipated in site planning and design of the new facility.

<b>ST. CROIX EMS SPACE NEEDS ASSESSMENT</b>						
Space Type	Quantity	Proposed Work Setting	Proposed Area (S.F.)	Total Area (S.F.)	Projected Growth 10/15 Yr. (S.F.)	Comments
<b>Dispatch</b>						
Lobby/Reception	1		120	120		Take blood pressure, EMS full-time clerk for reception
Dispatch Room	1		150	150		Desk/computer/printer/fax/Base radio, Share with Fire Dept.
Public Toilet	1		80	80		Unisex accessible
Squad Room/Report Writing	1		120	120		Near entry/view to apron, Share with Fire Dept.
<b>Total Dispatch</b>	<b>4</b>		<b>470</b>	<b>470</b>	<b>0</b>	
<b>Administration</b>						
EMS Chief's Office	1	Office	180	180		Full-time
Accounting Clerk Office	1	Office	150	150		Full-time
Paramedic Offices/Workstation	3	W/S	100	300		
EMT Office/Workstation	2	W/S	80	160		
Conference Room	1		150	150		6-8 people
Future Office	1	Office	120	120		Future
Medical Records/File Storage	1		200	200		Secure file room
Copy/Workroom	1		150	150		Share with Fire Dept.
Public Education Storage	1		100	100		Share with Fire Dept.
Storage Closet	1		120	120		Share with Fire Dept.
<b>Total Administration</b>	<b>13</b>		<b>1,350</b>	<b>1,630</b>	<b>0</b>	
<b>Service Spaces</b>						
Janitor's Closet	1		100	100		
Equipment Storage	1		150	150		
Computer/server Room	1		120	120		
Maintenance Storage	1		150	150		
Trash/recycle	1		100	100		
<b>Total Storage</b>	<b>5</b>		<b>620</b>	<b>620</b>	<b>0</b>	
<b>Support Areas</b>						
EMS/Ambulance Dayroom	1		250	250		
M & F Toilet/Shower/Locker	2	M & W	300	600		
Kitchen/Dining	1		300	300		Common w/ Fire Dept.
Exercise Room	1					Share w/ Police & Fire Dept. Separate lockers for Police, no shower or changing
M & F Crew Sleeping Quarters	10	Dorm Style	120	1,200		2 crews, 6 people - 60/40 M/F Dorm style w/wardrobes and bunks
<b>Total Support Areas</b>	<b>15</b>		<b>970</b>	<b>2,350</b>	<b>0</b>	

Space Type	Quantity	Proposed Work Setting	Proposed Area (S.F.)	Total Area (S.F.)	Projected Growth 10/15 Year (S.F.)	Comments
<b>Ambulance Bays</b>						
Ambulance Bays	4	16'x40' Bays	640	2,560		1 bay equipped for washing
SUVs	2					2 take home
Heavy Rescue	1	16'x48' Bay	768	768		Downtown
Dive Trailer	1	12'x32' Bay	384	384		Downtown
Crash trailer	1	12'x32' Bay				Downtown, share w/crash trlr.
Boat Storage Bay	1					Marina in summer
Ambulance Cleanup Area	1		150	150		Off ambulance bays
Scuba Equipment Storage	1		150	150		Downtown
Dirty Toilet	1		80	80		Off Bays, Share with Fire Dept.
Decontamination	1		100	100		Off Bays, Share with Fire Dept.
SCBA/SCUBA cascade compressor/oxygen fill	1		100	100		Downtown, Share with Fire Dept.
Linen/blanket storage	1		100	100		Linen service by hospital
Laundry	1		120	120		Towels and Uniforms/Turnout Gear, Share with Fire Dept.
General Storage	1		200	200		
Secure Medical Storage	1		150	150		Refrigerator, locking cabinets w/card access
Gear Lockers	40		6	240		Gear Grid w/power and lock-up
<b>Total Ambulance Bays</b>	<b>59</b>		<b>2,948</b>	<b>5,102</b>	<b>0</b>	
<b>Total St Croix EMS</b>	<b>96</b>		<b>6,358</b>	<b>10,172</b>	<b>0</b>	
<b>25% Common Area Factor</b>	<b>29</b>		<b>1,907</b>	<b>2,543</b>	<b>0</b>	
<b>Grand Total St Croix EMS</b>	<b>125</b>		<b>8,265</b>	<b>12,715</b>	<b>0</b>	

## NEW PUBLIC SAFETY FACILITIES

Several options exist for providing the needed expanded public safety facilities. They include construction of a new facility, purchase and remodeling of an existing building and remodeling and reuse of the existing Fire Station/EMS building. Response times for the Fire Department and EMS services are effected by the choice of location for any new facilities. The location of the Police Department headquarters is less critical as their squad vehicles are on patrol during normal operations. Combinations of the above options include:

1. Reuse of the existing Fire Department/EMS building either as a headquarters or Substation facility through remodeling and/or expansion at its current location.
2. Purchase, remodeling and /or expansion of an available existing building for one or more of the public safety departments.
3. New construction of Separate Facilities:  
Police Department Building  
St. Croix EMS and Fire Department Headquarters Building or Substation
4. Construction of Combined Facilities:  
Combined Police Department Headquarters, St. Croix EMS and Fire Department Headquarters or Substation.

## COMBINED FACILITY OPTIONS

For purposes of this study, it was determined to pursue the further development of a combined new Public Safety Facility. This structure would house the Hudson Police Department, Fire Department headquarters and St. Croix EMS headquarters. The combined facility would take advantage of the ability of the departments to share training classrooms and exercise facilities as outlined in the space needs assessments and would allow the Fire and EMS Departments to share many of their combined spaces, eliminating costly duplication of functions. The combined facility site would also allow for shared parking spaces for staff and visitor parking and for combined training parking.

By combining the functions of the three departments into one new facility, the operational and maintenance cost would be reduced over that of two separate facilities. The existing Public Safety Building would remain as a secondary facility for the Fire Department and EMS needs that are more specific to the downtown location and its proximity to the St. Croix River and North Hudson access. Space in City Hall vacated by the Police Department would become available for expansion of other City departments or needs.

The following table lists some of the potential shared facilities indicating use of common function rooms like the training room and exercise room and their supporting spaces. In addition to those areas, a shared facility would benefit from the common use of public access points, lobbies, public restrooms, and building services spaces, janitorial, trash and recycling areas and mechanical, electrical, computer and communications rooms. Cooperation between the departments will be important to facilitate scheduling of spaces, and prorating cleaning, maintenance and utility costs.

### Shared Facilities: Police, St. Croix EMS, Fire Department Space Needs Assessment

Space Type	Quantity	Proposed Work Setting	Proposed Area (S.F.)	Total Area (S.F.)	Projected Growth 10/15 Yr. (S.F.)	Comments
<b>Dispatch</b>						
Communications Equipment	1		150	150		
Phone/data/MPOP Room	1		120	120		
<b>Total Dispatch</b>	<b>2</b>		<b>270</b>	<b>270</b>	<b>0</b>	
<b>Administration</b>						
<b>Total Administration</b>	<b>0</b>		<b>0</b>	<b>0</b>	<b>0</b>	
<b>Storage</b>						
<b>Total Storage</b>	<b>0</b>		<b>0</b>	<b>0</b>	<b>0</b>	
<b>Shared Support Areas</b>						
Training Room/EOC	1	50 seats	1,500	1,500		Share with EMS and Police, Use as EOC, room divider
Public Restrooms	2		300	600		
EOC Storage	1		150	150		
Police Training Storage	1		80	80		
EMS Training Storage	1		80	80		
Fire Training Storage	1		80	80		
A/V Equipment Storage	1		100	100		
Kitchen	1		150	150		
Exercise Room	1		700	700		
Emergency Generator	1		350	350		Exterior enclosure and tank, Emerg power for new facility, Police Fire, EMS
<b>Total Shared Support Areas</b>	<b>11</b>		<b>3490</b>	<b>3790</b>	<b>0</b>	
	<b>0</b>		<b>0</b>	<b>0</b>	<b>0</b>	
<b>Total Shared Facilities</b>	<b>13</b>		<b>3760</b>	<b>4060</b>	<b>0</b>	
<b>30% Common Area Factor</b>	<b>4</b>		<b>1128</b>	<b>1218</b>	<b>0</b>	
<b>Grand Total Shared Facilities</b>	<b>17</b>		<b>4888</b>	<b>5278</b>	<b>0</b>	

**Combined Facility: St. Croix EMS - Fire Department Space Needs Assessment**

Space Type	Quantity	Proposed Work Setting	Proposed Area (S.F.)	Total Area (S.F.)	Projected Growth 10/15 Yr. (S.F.)	Comments
<b>Dispatch</b>						
Public Lobby	1		120	120		Take Blood Pressures
Radio/Dispatch Room	1		150	150		Radio equipment and computer
Squad Room/Report Writing	2	Cubes	60	120		Computer stations
Public Restrooms	2		80	80		Unisex accessible
<b>Total Dispatch</b>			<b>410</b>	<b>470</b>	<b>0</b>	
<b>Administration</b>						
FD Chief's Office	1	Office	180	180		4 person table & secure personell files
FD Assistant Chief's Office	2	Office	150	300		
FD Lieutenant's Office	3	Cubes	100	300		
FD Captain's Office	2	Cubes	80	160		
Conference room	1		200	200		Library /study area w/computer access
FD Clerical Office	1	Office	160	160		Part-time
Fire Inspector/Code Enforce Office	0		0	0		Full Time, at City Hall
EMS Chief's Office	1	Office	180	180		4 - 6 person table
EMS Accounting Clerk Office	1	Office	150	150		Full-time
EMS Paramedic Workstation	3	W/S	100	300		Full-time
EMS EMT Workstation	2	W/S	80	160		
EMS Future Office	1	Office	120	120		Future
EMS Medical Records/File Storage	1		250	250		Secure file room
Copy/Workroom	1		150	150		
Storage Closet	1		120	120		
Public Education Storage	1		120	120		Closet off copy room
<b>Total Administration</b>			<b>2140</b>	<b>2850</b>	<b>0</b>	
<b>Storage/Support</b>						
Janitor's Closet	1		100	100		
Computer/server room	1		120	120		Shared computer /servers
Data/communications room	1		100	100		Phone, network, catv & security, etc.
Equipment Storage	1		150	150		
Maintenance Storage	1		150	150		Oil and other vehicleand equipment maintenance
Trash/recycling	1		120	120		
<b>Total Storage</b>			<b>740</b>	<b>740</b>	<b>0</b>	

Space Type	Quantity	Proposed Work Setting	Proposed Area (S.F.)	Total Area (S.F.)	Projected Growth 10/15 Yr. (S.F.)	Comments
<b>Support Areas</b>						
Training Room						Share with FD, EMS and Police, Use as EOC, room divider
Kitchenette						Serve training and EOC
A/V & Training Storage						Share with Fire EMS and Police
M & F Toilet/Shower/Locker	2	M & W	150	300		
Exercise Room						Share with Fire EMS and Police
EMS/Firefighter Dayroom	1		350	350		
Kitchen/Dining	1		600	600		Seat 40
EMS Crew Sleeping Quarters	10	Dorm Style	120	1,200		2 crews, 6 people - 60/40 M/F Dorm style w/wardrobes and bunks
FD M & F Sleeping Quarters	0		0	0		Future
Dirty Toilet/Shower	1		80	80		Off apparatus, with lockers
Emergency Generator						Exterior enclosure and tank, Emergency power for new facility, Police, Fire, EMS
<b>Total Support Areas</b>			<b>1300</b>	<b>2530</b>	<b>0</b>	
<b>Apparatus Bays</b>						
Apparatus Bays (drive through)	4	16'x84' Bays	1,344	5,376		No walls to EMS bays Provide 1 bay for maintenance w/pit or lift & wash area in 1 bay
Ambulance Bays (back in)	3	16'x40' Bays	640	1,920		
Turnout Gear	50		6	300		Gear Grid lockers, 30 Fire and 20 EMS
General Storage	1		450	450		
AFFF Storage	1		120	120		Store on pallets 70 - 80 pails
Hose Room	1		120	120		Ventilation for drying
Decontamination	1		120	120		
Rescue/Rope Storage	1		100	100		Secure storage, 3,000' of rope & gear
Laundry Room	1		150	150		Comercial washer and residential washer & dryer
SCBA/Storage/Air Compressor	1		80	80		Compressor in separate room for noise control
Workbench/mask cleanup	1		120	120		Workbench top and sink
Secure Medical Storage	0		180	180		Secure room, refrigerator with locking cabinets, card access system
Fire Evidence Storage	0		0	0		Share with Police
Flammable liquids storage	1		80	80		In cabinets
<b>Total Apparatus Bays</b>			<b>3510</b>	<b>9116</b>	<b>0</b>	
<b>Total Combined Department</b>			<b>8100</b>	<b>15706</b>	<b>0</b>	
<b>25% Common Area Factor</b>			<b>2430</b>	<b>3926.5</b>	<b>0</b>	
<b>Grand Total Combined Department</b>			<b>10530</b>	<b>19632.5</b>	<b>0</b>	

## THREE: SITE ANALYSIS

### SITE PLANNING CONSIDERATIONS

#### SITE PLANNING ISSUES

1. Provide for Drive-Thru Bays. Confirm need for Ambulance drive-thru.
2. Provide for one or two bay future expansion of the bays and lateral expansion of police area or second floor.
3. Provide adequate front apron depth; approximately 65 feet to property line for set up of ladder truck and display of equipment. Provide for snow storage area alongside apron.
4. Confirm access and traffic for responding firefighters and fire/ambulance vehicles. What are the physical barriers to response directions (I-94, etc.)?
5. What are the existing physical characteristics of the site, size, terrain, topography, water table, soil conditions, contamination, vegetation, orientation, existing buildings, etc.
6. Existing buildings on sites; need to document size, location, condition assessment, hazardous materials and demolition or remodeling costs.
7. Provide private outdoor space for patio/BBQ/picnic table, etc.
8. Consider on-site outdoor training area if space available.
9. Provide screened trash area and outside emergency generator location.
10. Provide for flagpole with lighting.
11. All walks to be accessible and have ADA curb ramps.
12. Confirm utility services to the site. All utility services to be underground.
13. Site sustainability options for storm water management, native plants, bike parking, pervious paving, geothermal energy, future solar or wind energy, etc.
14. Confirm storm water management requirements, erosion and sediment control.
15. Demolition as required for existing buildings on the proposed sites.
16. Provide for flashing warning lights or signal control at street.
17. Consider tornado shelter.

#### SITE PLANNING – TRAINING SPACE ALTERNATES

Depending of the size and topography of the selected site, an on-site training area could be planned as a part of the site improvements. These facilities could be utilized for cross training by all three departments and would provide cost effective and convenient training opportunities for the volunteer Fire and EMS personnel.

Potential training opportunities include; a chopping area for saw and axe practice, a splash wall with simulated windows for ladder and hose training, a hose test area, a parking area for vehicles used for extraction equipment practice, an area for manhole structures, culverts and precast vaults for confined space rescue practice and an area planned for a potential future burn building. Typically these training areas would be located in a concrete paved area that

is an extension of the rear apparatus apron. This would place it in an area less exposed to the public view. A fire hydrant would need to be located nearby.

A training area of this type could be rented for use by other departments in surrounding communities and is an asset for recruiting and retaining volunteers.

## ZONING ISSUES

1. Zoning classification for each specific site shall be determined to establish if Conditional Use Permits are required.
2. Setbacks:           Front yard       TBD  
                          Side Yard        TBD  
                          Rear Yard        TBD  
                          Parking           TBD
3. Confirm future development and growth planning with master plan.
4. Any landscape screening or fence screen required for parking; landscaping should not block views at driveways or corners. Provide landscaped or earth berm screening.
5. The parking lot lighting should have controlled cut-off fixtures to control light pollution.
6. Provide for possible tornado and fire siren
7. Provide for radio antennas at roof.
8. Noise issues for emergency generator.

## PARKING NEEDS

1. Parking for approximately 100 cars including 40 to 50 for training sessions.
2. Provide for secure parking of 18 plus police vehicles with plug-in.
3. Consider vehicle sally port for evidence garage.
4. Public and visitor parking for community use of training.
5. Confirm location of impound lot and needs.
6. Approximately 25 spaces for responding firefighters and 8 for EMS.

POLICE DEPARTMENT PARKING						
Parking Needs Assessment						
Space Type	Quantity	Proposed Setting	Proposed Area (S.F.)	Total Area (S.F.)	Projected Growth 10/15 Year (S.F.)	Comments
<b>Parking Summary</b>						
Public Parking	15	Public	350	5,250		
Admin./ Operations	20	Secured	350	7,000		
Patrol Officers	10	Secured	350	3,500		
Squad Garage	10	Garage	350	6,500		Indoor parking preferred for security and maintenance
Impound Lot	10	Secured	350	3,500		
<b>Grand Total</b>	<b>65</b>			<b>25,750</b>		

ST. CROIX EMS/FIRE DEPARTMENT PARKING						
Parking Needs Assessment						
Space Type	Quantity	Proposed Setting	Proposed Area (S.F.)	Total Area (S.F.)	Projected Growth 10/15 Year (S.F.)	Comments
<b>Parking Summary</b>						
Public Parking	4	Public	350	5,250		
Administration/staff	8	Staff	350	7,000		Full and part time staff
Responding EMS	8	Separate	350	3,500		Quick access
Responding Firefighters	20	Separate	350	3,500		Quick access
Training Room Parking	40	Public	350	3,500		
Front apparatus apron	6	Equipment setup		6,240		Assume 6 bays
Rear apparatus apron	6	Drive through		3,840		Assume 6 bays
<b>Grand Total</b>	<b>92</b>			<b>32,830</b>		

FIRE DEPARTMENT ALTERNATE TRAINING NEEDS

Space Type	Quantity	Proposed Setting	Proposed Area (S.F.)	Total Area (S.F.)	Comments
<b>Dispatch</b>					
Future Burn Building	1			1,800	Allow space on site for live burn or future simulated fire structure
Confined Space Rescue Area	1	Concrete paved area		1,600	Provide precast manhole, culvert or vault spaces
Chopping Area	1	Concrete paved area		300	Wood roof structure on grade
Vehicle Extraction Area	1	Concrete paved area		900	Parking for test vehicles
Splash Wall/Ladder Training	1			400	Masonry wall with simulated window openings, adjacent to fire hydrant
Hose Test Area	1	Concrete paved area			Requires fire hydrant access
<b>Total</b>	<b>5</b>			<b>5000</b>	

## FOUR: CONCEPTUAL PLAN DIAGRAMS

### **DIAGRAM A:** EXISTING PUBLIC SAFETY BUILDING: REMODEL IDEAS

Remodeling of the existing Public Safety Building after the proposed new combined facility is occupied would extend the useful life of the existing building and provide a continued presence in Downtown Hudson for the Fire Department and EMS. This location allows for efficient response to Downtown Hudson, North Hudson and the St. Croix River. By expanding equipment maintenance and storage spaces into the training room area and converting one ambulance bay for uses as storage and support, the safety and functionality of the building is improved. Retaining a small day room and remodeling the restrooms, including ADA compliance will also improve the functionality. (See following diagram.)

### **DIAGRAM B:** GREEN OR DEVELOPED SITE 1: POLICE DEPARTMENT

The conceptual diagram for the Police Department facility provides for zoning of the plan into the four basic functional elements of administrative, operations support and patrol areas. It insures secure and controlled access for the public, and privacy for officers and the internal functions of the department. (See following diagram.)

### **DIAGRAM C:** GREEN OR DEVELOPED SITE 2: COMBINED FIRE AND EMS DEPARTMENTS

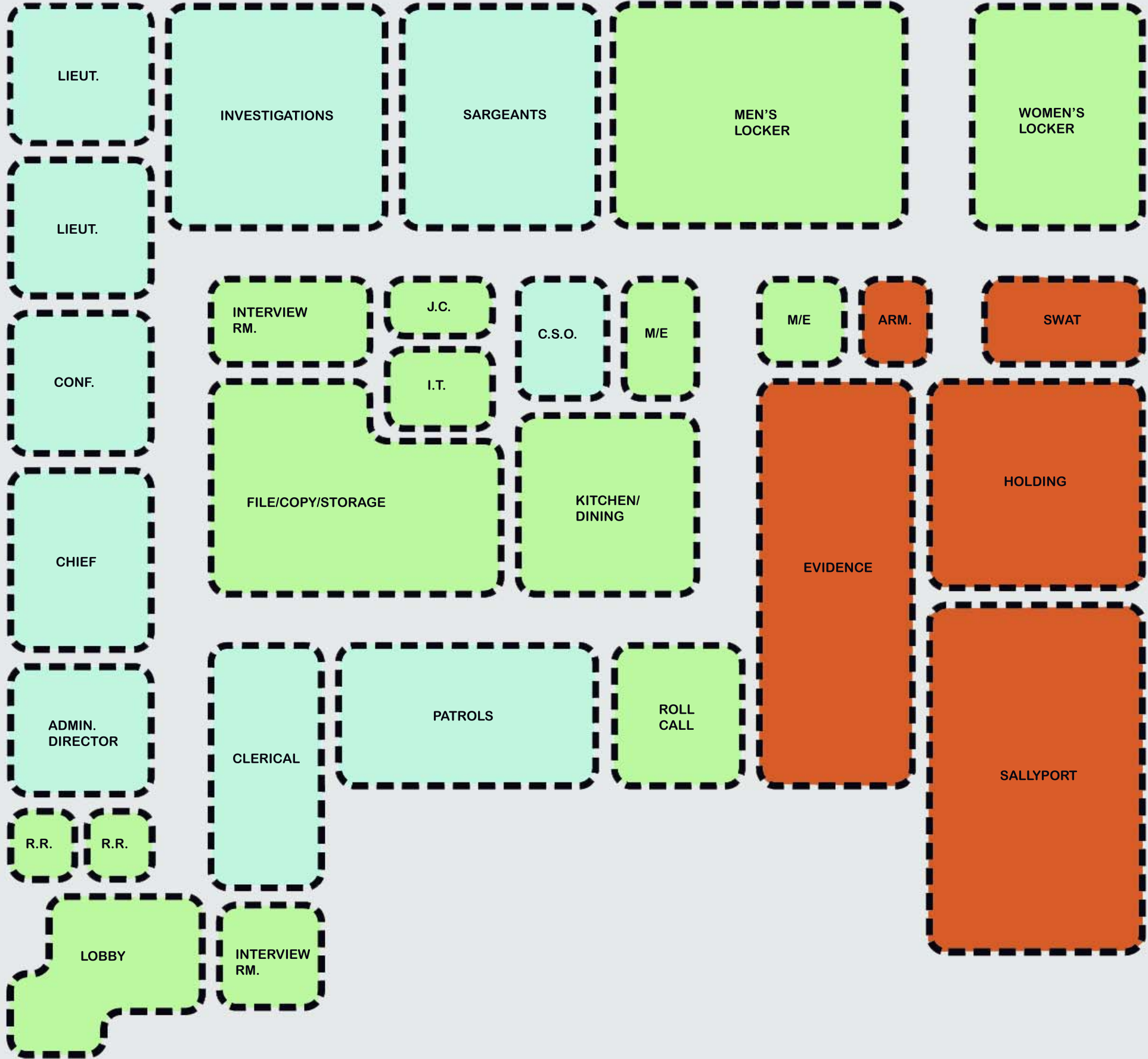
The concept plan for the Fire Department and St. Croix EMS utilizes the agreement to share spaces for their similar functions in the office and support areas and allows for dormitory space to accommodate the ambulance crews and future sleeping quarters for a fire engine crew. Apparatus bays and bay doors are wider to accommodate larger vehicles and allow for safe access to the apparatus. (See following diagram.)

### **DIAGRAM D:** SHARED SPACES: COMBINED POLICE, FIRE AND EMS DEPARTMENTS

By combining the Police Department and the Fire and EMS functions into a new Public Safety Building, the departments have the ability to share training room and exercise room functions. These shared functions allow for an approximately 5,000 square foot overall savings over separate facilities. (See following diagram.)

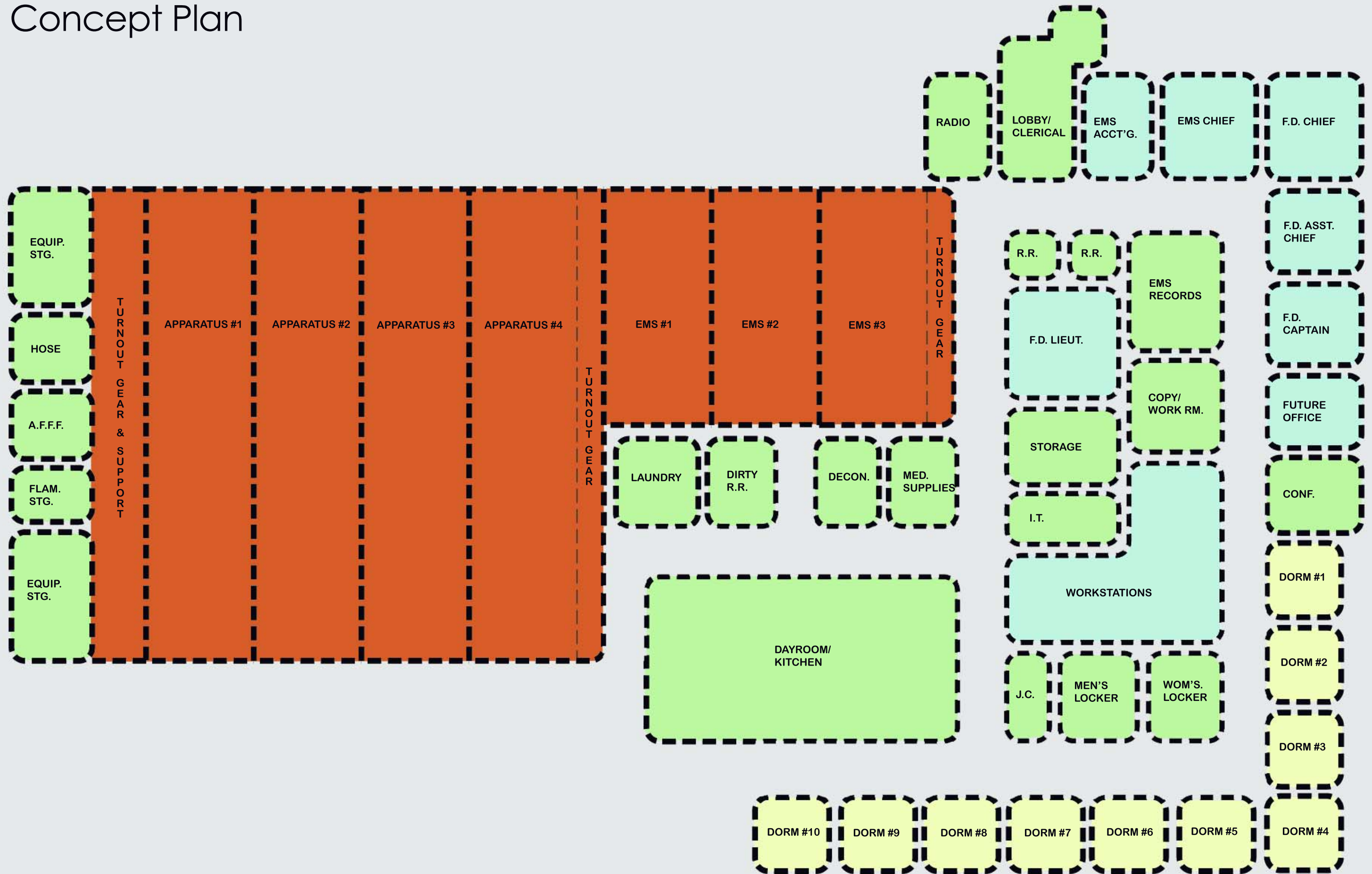


# Concept Plan



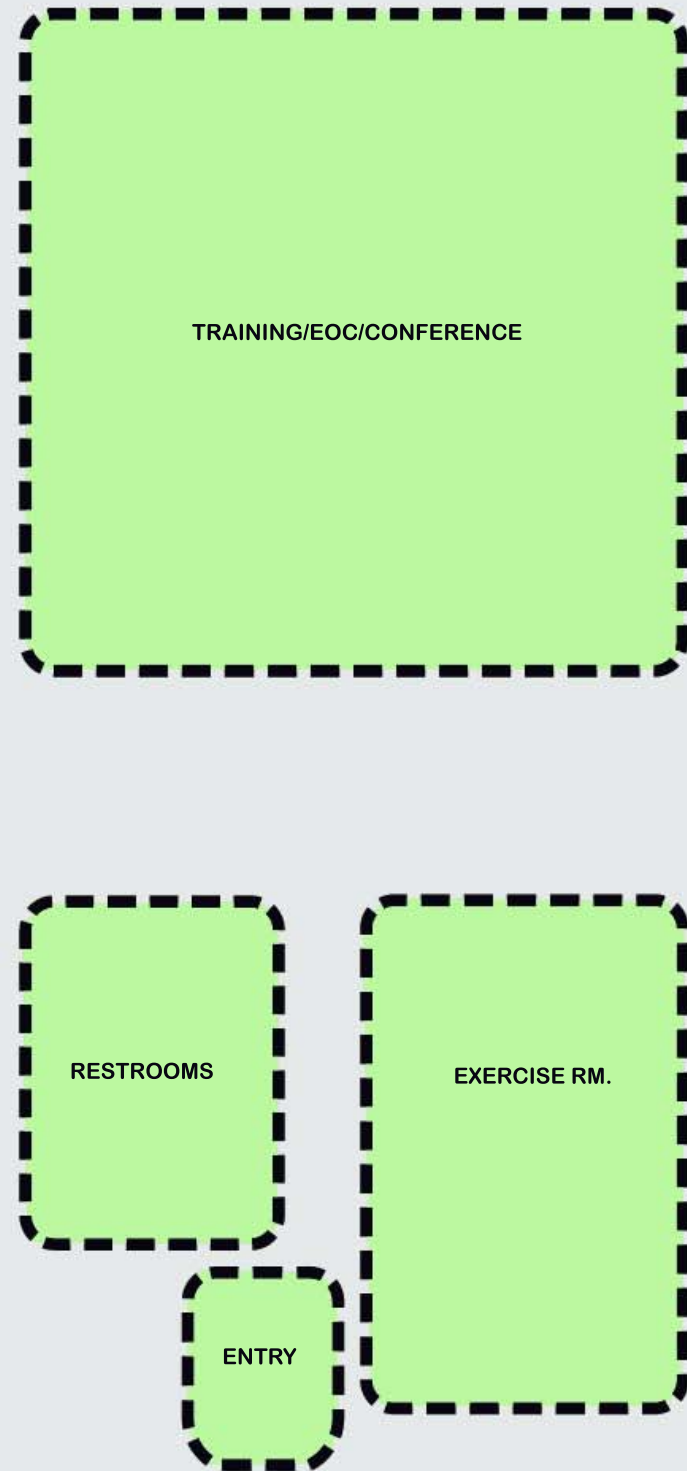
Police Department Facility

# Concept Plan

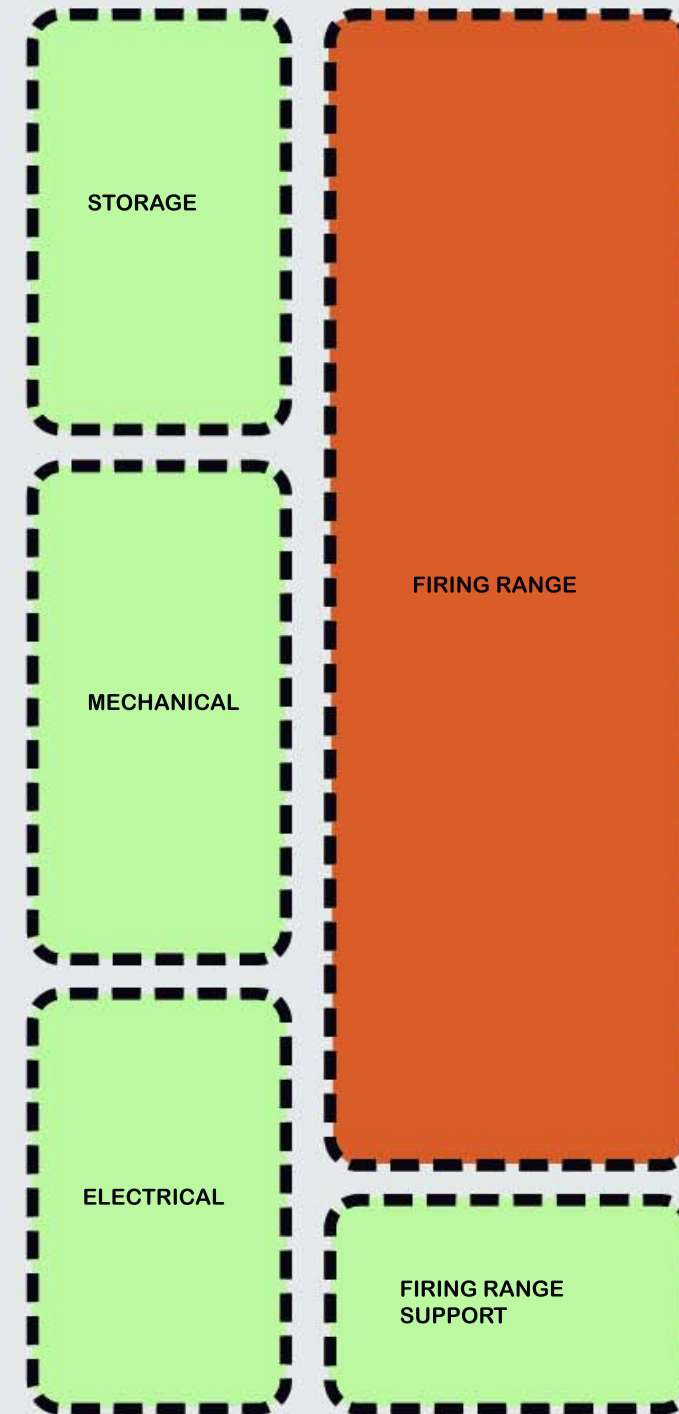


Combined Fire Department and EMS Facility

# Concept Plan



Shared Spaces: Police/Fire/EMS



Building Support Spaces

## FIVE: COST ANALYSIS

### SITE SELECTION AND ACQUISITION

Acquisition costs for a proposed site will need to be confirmed by the City of Hudson upon selection of a site.

Acquisition costs may also be inversely proportional to likely development costs. Site development costs are impacted by geological conditions, topography, infrastructure - either existing, adjacent or planned – and other conditions. Development costs for existing buildings are affected by conditions noted below under New Construction and potential for hazardous materials, maintenance history, etc.

### BUILDING: NEW CONSTRUCTION

Construction costs have been relatively volatile for some time. Though they are currently very favorable, many industry leaders suggest they will increase at least in proportion to any future improvement in the economy. Costs also vary significantly based on type of construction, development size, design, and level of finish.

For developing a preliminary budget, the figures below were provided by CPMI based on a typical public safety project of similar scope in the Hudson region with construction in Spring 2010. Costs generally do not include FFE, (fixtures, furnishings, and equipment including security and communication systems.)

#### COMBINED POLICE, FIRE DEPARTMENT AND EMS BUILDING

Site development and construction costs:

41,000 square feet at \$205.00/SF	\$8,405,000.00
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#### REMODELING OF EXISTING PUBLIC SAFETY BUILDING

Remodeling Costs:	5,000 square feet at \$95.00/SF	\$475,000.00
	Excludes fire apparatus bays.	

#### REMODELING OF EXISTING NMC OFFICE BUILDING

Remodeling Costs:	18,400 square feet at \$70.00/SF	\$1,288,000.00
	Excludes parking and areas not used by Police Department.	

## **OTHER PROJECT COSTS**

Soft costs can vary significantly – primarily based on extent of Owner FFE – but may be budgeted in the range of 15% to 25% of conventional construction cost. Costs can be further estimated as the project is more clearly defined. Examples include:

- Surveys
- Geotechnical testing
- Hazardous abatement and/or demolition of existing structures
- Architectural and engineering fees
- Building permit and fees
- Utility access fees and permitting
- Construction phase testing and inspections
- Printing cost of plans and specifications
- Builders risk and other insurance costs
- Escalation costs
- Furniture, fixtures and equipment
- Security, audio visual, phone and data systems costs
- Moving costs
- Project contingencies
- Bond sale or other financing costs
- Owner legal and administrative costs

## **OPERATIONS AND MAINTENANCE (ASSUMPTIONS)**

Operations and maintenance of a new combined facility will be more cost effective compared to other proposed options for use of existing buildings. Energy costs will vary greatly based on the types of systems selected and their energy sources. Consideration should be given to comparisons between first cost and life cycle costs wherever possible. The use of alternative energy scenarios like ground source heat pumps and sustainable design elements like daylighting controls will further reduce building operation spending.