PROGRAM and SITE STUDY OF
MERCER ISLAND FIRE STATION NO. 1 and NO. 2

November 19, 1991
INDEX

I. INTRODUCTION

II. MERCER ISLAND FIRE STATION NO. 1

SURVEY OF EXISTING PROPERTY
  Description of Property
  Zoning
  Description of Building
  Building Envelope Assessment
  Structural Assessment
  Mechanical Assessment
  Electrical Assessment

PROGRAM
  Program Description
  Program Summary

OPTIONS
  Introduction to Options

Option 1
  Site Program
  Building Program
  Cost Estimate

Option 2
  Site Program
  Building Program
  Cost Estimate
INDEX continued

III. MERCER ISLAND FIRE STATION NO. 2

SURVEY OF EXISTING PROPERTY
   Description of Property
   Zoning
   Description of Building
   Building Envelope Assessment
   Structural Assessment
   Mechanical Assessment
   Electrical Assessment

PROGRAM
   Program Description
   Program Summary

OPTIONS
   Introduction to Options

Option 1
   Site Program
   Building Program
   Cost Estimate

Option 2
   Site Program
   Building Program
   Cost Estimate
I. INTRODUCTION

The City of Mercer Island has initiated a viability study for its Fire Stations Nos. 1 and 2. The purpose of this study is to determine the level of revitalization necessary to update the Fire Stations to functional, modern facilities for fire crews and office staff, as well as the general public. Historically, Fire Station No. 1 was built in 1955 and Station No. 2 in 1952. There have been only minor changes to the structures since that time.

Fire Station No. 1 has had a small increase in bay size and Fire Station No. 2 underwent dorm and fire apparatus bay additions and an increase in bay size. Despite these minor changes in the structures, there have been rather marked changes in the personnel status, number of alarms, types of scope of services, as well as day-to-day business activities and maintenance requirements of both fire stations. Both were originally designed and built as volunteer stations. They are currently manned by full-time fire crews. Collectively, the personnel has increased from one full-time Fire Chief to 21 full-time firefighters, 30 active volunteer firefighters and 3 administrative personnel.

In 1965, the firefighters responded to 149 alarms and in 1990 they responded to 1,240 (an increase of 800%). New residential facilities, an increase in the number of transients and plans for several new business structures, all add to the anticipated increase in the number of alarms and services needed.

The following Fire Station Study will evaluate the existing structures, site, mechanical, electrical, structural and building envelope. A program will be developed for each station to meet current and projected needs. The existing structures evaluation will be used in conjunction with the program developed to give multiple options for each site.
II. MERCER ISLAND FIRE STATION NO. 1
MECHANICAL continued

Should replace the two additional furnaces serving sleeping quarters and locker areas and office areas in public spaces.

Inadequate ventilation and inadequate amount of operable windows.

No Fire Sprinkler System--though not required, it is recommended.

Gas water heater is in good condition. However, no recirculating pump for hot water piping system and piping is not insulated. Reserve system is recommended for hot water distribution piping.

Better ventilation is needed for emergency generator.

Integral vacuum breaker needed on service sink.

Underground diesel oil fuel storage tank system meets all Department of Ecology requirements.

Locker room shower fan needs replacing.

Plumbing fixtures need replacing.

Inadequate ventilation in office spaces.

Inadequate air conditioning for dayroom.

No heating system in shop addition.

Conclusion: Existing mechanical system should be replaced. The only exception would be domestic cold water and waste piping system.
II. MERCER ISLAND FIRE STATION NO. 1

SURVEY OF EXISTING STATION

Description of Property:

Fire Station No. 1 is a 4-Bay Fire Station of approximately 7,500 square feet. It is located at 3030 78th Avenue Southeast.

The Fire Station No. 1 site is 130 feet by 295 feet. There is 130 feet of frontage on 78th Avenue S.E. The existing station has a 50 foot setback from 78th Avenue S.E.

The site is relatively flat with the majority of parking behind the station. The parking areas are paved. There is no storm water system.

The main post office is located to the south with a retail store/parking lot to the north, a grocery store across 78th Avenue S.E. with a daycare, elderly housing and an office building to the east.

ZONING

Fire Station No. 1 is within Mercer Island’s Central Business District (CBD). Therefore, its zoning requirements are established by the urban design guidelines, as well as the zoning code. In addition, all construction within the CBD must be approved by the Mercer Island Design Commission.

After meetings with the City Staff, we attempted to establish the requirements that would pertain to the site, however, ultimately the Mercer Island Design Commission has the final approval decision. During these meetings we were able to identify four areas of concern:

- Landscaping and special paving near apparatus bays
- Plaza and art adjacent to the entry
- Pedestrian pathway at the north side of the site
- Screening of parking area with fences, trellises and plantings

However, the solutions to these requirements remain unclear as they are not clearly defined by the design guidelines.
BUILDING ENVELOPE ASSESSMENT Continued

Cracking of the roof
Exposed glu lams deteriorating due to weather exposure.
Conclusion: Roof needs to be replaced.

b. Exterior Walls & Roof Soffits:
Improper expansion joint between North wall junction of addition and old building.
Extensive cracking in CMU walls (interior and exterior)
Outside grade is against CMU of North wall of building--allowing water to leak into the apparatus bay.
Needs new footing drain with appropriate waterproofing of CMU wall.
Deteriorated east entry door transom and sidelight sills.
2 x 6 T & G roof soffits above apparatus bay doors and apparatus room ceiling area cracked, shrunken and deformed.
Severely corroded downspout from roof--needs replacing.

c. Interior:
Multiple water stains laundry/utility, locker room, dormitory, office, lunchroom and hallway.

d. Miscellaneous Dry Rot at Sills:

e. Energy Efficiency of Exterior Envelope-
Building envelope does not meeting today’s energy standards
Walls are uninsulated
Windows are single glazed
Inadequate roof insulation and uninsulated concrete floor slabs
Conclusion: The above inadequacies should be corrected
Two possible approaches to dealing with cracking CMU and lack of insulation: (1) Regrout CMU with non-shrink grout and furr out all walls and insulate; (2) Apply an exterior finish system and furr out all walls and insulate.
MECHANICAL continued

Should replace the two additional furnaces serving sleeping quarters and locker areas and office areas in public spaces.

Inadequate ventilation and inadequate amount of operable windows.

No Fire Sprinkler System--though not required, it is recommended.

Gas water heater is in good condition. However, no recirculating pump for hot water piping system and piping is not insulated. Reserve system is recommended for hot water distribution piping.

Better ventilation is needed for emergency generator.

Integral vacuum breaker needed on service sink.

Underground diesel oil fuel storage tank system meets all Department of Ecology requirements.

Locker room shower fan needs replacing.

Plumbing fixtures need replacing.

Inadequate ventilation in office spaces.

Inadequate air conditioning for dayroom.

No heating system in shop addition.

Conclusion: Existing mechanical system should be replaced. The only exception would be domestic cold water and waste piping system.
PROGRAM

PROGRAM DESCRIPTION

As previously mentioned, Fire Stations 1 & 2 have been modified by only minor changes since they were built. Yet, the needs, uses, personnel, alarms and people served have increased and/or changed dramatically. As a result, the personnel have been forced to accommodate and acclimate to their outdated and obsolete facilities as opposed to the facilities meeting the user's needs. Some of the deficiencies of Fire Stations 1 & 2 include, but are not limited to the following:

Deficient storage and work space.
Lack of training facilities, tower & training room.
Improvements needed for electrical, insulating, heating, cooling, lighting, communications systems.
Public waiting room/lobby, handicap access restrooms, first-aid rooms.
Securing non-public areas of Fire Station from the public
Drive-thru bays, fire hose drying and storage, small apparatus bays (12' wide doors).
Separate lavatories/shower facilities/sleeping quarters for sexes.
Adequate ventilation.
Maintenance--painting
Adequate diesel exhaust ventilation
Physical fitness room
Administration offices
Relocation of emergency generators
Kitchen size, storage, function
<table>
<thead>
<tr>
<th>SPACE SUMMARY</th>
<th>AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>V. Crew Area</td>
<td></td>
</tr>
<tr>
<td>Dormitories (6)</td>
<td>864</td>
</tr>
<tr>
<td>Men's Restroom and Shower</td>
<td>350</td>
</tr>
<tr>
<td>Women's Restroom and Shower</td>
<td>110</td>
</tr>
<tr>
<td>Kitchen Area</td>
<td>225</td>
</tr>
<tr>
<td>Dayroom</td>
<td>280</td>
</tr>
<tr>
<td>Dining Area</td>
<td>210</td>
</tr>
<tr>
<td>Laundry</td>
<td>100</td>
</tr>
<tr>
<td>Storage</td>
<td>60</td>
</tr>
<tr>
<td>Mech.</td>
<td>170</td>
</tr>
<tr>
<td>Exterior Patio</td>
<td></td>
</tr>
<tr>
<td>Subtotal Crew Area</td>
<td>2,369</td>
</tr>
<tr>
<td>VI. Circulation and Miscellaneous</td>
<td>2,149</td>
</tr>
<tr>
<td>TOTAL</td>
<td>14,088 s.f.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROGRAM SUMMARY OF SPACES</th>
<th>AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Apparatus Bay (Related Functions)</td>
<td></td>
</tr>
<tr>
<td>Apparatus Bay</td>
<td>5,400</td>
</tr>
<tr>
<td>Decontamination Room</td>
<td>100</td>
</tr>
<tr>
<td>Hose Tower</td>
<td>160</td>
</tr>
<tr>
<td>Shop Area</td>
<td>200</td>
</tr>
<tr>
<td>Generator Room</td>
<td>160</td>
</tr>
<tr>
<td>Dive Room</td>
<td>150</td>
</tr>
<tr>
<td>Serv. Air</td>
<td>220</td>
</tr>
<tr>
<td>Medical Storage</td>
<td>100</td>
</tr>
<tr>
<td>Storage (Office/Household)</td>
<td>100</td>
</tr>
<tr>
<td>Storage (Uniforms)</td>
<td>150</td>
</tr>
<tr>
<td>Subtotal Apparatus Bay &amp; Related Functions</td>
<td>6,740 s.f.</td>
</tr>
<tr>
<td>II. Public Area</td>
<td></td>
</tr>
<tr>
<td>Entry Vestibule</td>
<td>220</td>
</tr>
<tr>
<td>Public Meeting Room/Training</td>
<td>620</td>
</tr>
<tr>
<td>Public Restrooms</td>
<td>100</td>
</tr>
<tr>
<td>Aide Room</td>
<td>80</td>
</tr>
<tr>
<td>Library/Training Room</td>
<td>170</td>
</tr>
<tr>
<td>Audio/Visual Storage</td>
<td>80</td>
</tr>
<tr>
<td>Subtotal Public Area</td>
<td>1,270 s.f.</td>
</tr>
<tr>
<td>III. Administrative Area</td>
<td></td>
</tr>
<tr>
<td>Company Office/Officer Dorm (1)</td>
<td>600</td>
</tr>
<tr>
<td>Training Office</td>
<td>100</td>
</tr>
<tr>
<td>Chief's Office</td>
<td>140</td>
</tr>
<tr>
<td>Station Office</td>
<td>120</td>
</tr>
<tr>
<td>Fire Marshal's Office</td>
<td>120</td>
</tr>
<tr>
<td>Secretary Space</td>
<td>120</td>
</tr>
<tr>
<td>Subtotal Administrative Area</td>
<td>1,200 s.f.</td>
</tr>
<tr>
<td>IV. Training Area</td>
<td></td>
</tr>
<tr>
<td>Exercise</td>
<td>360</td>
</tr>
<tr>
<td>Exterior Physical Training</td>
<td></td>
</tr>
<tr>
<td>Exterior Drill</td>
<td></td>
</tr>
<tr>
<td>Subtotal Training Area</td>
<td>360 s.f.</td>
</tr>
</tbody>
</table>
OPTIONS

INTRODUCTION TO OPTIONS

Multiple site use options were studied for Fire Stations 1 & 2. These were presented to the Building Committee and discussed. Four options were chosen for each site.

Fire Station No. 1

Option 1 Remodel/Addition
Option 2 New Construction--2 Story
Option 3 New Construction--1 Story
Option 4 New Construction--New site acquisition--1 story

These four site use options were examined in three categories:

1. Site Program
2. Building Program
3. Cost Estimate

Special mention should be made that it is physically impossible to include a training tower or an appropriate sized drill yard on either site.

In addition, the hose tower on site one (for all 4 options) exceeds the maximum allowable height of 24 feet.

All options for both Fire Stations 1 and 2 would require temporary facilities during construction.

A complete investigation of the presence of asbestos in the buildings is beyond the scope of this report but should be undertaken prior to remodeling and/or demolition of the structures.
OPTION 1 Continued

Because Option 1 uses the shell of the existing structure, there remains constraints which do not allow for total accommodation of the ideal program goals.

Cost Estimate:

REMODEL/ADDITION

<table>
<thead>
<tr>
<th>Square Feet</th>
<th>Low $/UM</th>
<th>High $/UM</th>
<th>Low TOTAL</th>
<th>High TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>14,000</td>
<td>$85.64</td>
<td>$101.71</td>
<td>$1,199,000</td>
<td>$1,424,000</td>
</tr>
</tbody>
</table>

Cost Estimate does not include Architectural/Engineering fees, sales tax, land cost, asbestos abatement or relocation costs, for all options. (Options 1, 2, 3 and 4)
OPTION 2

Site Program:

NEW CONSTRUCTION--2 STORY

Option 2 allows for drive-thru apparatus bays as well as good vehicle circulation (cars and fire apparatus).

Parking is very organized.

This option has the smallest building footprint and consequently provides the largest paved area for parking.

Building Program:

NEW CONSTRUCTION--2 STORY

14,000 SQUARE FOOT

The new construction options consist of demolishing the existing structure; Type V-N Construction (North wall 1 Hr.); exterior skin of brick or dryvit; metal/single-ply roof; fire sprinkler system; storm water system; site fencing; site trellises; special paving at entry and pedestrian pathway plaza.

This two-story option provides the most efficient building footprint. The apparatus bay area, public spaces and administrative offices are located on the first floor with the showers, crew dormitory, day kitchen/dining areas and exercise areas located on the second floor.

The floor plan meets the majority of the program needs.

Cost Estimate:

NEW CONSTRUCTION--2 STORY

<table>
<thead>
<tr>
<th>Square Feet</th>
<th>Low $/UM</th>
<th>High $/UM</th>
<th>Low TOTAL</th>
<th>High TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>14,000</td>
<td>$98.00</td>
<td>$120.56</td>
<td>$1,372,000</td>
<td>$1,688,000</td>
</tr>
</tbody>
</table>
OPTION 3

Site Program:

NEW CONSTRUCTION--1 STORY

Option 3 requires a large portion of the site. The building footprint leaves minimal parking area.

This option can accommodate drive-thru apparatus bays.

Building Program:

NEW CONSTRUCTION--1 STORY

14,000 SQUARE FOOT

The new construction options consist of demolishing the existing structure; Type V-N Construction (North wall 1 Hr.); exterior skin of brick or dryvit; metal/single-ply roof; fire sprinkler system; storm water system; site fencing; site trellises; special paving at entry and pedestrian pathway plaza.

This one story option’s main drawback is the elongated form due to the limited site width. This creates longer response routes to the apparatus bay. However, all five program areas fit on the site in a single story thereby alleviating possible injuries which can occur, in response to an alarm, in two story structures.

Cost Estimate:

NEW CONSTRUCTION--1 STORY

<table>
<thead>
<tr>
<th>Square Feet</th>
<th>Low $/UM</th>
<th>High $/UM</th>
<th>Low TOTAL</th>
<th>High TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>14,000</td>
<td>$97.13</td>
<td>$120.31</td>
<td>$1,360,000</td>
<td>$1,684,000</td>
</tr>
</tbody>
</table>
OPTION 4

Site Program:

NEW CONSTRUCTION--NEW SITE ACQUISITION 1 STORY

Option 4 requires adding width to the site.

Drive-thru apparatus bays are easily achieved and the width of the building allows for good vehicular/pedestrian separation as the apparatus bays and public entry are far apart.

Building Program:

NEW CONSTRUCTION--NEW SITE ACQUISITION 1 STORY

14,000 SQUARE FOOT

The new construction options consist of demolishing the existing structure; Type V-N Construction (North wall 1 Hr.); exterior skin of brick or dryvit; metal/single-ply roof; fire sprinkler system; storm water system; site fencing; site trellises; special paving at entry and pedestrian pathway plaza.

This option meets all program goals.

Additional site width allows for optimum spacial relationships. It especially allows for ideal locations for apparatus bay functions.

Cost Estimate:

NEW CONSTRUCTION--NEW SITE ACQUISITION 1 STORY

<table>
<thead>
<tr>
<th>Square Feet</th>
<th>Low $/UM</th>
<th>High $/UM</th>
<th>Low TOTAL</th>
<th>High TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>14,000</td>
<td>$100.00</td>
<td>$123.60</td>
<td>$1,400,000</td>
<td>$1,730,000</td>
</tr>
</tbody>
</table>
CONCLUSION  FIRE STATION NO. 1

For the Fire Station 1 site, three of the options would fit on the existing site.

The Remodel/Addition Option is the least favorable option. It requires new mechanical and electrical systems, as well as structural system upgrading. Although the apparatus bays would be expanded, the bay width would remain unchanged. Spacial constraints would remain, as the first floor remodeling essentially involves reorganizing the interior spaces within the existing shell.

The Two Story New Construction Option allows for a good apparatus bay layout and drive-thru bay capability. This option has the smallest building footprint creating best parking arrangement and vehicle/pedestrian relationships. There is a 16-17% cost estimate difference between Option 1 and Option 2.

Option 3 One Story New Construction allows for the program functions to be on one level, however, it requires the largest building footprint thereby reducing the parking accommodations and creating a poor relationship between parking and the building's entry. The functions are also fairly separated due to the buildings elongated form.

Option 4 would meet most of the program goals, however, it requires a substantial amount of site acquisition or a new site.
III. MERCER ISLAND FIRE STATION NO. 2
III. MERCER ISLAND FIRE STATION NO. 2

DESCRIPTION OF PROPERTY

Fire Station 2 is a 3 Bay Fire Station of approximately 3,500 square feet. It is located at 8473 SE 68th Street.

The Fire Station 2 site is 100 feet by 150 feet. There is 100 feet of frontage on 68th Street with 150 feet north/south. The existing station has a 50 foot setback from 68th Street to the apparatus bay.

The site is relatively flat with parking along the west property line and behind the station. The parking areas are paved with some curbs. There is no storm water system.

A Puget Power Substation is located to the east with a paved parking lot to the south and west. Pioneer Park is across 68th Street to the north.

ZONING

Fire Station 2 is located within an R8.4 zone, therefore, the station is a public utility/government building requiring a condition use permit (meeting R9.6 requirement).

Yard requirements:

Front yard -- 20 feet
Side yard -- 15 feet total of both side yards (5 feet minimum abutting an interior lot line and 10 feet minimum side yard abutting a street).
Rear yard -- 25 feet.
THE BUILDING ENVELOPE ASSESSMENT

The building envelope review was performed by Building Envelope. The following is a brief summary of the report. (Please refer to the Appendix for the entire report).

a. Roof, Beam Ends & Soffits:
   Severely alligatored roof
   Inadequate roof detailing at wall junctures
   Roof termination detail at perimeter parapet--install a parapet.
   Leaks due to cant flashing rips--redo flashing
   Deteriorated glu lam beams--cut back bottoms of beams
   Sidewall staining
   Perimeter water damage due to roof soffits flush with bottom of
   Fascias--redo fascias
   Roof penetrations are without curbs--install curbs
   Inadequate attic venting--install additional roof vents
   Poor adhesion of sealant at skylight/CMU wall junctures
   Conclusion: Replace the roof.

b. Exterior Walls:
   Lack of expansion joint between the addition and old building
   Juncture causing a crack
   No expansion joints at corners causing a crack
   Extensive cracks in CMU walls
   Poor grading adjacent to east wall slopes toward wall--regrade
   Severely corroded downspout--replace.
STRUCTURAL ASSESSMENT

The structural review was performed by Ratti, Swenson, Perbix, Clark, P.S. The following is a brief summary of the report. (Please refer to the Appendix for the entire report).

No signs of damage other than normal age and maintenance issues, with the following exceptions:

1. Dry rot in the exposed glu lam beams
2. Several cracks in exterior masonry walls--regrout solid with epoxy or non-shrink grout.
3. Original glu lam installed inverted
4. Lateral system requires upgrading--provide adequate roof diaphragm
5. Water leakage on the ceiling due to deteriorated flashing & roofing

An additional story would require an independent vertical and lateral system or upgrading of the existing system.

MECHANICAL ASSESSMENT

Mechanical review was performed by Interface Engineers. The following is a brief summary of the report. (Please refer to the Appendix for the entire report).

Apparatus bay has two unit heaters which are in good condition but have exceeded normal useful life.
Inefficient heating system compared to newer radiant heating systems.
No vacuum breaker on service sink in apparatus bay.
Air compressor is in good condition
Old water heater--past problems--flexible pipe connection should be strapped to structure for seismic requirements. Should be replaced.
PROGRAM

PROGRAM DESCRIPTION

As previously mentioned, Fire Stations 1 & 2 have been modified by only minor changes since they were built. Yet, the needs, uses, personnel, alarms and people served have increased and/or changed dramatically. As a result, the personnel have been forced to accommodate and acclimate to their outdated and obsolete facilities as opposed to the facilities meeting the user's needs. Some of the deficiencies of Fire Stations 1 & 2 include, but are not limited to the following:

- Deficient storage and work space.
- Lack of training facilities, tower & training room.
- Improvements needed for electrical, insulating, heating, cooking, lighting, communications systems.
- Public waiting room/lobby, handicap access restrooms, first-aid rooms.
- Securing non-public areas of Fire Station from the public
- Drive-thru bays, fire hose drying and storage, small apparatus bays (12' wide doors).
- Separate lavatories/shower facilities/sleeping quarters for sexes.
- Adequate ventilation.
- Maintenance--painting
- Adequate diesel exhaust ventilation
- Physical fitness room
- Administration offices
- Relocation of emergency generators
- Kitchen size, storage, function
### SPACE SUMMARY

#### V. Crew Area
- Dormitory (4) 575
- Men’s Restroom and Shower 250
- Women’s Restroom and Shower 110
- Kitchen Area 200
- Dayroom/Training 280
- Dining Area 160
- Laundry 100
- Storage 40
- Mech. 150
- Exterior Patio

**Subtotal Crew Area** 1,855

#### VI. Circulation and Miscellaneous

**Total** 8,072 s.f.

---

### PROGRAM SUMMARY OF SPACES

#### I. Apparatus Bay (Related Functions)
- Storage (General) 120
- Apparatus Bay 3,136
- Decontamination Room 100
- Shop Area 100
- Generator Room 150
- Fire Extinguishers Repair 120

**Subtotal Apparatus Bay & Related Functions** 3,726 s.f.

#### II. Public Area
- Entry Vestibule 150
- Public Restrooms 50
- Aide Room 90

**Subtotal Public Area** 280 s.f.

#### III. Administrative Area
- Watch Office/Officer Dorm (1) 300
- Station Office 120
- Reception 90
- Radio Area 120

**Subtotal Administrative Area** 630 s.f.

#### IV. Training Area
- Exercise 350
- Exterior Physical Training
- Exterior Drill

**Subtotal Training Area** 350 s.f.
OPTIONS

INTRODUCTION TO OPTIONS

Multiple site use options were studied for Fire Stations 1 & 2. These were presented to the Building Committee and discussed. Four options were chosen for each site.

**Fire Station No. 2**

Option 1 Remodel/Addition

Option 2 New Construction--3 Story

Option 3 New Construction--Site Acquisition--2 Story

Option 4 New Construction--Site Acquisition--1 Story

These four site use options were examined in three categories:

1. Site Program
2. Building Program
3. Cost Estimate

Special mention should be made that it is physically impossible to include a training tower or an appropriate sized drill yard on either site.

In addition, the hose tower on site one (for all 4 options) exceeds the maximum allowable height of 24 feet.

All options for both Fire Stations 1 and 2 would require temporary facilities during construction.

A complete investigation of the presence of asbestos in the buildings is beyond the scope of this report but should be undertaken prior to remodeling and/or demolition of the structures.
OPTION 1 continued

The remodel/addition option consists of V-N construction, new electrical, mechanical and lighting systems, structural upgrading of the lateral system, structural upgrading of the vertical load capacity, new fire sprinkler system, new roof, new exterior skin/surface, new double glazed windows, storm system, site fencing and repainting/interior finish upgrading.

Cost Estimate:

REMODEL/ADDITION

<table>
<thead>
<tr>
<th>Square Feet</th>
<th>Low $/UM</th>
<th>High $/UM</th>
<th>Low TOTAL</th>
<th>High TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>5,800</td>
<td>$83.97</td>
<td>$105.86</td>
<td>$487,000</td>
<td>$614,000</td>
</tr>
</tbody>
</table>

Cost Estimate does not include Architectural/Engineering fees, sales tax, land cost, asbestos abatement or relocation costs, for all options. (Options 1, 2, 3 and 4)
OPTION 2

Site Program:

NEW CONSTRUCTION -- 3 STORY

Option 2 has the same deficiencies in its uses of the site as Option 1. There would not be a training area nor drive-thru bays, and only the minimum parking requirement is met (using the existing parking layout). There would also be very poor vehicular circulation.

A variance may be required for the parking lot layout and driveway width.

Building Program:

NEW CONSTRUCTION -- 3 STORY

8,000 SQUARE FEET

The new construction options consist of demolishing the existing structure, Type V-N construction, exterior skin of brick or dryvit, metal/single ply roof, fire sprinkler system, storm water system and site fencing.

The new building configuration allows for an apparatus bay area which meets the program goals, with the exception of drive-thru bays.

The first floor consists of the public area, reception area and station office adjacent to the apparatus bay.

The second floor consists of the radio area, officer dormitory/office and storage areas.

The third floor consists of the day room/crew dormitory and exercise areas.

Option 2 allows the massing of the building to stair step back from 68th St. creating some modulation to the elevations.

Cost Estimate:

NEW CONSTRUCTION -- 3 STORY

<table>
<thead>
<tr>
<th>Square Feet</th>
<th>Low $/UM</th>
<th>High $/UM</th>
<th>Low TOTAL</th>
<th>High TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>8,000</td>
<td>$97.82</td>
<td>$121.50</td>
<td>$783,000</td>
<td>$972,000</td>
</tr>
</tbody>
</table>
OPTION 3

Site Program:

NEW CONSTRUCTION--2 STORY

Option 3 requires the acquisition of 5,500 square feet of property to the south. This would allow drive-thru bays, provide ample parking and permit good vehicular circulation.

Building Program:

NEW CONSTRUCTION--2 STORY

8,000 SQUARE FOOT

The new construction options consist of demolishing the existing structure, Type V-N construction, exterior skin of brick or dryvit, metal/single ply roof, fire sprinkler system, storm water system and site fencing.

Option 3 meets the program goals for drive-thru apparatus bays.

The first floor consists of apparatus bays, public areas, administrative offices, day room/kitchen/dining areas.

The second consists of the crew dormitory/restrooms and exercise areas.

Cost Estimate:

NEW CONSTRUCTION--2 STORY

<table>
<thead>
<tr>
<th>Square Feet</th>
<th>Low $/UM</th>
<th>High $/UM</th>
<th>Low TOTAL</th>
<th>High TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>8,000</td>
<td>$103.10</td>
<td>$129.03</td>
<td>$825,000</td>
<td>$1,030,000</td>
</tr>
</tbody>
</table>
OPTION 4

Site Program:

NEW CONSTRUCTION--1 STORY

Option 4 requires the acquisition of 9,000 square feet of property consisting of 30 feet of width (68th Street frontage), and 45 feet of depth to the south. This additional area would allow for drive-thru bays, ample parking and permit good vehicular circulation.

Building Program:

NEW CONSTRUCTION--1 STORY

8,000 SQUARE FOOT

The new construction options consist of demolishing the existing structure, Type V-N Construction, exterior skin of brick or dryvit, metal/single-ply roof, fire sprinkler system, storm water system, and site fencing.

Option 4 allows the spacial relationships to function well and meet the program goals.

Cost Estimate:

NEW CONSTRUCTION--1 STORY

<table>
<thead>
<tr>
<th>Square Feet</th>
<th>Low $/UM</th>
<th>High $/UM</th>
<th>Low TOTAL</th>
<th>High TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>8,000</td>
<td>$102.75</td>
<td>$128.50</td>
<td>$ 822,000</td>
<td>$1,028,000</td>
</tr>
</tbody>
</table>
CONCLUSION    FIRE STATION NO. 2

For the Fire Station 2 site, only two of the options are feasible simply because the site size eliminates other options. The Remodel/Addition and Three-Story New Construction Options are the only options that physically fit on the site.

The Remodel/Addition Option is the least favorable option as it does not meet the program requirements. The square footage would be 5,800 - 6,000 s.f. versus the program need for 8,000 square feet. In addition, because the remodel would only involve reorganizing the interior spaces, within the existing shell, the spacial relationships are not optimal. For example, the apparatus bay is not expandable. Another concern is that remodeling often involves inherent hidden costs which are not identifiable at this stage of the project.

The Three Story New Construction Option meets most of the program goals. Its biggest disadvantage is the vertical separation causing a greater distance between crew quarters and apparatus bay. There is a 13-15% cost estimate difference between the remodel/addition and the three-story new construction options.

Although the acquisition of land would add to the cost of the project, if acquisition of additional site or a new site were possible, either the two-story new construction or one story new construction options best meet the program goals, i.e. drive-thru apparatus bays.
REPORT ON
CONDITION OF
EXTERIOR BUILDING ENVELOPE
AT
MERCER ISLAND FIRE STATION 1

PREPARED FOR
LAWHEAD ARCHITECTS

PREPARED BY
Paul Lukes
THE BUILDING ENVELOPE
Consulting Services

P. O. Box 411
Bellevue, Wa. 98009
(206) 746-4174 office
(206) 746-4183 fax

Date: 8/2/91

1
TABLE OF CONTENTS

I. INTRODUCTION ........................................................................................................... 3
II. GENERAL INFORMATION AND OBSERVATIONS ............................................ 3
III. ANALYSIS AND RECOMMENDATIONS ................................................................. 6
IV. SUMMARY .................................................................................................................. 7
I. INTRODUCTION

As part of an overall study related to the adequacy of the existing fire station, the exterior building envelope of Fire Station #1 was examined. The examination was limited to issues pertaining to water integrity, weathering damage, and energy efficiency. This report summarizes the findings, and makes basic recommendations for remedial work, if the station is to be kept. It should be noted that this study is fairly superficial, and makes no attempt to provide any overall life-cycle cost analyses, detailed cost estimates, or other detailed economic analyses. Any cost data provided herein is very approximate, based on reasonable assumptions, since no specific designs are provided.

II. GENERAL INFORMATION AND OBSERVATIONS

A. LOWEST ROOF

1. Existing roof is a BUR, over approximately 2' of rigid insulation, with no coating. While it has numerous detail problems, its overall condition is OK, and with some maintenance, complete replacement can be delayed for a few years. After remedial detailing, a roof coating should be applied to maximize the roof's life.

2. Termination detail at wall juncture is inadequate, may be leaking. See photo #1.

3. Roof termination detail at base of clerestory windows is inadequate, may be source of leakage. See photo #1.

4. Roof termination detail at perimeter lacks parapet, is marginal. See photo # 2 for typical condition.

5. Perimeter fascia is deteriorated, should be replaced in many locations.

6. Roof slope appears very nearly level, with inadequate drainage.

7. In general, the roof deck feels solid, indicating minimal, if any structural damage.

B. MIDDLE ROOF

1. Low Roof Notes #1, 2, 4, 5, 6, and 7 apply to this roof as well.

2. Plumbing vents are not flashed, may be leaking.

3. Exhaust vent and flue penetrations occur at general roof level, with no curbs. This is not a good detail. See photo # 3 for typical condition.

4. Tower base connection is extremely poorly detailed, and leakage is probable. See photo # 3 for typical condition.

5. Some blistering is apparent around tower base. Top of base has substantial amount of water under roof membrane, some substrate softness exists. See photo # 3 for typical condition.

6. Skylight curbs are too low, occasional leakage may occur under snow conditions. See photo # 4 for typical condition.
C. UPPER ROOF

1. Low Roof. Notes # 4, 5, and 6 apply to this roof as well.

2. Beam end at SE corner is boxed out to match appearance of other beams. However, its South face is open to the weather, and is deteriorating. See photo # 5.

3. Some minor delamination and cracking of exposed beam ends is apparent, though no significant damage is visible.

4. The roof is flat, and drains poorly. It appears that water sits on portions of the roof for prolonged periods. Numerous minor depressions exist, with varying degrees of softness. This could indicate water damage to the underlying insulation, and in some cases, it may indicate minor deck softening. Without actually seeing the underlying condition, it is difficult to determine the cause of the softness, particularly since it is generally minor.

5. Parapet wall at North edge of roof has been flashed fully with a modified bitumen membrane, probably to eliminate leakage through CMU to apparatus room below. However, many poor laps exist, and the edge terminations are extremely poorly done. Some leakage in these areas is probable. See photos # 6 and 7.

6. Antenna base occurs at roof level, and is poorly detailed.

7. Chimney flashing and adjacent support flashings are poorly detailed, occur too close to roof level. See photo # 2.

8. Roof over addition is severely alligatored, with minimal blistering. See photo # 8.

9. Parapet detailing at addition is extremely poor, probably leaking. See photo # 8.

10. Parapet coping at juncture of addition and old building is lifted, probably leaking.

11. Juncture of new roof to old roof has poor laps.

D. EXTERIOR WALLS AND ROOF SOFFITS

1. North wall, juncture between addition and old building lacks expansion joint, has cracked. An attempt has been made to seal this, but it was not done properly, and the sealant has cracked. See photo # 9.

2. Extensive, hairline cracking is apparent in CMU walls all around the building, including at interior walls. Much of the cracking occurs along horizontal grout lines. However, in numerous places, continuous vertical cracks occur, extending right through the masonry units themselves. In some locations, these cracks, while generally quite narrow, are spaced 3-4 feet apart. It is particularly frequent near the West end of the North wall, and on the wall South of the entry. See photos # 10 & 11 for typical condition.

There could be a variety of causes for this phenomenon, including settlement, earthquake damage, thermal stresses, etc. It does not appear to be settlement related, since it generally does not correspond to any cracking in the foundation below.

While many of the walls typically do not appear to be structurally supporting other elements of the building, the cracking may present a danger during an earthquake, if it affects the walls' capacity to stand up. A structural engineer should review this aspect. From a water integrity and energy viewpoint, these cracks present a potential for water penetration as well as increased heat loss.
3. A crack in CMU above window on South side corresponds to crack in foundation wall under window. See photo # 12.

4. North wall of building retains 3-4 feet of dirt. Outside grade is up against CMU along most of wall’s length. The CMU is very porous, and this condition is likely to cause leakage after prolonged rain. See photo # 13.

5. East entry door transom and sidelight sills are deteriorated. See photo # 14.

6. 2x6 T&G roof soffits above apparatus bay doors are cracked, shrunken, and deformed. This may indicate compression set from water penetration at some point.

7. Downspout from roof is severely corroded. See photo # 15.

E. LAUNDRY/UTILITY
   1. Water stains on ceiling and beam under tower.

F. LOCKER ROOM
   1. Water stains on ceiling next to pipe column near window.
   2. Water stains on ceiling along East perimeter.

G. DORMITORY
   1. Water stains on ceiling along East perimeter.
   2. Water stains on wall under operable window.

H. OFFICE
   1. Water stains on wall under AC unit. Window glass above has been replaced with plywood, with cracks at perimeter.
   2. Several ceiling tiles are water stained.

I. LUNCHROOM
   1. Portions of sill under operable window are severely dry-rotted. Sills are not Pressure Treated. It is not possible to determine whether sill under fixed windows is also rotten. See photo # 16.
   2. Interior CMU wall is cracked vertically.

J. HALLWAY
   1. Water staining on ceiling is continuous along juncture of high roof/middle roof above.
   2. Signs of serious leakage at ceiling and wall near front entry. See photo # 17.
   3. Continuous vertical crack in CMU wall near juncture to addition.
K. APPARATUS ROOM

1. Extensive shrinkage set, cracking, and deformation of 2x6 T&G ceiling.
2. Several water stains on ceiling. See photo # 18.
3. Water stains on concrete columns along North wall, efflorescence on adjacent CMU wall, water streaks from roof above.

L. ENERGY EFFICIENCY OF EXTERIOR ENVELOPE

1. Exterior walls are primarily un-insulated CMU.
2. Exterior windows are single glazed.
3. Roof insulation appears to be approximately 2" of rigid insulation of undetermined type.
4. Floor construction is 4" concrete slab on grade.

III. ANALYSIS AND RECOMMENDATIONS

With the possible exception of the cracking in the CMU walls, the existing building appears to be in reasonable condition. The cracking should be examined by a structural engineer to determine its seriousness from a structural and seismic safety viewpoint. Assuming that the cracking does not present significant or unfeasibly costly problems, a number of steps should be taken in the relatively near future to prevent further deterioration of the building and to improve its energy efficiency.

A. ROOFS

The roofs have several problems, such as lack of slope, lack of parapet, poor sidewall detailing, lack of curbs, inadequate skylight curbs, no plumbing vent flashings, etc., as outlined previously. In addition, the amount of insulation appears to be minimal. To maximize lifespan and minimize operating costs, all of these should be corrected, as follows:

1. Remove and replace roof with new, tapered rigid insulation and new roof.
2. Install a parapet around roof perimeter, at least 6" above adjacent roof plane.
3. Redo sidewall detailing to raise flashings a minimum of 8" above the roof plane.
4. Raise skylight curbs.
5. Install plumbing vent flashings.
6. Install curbs at all penetrations.
7. Box in exposed beam end at SE corner of high roof.
B. EXTERIOR WALLS

The exterior walls of the building present a greater challenge. They are extremely poorly insulated. The cracking, assuming it can be dealt with from a structural viewpoint, presents significant waterproofing problems, which cannot be solved by applying a masonry sealer.

Two basic approaches for dealing with these problems are apparent. One would be to waterproof the walls from the exterior by applying an elastomeric coating, and insulating them on the interior face by furring them out and installing new finishes and insulation. However, this may produce an unacceptable exterior appearance, will reduce interior space somewhat, is likely to cause detailing problems at various locations in the interior, and will probably be quite expensive. Thus, while this approach should receive more thorough study before a final decision is reached, which is beyond the scope of this report, it appears to be marginally feasible.

A second approach would be to deal with both the waterproofing and insulation problems by applying a cementitious waterproofing/parging coat to the exterior, followed by the installation of an exterior insulation and finish system, such as Dryvit, Stuccoflex, R-wall, Sto, or similar. This will significantly alter the exterior appearance, and is not inexpensive either. However, the appearance impact can be positive, and it would deal with both problems simultaneously, without greatly impacting the interior space. Again, it should receive further study before a final decision is made. However, at least initially, it appears to be the more feasible of the apparent options. Thus, the recommended steps for the exterior walls would be as follows:

1. Replace existing exterior windows and glass doors with new, insulated units, and replace any rotted sills.
3. Excavate along the North wall, install drainage system, waterproof subgrade portion of wall, and back-fill.

V. SUMMARY

The exterior envelope of the existing station has a number of deficiencies, including one which may have structural or seismic safety implications. This problem should be reviewed by a structural engineer.

If the station is to be kept, and minimal funds are currently available, several short-term measures should be taken immediately to minimize progressive damage. However, some longer-term remedies should be pursued in the relatively near future to increase the building's energy efficiency and solve waterproofing and weathering problems.
REPORT ON
CONDITION OF
EXTERIOR BUILDING ENVELOPE
AT
MERCER ISLAND FIRE STATION 2

PREPARED FOR
LAWHEAD ARCHITECTS

PREPARED BY
Paul Lukes
THE BUILDING ENVELOPE
Consulting Services

P. O. Box 411
Bellevue, Wa. 98009
(206) 746-4174 office
(206) 746-4183 fax

Date: 8/2/91

1
TABLE OF CONTENTS

I. INTRODUCTION ........................................................................................................ 3
II. GENERAL INFORMATION AND OBSERVATIONS ............................................. 3
III. ANALYSIS AND RECOMMENDATIONS ........................................................... 5
IV. SUMMARY ............................................................................................................. 6
THE BUILDING ENVELOPE
Consulting Services

P.O. Box 411
Bellevue, Wa. 98009

(206) 746-4174 office
(206) 746-4183 fax

I. INTRODUCTION

As part of an overall study related to the adequacy of the existing fire station, the exterior building envelope of Fire Station #2 was examined. The examination was limited to issues pertaining to water integrity, weathering damage, and energy efficiency. This report summarizes the findings, and makes basic recommendations for remedial work, if the station is to be kept. It should be noted that this study is fairly superficial, and makes no attempt to provide any overall life-cycle cost analyses, detailed cost estimates, or other detailed economic analyses. Any cost data provided herein is very approximate, based on reasonable assumptions, since no specific designs are provided.

II. GENERAL INFORMATION AND OBSERVATIONS

A. ROOFS, BEAM ENDS, AND SOFFITS

1. Existing roof is a BUR with an asphalt flood coat, without any reflective coating. The roof is installed over plywood sheathing, with some insulation indicated in the rafter spaces. The roof is severely alligatored. Some slope is apparent, though it is less than ideal. See photos # 1, 2, 3, and 4.

2. Roof detailing at wall juncture is inadequate. See photos #3, 4, 5, and 6.

3. Roof termination detail at perimeter lacks parapet, is marginal. See photos # 1 and 2 for typical condition.

4. In general, the roof deck feels solid, though there is some slight softness in places.

5. Some can't flashings are ripped, resulting in leaks. See photos # 7 and 8.

6. The protruding ends of the Glue-lam beams have deteriorated due to weather exposure. Previous attempts at repairing this are apparent, and except for superficial damage, the remaining portions of the beam ends seem generally sound. However, if they remain as exposed as they presently are, they will continue to deteriorate. See photos # 9 and 10.

7. Water staining is apparent on one sidewall below a roof. This seems to be due to water spilling from the roof above. See photo # 11.

8. The roof soffits are essentially flush with the bottom of the fascias. As a result, they are not adequately protected, and perimeter water damage is apparent. See photos # 12 and 13.

9. Attic vents, flues, and similar penetrations occur at general roof level, without curbs. This is not a good detail. See photos # 1 and 3 for typical condition.

10. Amount of attic venting appears inadequate.

11. Silicone sealant used at skylight/CMU wall juncture is failing in adhesion to the CMU in a few places.
B. EXTERIOR WALLS

1. Juncture between addition and old building lacks expansion joint, has cracked. Also, electrical wiring penetrates wall at this location, in a fashion which appears highly questionable. See photo # 14.

2. No expansion joints were provided at corners, resulting in cracking. See photo # 15.

3. Extensive cracking is apparent in CMU walls in a limited number of locations. The cracking occurs along grout lines, without affecting the integrity of the units themselves. See photo # 16 for example.

   The cracking may present a danger during an earthquake, if it affects the walls' capacity to stand up. A structural engineer should review this aspect. From a water integrity and energy viewpoint, these cracks present some potential for water penetration as well as increased heat loss, though the areas in limited in extent, and are generally protected by roof overhangs.

4. The grading adjacent to the East wall slopes toward the wall, should slope away for at least 2 feet.

5. Downspout from roof is severely corroded. See photos # 14 and 17.

C. ENERGY EFFICIENCY OF EXTERIOR ENVELOPE

1. Exterior walls are primarily un-insulated CMU.

2. Exterior windows are single glazed.

3. Roof insulation appears to be approximately 4-5" of batt insulation in the rafter spaces.

4. Floor construction is 4" concrete slab on grade.
III. ANALYSIS AND RECOMMENDATIONS

With the possible exception of the cracking in the CMU walls, the existing building appears to be in reasonable condition. The cracking should be examined by a structural engineer to determine its seriousness from a structural and seismic safety viewpoint. If the station is to be kept, a number of steps should be taken in the relatively near future to prevent further deterioration of the building and to improve its energy efficiency. These are as follows:

A. ROOFS

The roofs have several problems, such as lack of slope, lack of parapet, poor sidewall detailing, lack of curbs, alligating, seemingly inadequate roof venting, poor fascia detailing, inadequate protection for the beam ends, etc., as outlined previously. To maximize lifespan and minimize operating costs, all of these should be corrected, as follows:

1. Remove and replace roof with new, tapered rigid insulation and new roof. Due to the vented roof construction, the additional roof insulation will have minimal impact on heat loss, and its only purpose would be to provide enhanced drainage. Therefore, a low grade insulation, such as perlite board, should be used.

2. Install a parapet around roof perimeter, at least 6" above adjacent roof plane.

3. Redo sidewall detailing to raise flashings a minimum of 8" above the roof plane.

4. Redo fascia detail to provide ample protection for the soffits and at least the top portions of the beam ends.

5. Cut back the bottoms of the exposed beam ends to minimize their exposure to the weather.

6. Install curbs at all penetrations.

7. Install additional roof vents to enhance rafter space ventilation.

8. Replace corroded downspouts.

B. EXTERIOR WALLS

The exterior walls of the building are extremely poorly insulated. The cracking, assuming it can be dealt with from a structural viewpoint, presents minimal waterproofing problems.

Two basic approaches are apparent. One would be to waterproof the walls from the exterior by applying a coating, and insulating them on the interior face by furring them out and installing new finishes and insulation. This will reduce interior space somewhat and is likely to cause detailing problems at various locations in the interior.

A second approach would be to install an exterior insulation and finish system, such as Dryvit, Stuccoflex, R-wall, Sto, or similar. This will alter the exterior appearance.

Both options appear generally feasible, at least at the superficial level in the scope of this report. The costs of either option seem roughly comparable. A much more detailed analysis than is allowed in the scope of this report should be performed prior to any final decisions.
In general, the recommended steps for the exterior walls of this station would be as follows:

1. Replace existing exterior windows which are still single glazed with new, insulated units.

2. a. Prepare exterior CMU and apply elastomeric coating, cementitious waterproofing, or similar waterproofing treatment on the exterior face, and fur out interior faces of exterior walls, insulate, and provide new interior finishes, or:


3. Regrade along the east wall to drain water away from the building.

V. SUMMARY

The exterior envelope of the existing station has a number of deficiencies, including one which may have structural or seismic safety implications. This problem should be reviewed by a structural engineer.

If the station is to be kept, some remedies should be pursued in the relatively near future to increase the building’s energy efficiency and solve waterproofing and weathering problems.
August 13, 1991

The Lawhead Architects, P.S.
612 Bellevue Way NE
Suite 201-1/2
Bellevue, Washington 98004

Attn: Mr. Frank Lawhead

RE: The Mercer Island Fire Station Studies
Fire Stations 91 and 92

Dear Frank:

This letter is written at your request and is intended to comment on the structural condition of Mercer Island fire stations 91 and 92. Comments are based upon a cursory visual review of the buildings and upon a review of the original design and alteration documents that are available. No analysis of testing of any in place materials or members have been performed.

BUILDING 91
BUILDING DESCRIPTION

This station designed in 1954 is a single story structure founded on conventional pad and strip footings. The floor is a concrete slab on grade. The roof framing consists of glulam beams spanning in the north-south direction. Beam support is provided by steel wide flange columns, reinforced CMU columns and reinforced CMU pilasters. Roof decking consists of 4" timber decking spanning in the east-west direction between the exterior walls and the interior glulam beams. The exterior closure wall is constructed of combination of glazing and CMU.

BUILDING CONDITION

The three main concerns from a structural standpoint consists of the foundation system, vertical framing system and the lateral resisting system. After walking through the building there is no signs of damage other than normal age and maintenance issues with any of these three systems. There are no major signs of foundation settlement nor are there indications of gravity supporting members being overstressed. Some signs of water intrusion are evident in the roof deck mainly around the perimeter where it has been exposed to the weather.

The lateral system consist of horizontal diaphragms, shear walls and foundations. The existing lateral elements do not conform to current code for lateral design nor detailing. There are no signs of damage from past seismic events. However, the lateral system should be upgraded.
For a building of this age and type of construction, this normally consists of providing an adequate roof diaphragm, positive anchorage of the roof diaphragm to the shear walls and upgrading existing walls or adding shear walls that are capable of transferring the lateral loads to the foundations.

BUILDING 92
BUILDING DESCRIPTION

This facility was designed in 1961 and completed construction in 1962. The structure is a single story building founded on conventional spread footings. The floor is a concrete slab on grade. The roof is framed with glulam beams spanning in the east-west direction. Roof joists spanning in the north-south direction support plywood roof sheathing. The exterior walls consist of stack bond pumice block. A wood frame single story addition was added on the east side of the original building. This addition is founded on conventional footings with a concrete slab-on-grade.

BUILDING CONDITION

Maintenance has been ongoing since the building was constructed. Modifications to the ends of the glulam beams was undertaken to remove dryrot which was result of the original end configuration. The same glulam beams have a negative camber as they were installed inverted. There are signs of water leaks on the ceiling as a result of deteriorated flashing and roofing.

The exterior masonry walls laid in a stacked bond have several vertical cracks in both the block and in the mortar joints. This is typical of stack bond block that is under reinforced. The design documents call for dur-o-wall joint reinforcing but it does not appear to be in place or if it is it has deteriorated due to water intrusion. These cracks need to be grouted solid with epoxy or a non-shrink grout.

As stated for Building 91, tying the roof diaphragms to the shear walls, upgrading shear walls and detailing to resist seismic and wind forces likewise needs to be done.

BUILDING 91 AND 92
CONCLUSIONS

As previously stated both buildings have been well maintained. Signs of wear and tear are evident, however, signs of major structural distress have not surfaced. Lateral upgrading should be done to bring the building to current standards for renovation of building of this age and type of construction. It has been asked if it is possible to add a second story. The adding of an additional story to either building would require an independent vertical and lateral system or upgrading of the existing system since the existing structural framing does not have reserve structural capacity.
Mr. Frank Lawhead  
August 13, 1991  
Page Two  

We hope this letter is adequate for your current needs. If you have any questions or comments please do not hesitate to call.

RATTI SWENSON PERBIX & CLARK, P.S.  
Consulting Engineers

Ira L. Gross
November 18, 1991

Lawhead Architects
612 Bellevue Way NE
Suite 201
Bellevue, Wa. 98004
Attn: Frank Lawhead

RE: Mercer Island Fire Station #1

As requested we have visited and reviewed the above referenced building. The following are comments and observations that we made during our walk through of the building:

Mechanical:

1. The apparatus bay is heated by an old furnace. The furnace was originally oil fired and has been converted to natural gas. The furnace supplies air through an underground duct system to the perimeter of the apparatus bay. Return air is from a grille mounted high above the fire door located between the apparatus bay and mechanical room. This system is old and has exceeded its normal use of life. It recirculates vehicle exhaust throughout the apparatus bay whenever a motor vehicle is operating within the garage or leaving the building. The forced air system used to heat the apparatus bay is very inefficient compared to newer radiant heating systems available today. No combustion air is provided to the mechanical room which houses the water heater and three gas fired furnaces. Adequate combustion air is currently provided by leaving the fire door to the apparatus bay open. This results in vehicle exhaust being circulated throughout the rest of the building.

2. Adjacent to the furnace which serves the apparatus bay, there are two additional oil furnaces which have been converted to natural gas. It is assumed that one of these furnaces serves the sleeping quarters and locker areas and the other unit serves office areas in public spaces. These units have exceeded the normal useful life and their replacement should be planned for. Neither of these furnaces bring in any outside air for ventilation purposes. While the building does have operable windows, it does not have an adequate amount of operable window to meet current code requirements for ventilation. The building needs to have additional operable
windows provided or have an outside air intake system installed on these existing furnaces if reused.

3. The apparatus bay does not have any vehicle exhaust extraction system. These systems are being installed in newer fire stations currently and are a means to ensure the health of the fire fighters. This also eliminates the problem of carbon monoxide being circulated throughout the entire fire station.

4. This fire station has no fire sprinkler system. Even though this building size does not require a fire sprinkler system, most fire districts provide fire sprinkler system in their stations in order to be an example to the rest of the community.

5. The building receives domestic hot water from one gas fired water heater located in the mechanical room. This water heater is in good condition. The hot water piping system does not have a recirculating pump to circulate water throughout the building and piping is not insulated. This wastes energy as well as makes it inconvenient to users as they have to wait for a substantial amount of time for hot water to reach their locations. This also wastes hot water which increases operating costs.

6. The apparatus bay has a Marathon air compressor used for maintenance purposes.

7. Also, in the mechanical room there is a residential washer and a gas dryer.

8. In the mechanical room there is a Onan 20kw electric generator. The combustion exhaust terminates through a muffler and out the building. There is no exhaust system to relieve the heat build-up by the generator within the mechanical room. Sustained operation of this generator may cause a heat build-up in the space which could create problems with the generator operation.

9. The service sink in the mechanical room has several hoses hooked to the faucet. The faucet is not equipped with a vacuum breaker and this is a code violation. If this fixture is reused in a future remodel the faucet should be replaced with a unit which has an integral vacuum breaker.

10. There is a gas fired water heater located in the mechanical room which is in very good condition. It appears to be fairly new. The domestic hot water distribution piping does not have a reserve system so people have to stand and wait for water quite a while before they receive hot water. This wastes a substantial amount of energy as well as wasting employees' time. It should also be noted that this piping is not insulated causing the hot water to cool quickly, again wasting energy.
11. A new underground diesel oil fuel storage tank system was installed within the last year. This meets all current Department of Ecology requirements.

12. In the locker room shower area, there is a single exhaust fan. This fan has distribution ductwork to a hole in the wall. The grille has been removed and just exposed ductwork is left to view. The exhaust fan is a roof mounted unit original equipment. It has exceeded its normal useful life. It should be scheduled for replacement.

13. Make-up air to the locker rooms is from a grille in the door to the corridor. If the corridor is a one hour rated corridor the make-up air grille violates current code requirements. Because the furnaces do not introduce outside air into the building to make-up the exhausted air, the building has a negative pressure which will suck vehicle exhaust air from the apparatus bay into the remainder of the building.

14. Plumbing fixtures throughout the building are original equipment and are dated. Faucets are old and need replacement. It was noted that one wall hung water closet has been replaced in the recent past. Water closets are flush valve type.

15. The dayroom in the fire station is heated by one of the furnaces in the mechanical room. Heating supply air is distributed through underground ductwork with floor registers. This space is air conditioned by a small through the wall air conditioning unit. It is evident that this air conditioning unit is not adequate to meet the needs of this space. The windows have been covered up with black plastic.

16. In the kitchen there is no hood over the residential type range, however, there is an original Nutone exhaust fan mounted in the ceiling above the range. This fan has exceeded its normal useful life.

17. The office area is supplied with heat through underground ductwork with registers near the exterior wall. There is no air conditioning in this area and the amount of operable windows is not adequate to meet code requirements for ventilation.

18. In the fire chiefs office there is a small through the wall air conditioning unit to provide cooling. The adjacent secretaries office has no ventilation or air conditioning. This space is very stagnant and this is evident by the use of portable fans located on the floor. This space does not meet code requirements for ventilation.

19. The shop addition built in 1984 has no heating system. Any heat on this area is solely from heat migrating from the apparatus bay.
Mechanical Recommendations:

1. Heating system serving the apparatus bay should be replaced with a new more efficient system.

2. The apparatus bay should be provided with a vehicle exhaust extraction system to remove vehicle exhaust and eliminate vehicle exhaust circulation throughout the building.

3. Existing furnace systems should be replaced with new high efficiency furnace perhaps with air conditioning provided. These furnaces should also be installed providing outside ventilation air directly to the remainder of the building so these spaces are pressurized. This helps ensure vehicle exhaust will not enter this area.

4. Building exhaust systems should be replaced.

5. Domestic hot water distribution system should be modified to provide a recirculating system. All domestic hot water piping should be insulated, domestic cold water piping should also be insulated.

Mechanical Summary:

The existing mechanical systems in this building have exceeded their normal use for life. Any remodel of the building should dictate total system replacement. The only exception to this would be domestic cold water and waste piping systems. These could be reused or extended as needed for a remodel.

Electrical:

1. The electrical service is a 400 Amp, 120/240 Volt, single phase, 3 wire system.

2. The manufacturer of the main panel and branch panels is Trumbel Electric, which is a definite manufacturer. This is an obsolete manufacturer and parts are no longer available.

3. The generator is a 20kw cool set #200DL4-3R/26707D. Next to the generator is a fuel tank above grade. This generator is in very good condition and should be reused for any future expansions or remodels.

4. Apparatus bay has bare fluorescent tube fixtures for ambient lighting. Illumination level is approximately 20ft. candles. Fixtures are original equipment and have exceeded life expectancy.

5. The lighting control system is a low voltage switching system. The relay switches are worn and are in poor condition.
6. Office areas have fluorescent lighting fixtures, these fixtures are in poor condition and should be replaced.

7. Lighting in lobby/entry areas is bracket incandescent fixture direct and indirect dual cone up/down. These are obsolete and should be replaced with more a efficient lighting fixture.

8. In the conference/training room the lighting system is combination of bare fluorescent strips side mounted on beams with incandescent wall brackets. This lighting system is inadequate for the purpose of the room and is original equipment.

9. No illuminated exit signs are installed.

10. Telephone cabinet is full of abandoned wires and should be cleaned up. Abandoned wires should be pulled out. Cabinet is missing a latch.

11. Dorm room has bare fluorescent tube fixture and incandescent fixture. Incandescent is operating but is not required. The fluorescent gives off plenty of light.

12. Employee dormitory restroom light fixture is obsolete and needs to be replaced.

13. Television room has fluorescent recessed lights and should be replaced.

14. Corridor lights are recessed incandescent. These are obsolete and should be replaced with more energy efficient fixtures.

15. There is no fire alarm system or sprinkler system in the building.

16. Receptacle outlets are generally in poor condition.

Electrical Recommendations:

1. The existing lighting system is in poor condition and should be replaced with new.

2. Replace electrical service with a three phase service. This will give more flexibility to the building and may be required for new mechanical equipment since they may only be available in three phase, depending on the size of the equipment required in the future.

3. Remove and replace all existing receptacles with new.

4. Reuse the emergency generator and automatic transfer switch, they are in excellent condition. A larger fuel tank is recommended.
Electrical Summary:

The existing electrical system should not be reused for any future remodel except for the emergency generator and automatic transfer switch. The existing equipment is old and trying to reuse much of it would be costly.

If you have any questions or comments, please contact this office.

Sincerely,

David W. Pickett, P.E.
dwp/kb

CC:/ Lumpken, Inc.
November 18, 1991

Lawhead Architects
612 Bellevue Way NE
Suite 201
Bellevue, Wa. 98004
Attn: Frank Lawhead

RE: Mercer Island Fire Station #2

As requested we have visited and reviewed the above referenced
building. The following are comments and observations that we made
during our walk through of the following:

Mechanical

1. The apparatus bay is heated by two gas fired unit heaters.
These heaters appear to be in good condition, however, they
are exceeding their normal useful life. This system is also
inefficient when compared to newer radiant heating systems
which are currently heating apparatus bays in newer stations.

2. There is a service sink located in the apparatus bay. This
sink has hoses connected up to it without vacuum breaker
protection, this is a code violation.

3. In a storage room off of the apparatus bay there is a
Craftsman air compressor which is in very good condition.
This does not appear to need replacement.

4. There is a small gas fired water heater which serves the
original building. This water heater is old and it is
evident by burn marks down near the burner that there has been
problems with it in the past. Because this water heater is
installed with flexible pipe connection it is required to be
strapped to structure for seismic requirements, this is
currently not the case and needs to be provided.

5. In the kitchen there is a older Nutone 2 speed exhaust hood
above the range. The day room adjacent to the kitchen is
heated by two wall mounted electric heaters. Air conditioning
is provided by a small through the wall AC unit. This space
has minimal operable windows. It is questionable whether this
meets code.
6. The office area at the front of the building is heated by a single electric baseboard heater. This space has a substantial amount of glass, however, only a small portion of it, approximately a 30" square window above the exterior door, is operable. This operable window has been boarded off leaving no ventilation to meet current code requirements.

7. The water closets in the original building are floor tank type water closets. The lavatory has a single lever faucet. These fixtures are in adequate condition for their age.

8. The building is served by an exhaust fan through the wall type exhaust fan mounted in the clear story area of the apparatus bay. Exhaust air from the two bathrooms as well as the kitchen area are ducted to this fan. This fan has exceeded its normal useful life and its replacement should be planned for.

9. In 1984 there was an addition which included an extension to the back of the fire station as well as a sleeping ward addition, dormitory, and a small apparatus bay. The apparatus bay is heated by a gas unit heater which is in good condition and can be reused for a future remodel. The heating system for the addition is a forced air gas furnace. The furnace is in adequate condition for its age. Plumbing fixtures in the new addition are in good condition. This furnace does not provide any outside air for ventilation. We need to verify that windows provide minimum requirements for ventilation. This furnace is a heating only unit with no air conditioning.

10. The water heater in the addition is a gas fired unit. This unit is in good condition. It has a fiberglass insulating jacket with vinyl covering installed around it. There is adequate combustion air in the mechanical closet for both the furnace and water heater.

Musical Recommendations:

1. Mechanical systems in the 1984 addition are adequate for extended future use. However, if air conditioning is to be added to this unit, substantial modifications to the air distribution system would be required.

2. The heating system in the apparatus bay should be replaced with a higher efficiency radiant heating system.

3. There should be a vehicle exhaust extraction system installed in the apparatus bay in order to ensure the health of fire fighters.

4. The kitchen, dayroom, and office areas should be provided with a new heating and ventilating system and air conditioning system if desired.
5. The water heater in the original building should be replaced.

6. The service sink faucet should be replaced with one which has an intrical vacuum breaker.

Mechanical Summary:

The mechanical system in the original building should be replaced if any remodel/expansion work is done in the future. The 1984 addition mechanical systems are adequate for continued use.

Electrical

1. Electrical service is fed overhead. It is a 120/240 volt, 3 phase service, 4 wire. This is a closed Delta system with B-phase as the high leg. There are more than six main disconnects, this a code violation.

2. Manufacturer of panelboards is Federal Pacific which is a defunct manufacturer.

3. The panels have very few spaces left in them for new loads.

4. There is a new generator set with automatic transfer. The transfer switch is rated 100amp, 120/240 volt, 3 phase, 4 wire.

5. The Jensite catalog number is 20.0DL4-15R/133000, 20kw rated, 3 phase. The generator is in very good condition and should be reused again. There is a diesel tank. The location of the generator is not adequate for air circulation ventilation for extended periods of outages.

6. In the dorm area the lighting system is incandescent with rotary dimmers. The fixtures and dimmers are in poor condition.

7. Self luminous exit signs which are non operational. One has no base plate on it.

8. The telephone cabinet is inadequate. There are quite a bit of abandoned wires and has not been kept up well. Abandoned wires should be pulled out and replaced.

9. There is a disconnect and control which for a siren is non existent.

10. The lighting in the apparatus bay is twin tube, 8' fluorescent lamps, it is original equipment and should be replaced in the next remodel.
11. In the office area and T.V. area the lighting system is incandescent globes, one globe is broken. It is totally inadequate for any reading purposes.

12. In the front office there is incandescent lighting, globe lights, track lights, and a few recessed. These are obsolete and should be replaced.

13. Receptacle and switches are worn and should be replaced. They have reached their life expectancy.

14. Exterior soffit lighting is recessed square incandescent. They should all be replaced with higher efficiency HID lighting fixtures.

15. Numerous coverplates are cracked, missing, broken, and marred, etc.

16. There is no manual or automatic fire alarm system or sprinkler system in the building.

Electrical Recommendations:

1. The existing lighting system is in poor condition and should be replaced with new.

2. Replace electrical service with a three phase service. This will give more flexibility to the building and may be required for new mechanical equipment since they may only be available in three phase, depending on the size of the equipment required in the future.

3. Remove and replace all existing receptacles with new.

4. Reuse the emergency generator and automatic transfer switch, they are excellent condition. A larger fuel tank is recommended.

Electrical Summary:

The existing electrical system should not be reused for any future remodel except for the emergency generator and automatic transfer switch. The existing equipment is old and trying to reuse much of it would be costly.

If you have any questions or comments, please contact this office.

Sincerely,

David W. Pickett, P.E.
dwp/kb
Conceptual Design Schemes Cost Estimate

Mercer Island Fire Station #1 & #2

Mercer Island, Washington

C3MG

Prepared For
Lawhead Architects P. S.
Bellevue, Washington
Table of Contents

Executive Summary Page A.01
Cost Estimate Fire Station #1 B.01
Cost Estimate Fire Station #2 C.01
A. Executive Summary

C3MG
Executive Summary

Mercer Island Fire Station #1 & #2
Mercer Island, Washington
Conceptual Design Schemes Cost Estimate
Completed November 7, 1991

Architect: Lawhead Architects P. S. 
Bellevue, Washington

Owner:
City of Mercer Island
Mercer Island, Washington

Project Principal: Frank Lawhead, AIA

Owner’s Representative:
Janet Gocken, Project Manager

Project Description:
Conceptual cost range estimating based on four (4) conceptual schemes (1 remodel, 3 new) for each fire station.

Basis of Estimate:
The cost estimate was prepared from our interpretation of the conceptual sketches and a meeting with Frank Lawhead.

Costs presented herein are construction costs only and are representative of an expected average bid. They do not include A/E fees or owner administrative costs. Costs also do not include asbestos abatement, hazardous waste remediation, and state or local taxes. Escalation is calculated to the estimated midpoint of construction of November, 1992.

C3MG Statement of Purpose:
It is C3MG’s objective that by way of our cost management efforts, Lawhead Architects P. S. and the City of Mercer Island will maximize the value of the Fire Stations 1 and 2 project without compromising functional or aesthetic priorities.
Executive Summary

The cost estimate is based on our perception of current conditions in the Mercer Island, Washington area and is subject to change as variances in design occur or economic conditions vary. We cannot, therefore, guarantee that actual bids received will not vary from the costs presented herein. This submittal does, however, reflect our professional opinion of accurate costs at this time.

Prepared by:

C3 Management Group, Inc.

Dennis Teschlog
Staff Estimator

C3 Management Group, Inc.

David J. Poffenberger, PE, CCE
Vice-President
B. Cost Estimate Fire Station #1

C3MG
### SUMMARY

**MERGER ISLAND FIRE STATION #1**

<table>
<thead>
<tr>
<th>SCHEME</th>
<th>SQFT</th>
<th>Low $/um</th>
<th>High $/um</th>
<th>Low Total $</th>
<th>High Total $</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 REMODEL</td>
<td>14,000</td>
<td>85.64</td>
<td>101.71</td>
<td>1,199,000</td>
<td>1,424,000</td>
</tr>
<tr>
<td>#2 NEW 2 STORY</td>
<td>12,500</td>
<td>98.00</td>
<td>120.56</td>
<td>1,225,000</td>
<td>1,507,000</td>
</tr>
<tr>
<td>#3 NEW 1 STORY</td>
<td>12,725</td>
<td>97.13</td>
<td>120.31</td>
<td>1,236,000</td>
<td>1,531,000</td>
</tr>
<tr>
<td>#4 NEW 1 STORY</td>
<td>12,500</td>
<td>100.00</td>
<td>123.60</td>
<td>1,250,000</td>
<td>1,545,000</td>
</tr>
</tbody>
</table>
**Project Description:**
Remodel Existing Fire Station and a 3,000 sqft 2nd Floor Addition

**Conceptual Cost Estimate**

<table>
<thead>
<tr>
<th>BUILDING ELEMENT</th>
<th>Unit Qty</th>
<th>Low $/um</th>
<th>High $/um</th>
<th>Low Total</th>
<th>High Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOUNDATIONS</td>
<td>3,000 SQFT</td>
<td>3.00</td>
<td>4.00</td>
<td>9,000</td>
<td>12,000</td>
</tr>
<tr>
<td>New Foundations for 2nd Floor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBSTRUCTURE</td>
<td>1,600 SQFT</td>
<td>2.50</td>
<td>3.25</td>
<td>4,000</td>
<td>5,200</td>
</tr>
<tr>
<td>New Apparatus Bay S.O.G.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUPERSTRUCTURE</td>
<td>14,000 SQFT</td>
<td>6.25</td>
<td>8.25</td>
<td>87,500</td>
<td>115,500</td>
</tr>
<tr>
<td>New 2nd Floor &amp; Structural Upgrades</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXTERIOR CLOSURE</td>
<td>8,300 SQFT</td>
<td>9.00</td>
<td>10.25</td>
<td>74,700</td>
<td>85,075</td>
</tr>
<tr>
<td>Dryvit Over Exisit, New Windows, New 2nd Floor Wall</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROOFING</td>
<td>106 SQS</td>
<td>360.00</td>
<td>485.00</td>
<td>38,160</td>
<td>51,410</td>
</tr>
<tr>
<td>Replace Roof w/ single ply</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTERIOR CONSTRUCTION</td>
<td>14,000 SQFT</td>
<td>14.50</td>
<td>17.50</td>
<td>203,000</td>
<td>245,000</td>
</tr>
<tr>
<td>Gut Bldg New Interiors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MECHANICAL SYSTEMS</td>
<td>14,000 SQFT</td>
<td>12.50</td>
<td>14.00</td>
<td>175,000</td>
<td>196,000</td>
</tr>
<tr>
<td>New Plumbing, HVAC &amp; Fire Prot.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELECTRICAL SYSTEMS</td>
<td>14,000 SQFT</td>
<td>13.00</td>
<td>14.25</td>
<td>182,000</td>
<td>199,500</td>
</tr>
<tr>
<td>All New Systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EQUIPMENT</td>
<td>1 LPSM</td>
<td>9,000.00</td>
<td>20,000.00</td>
<td>9,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Fire Station &amp; Kitchen Equip</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SITWORK</td>
<td>1 LPSM</td>
<td>60,000.00</td>
<td>70,000.00</td>
<td>60,000</td>
<td>70,000</td>
</tr>
<tr>
<td>New Parking Apron Landscape Upgrade</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drainage Trellis Fencing Plaza and Misc Allowance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL DIRECT COSTS</td>
<td>14,000 SQFT</td>
<td>60.14</td>
<td>71.43</td>
<td>842,000</td>
<td>1,000,000</td>
</tr>
</tbody>
</table>
### SCHEME #1 REMODEL

<table>
<thead>
<tr>
<th>Unit Qty Meas</th>
<th>Low $/um</th>
<th>High $/um</th>
<th>Low Total</th>
<th>High Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL DIRECT COSTS</td>
<td>14,000 SQFT</td>
<td>60.14</td>
<td>71.43</td>
<td>842,000</td>
</tr>
</tbody>
</table>

#### MARKUPS

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>General Conditions</td>
<td>8.00%</td>
<td></td>
<td></td>
<td>67,360</td>
</tr>
<tr>
<td>SUBTOTAL</td>
<td></td>
<td></td>
<td></td>
<td>909,360</td>
</tr>
<tr>
<td>Home Office Overhead</td>
<td>5.00%</td>
<td></td>
<td></td>
<td>45,468</td>
</tr>
<tr>
<td>SUBTOTAL</td>
<td></td>
<td></td>
<td></td>
<td>954,828</td>
</tr>
<tr>
<td>Profit</td>
<td>5.00%</td>
<td></td>
<td></td>
<td>47,741</td>
</tr>
<tr>
<td>SUBTOTAL</td>
<td></td>
<td></td>
<td></td>
<td>1,002,569</td>
</tr>
<tr>
<td>Design Contingency</td>
<td>15.00%</td>
<td></td>
<td></td>
<td>150,385</td>
</tr>
<tr>
<td>SUBTOTAL</td>
<td></td>
<td></td>
<td></td>
<td>1,152,955</td>
</tr>
<tr>
<td>Escalation to 11/92</td>
<td>4.00%</td>
<td></td>
<td></td>
<td>46,118</td>
</tr>
</tbody>
</table>

**TOTAL ESTIMATED CONSTRUCTION COST ====>** 85.64 101.71 1,199,000 1,424,000
SCHEME #2 NEW STRUCTURE W/2ND FLOOR

Project Description:
Demolition of Existing Building and Replacement with a New Building with 2nd Floor

Conceptual Cost Estimate

<table>
<thead>
<tr>
<th>BUILDING ELEMENT</th>
<th>Unit Qty</th>
<th>Low $/Um</th>
<th>High $/Um</th>
<th>Low Total</th>
<th>High Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOUNDATIONS</td>
<td>12,500 SQFT</td>
<td>2.50</td>
<td>3.75</td>
<td>31,250</td>
<td>46,875</td>
</tr>
<tr>
<td>Standard Foundation Walls &amp; Spread Fgrs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBSTRUCTURE</td>
<td>9,300 SQFT</td>
<td>2.50</td>
<td>3.25</td>
<td>23,250</td>
<td>30,225</td>
</tr>
<tr>
<td>Slab on Grade throughout 1st Floor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUPERSTRUCTURE</td>
<td>12,500 SQFT</td>
<td>5.50</td>
<td>7.75</td>
<td>68,750</td>
<td>96,875</td>
</tr>
<tr>
<td>Second Floor, Stairs &amp; Roof</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXTERIOR CLOSURE</td>
<td>9,100 SQFT</td>
<td>13.00</td>
<td>15.00</td>
<td>118,300</td>
<td>136,500</td>
</tr>
<tr>
<td>Dryvit and Brick</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROOFING</td>
<td>96 SQS</td>
<td>425.00</td>
<td>675.00</td>
<td>40,800</td>
<td>64,800</td>
</tr>
<tr>
<td>50% single ply, 50% Standing seam metal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTERIOR CONSTRUCTION</td>
<td>12,500 SQFT</td>
<td>12.00</td>
<td>16.00</td>
<td>150,000</td>
<td>200,000</td>
</tr>
<tr>
<td>Standard Interiors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MECHANICAL SYSTEMS</td>
<td>12,500 SQFT</td>
<td>12.50</td>
<td>14.00</td>
<td>156,250</td>
<td>175,000</td>
</tr>
<tr>
<td>New Plumbing, HVAC &amp; Fire Prot.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELECTRICAL SYSTEMS</td>
<td>12,500 SQFT</td>
<td>13.00</td>
<td>14.25</td>
<td>162,500</td>
<td>178,125</td>
</tr>
<tr>
<td>New Electrical Systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EQUIPMENT</td>
<td>1 LPSM</td>
<td>9,000.00</td>
<td>20,000.00</td>
<td>9,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Fire Station &amp; Kitchen Equip</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SITWORK</td>
<td>1 LPSM</td>
<td>100,000.00</td>
<td>110,000.00</td>
<td>100,000</td>
<td>110,000</td>
</tr>
<tr>
<td>New Parking Apron, Landscape, Upgrade</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drainage, Trellis, Fencing, Plaza</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and Miscellaneous</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and Complete Building Demolition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL DIRECT COSTS</td>
<td>12,500 SQFT</td>
<td>68.80</td>
<td>84.64</td>
<td>860,000</td>
<td>1,058,000</td>
</tr>
<tr>
<td>Unit</td>
<td>Low Qty</td>
<td>High Qty</td>
<td>Low Total</td>
<td>High Total</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td>----------</td>
<td>-----------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>Total Direct Costs</td>
<td>12,500 SQFT</td>
<td>68.80</td>
<td>84.64</td>
<td>860,000</td>
<td>1,058,000</td>
</tr>
</tbody>
</table>

**MARKUPS**

- General Conditions: 8.00% 68,800 84,640
- **SUBTOTAL:** 920,800 1,142,640
- Home Office Overhead: 5.00% 46,440 57,132
- **SUBTOTAL:** 975,240 1,199,772
- Profit: 5.00% 48,762 59,989
- **SUBTOTAL:** 1,024,002 1,259,761
- Design Contingency: 15.00% 153,600 188,964
- **SUBTOTAL:** 1,177,602 1,448,725
- Escalation to 11/92: 4.00% 47,104 57,949

---

**TOTAL ESTIMATED CONSTRUCTION COST ===>** 98.00 120.56 1,225,000 1,507,000
Project Description:
Demolition of Existing Building and Replacement with a New L-Shaped 1 Story Structure

Conceptual Cost Estimate

<table>
<thead>
<tr>
<th>BUILDING ELEMENT</th>
<th>Unit Qty</th>
<th>Low $/um</th>
<th>High $/um</th>
<th>Low Total</th>
<th>High Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOUNDATIONS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Foundation Walls &amp; Spread Fgts</td>
<td>12,725 SQFT</td>
<td>2.50</td>
<td>3.95</td>
<td>31,813</td>
<td>50,264</td>
</tr>
<tr>
<td>SUBSTRUCTURE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slab on Grade Throughout</td>
<td>11,925 SQFT</td>
<td>2.50</td>
<td>3.25</td>
<td>29,813</td>
<td>38,756</td>
</tr>
<tr>
<td>SUPERSTRUCTURE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mezzanine &amp; Roof Structure</td>
<td>12,725 SQFT</td>
<td>4.00</td>
<td>6.00</td>
<td>50,900</td>
<td>76,350</td>
</tr>
<tr>
<td>EXTERIOR CLOSURE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dryvit and Brick</td>
<td>9,100 SQFT</td>
<td>13.00</td>
<td>15.00</td>
<td>118,300</td>
<td>136,500</td>
</tr>
<tr>
<td>ROOFING</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50% Single Ply, 50% Standing Seam Metal</td>
<td>119 SGs</td>
<td>425.00</td>
<td>675.00</td>
<td>50,575</td>
<td>80,325</td>
</tr>
<tr>
<td>INTERIOR CONSTRUCTION</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Interiors</td>
<td>12,725 SQFT</td>
<td>12.00</td>
<td>16.00</td>
<td>152,700</td>
<td>203,600</td>
</tr>
<tr>
<td>MECHANICAL SYSTEMS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Plumbing, HVAC &amp; Fire Prot.</td>
<td>12,725 SQFT</td>
<td>12.50</td>
<td>14.00</td>
<td>159,063</td>
<td>178,150</td>
</tr>
<tr>
<td>ELECTRICAL SYSTEMS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Electrical Systems</td>
<td>12,725 SQFT</td>
<td>13.00</td>
<td>14.25</td>
<td>165,425</td>
<td>181,331</td>
</tr>
<tr>
<td>EQUIPMENT</td>
<td></td>
<td></td>
<td></td>
<td>1 LPSM</td>
<td></td>
</tr>
<tr>
<td>Fire Station &amp; Kitchen Equip</td>
<td>9,000.00</td>
<td>20,000.00</td>
<td>9,000</td>
<td>20,000</td>
<td></td>
</tr>
<tr>
<td>SITEWORK</td>
<td></td>
<td></td>
<td></td>
<td>1 LPSM</td>
<td></td>
</tr>
<tr>
<td>New Parking Apron, Landscape,</td>
<td>100,000.00</td>
<td>110,000.00</td>
<td>100,000</td>
<td>110,000</td>
<td></td>
</tr>
<tr>
<td>Upgrade Drainage, Trellis, Fencing,</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plaza, Misc Allowance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and Complete Building Demolition</td>
<td>1,075,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOTAL DIRECT COSTS
12,725 SQFT | 68.21 | 84.48 | 868,000 | 1,075,000
### Scheme #3 New L-Shaped 1 Story Structure

<table>
<thead>
<tr>
<th>Unit</th>
<th>Low THEM</th>
<th>High THEM</th>
<th>Low Total</th>
<th>High Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL DIRECT COST</td>
<td>12,725 SQFT</td>
<td>68.21</td>
<td>84.48</td>
<td>868,000</td>
</tr>
<tr>
<td>MARKUPS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Conditions</td>
<td>8.00%</td>
<td></td>
<td></td>
<td>69,440</td>
</tr>
<tr>
<td>SUBTOTAL</td>
<td></td>
<td></td>
<td></td>
<td>937,440</td>
</tr>
<tr>
<td>Home Office Overhead</td>
<td>5.00%</td>
<td></td>
<td></td>
<td>46,872</td>
</tr>
<tr>
<td>SUBTOTAL</td>
<td></td>
<td></td>
<td></td>
<td>984,312</td>
</tr>
<tr>
<td>Profit</td>
<td>5.00%</td>
<td></td>
<td></td>
<td>49,216</td>
</tr>
<tr>
<td>SUBTOTAL</td>
<td></td>
<td></td>
<td></td>
<td>1,033,528</td>
</tr>
<tr>
<td>Design Contingency</td>
<td>15.00%</td>
<td></td>
<td></td>
<td>155,029</td>
</tr>
<tr>
<td>SUBTOTAL</td>
<td></td>
<td></td>
<td></td>
<td>1,188,557</td>
</tr>
<tr>
<td>Escalation to 11/92</td>
<td>4.00%</td>
<td></td>
<td></td>
<td>47,542</td>
</tr>
</tbody>
</table>

TOTAL ESTIMATED CONSTRUCTION COST ====> 97.13 120.31 1,236,000 1,531,000
**SCHEME #4 NEW T-SHAPED 1 STORY STRUCTURE**

**Project Description:**  
Demolition of Existing Building and Replacement with a New T-Shaped 1 Story Structure

**Conceptual Cost Estimate**

<table>
<thead>
<tr>
<th>BUILDING ELEMENT</th>
<th>Unit Qty Meas</th>
<th>Low $/um</th>
<th>High $/um</th>
<th>Low Total</th>
<th>High Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOUNDATIONS</td>
<td>12,500 SQFT</td>
<td>2.50</td>
<td>3.75</td>
<td>31,250</td>
<td>46,875</td>
</tr>
<tr>
<td>Standard Foundation Walls &amp; Spread Frgs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBSTRUCTURE</td>
<td>12,200 SQFT</td>
<td>2.50</td>
<td>3.25</td>
<td>30,300</td>
<td>39,650</td>
</tr>
<tr>
<td>Slab on Grade Throughout</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUPERSTRUCTURE</td>
<td>12,500 SQFT</td>
<td>4.00</td>
<td>6.00</td>
<td>50,000</td>
<td>75,000</td>
</tr>
<tr>
<td>Mezzanine &amp; Roof Structure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXTERIOR CLOSURE</td>
<td>10,500 SQFT</td>
<td>13.00</td>
<td>15.00</td>
<td>136,500</td>
<td>157,500</td>
</tr>
<tr>
<td>Dryvit &amp; Brick Exteriors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROOFING</td>
<td>122 SQS</td>
<td>425.00</td>
<td>675.00</td>
<td>51,850</td>
<td>82,350</td>
</tr>
<tr>
<td>50% Single Ply, 50% Standing Seam Metal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTERIOR CONSTRUCTION</td>
<td>12,500 SQFT</td>
<td>12.00</td>
<td>16.00</td>
<td>150,000</td>
<td>200,000</td>
</tr>
<tr>
<td>Standard Interiors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MECHANICAL SYSTEMS</td>
<td>12,500 SQFT</td>
<td>12.50</td>
<td>14.00</td>
<td>156,250</td>
<td>175,000</td>
</tr>
<tr>
<td>New Plumbing, HVAC &amp; Fire Prot.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELECTRICAL SYSTEMS</td>
<td>12,500 SQFT</td>
<td>13.00</td>
<td>14.25</td>
<td>162,500</td>
<td>178,125</td>
</tr>
<tr>
<td>New Electrical Systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EQUIPMENT</td>
<td>1 LPSM</td>
<td>9,000.00</td>
<td>20,000.00</td>
<td>9,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Fire Station &amp; Kitchen Equip</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SITEWORK</td>
<td>1 LPSM</td>
<td>100,000.00</td>
<td>110,000.00</td>
<td>100,000</td>
<td>110,000</td>
</tr>
<tr>
<td>New Parking Apron, Landscape,</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upgrade Drainage, Trellis, Fencing,</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plaza, Misc Allowance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and Complete Building Demolition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL DIRECT COSTS</strong></td>
<td>12,500 SQFT</td>
<td>70.24</td>
<td>86.80</td>
<td>878,000</td>
<td>1,085,000</td>
</tr>
</tbody>
</table>
## Scheme #4 New U-Shaped 1 Story Structure

<table>
<thead>
<tr>
<th>Unit</th>
<th>Low Qty</th>
<th>Low $/um</th>
<th>High Qty</th>
<th>High $/um</th>
<th>Total Low</th>
<th>Total High</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL DIRECT COSTS</td>
<td>12,500 SOFF</td>
<td>70.24</td>
<td>86.80</td>
<td>878,000</td>
<td>1,085,000</td>
<td></td>
</tr>
</tbody>
</table>

### MARKUPS

<table>
<thead>
<tr>
<th>Description</th>
<th>Module Qty</th>
<th>Module %</th>
<th>Total Low</th>
<th>Total High</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Conditions</td>
<td>8.00%</td>
<td>70,240</td>
<td>86,800</td>
<td></td>
</tr>
<tr>
<td>SUBTOTAL</td>
<td></td>
<td></td>
<td>948,240</td>
<td>1,171,800</td>
</tr>
<tr>
<td>Home Office Overhead</td>
<td>5.00%</td>
<td>47,412</td>
<td>58,590</td>
<td></td>
</tr>
<tr>
<td>SUBTOTAL</td>
<td></td>
<td></td>
<td>995,652</td>
<td>1,230,390</td>
</tr>
<tr>
<td>Profit</td>
<td>5.00%</td>
<td>49,783</td>
<td>61,520</td>
<td></td>
</tr>
<tr>
<td>SUBTOTAL</td>
<td></td>
<td></td>
<td>1,045,435</td>
<td>1,291,910</td>
</tr>
<tr>
<td>Design Contingency</td>
<td>15.00%</td>
<td>156,815</td>
<td>193,786</td>
<td></td>
</tr>
<tr>
<td>SUBTOTAL</td>
<td></td>
<td></td>
<td>1,202,250</td>
<td>1,485,696</td>
</tr>
<tr>
<td>Escalation to 11/92</td>
<td>4.00%</td>
<td>48,090</td>
<td>59,428</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL ESTIMATED CONSTRUCTION COST

<table>
<thead>
<tr>
<th>Total Low</th>
<th>Total High</th>
</tr>
</thead>
<tbody>
<tr>
<td>100.00</td>
<td>123.60</td>
</tr>
<tr>
<td>1,250,000</td>
<td>1,545,000</td>
</tr>
</tbody>
</table>
C. Cost Estimate Fire Station #2

C3MG
<table>
<thead>
<tr>
<th>SCHEME</th>
<th>SQFT</th>
<th>LOW $/Sqft</th>
<th>High $/Sqft</th>
<th>Low Total</th>
<th>High Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 REMODEL</td>
<td>5,800</td>
<td>83.97</td>
<td>105.86</td>
<td>487,000</td>
<td>614,000</td>
</tr>
<tr>
<td>#2 NEW 3 STORY</td>
<td>8,025</td>
<td>97.82</td>
<td>121.50</td>
<td>785,000</td>
<td>975,000</td>
</tr>
<tr>
<td>#3 NEW 2 STORY</td>
<td>7,750</td>
<td>103.10</td>
<td>129.03</td>
<td>799,000</td>
<td>1,000,000</td>
</tr>
<tr>
<td>#4 NEW 1 STORY</td>
<td>8,000</td>
<td>102.75</td>
<td>128.50</td>
<td>822,000</td>
<td>1,028,000</td>
</tr>
</tbody>
</table>
Scheme #1 Remodel

Project Description:
Remodel Existing Fire Station and Add a 2nd & 3rd Floor

Conceptual Cost Estimate

<table>
<thead>
<tr>
<th>Building Element</th>
<th>Unit</th>
<th>Low $/um</th>
<th>High $/um</th>
<th>Low Total</th>
<th>High Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundations</td>
<td>2,070 SQFT</td>
<td>3.00</td>
<td>4.00</td>
<td>6,210</td>
<td>8,280</td>
</tr>
<tr>
<td>New Foundations for Additions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Substructure</td>
<td>180 SQFT</td>
<td>5.00</td>
<td>6.00</td>
<td>900</td>
<td>1,080</td>
</tr>
<tr>
<td>New S.O.G. &amp; 1st Floor Addition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Superstructure</td>
<td>5,800 SQFT</td>
<td>6.50</td>
<td>8.50</td>
<td>37,700</td>
<td>49,300</td>
</tr>
<tr>
<td>Lateral Upgrade</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Floor &amp; Roof</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exterior Closure</td>
<td>5,800 SQFT</td>
<td>10.50</td>
<td>15.00</td>
<td>60,900</td>
<td>87,000</td>
</tr>
<tr>
<td>Dryvit Existing New Windows</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dryvit New Walls</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roofing</td>
<td>39 SQS</td>
<td>350.00</td>
<td>475.00</td>
<td>13,650</td>
<td>18,525</td>
</tr>
<tr>
<td>Remove Exist &amp; Reroof With Single Ply</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTERIOR CONSTRUCTION</td>
<td>5,800 SQFT</td>
<td>8.50</td>
<td>9.50</td>
<td>49,300</td>
<td>55,100</td>
</tr>
<tr>
<td>Minor Remodel of Exist</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Interiors &amp; New</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mechanical Systems</td>
<td>5,800 SQFT</td>
<td>12.50</td>
<td>14.00</td>
<td>72,500</td>
<td>81,200</td>
</tr>
<tr>
<td>All New Plumbing, HVAC &amp; Fire Prot</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical Systems</td>
<td>5,800 SQFT</td>
<td>13.00</td>
<td>14.25</td>
<td>75,400</td>
<td>82,650</td>
</tr>
<tr>
<td>All New Electrical Systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment</td>
<td>1 LPSM</td>
<td>5,000.00</td>
<td>18,000.00</td>
<td>5,000</td>
<td>18,000</td>
</tr>
<tr>
<td>Fire Station &amp; Kitchen Equip</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site Work</td>
<td>1 LPSM</td>
<td>20,000.00</td>
<td>30,000.00</td>
<td>20,000</td>
<td>30,000</td>
</tr>
<tr>
<td>Storm Drainage, Landscape Upgrade and Fencing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Direct Costs

<table>
<thead>
<tr>
<th>Unit</th>
<th>Low $/um</th>
<th>High $/um</th>
<th>Low Total</th>
<th>High Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>5,800 SQFT</td>
<td>58.97</td>
<td>74.31</td>
<td>342,000</td>
<td>431,000</td>
</tr>
<tr>
<td>Description</td>
<td>Unit Qty</td>
<td>Low $/sq ft</td>
<td>High $/sq ft</td>
<td>Low Total</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>----------</td>
<td>-------------</td>
<td>--------------</td>
<td>-----------</td>
</tr>
<tr>
<td>TOTAL DIRECT COSTS</td>
<td>5,800 sqft</td>
<td>58.97</td>
<td>74.31</td>
<td>342,000</td>
</tr>
<tr>
<td>MARKUPS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Conditions</td>
<td></td>
<td>8.00%</td>
<td></td>
<td>27,360</td>
</tr>
<tr>
<td>SUBTOTAL</td>
<td></td>
<td></td>
<td></td>
<td>369,360</td>
</tr>
<tr>
<td>Home Office Overhead</td>
<td></td>
<td>5.00%</td>
<td></td>
<td>18,468</td>
</tr>
<tr>
<td>SUBTOTAL</td>
<td></td>
<td></td>
<td></td>
<td>387,828</td>
</tr>
<tr>
<td>Profit</td>
<td></td>
<td>5.00%</td>
<td></td>
<td>19,391</td>
</tr>
<tr>
<td>SUBTOTAL</td>
<td></td>
<td></td>
<td></td>
<td>407,219</td>
</tr>
<tr>
<td>Design Contingency</td>
<td></td>
<td>15.00%</td>
<td></td>
<td>61,083</td>
</tr>
<tr>
<td>SUBTOTAL</td>
<td></td>
<td></td>
<td></td>
<td>468,302</td>
</tr>
<tr>
<td>Escalation to 11/92</td>
<td></td>
<td>4.00%</td>
<td></td>
<td>18,732</td>
</tr>
<tr>
<td>TOTAL ESTIMATED CONSTRUCTION COST</td>
<td></td>
<td></td>
<td></td>
<td>83.97</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>467,000</td>
</tr>
</tbody>
</table>
SCHEME #2 NEW 3-STORY STRUCTURE

Project Description:
Demolition of Existing Building and Replacement with a New 3-Story Building

Conceptual Cost Estimate

<table>
<thead>
<tr>
<th>BUILDING ELEMENT</th>
<th>Unit</th>
<th>Low $/um</th>
<th>High $/um</th>
<th>Low Total</th>
<th>High Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOUNDATIONS</td>
<td>8,025 SQFT</td>
<td>2.50</td>
<td>3.75</td>
<td>20,063</td>
<td>30,094</td>
</tr>
<tr>
<td>Standard Foundation Walls &amp; Spread Fths</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBSTRUCTURE</td>
<td>4,225 SQFT</td>
<td>2.50</td>
<td>3.00</td>
<td>10,563</td>
<td>12,675</td>
</tr>
<tr>
<td>New Slab on Grade 1st Floor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUPERSTRUCTURE</td>
<td>8,025 SQFT</td>
<td>6.75</td>
<td>9.00</td>
<td>54,169</td>
<td>72,225</td>
</tr>
<tr>
<td>Upper Floors, Roof &amp; Stairs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXTERIOR CLOSURE</td>
<td>8,200 SQFT</td>
<td>13.00</td>
<td>15.00</td>
<td>106,600</td>
<td>123,000</td>
</tr>
<tr>
<td>Dryvit and Brick</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROOFING</td>
<td>42 SQS</td>
<td>425.00</td>
<td>675.00</td>
<td>17,850</td>
<td>28,350</td>
</tr>
<tr>
<td>50% single ply, 50% Stnd Seam Htl</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTERIOR CONSTRUCTION</td>
<td>8,025 SQFT</td>
<td>12.00</td>
<td>16.00</td>
<td>96,300</td>
<td>128,400</td>
</tr>
<tr>
<td>Standard Interiors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MECHANICAL SYSTEMS</td>
<td>8,025 SQFT</td>
<td>12.50</td>
<td>14.00</td>
<td>100,313</td>
<td>112,350</td>
</tr>
<tr>
<td>New Plumbing, HVAC &amp; Fire Prot.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELECTRICAL SYSTEMS</td>
<td>8,025 SQFT</td>
<td>13.00</td>
<td>14.25</td>
<td>104,325</td>
<td>114,356</td>
</tr>
<tr>
<td>New Electrical Systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EQUIPMENT</td>
<td>1 LPSM</td>
<td>5,000.00</td>
<td>18,000.00</td>
<td>5,000</td>
<td>18,000</td>
</tr>
<tr>
<td>Fire Station &amp; Kitchen Equip</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SITework</td>
<td>1 LPSM</td>
<td>36,000.00</td>
<td>46,000.00</td>
<td>36,000</td>
<td>46,000</td>
</tr>
<tr>
<td>Storm Drainage, Landscape Upgrade, Fencing and Complete Building Demolition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL DIRECT COSTS</td>
<td>8,025 SQFT</td>
<td>68.66</td>
<td>85.36</td>
<td>551,000</td>
<td>685,000</td>
</tr>
</tbody>
</table>
### SCHEME #2 NEW 3-STORY STRUCTURE

<table>
<thead>
<tr>
<th></th>
<th>Unit Qty</th>
<th>Low  $/sqft</th>
<th>High $/sqft</th>
<th>Low Total</th>
<th>High Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL DIRECT COSTS</td>
<td>8,025 SQFT</td>
<td>68.66</td>
<td>85.36</td>
<td>551,000</td>
<td>685,000</td>
</tr>
</tbody>
</table>

**MARKUPS**

- **General Conditions**: 8.00%
  - **SUBTOTAL**: 595,080 739,800
- **Home Office Overhead**: 5.00%
  - **SUBTOTAL**: 624,344 776,790
- **Profit**: 5.00%
  - **SUBTOTAL**: 31,242 38,840
- **Design Contingency**: 15.00%
  - **SUBTOTAL**: 98,411 122,344
- **Escalation to**: 4.00%
  - **SUBTOTAL**: 30,179 37,519

---

**TOTAL ESTIMATED CONSTRUCTION COST =============> 97.82 121.50 785,000 975,000**

==================================================================
**Project Description:**
Demolition of Existing Building and Replacement with a New 2-Story Building

**Conceptual Cost Estimate**

<table>
<thead>
<tr>
<th>BUILDING ELEMENT</th>
<th>Unit</th>
<th>Low</th>
<th>High</th>
<th>Low Total</th>
<th>High Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FOUNDATIONS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Foundation Walls &amp;</td>
<td>7,750 SQFT</td>
<td>2.50</td>
<td>3.75</td>
<td>19,375</td>
<td>29,063</td>
</tr>
<tr>
<td>Spread Fts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SUBSTRUCTURE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slab on Grade</td>
<td>5,573 SQFT</td>
<td>2.50</td>
<td>3.25</td>
<td>13,933</td>
<td>18,112</td>
</tr>
<tr>
<td>Throughout 1st Floor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SUPERSTRUCTURE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd Floor, Stair &amp; Roof</td>
<td>7,750 SQFT</td>
<td>5.75</td>
<td>8.00</td>
<td>44,563</td>
<td>62,000</td>
</tr>
<tr>
<td><strong>EXTERIOR CLOSURE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dryvit and Brick</td>
<td>7,900 SQFT</td>
<td>13.00</td>
<td>15.00</td>
<td>102,700</td>
<td>118,500</td>
</tr>
<tr>
<td><strong>ROOFING</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50% single ply, 50% Standing seam</td>
<td>56 SQS</td>
<td>425.00</td>
<td>675.00</td>
<td>23,800</td>
<td>37,800</td>
</tr>
<tr>
<td>metal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>INTERIOR CONSTRUCTION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Interiors</td>
<td>7,750 SQFT</td>
<td>12.00</td>
<td>16.00</td>
<td>93,000</td>
<td>124,000</td>
</tr>
<tr>
<td><strong>MECHANICAL SYSTEMS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Plumbing, HVAC &amp; Fire Prot.</td>
<td>7,750 SQFT</td>
<td>12.50</td>
<td>14.00</td>
<td>96,875</td>
<td>108,500</td>
</tr>
<tr>
<td><strong>ELECTRICAL SYSTEMS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Electrical Systems</td>
<td>7,750 SQFT</td>
<td>13.00</td>
<td>14.25</td>
<td>100,750</td>
<td>110,438</td>
</tr>
<tr>
<td><strong>EQUIPMENT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire Station &amp; Kitchen Equip</td>
<td>1 LPSM</td>
<td>5,000.00</td>
<td>18,000.00</td>
<td>5,000</td>
<td>18,000</td>
</tr>
<tr>
<td><strong>SITWORK</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storm Drainage, Landscape Upgrade, Fencing and Complete Building Demolition as well as Paving &amp; Work on New Land</td>
<td>1 LPSM</td>
<td>61,000.00</td>
<td>76,000.00</td>
<td>61,000</td>
<td>76,000</td>
</tr>
<tr>
<td><strong>TOTAL DIRECT COSTS</strong></td>
<td>7,750 SQFT</td>
<td>72.39</td>
<td>90.58</td>
<td>561,000</td>
<td>702,000</td>
</tr>
</tbody>
</table>
## Scheme #3 New 2-Story Structure

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit Qty</th>
<th>Low $/sq ft</th>
<th>High $/sq ft</th>
<th>Low Total</th>
<th>High Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Direct Costs</strong></td>
<td>7,750 sq ft</td>
<td>72.39</td>
<td>90.58</td>
<td>561,000</td>
<td>702,000</td>
</tr>
<tr>
<td><strong>Markups</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Conditions</td>
<td>8.00%</td>
<td>44,880</td>
<td>56,160</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td>605,880</td>
<td>758,160</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home Office Overhead</td>
<td>5.00%</td>
<td>30,294</td>
<td>37,908</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td>636,174</td>
<td>796,068</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Profit</td>
<td>5.00%</td>
<td>31,809</td>
<td>39,803</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td>667,983</td>
<td>835,871</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design Contingency</td>
<td>15.00%</td>
<td>100,197</td>
<td>125,381</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td>768,180</td>
<td>961,252</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Escalation to 11/92</td>
<td>4.00%</td>
<td>30,727</td>
<td>38,450</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Estimated Construction Cost**

<table>
<thead>
<tr>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>103.10</td>
<td>129.03</td>
</tr>
<tr>
<td>799,000</td>
<td>1,000,000</td>
</tr>
<tr>
<td>BUILDING ELEMENT</td>
<td>Unit Measure</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>FOUNDATIONS</td>
<td>8,000 SQFT</td>
</tr>
<tr>
<td>Standard Foundation Walls &amp; Spread Fgs</td>
<td></td>
</tr>
<tr>
<td>SUBSTRUCTURE</td>
<td>7,660 SQFT</td>
</tr>
<tr>
<td>Slab on Grade Throughout</td>
<td></td>
</tr>
<tr>
<td>SUPERSTRUCTURE</td>
<td>8,000 SQFT</td>
</tr>
<tr>
<td>Mezzanine &amp; Roof Structure</td>
<td></td>
</tr>
<tr>
<td>EXTERIOR CLOSURE</td>
<td>7,500 SQFT</td>
</tr>
<tr>
<td>Dryvit and Brick</td>
<td></td>
</tr>
<tr>
<td>ROOFING</td>
<td>77 SQS</td>
</tr>
<tr>
<td>50% single ply, 50% Standing seam metal</td>
<td></td>
</tr>
<tr>
<td>INTERIOR CONSTRUCTION</td>
<td>8,000 SQFT</td>
</tr>
<tr>
<td>Standard Interiors</td>
<td></td>
</tr>
<tr>
<td>MECHANICAL SYSTEMS</td>
<td>8,000 SQFT</td>
</tr>
<tr>
<td>New Plumbing, HVAC &amp; Fire Prot.</td>
<td></td>
</tr>
<tr>
<td>ELECTRICAL SYSTEMS</td>
<td>8,000 SQFT</td>
</tr>
<tr>
<td>New Electrical Systems</td>
<td></td>
</tr>
<tr>
<td>EQUIPMENT</td>
<td>1 LPSM</td>
</tr>
<tr>
<td>Fire Station &amp; Kitchen Equip</td>
<td></td>
</tr>
<tr>
<td>SITEWORK</td>
<td>1 LPSM</td>
</tr>
<tr>
<td>Storm Drainage, Landscape Upgrade, Fencing and Complete Building Demolition as well as Paving &amp; Work on New Land</td>
<td></td>
</tr>
<tr>
<td>TOTAL DIRECT COSTS</td>
<td>8,000 SQFT</td>
</tr>
<tr>
<td>Unit</td>
<td>Low Qty</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------</td>
</tr>
<tr>
<td>TOTAL DIRECT COSTS</td>
<td>8,000 SQFT</td>
</tr>
<tr>
<td>MARKUPS</td>
<td></td>
</tr>
<tr>
<td>General Conditions</td>
<td>8.00%</td>
</tr>
<tr>
<td></td>
<td>SUBTOTAL</td>
</tr>
<tr>
<td>Home Office Overhead</td>
<td>5.00%</td>
</tr>
<tr>
<td></td>
<td>SUBTOTAL</td>
</tr>
<tr>
<td>Profit</td>
<td>5.00%</td>
</tr>
<tr>
<td></td>
<td>SUBTOTAL</td>
</tr>
<tr>
<td>Design Contingency</td>
<td>15.00%</td>
</tr>
<tr>
<td></td>
<td>SUBTOTAL</td>
</tr>
<tr>
<td>Escalation to 11/92</td>
<td>4.00%</td>
</tr>
</tbody>
</table>

TOTAL ESTIMATED CONSTRUCTION COST = 102.75 128.50 822,000 1,028,000
PROGRAM SUMMARY OF
MERCER ISLAND FIRE STATIONS NO. 1 & NO. 2
Mercer Island, Washington

SEPTEMBER 30, 1991
**Program Summary of Spaces**

**Space Summary**

<table>
<thead>
<tr>
<th>V. Crew Area</th>
<th>AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dormitories (6)</td>
<td>864</td>
</tr>
<tr>
<td>Men's Restroom and Shower</td>
<td>350</td>
</tr>
<tr>
<td>Women's Restroom and Shower</td>
<td>110</td>
</tr>
<tr>
<td>Kitchen Area</td>
<td>225</td>
</tr>
<tr>
<td>Dayroom</td>
<td>240</td>
</tr>
<tr>
<td>Dining Area</td>
<td>210</td>
</tr>
<tr>
<td>Laundry</td>
<td>100</td>
</tr>
<tr>
<td>Storage</td>
<td>60</td>
</tr>
<tr>
<td>Mech.</td>
<td>170</td>
</tr>
</tbody>
</table>

Subtotal Crew Area 2,369

<table>
<thead>
<tr>
<th>VI. Circulation and Miscellaneous</th>
<th>AREA</th>
</tr>
</thead>
</table>

TOTAL 14,088 s.f.

**Apparatus Bay (Related Functions)**

<table>
<thead>
<tr>
<th>IV. Training Area</th>
<th>AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apparatus Bay</td>
<td>5,400</td>
</tr>
<tr>
<td>Decontamination Room</td>
<td>100</td>
</tr>
<tr>
<td>Hose Tower</td>
<td>150</td>
</tr>
<tr>
<td>Shop Area</td>
<td>200</td>
</tr>
<tr>
<td>Generator Room</td>
<td>180</td>
</tr>
<tr>
<td>Dive Room</td>
<td>150</td>
</tr>
<tr>
<td>Serv. Afr</td>
<td>220</td>
</tr>
<tr>
<td>Medical Storage</td>
<td>100</td>
</tr>
<tr>
<td>Storage (Office/Residential)</td>
<td>100</td>
</tr>
<tr>
<td>Storage (Uniforms)</td>
<td>150</td>
</tr>
</tbody>
</table>

Subtotal Apparatus Bay & Related Functions 6,740 s.f.

**Public Area**

<table>
<thead>
<tr>
<th>II. Public Area</th>
<th>AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry Vestibule</td>
<td>220</td>
</tr>
<tr>
<td>Public Meeting Room/Training</td>
<td>620</td>
</tr>
<tr>
<td>Public Restrooms</td>
<td>100</td>
</tr>
<tr>
<td>Aide Room</td>
<td>80</td>
</tr>
<tr>
<td>Library/Training Room</td>
<td>170</td>
</tr>
<tr>
<td>Audio/Visual Storage</td>
<td>80</td>
</tr>
</tbody>
</table>

Subtotal Public Area 1,270 s.f.

**Administrative Area**

<table>
<thead>
<tr>
<th>III. Administrative Area</th>
<th>AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Office/Officer Dorm (2)</td>
<td>600</td>
</tr>
<tr>
<td>Training Office</td>
<td>100</td>
</tr>
<tr>
<td>Chief's Office</td>
<td>140</td>
</tr>
<tr>
<td>Station Office</td>
<td>120</td>
</tr>
<tr>
<td>Fire Marshal's Office</td>
<td>120</td>
</tr>
<tr>
<td>Secretary Space</td>
<td>120</td>
</tr>
</tbody>
</table>

Subtotal Administrative Area 1,200 s.f.

**Exterior:**
- **Interior:**
  - Lettering like City Hall
  - Video Camera System
  - Slide Rule(s)
- Do we move extinguisher room north?
I. Apparatus Bay (Related Functions)

- Apparatus Bay
- Decortamination Room
- Hose Tower
- Shop Area
- Generator Room
- Dive Room
- Serv. Air
- Medical Storage
- Storage (Office/Household)
- Storage (Uniforms)

* Increase Storage!
* NEED TO RE-EVALUATE MAY INCLUDE
OTHER APPARATUS BAY: SECOND AID CAR, SUBURBAN RESCUE VEHICLE LARGER?, E-94?

ROOM SURFACES

FLOOR CONCRETE SLAB (SEALED)
WALLS EASILY MAINTAINED MATERIAL 8'-0" NT
CEILING 18'-0" Clear Height
DOOR/WINDOWS (2) MAN DOORS (FRONT/BACK)
STORAGE HOSE BAY IN-USE BUNKER GEAR

PROGRAM DATA

MERCER ISLAND FIRE STATION STUDY

AREA 1 APPARATUS BAY

ROOM NAME APPARATUS BAY ROOM SQUARE FOOTAGE 5,400

ROOM FUNCTION ACCOMMODATION FOR 7 APPARATUS DAYS. 4 APPARATUS BAY DOORS OF A MINIMUM 14' x 11' SIZE ON RESPONSE SIDE OF BAY, WITH 3 APPARATUS BAY DOORS OF MINIMUM 14' x 14' FOR DRIVE THROUGH CAPABILITY OF MAIN APPARATUS EQUIPMENT ON "BACK" SIDE OF BUILDING. MINIMUM 2'-0" CLEAR. FLOOR TRENCH DRAINS OR CENTER LINE OF APPARATUS, WITH MINIMUM SLOPE FOR GOOD DRAINAGE. EXHAUST SYSTEM - ALL APPROPRIATE ELECTRICAL & MECHANICAL SYSTEMS.

OCCUPANTS STATION CREW (NUMBER VARIES)

PROXIMITIES DORM AREA, DAYROOM, HOSE TOWER

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS

*(1) RESPONSE ENGR; (1) BACK-UP ENGR; (1) LADDER; (1) MIB; (1) RES; (1) AIDE; (1) COMMAND
*PLUMB IN AIR LINES, EACH BAY
*ELECTRICAL DROP CORDS, EACH BAY
*HOSE DOWN AREA/APPARATUS WASHING
*RADIANT HEATING UNITS
*EXHAUST SYSTEM
*PHONE(S)

1.1
ROOM SURFACES
FLOOR: CONCRETE SLAB WITH WATER-PROOF TRAFFIC TOPPING
WALLS: WATER-RESISTANT
CEILING: MOISTURE-RESISTANT
DOOR/WINDOWS: DOOR TO EXTERIOR, DOOR TO APPARATUS BAY
STORAGE: CLEANING EQUIPMENT, MEDICAL WASTE STORAGE

PROGRAM DATA
MERCEER ISLAND FIRE STATION STUDY

AREA 1
APPARATUS BAY

ROOM NAME: DECONTAMINATION
ROOM SQUARE FOOTAGE: 100 S.F.

ROOM FUNCTION: HOSE/WASH-DOWN FIREFIGHTERS & EQUIPMENT OF HAZARDOUS MATERIAL.

OCCUPANTS

PROXIMITIES: APPARATUS BAY

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS:
* SINK — D W/HOSPITAL TYPE FAUCET
* EYE WASH BASIN
* HOSE BIBS (HOT & COLD)
* EXHAUST SYSTEM
* SHOWER
  * CABINET-L

* DOOR/OSI SWITCH (AUTOMATIC?)
  (SUPERMARKET TYPE).

1.3
ROOM SURFACES

(FLOOR) CONCRETE SEAL
(WALLS) WATER RESIST.
(CEILING)
(DOOR WINDOWS) 25 s.f. WINDOW
(STORAGE) HOSE RACK

---

PROGRAM DATA

MERCEI. IND. FIRE STATION STUDY

AREA 1 APPARATUS BAY

ROOM NAME HOSE TOWER
ROOM SQUARE FOOTAGE 160 s.f.
ROOM FUNCTION STORAGE AND DRYING HOSE (50' HOSE)

OCCUPANTS

PROXIMITIES APPARATUS BAY

---

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS

*CATWALK WALK (PULLEY/STORAGE DOWELS)
*HOSE RACK ____ HOW MUCH HOSE TO STORE?
*NATURAL
*SINK
*EXHAUST FAN
*FLOOR DRAIN
*35' - 0' (HEIGHT)

1.5
PROGRAM DATA
MERCER ISLAND FIRE STATION STUDY

<table>
<thead>
<tr>
<th>AREA</th>
<th>APPARATUS BAY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ROOM NAME</th>
<th>SHOP AREA</th>
<th>ROOM SQUARE FOOTAGE 200 s.f.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ROOM FUNCTION</th>
<th>MISC. REPAIR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCCUPANTS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROXIMITIES</th>
<th>APPARATUS BAY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS

* TOOL & EQUIPMENT STORAGE
* WORK BENCH
* PHONE
* ELECTRICAL PLUGMOLD
PROGRAM DATA

MERCER ISLAND FIRE STATION STUDY

AREA 1  APPARATUS BAY

ROOM NAME  GENERATOR ROOM  ROOM SQUARE FOOTAGE 160 s.f.

ROOM FUNCTION  AREA FOR EMERGENCY GENERATOR ELECTRICAL PANELS

OCCUPANTS

PROXIMITIES  APPARATUS BAY

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS

* EMERGENCY GENERATOR
* COMPRESSOR
* CASCADE SYSTEM
* SOUND SEPARATION OF EMERGENCY GENERATOR
* HEAT RELEASE CONTROLS (FROM COMPRESSOR)
  ROOM REQUIRES MECHANICAL CIRCULATION
ROOM SURFACES

FLOOR  CONCRETE OR VINYL COMPOSITION TILE
WALLS  GYPSUM WALLBOARD (WATERPROOF)
CEILING  ACOUSTICAL CEILING TILE
DOOR/WINDOWS  
STORAGE  

PROGRAM DATA

MERcer ISLAND FIRE STATION STUDY

AREA 1  APPARATUS BAY

ROOM NAME  DIVE ROOM  ROOM SQUARE FOOTAGE  150 s.f.

ROOM FUNCTION  STORAGE OF DIVE GEAR

OCCUPANTS  

PROXIMITIES  APPARATUS BAY

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS

* TOOL & EQUIPMENT STORAGE
  * WORK BENCH
  *(12) 2'-6" x 2'-6" STORAGE LOCKERS 7'-0" HT.
ROOM SURFACES

FLOOR  CONCRETE OR VINYL COMPOSITION TILE
WALLS  GYPSUM WALLBOARD
CEILING  ACOUSTICAL CEILING TILE
DOOR/WINDOWS  STORAGE

PROGRAM DATA
MERCE ISLAND FIRE STATION STUDY

AREA 1  APPARATUS BAY

ROOM NAME  SERV AIR REPAIR
ROOM SQUARE FOOTAGE  220 s.f.
ROOM FUNCTION  REPAIR SER AIR EQUIPMENT

OCCUPANTS

PROXIMITIES  APPARATUS BAY

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS
* FILL STATION
* WORK BENCH(2)
* SHELVES
* LAY-OUT SPACE
* PHONE/MODERN CONNECTION
* SINK
* AIR BIBS
* BOTTLE STORAGE
* DESK

* SEE DRAWINGS

1.13
### PROGRAM DATA

**MERCELAND FIRE STATION STUDY**

<table>
<thead>
<tr>
<th>AREA</th>
<th>APPARATUS BAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOM NAME</td>
<td>MEDICAL STORAGE</td>
</tr>
<tr>
<td>ROOM SQUARE FOOTAGE</td>
<td>100 s.f.</td>
</tr>
<tr>
<td>ROOM FUNCTION</td>
<td>STORAGE OF MEDICAL SUPPLIES</td>
</tr>
</tbody>
</table>

**OCCUPANTS**

**PROXIMITIES**

- LAUNDRY
- APPARATUS BAY

**EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS**

- *LOCKED STORAGE*
- *CABINET*
<table>
<thead>
<tr>
<th>ROOM SURFACES</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLOOR</td>
</tr>
<tr>
<td>WALLS</td>
</tr>
<tr>
<td>CEILING</td>
</tr>
<tr>
<td>DOOR/WINDOWS</td>
</tr>
</tbody>
</table>

**PROGRAM DATA**

**MERGER ISLAND FIRE STATION STUDY**

<table>
<thead>
<tr>
<th>AREA</th>
<th>APPARATUS BAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOM NAME</td>
<td>STORAGE</td>
</tr>
<tr>
<td>ROOM SQUARE FOOTAGE</td>
<td>100</td>
</tr>
<tr>
<td>ROOM FUNCTION</td>
<td>STORAGE OF GENERAL OFFICE &amp; HOUSEHOLD SUPPLIES</td>
</tr>
</tbody>
</table>

**OCCUPANTS**

**PROXIMITIES**

<table>
<thead>
<tr>
<th>PROXIMITIES</th>
<th>APPARATUS BAY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DAYROOM</td>
</tr>
</tbody>
</table>

**EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS**

- SHELVES

* IS THIS SPACE LARGE ENOUGH?  
  DEFINE CONTENTS. (SPECIFIC)

* WILL THIS ALSO STORE RECORDS?  
  HOW LONG DO WE KEEP?  
  DO WE MICROCHE?
### PROGRAM DATA

**MERCER ISLAND FIRE STATION STUDY**

<table>
<thead>
<tr>
<th>AREA</th>
<th>APPARATUS BAY</th>
</tr>
</thead>
</table>

| ROOM NAME | STORAGE | ROOM SQUARE FOOTAGE | 150 s.f. |

| ROOM FUNCTION | STORAGE OF NEW UNIFORMS, NEW RINKER GEAR, MISCELLANEOUS EQUIPMENT |

| OCCUPANTS |

| PROXIMITIES | APPARATUS BAY |

---

**EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS**

- Shelves
- Hanging racks
II. Public Area
   Entry Vestibule
   Public Meeting Room/Training
   Public Restrooms
   Aide Room
   Library/Training Room
   Audio/Visual Storage
ROOM SURFACES

FLOOR       HARD SURFACE/EASY CLEANING
WALLS       GYPSUM WALLBOARD
CEILING     ACOUSTICAL CEILING TILE
DOOR/WINDOWS FRONT DOOR FOR PUBLIC
STORAGE

PROGRAM DATA

MERCER ISLAND FIRE STATION STUDY

AREA II     PUBLIC AREA

ROOM NAME   ENTRY VESTIBULE/RECEPTION
ROOM SQUARE FOOTAGE  220 s.f.

ROOM FUNCTION
PUBLIC ENTRY
PUBLIC WAITING
PERMITS

OCCUPANTS

PROXIMITIES
PUBLIC PARKING
MEETING/CONFERENCE ROOM
ADMINISTRATIVE AREA

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS

*DISPLAY CASE
*PUBLIC INFORMATION FORMS DISPLAYED
*SEATING AREA
*WALL SPACE FOR DISPLAYS

SEE THE WAY CITY HALL MAIN ENTRANCE IS. THE COLORS, PUBLIC NOTICE BOARD, LETTERING GIVING DIRECTIONS THIS SPACE SHOULD BE LARGE ENOUGH FOR PEOPLE TO CONGREGATE.
ROOM SURFACES

FLOOR  CARPET
WALLS  GYPSUM WALLBOARD
CEILING  GYPSUM WALLBOARD OR ACOUSTICAL CEILING TILE
DOOR/WINDOWS  TABLE & CHAIR STORAGE

PROGRAM DATA
MERCER ISLAND FIRE STATION STUDY

AREA II  PUBLIC AREA

ROOM NAME  PUBLIC MEETING ROOM  ROOM SQUARE FOOTAGE 620 s.f.

ROOM FUNCTION  FLEXIBLE MEETING ROOM FOR CONFERENCE TYPE SEATING,
ADJACENT OR ATTACHED STORAGE
POSSIBLY FOR USE AS "PROJECTION ROOM" AREA WITH SECURITY
FOR FIRE DEPARTMENT TRAINING AIDS.

OCCUPANTS

PROXIMITIES  ENTRY VESTIBLE/REC.
PUBLIC RESTROOMS
ADMINISTRATION

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS

*SMALL COUNTER WITH SINK
*CABLE TV AND FUTURE COMMUNICATIONS BUILT-INS, FLOOR OUTLETS, FOR POWER
AND COMMUNICATIONS/AV, VOLUME CONTROL FOR AUDIO, VIDEO CAPABILITY,
WHITE BOARDS ETC.
*CHAIRS & TABLE

* WILL THIS ROOM SUPPORT ECC OPS?
ROOM SURFACES
FLOOR  HARD SURFACES/VINYL OR TILE
WALLS  GYPSUM WALLBOARD
CEILING GYPSUM WALLBOARD
DOOR/WINDOWS  
STORAGE  

PROGRAM DATA
MERCER ISLAND FIRE STATION STUDY

AREA II  PUBLIC AREA

ROOM NAME  PUBLIC RESTROOM  ROOM SQUARE FOOTAGE 100 s.f.

ROOM FUNCTION  PUBLIC RESTROOM FACILITIES  ACCESSIBLE TOILETS

OCCUPANTS  

PROXIMITIES  PUBLIC ENTRY  PUBLIC MEETING ROOM

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS
*TOILET
*LAVATORY
*MEET ALL BARRIER-FREE REQUIREMENTS

1.23
PROGRAM DATA

MERCER ISLAND FIRE STATION STUDY

<table>
<thead>
<tr>
<th>AREA II</th>
<th>PUBLIC AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOM NAME</td>
<td>AIDE ROOM</td>
</tr>
<tr>
<td>ROOM SQUARE FOOTAGE</td>
<td>80 s.f.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ROOM FUNCTION</th>
<th>BLOOD PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRST AIDE</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCCUPANTS</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>PROXIMITIES</th>
<th>PUBLIC ENTRY</th>
</tr>
</thead>
</table>

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS

- *SINK
- *MEDICAL STORAGE (LOCKABLE)
- *DAY BED
- *PHONE
- *SECURITY

* SHOULD HAVE ACCESS TO APP. BAY FOR LOADING INTO AMB. OR MEDIC UNIT.

1.25
PROGRAM DATA

MERCER ISLAND FIRE STATION STUDY

AREA II

PUBLIC AREA

ROOM NAME LIBRARY/TRAINING ROOM
ROOM SQUARE FOOTAGE 170 s.f.
ROOM FUNCTION SMALL CONFERENCE ROOM FOR TRAINING
QUIET STUDY AREA AND LIBRARY
STAFF ONLY

OCCUPANTS 6 - 8 CREW

PROXIMITIES ADMINISTRATION
DAY ROOM

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS

*CONFERENCE TABLE
*BULLETIN BOARD
*BOOKSHELVES - LOTS!
*MARKER BOARD
*PHONE
*CABLE TV
*MODEM
*WORK DESK
PROGRAM DATA

MERGER ISLAND FIRE STATION STUDY

AREA II  PUBLIC AREA

ROOM NAME  AUDIO/VISUAL STORAGE  ROOM SQUARE FOOTAGE  80

ENOUGH SPACE?

ROOM FUNCTION  STORAGE OF AUDIO/VISUAL EQUIPMENT.

OCCUPANTS

PROXIMITIES  PUBLIC MEETING ROOM
LIBRARY TRAINING ROOM

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS

* ELECTRICAL OUTLETS FOR ALL A/V EQUIPMENT
* STORAGE
  * REVERSE PROJECTION CAPABILITIES.
MERCER ISLAND FIRE STATION NO. 1
Mercer Island, Washington

III. Administrative Area
Company Office/Officer Dorm (2)
Training Office
Chief's Office
Station Office
Fire Marshal's Office
Secretary Space
ROOM SURFACES
FLOOR  CARPET
WALLS  GYPSUM WALLBOARD
CEILING  ACoustical CEILING T.I.F
DOOR/WINDOWS  WINDOWS REQUIRED IN DORM
STORAGE

PROGRAM DATA
MERGER ISLAND FIRE STATION STUDY

AREA III  ADMINISTRATIVE AREA

ROOM NAME  (2) WATCH OFFICE/OFFICER DORM  ROOM SQUARE FOOTAGE 600 s.f.

ROOM FUNCTION  OFFICE AREA FOR OFFICER TO PERFORM ADMINISTRATIVE DUTIES WITH CENTRAL CONTROL LOCATION, ALONG WITH SLEEPING, BATH, AND SHOWER AREA.

OCCUPANTS  COMPANY OFFICER

PROXIMITIES  DAYROOM  PUBLIC ENTRY

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS:
*OFFICE: DESK, FILES, COMPUTER TERMINAL
*DORM: LOCKERS, BED, DESK
*PHONE/ MODEM
*SHOWER/LAV/TOILET

*NO NEED TO SEPARATE OFFICER DORM FROM OFFICERS - REDESIGN.

1.29
### Program Data

**Mercer Island Fire Station Study**

<table>
<thead>
<tr>
<th>Area</th>
<th>Administrative Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room Name</td>
<td>Training Office</td>
</tr>
</tbody>
</table>

**Room Function**

**Occupants** | (1) Training Officer

**Proximities** | Administration

**Equipment/Furniture/Special Requirements**
- Desk, files, computer terminal
- Phone/modem

---

**Room Surfaces**
- **Floor**: Carpet
- **Walls**: Gypsum Wallboard
- **Ceiling**: Acoustical Ceiling Tile
- **Door/Windows**: Storage
ROOM SURFACES

FLOOR  CARPET
WALLS  GYPSUM WALLBOARD
CEILING  ACCOUSTICAL CEILING TILE
DOOR/WINDOWS
STORAGE

PROGRAM DATA
MERGER ISLAND FIRE STATION STUDY

AREA III  ADMINISTRATIVE AREA

ROOM NAME  CHIEF'S OFFICE  ROOM SQUARE FOOTAGE  140 s.f.

ROOM FUNCTION

OCCUPANTS  FIRE CHIEF

PROXIMITIES  ADMINISTRATION

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS
* DESK, FILES, COMPUTER TERMINAL, SMALL TABLE
* PHONE/MODM
PROGRAM DATA

MERGER ISLAND FIRE STATION STUDY

<table>
<thead>
<tr>
<th>AREA III</th>
<th>ADMINISTRATIVE AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOM NAME</td>
<td>STATION OFFICE</td>
</tr>
<tr>
<td>ROOM SQUARE FOOTAGE</td>
<td>120 s.f.</td>
</tr>
<tr>
<td>ROOM FUNCTION</td>
<td>ADDITIONAL ADMINISTRATION</td>
</tr>
<tr>
<td></td>
<td>FUNCTION</td>
</tr>
<tr>
<td></td>
<td>REPORT WRITING</td>
</tr>
<tr>
<td>OCCUPANTS</td>
<td>VARIES</td>
</tr>
<tr>
<td>PROXIMITIES</td>
<td>ADMINISTRATION</td>
</tr>
</tbody>
</table>

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS

- DESK, FILES, COMPUTER TERMINAL
- PHONE/MODEM

* DO WE DELETE THIS SPACE? OR KEEP IT FOR FLEXIBILITY? CR.
ROOM SURFACES
- Floor: Carpet
- Walls: Gypsum Wallboard
- Ceiling: Acoustical Ceiling Tile
- Door/Windows
- Storage

PROGRAM DATA
MERCER ISLAND FIRE STATION STUDY

<table>
<thead>
<tr>
<th>AREA III</th>
<th>ADMINISTRATIVE AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room Name</td>
<td>FIRE MARSHAL OFFICE</td>
</tr>
<tr>
<td>Room Sq. F</td>
<td>120</td>
</tr>
</tbody>
</table>

ROOM FUNCTION

OCCUPANTS
- FIRE MARSHAL

PROXIMITIES
- Administration

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS
- Desk, Files, Computer Terminal
- Phone/Modem
**PROGRAM DATA**

**MERCEER ISLAND FIRE STATION STUDY**

<table>
<thead>
<tr>
<th>AREA III</th>
<th>ADMINISTRATIVE AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOM NAME</td>
<td>SECRETARY/RECEPT.</td>
</tr>
<tr>
<td>ROOM SQUARE FOOTAGE</td>
<td>120 s.f.</td>
</tr>
</tbody>
</table>

**ROOM FUNCTION**

CENTRAL CONTROL POINT OF STATION (INTERFACE W/PUBLIC)

**OCCUPANTS**

SECRETARY

**PROXIMITIES**

ADMINISTRATION
PUBLIC ENTRY

**EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS**

- DESK, FILES, COMPUTER TERMINAL
- PHONE/MODEM
- CONTROL OF STATION INTERCOM SYSTEM (INTERCOM SYSTEM THROUGHOUT STATION)
- SECURITY CONTROL

*DO WE NEED THIS SPACE?*

*SEE BECKY'S DRAWING*
IV. Training Area
   Exercise
   Exterior Physical Training
   Exterior Drill
## Room Surfaces

<table>
<thead>
<tr>
<th>Surface</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor</td>
<td>Carpet</td>
</tr>
<tr>
<td>Walls</td>
<td>One mirror</td>
</tr>
<tr>
<td>Ceiling</td>
<td>10'-0&quot; or more</td>
</tr>
<tr>
<td>Door/Windows</td>
<td>Good natural ventilation</td>
</tr>
<tr>
<td>Storage</td>
<td></td>
</tr>
</tbody>
</table>

## Program Data

**Mercer Island Fire Station Study**

<table>
<thead>
<tr>
<th>Area</th>
<th>IV</th>
<th>Training</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Room Name</td>
<td>Exercise</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Room Function:**

In-house exercise, weights, and other physical training equipment.

**Occupants:** Crew

**Proximities:** Day-room/showers/apparatus

**Equipment/Furniture/Special Requirements:**

* Exercise equipment
* Phone

* Add flooring: carpet? (rubber mats?)

1.39
### PROGRAM DATA

**MERCER ISLAND FIRE STATION STUDY**

<table>
<thead>
<tr>
<th>AREA</th>
<th>IV</th>
<th>TRAINING</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOM NAME</td>
<td>EXTERIOR PHYSICAL TRAINING</td>
<td>ROOM SQUARE FOOTAGE</td>
</tr>
<tr>
<td>ROOM FUNCTION</td>
<td>RUNNING TRAIL AROUND PERIMETER OF SITE (PAR COURSE)</td>
<td></td>
</tr>
</tbody>
</table>

**OCCUPANTS**

**PROXIMITIES**

APPARATUS BAY AREA

**EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS**

*EXERCISE EQUIPMENT*
### PROGRAM DATA

**MERCER ISLAND FIRE STATION STUDY**

<table>
<thead>
<tr>
<th>AREA IV</th>
<th>TRAINING</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOM NAME</td>
<td>EXTERIOR DRILL AREA</td>
</tr>
<tr>
<td>ROOM FUNCTION</td>
<td>(1) PROVIDE LARGE EXTERIOR PAVED AREA FOR MISC. TRAINING ACTIVITIES, HYDRANT, AND STANDPIPE CONNECTIONS, AND GENERAL HOSE WORK AREAS. (2) TRAINING TOWER</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCCUPANTS</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>PROXIMITIES</th>
<th>APPARATUS BAY AREA</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>EXERCISE EQUIPMENT</em></td>
</tr>
<tr>
<td><em>EXTERIOR SPEAKER</em></td>
</tr>
</tbody>
</table>

1.60

1.59
These areas need to be secured from public.

MERCER ISLAND FIRE STATION NO. 1
Mercer Island, Washington

V. Crew Area
Dormitories (6)
Men's Restroom and Shower
Women's Restroom and Shower
Kitchen Area
Dayroom
Dining Area
Laundry
Storage
Mech.
Exterior Patio
PROGRAM DATA

MERCEER ISLAND FIRE STATION STUDY

AREA

CREW AREA

ROOM NAME DORMITORY

ROOM SQUARE FOOTAGE (6) 8144 s.f.

ROOM FUNCTION PRIVATE SLEEPING AREAS FOR (6) FIREFIGHTERS - 9' x 16' ROOMS, 3 - 2' x 2' x 7' STORAGE LOCKERS PER BUNK, MAY HAVE LOCKERS IMMEDIATELY ADJACENT TO BUNKS, BUNKS TO BE FLOOR MOUNTED. SMALL WORK DESK AT EACH BUNK. QUIET, EASY ACCESS TO APPARATUS BAY. Bunks designed with (3) LARGE UNDER-BED DRAWERS FOR INDIVIDUAL STORAGE OF LINENS.

OCCUPANTS

PROXIMITIES APPARATUS BAY

RESTROOMS

DAY ROOM

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS

* PHONE

* LOCKERS

* DESK/READING LAMP.
PROGRAM DATA
MERCEZ ISLAND FIRE STATION STUDY

<table>
<thead>
<tr>
<th>AREA</th>
<th>CREW AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOM NAME</td>
<td>MEN'S RESTROOM/SHOWER</td>
</tr>
<tr>
<td>ROOM FUNCTION</td>
<td>(4) Showers</td>
</tr>
<tr>
<td></td>
<td>(3) Lavatories</td>
</tr>
<tr>
<td></td>
<td>(2) Toilets</td>
</tr>
<tr>
<td></td>
<td>(1) Urinal</td>
</tr>
</tbody>
</table>

OCCUPANTS

PROXIMITIES
- Dorm
- Day Room
- Apparatus Bay

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS
- Skylight
- Exhaust
ROOM SURFACES

FLOOR HARD/MOISTURE-RESISTANT
WALLS HARD/MOISTURE-RESISTANT
CEILING GMR(WR)
DOOR/WINDOWS
STORAGE PERSONAL HANGING

PROGRAM DATA

MERCER ISLAND FIRE STATION STUDY

<table>
<thead>
<tr>
<th>AREA</th>
<th>CREW AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOM NAME</td>
<td>WOMEN'S RESTROOM/SHOWER</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ROOM FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) SHOWERS</td>
</tr>
<tr>
<td>(1) LAVATORIES</td>
</tr>
<tr>
<td>(1) WATER CLOSET</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCCUPANTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>WOMEN CREW</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROXIMITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOOR</td>
</tr>
<tr>
<td>DAY ROOM</td>
</tr>
<tr>
<td>APPARATUS BAY</td>
</tr>
</tbody>
</table>

| EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS: |
| *SKYLIGHT |
| *EXHAUST |

Apparatus Bay
Kitchen Area
Women's
Men's
Dormitories (8)

Dining Area
### Room Surfaces

- **Floor**: Hard Surface Vinyl or Tile
- **Walls**: Gypsum Wallboard
- **Ceiling**: Gypsum Wallboard
- **Door/Windows**: NA
- **Storage**: Upper & Lower Cabinets

### Program Data

**Mercer Island Fire Station Study**

<table>
<thead>
<tr>
<th>Area V</th>
<th>Crew Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room Name</td>
<td>KITCHEN</td>
</tr>
<tr>
<td>Room Function</td>
<td>Cooking of Meals, Dish Washing, Storage of Kitchen Utensils</td>
</tr>
<tr>
<td>Room Square Footage</td>
<td>225 s.f.</td>
</tr>
</tbody>
</table>

### Occupants

NA

### Proximities

- Day Room
- Dining
- Dorm
- Apparatus Bay

### Equipment/Furniture/Special Requirements

- Ample Food Storage—both dry and refrigerated—3 each refrigerators.
- Individual food storage lockers 12" x 12" x 2".
- Provide appliances—ovens, cooktop, microwave, exhaust fan, good ventilation and exhaust of smoke and food fumes.
- Counter to open to dayroom, built-in cooktops, seating on one side.
- Ample working counter area.
- Good lighting.
- All appliances to be commercial grade
- Auto shut-off on all appliances
**PROGRAM DATA**

**MERcer Island Fire Station Study**

**Area V**

**Crew Area**

<table>
<thead>
<tr>
<th>Room Name</th>
<th>Day Room</th>
<th>Room Square Footage 280 s.f.</th>
</tr>
</thead>
</table>

**Room Function**

Living room for the station. Open to kitchen/dining and easy access to apparatus bay. Provide casual seating and recreation area including TV, reading, etc. Access to patio area.

**Occupants**

**Proximities**

- Kitchen
- Dining
- Dorm
- Apparatus

**Equipment/Furniture/Special Requirements**

- Television with adequate size screen for viewing videos.
- Comfortable chairs for viewing study material.
- Shelving system or cabinets for storage of videocassettes, tapes, books, etc.
- Phone
**ROOM SURFACES**

- **FLOOR**: HARD/EASY-TO-CLEAN/VINYL OR TILE
- **WALLS**: GYPSUM WALLBOARD
- **CEILING**: ACOUSTICAL CEILING TILE
- **DOOR/WINDOWS**: 
- **STORAGE**: 

---

**PROGRAM DATA**

**MERCER ISLAND FIRE STATION STUDY**

**AREA V**

**CREW AREA**

<table>
<thead>
<tr>
<th>ROOM NAME</th>
<th>DINING</th>
<th>ROOM SQUARE FOOTAGE</th>
<th>210 s.f.</th>
</tr>
</thead>
</table>

**ROOM FUNCTION**

OPEN TO KITCHEN AND DAYROOM

provide table and chairs for maximum of 10 sit down, providing eating bar at edge of kitchen for 4-6.

**OCCUPANTS**

**PROXIMITIES**

- KITCHEN
- DAYROOM
- DORM

**EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS**

*TABLES & CHAIRS*
**Pogram Data**

**Mercer Island Fire Station Study**

<table>
<thead>
<tr>
<th>Room Surfaces</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Floor</strong></td>
</tr>
<tr>
<td>Water Resistant</td>
</tr>
<tr>
<td><strong>Walls</strong></td>
</tr>
<tr>
<td>Water Resistant</td>
</tr>
<tr>
<td><strong>Ceiling</strong></td>
</tr>
<tr>
<td>Gypsum Wallboard Water Resistant</td>
</tr>
<tr>
<td><strong>Door/Windows</strong></td>
</tr>
<tr>
<td>Upper &amp; Lower Cabinets</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Area V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crew Area</td>
</tr>
<tr>
<td>Room Name</td>
</tr>
<tr>
<td>Laundry</td>
</tr>
<tr>
<td>Room Square Footage</td>
</tr>
<tr>
<td>100 s.f.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Room Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laundry Area for Station</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Occupants</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Proximities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apparatus Bay</td>
</tr>
<tr>
<td>Dorm</td>
</tr>
<tr>
<td>Restroom</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Equipment/Furniture/Special Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Washer &amp; Dryer</td>
</tr>
<tr>
<td>*Deep Sink</td>
</tr>
<tr>
<td>*Counter Area with Uppers</td>
</tr>
<tr>
<td>*Exhaust System</td>
</tr>
<tr>
<td><strong>Hanging Racks</strong></td>
</tr>
<tr>
<td><strong>Storage Cabinets</strong></td>
</tr>
</tbody>
</table>
ROOM SURFACES

FLOOR CONCRETE
WALLS GYPSUM WALLBOARD
CEILING ACoustICAL CEILING TILE
DOOR/WINDOWS
STORAGE

PROGRAM DATA

MERCER ISLAND FIRE STATION STUDY

AREA V CREW AREA

ROOM NAME MECHANICAL ROOM
ROOM SQUARE FOOTAGE 170 s.f.

ROOM FUNCTION AREA FOR MECHANICAL EQUIPMENT

OCCUPANTS

PROXIMITIES DAY AREA

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS

*MECHANICAL EQUIPMENT

Mezzanine
### SPACE SUMMARY

<table>
<thead>
<tr>
<th>AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>575</td>
</tr>
<tr>
<td>250</td>
</tr>
<tr>
<td>110</td>
</tr>
<tr>
<td>200</td>
</tr>
<tr>
<td>280</td>
</tr>
<tr>
<td>150</td>
</tr>
<tr>
<td>100</td>
</tr>
<tr>
<td>40</td>
</tr>
<tr>
<td>150</td>
</tr>
<tr>
<td>1,855</td>
</tr>
<tr>
<td>1,231</td>
</tr>
</tbody>
</table>

**Subtotal Crew Area:** 1,855

**VI. Circulation and Miscellaneous:** 1,231

**TOTAL:** 3,086 s.f.

---

### PROGRAM SUMMARY OF SPACES

<table>
<thead>
<tr>
<th>AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>120</td>
</tr>
<tr>
<td>136</td>
</tr>
<tr>
<td>100</td>
</tr>
<tr>
<td>100</td>
</tr>
<tr>
<td>150</td>
</tr>
<tr>
<td>120</td>
</tr>
<tr>
<td>3,726</td>
</tr>
</tbody>
</table>

**Subtotal Apparatus Bay & Related Functions:** 3,726 s.f.

<table>
<thead>
<tr>
<th>AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
</tr>
<tr>
<td>50</td>
</tr>
<tr>
<td>80</td>
</tr>
<tr>
<td>280</td>
</tr>
</tbody>
</table>

**Subtotal Public Area:** 280 s.f.

<table>
<thead>
<tr>
<th>AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>300</td>
</tr>
<tr>
<td>120</td>
</tr>
<tr>
<td>90</td>
</tr>
<tr>
<td>110</td>
</tr>
</tbody>
</table>

**Subtotal Administrative Area:** 630 s.f.

<table>
<thead>
<tr>
<th>AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>350</td>
</tr>
</tbody>
</table>

**Subtotal Training Area:** 350 s.f.
I. Apparatus Bay (Related Functions)
   Storage (General)
   Apparatus Bay
   Decontamination Room
   Shop Area
   Generator Room
   Fire Extinguishers Repair
ROOM SURFACES
FLOOR CONCRETE OR VINYL COMPOSITION TILE
WALLS GYPSUM WALLBOARD
CEILING ACOUSTICAL CEILING TILE
DOOR/WINDOWS
STORAGE

PROGRAM DATA
MERCER ISLAND FIRE STATION STUDY

AREA I APPARATUS BAY

ROOM NAME STORAGE
ROOM SQUARE FOOTAGE 120 s.f.

ROOM FUNCTION STORAGE OF NEW UNIFORMS
NEW BUNKER GEAR
MISCELLANEOUS EQUIPMENT

OCCUPANTS

PROXIMITIES APPARATUS BAY

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS
*SHELVES
PROGRM DATA
MERCER ISLAND FIRE STATION STUDY

AREA I
APPARATUS BAY

ROOM NAME
APPARATUS BAY

ROOM SQUARE FOOTAGE
3,136

ROOM FUNCTION
ACCOMMODATION FOR 1 APPARATUS BAYS. 3 APPARATUS BAY DOORS OF A MINIMUM 14' x 14' SIZE ON RESPONSE SIDE OF BAY, WITH 2 APPARATUS BAY DOORS OF MINIMUM 14' x 14' FOR DRIVE THROUGH CAPABILITY OF MAIN APPARATUS EQUIPMENT ON "BACK" SIDE OF BUILDING. MINIMUM 20' CLEAR. FLOOR TRENCH DRAINS @ CENTERLINE OF APPARATUS, WITH MINIMUM SLOPE FOR GOOD DRAINAGE. EXHAUST SYSTEM - ALL APPROPRIATE ELECTRICAL & MECHANICAL SYSTEMS.

OCCUPANTS
STATION CREW (NUMBER VARIES)

PROXIMITIES
DORM AREA, DAYROOM

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS
*(1) RESPONSE ENGR.; (1) BACK-UP ENGR; (1) MFD; (1) AIDE;
*PLUMB IN AIR LINES, EACH BAY
*ELECTRICAL DROP CORDS, EACH BAY
*HOSE DOWN AREA/APPARATUS WASHING
*RADIANT HEATING UNITS
*EXHAUST SYSTEM
*PHONE(S)
PROGRAM DATA

MERCER ISLAND FIRE STATION STUDY

<table>
<thead>
<tr>
<th>AREA</th>
<th>APPARATUS BAY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ROOM NAME  DECONTAMINATION  ROOM SQUARE FOOTAGE  100 s.f.

ROOM FUNCTION  HOSE/WASH-DOWN FIREFIGHTERS & EQUIPMENT OF HAZARDOUS MATERIAL.

OCCUPANTS

PROXIMITIES  APPARATUS BAY

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS

- SINK
- EYE WASH BASIN
- HOSE BIBS (HOT & COLD)
- EXHAUST SYSTEM
- SHOWER

2.3
PROGRAM DATA
MERCER ISLAND FIRE STATION STUDY

AREA 1  APPARATUS BAY

ROOM NAME  SHOP AREA  ROOM SQUARE FOOTAGE  100 s.f.

ROOM FUNCTION  MISC. REPAIR

OCCUPANTS

PROXIMITIES  APPARATUS BAY

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS
- TOOL & EQUIPMENT STORAGE
- WORK BENCH
- PHONE
- ELECTRICAL PLUGMOLD
ROOM SURFACES

FLOOR CONCRETE OR VINYL COMPOSITION TILE
WALLS GYPSUM WALLBOARD
CEILING ACOUSTICAL CEILING TILE
DOOR/WINDOWS STORAGE

PROGRAM DATA
MERCER ISLAND FIRE STATION STUDY

AREA I APPARATUS BAY

ROOM NAME GENERATOR ROOM
ROOM SQUARE FOOTAGE 150 s.f.

ROOM FUNCTION AREA FOR EMERGENCY GENERATOR ELECTRICAL PANELS

OCCUPANTS

PROXIMITIES APPARATUS BAY

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS:

*EMERGENCY GENERATOR
*COMPRESSOR
*CASCADE SYSTEM
*SOUND SEPARATION OF EMERGENCY GENERATOR
PROGRAM DATA
MERCER ISLAND FIRE STATION STUDY

AREA 1  APPARATUS BAY

ROOM NAME  FIRE EXTINGUISHER REPAIR
ROOM SQUARE FOOTAGE  120 s.f.
ROOM FUNCTION  REPAIR FIRE EXTINGUISHING EQUIPMENT

OCCUPANTS

PROXIMITIES  APPARATUS BAY

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS
* WORK BENCH
* SHELVES
* LAY-OUT SPACE

2.13
MERCER ISLAND FIRE STATION NO. 2
Mercer Island, Washington

II. Public Area
   Entry Vestibule
   Public Restrooms
   Aide Room
**ROOM SURFACES**
- FLOOR: HARD SURFACE/EASY CLEANING
- WALLS: GYPSUM WALLBOARD
- CEILING: ACOUSTICAL CEILING TIE
- DOOR/WINDOWS: FRONT DOOR FOR PUBLIC
- STORAGE

**PROGRAM DATA**
MERCER ISLAND FIRE STATION STUDY

<table>
<thead>
<tr>
<th>AREA  II</th>
<th>PUBLIC AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOM NAME</td>
<td>ENTRY VESTIBULE/RECEPTION</td>
</tr>
<tr>
<td>ROOM FUNCTION</td>
<td>PUBLIC ENTRY</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OCCUPANTS**

**PROXIMITIES**
- PUBLIC PARKING
- MEETING/CONFERENCE ROOM
- ADMINISTRATIVE AREA

**EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS**
- *DISPLAY CASE*
- *PUBLIC INFORMATION FORMS DISPLAYED*
- *SEATING AREA*
ROOM SURFACES

FLOOR HARD SURFACES/VINYL OR TILE
Walls GYPSUM WALLBOARD
Ceiling GYPSUM WALLBOARD
Door/Windows
Storage

PROGRAM DATA
MERGER ISLAND FIRE STATION STUDY

AREA II PUBLIC AREA

ROOM NAME PUBLIC RESTROOM
ROOM SQUARE FOOTAGE 50 s.f.

ROOM FUNCTION PUBLIC RESTROOM FACILITIES
ACCESSIBLE TOILETS

OCCUPANTS

PROXIMITIES PUBLIC ENTRY
PUBLIC MEETING ROOM

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS

*TOILET
*LAVATORY
*MEET ALL BARRIER-FREE REQUIREMENTS

2.23
PROGRAM DATA
MERCE ISLAND FIRE STATION STUDY

AREA II
PUBLIC AREA

ROOM NAME
AIDE ROOM
ROOM SQUARE FOOTAGE 80 s.f.

ROOM FUNCTION
BLOOD PRESSURE
FIRST AIDE

OCCUPANTS

PROXIMITIES
PUBLIC ENTRY

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS
*SINK
*MEDICAL STORAGE (LOCKABLE)
*DAY/BEED
*PHONE
ROOM SURFACES

FLOOR         CARPET
WALLS         GYPSUM WALLBOARD
CEILING        ACOUSTICAL CEILING TILE
DOOR/WINDOWS    WINDOWS REQUIRED IN DORM
STORAGE

PROGRAP DATA
MERCEI ISLAND FIRE STATION STUDY

AREA III     ADMINISTRATIVE AREA

ROOM NAME    WATCH OFFICE/OFFICER DORM  ROOM SQUARE FOOTAGE 300 s.f.

ROOM FUNCTION OFFICE AREA FOR OFFICER TO PERFORM ADMINISTRATIVE DUTIES WITH CENTRAL CONTROL LOCATION, ALONG WITH SLEEPING, BATH, AND SHOWER AREA.

OCCUPANTS     COMPANY OFFICER

PROXIMITIES    DAYROOM, PUBLIC ENTRY

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS

*OFFICE: DESK, FILES, COMPUTER TERMINAL
*DORM: LOCKERS, BED, DESK
*PHONE
*SHOWER/LAV/TOILET
PROGRAM DATA
MERCER ISLAND FIRE STATION STUDY

ROOM NAME          STATION OFFICE
ROOM FUNCTION      ADDITIONAL ADMINISTRATION
                    FUNCTION
                    REPORT WRITING
OCCUPANTS          VARIES
PROXIMITIES        ADMINISTRATION

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS
*DESK, FILES, COMPUTER TERMINAL
ROOM SURFACES
FLOOR CARPET
WALLS GYPSUM WALLBOARD
CEILING ACOUSTICAL CEILING TILE
DOOR/WINDOWS
STORAGE

PROGRAM DATA
MERCER ISLAND FIRE STATION STUDY

AREA III ADMINISTRATIVE AREA

ROOM NAME RECEPTION
ROOM SQUARE FOOTAGE 90 s.f.

ROOM FUNCTION CENTRAL CONTROL POINT OF STATION (INTERFACE W/PUBLIC)

OCCUPANTS CREW

PROXIMITIES ADMINISTRATION
PUBLIC ENTRY

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS
*DESK, FILES, COMPUTER TERMINAL
*PHONE
*CONTROL OF STATION INTERCOM SYSTEM (INTERCOM SYSTEM THROUGHOUT STATION)
**PROGRAM DATA**

**MERGER ISLAND FIRE STATION STUDY**

<table>
<thead>
<tr>
<th>AREA</th>
<th>III</th>
<th>ADMINISTRATIVE AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOM NAME</td>
<td>RADIO AREA</td>
<td>ROOM SQUARE FOOTAGE</td>
</tr>
<tr>
<td>ROOM FUNCTION</td>
<td>EMERGENCY RADIO CENTER</td>
<td></td>
</tr>
<tr>
<td>OCCUPANTS</td>
<td>VARIES</td>
<td></td>
</tr>
<tr>
<td>PROXIMITIES</td>
<td>ADMINISTRATION</td>
<td></td>
</tr>
</tbody>
</table>

**EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS**

- Desk, files, computer terminal
IV. Training Area
   Exercise
   Exterior Physical Training
   Exterior Drill
### Room Surfaces

- **Floor**: Carpet
- **Walls**: One mirror
- **Ceiling**: 10'-0" or more
- **Door/Windows**: Good natural ventilation
- **Storage**

### Program Data

**MERCEER ISLAND FIRE STATION STUDY**

<table>
<thead>
<tr>
<th>Area</th>
<th>Training</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Room Name</strong></td>
<td>Exercise</td>
</tr>
<tr>
<td><strong>Room Square Footage</strong></td>
<td>350</td>
</tr>
</tbody>
</table>

**Room Function**: In-house exercise, weights, and other physical training equipment.

**Occupants**: Crew

**Proximities**: Day-room/showers/apparatus

**Equipment/Furniture/Special Requirements**

- Exercise equipment
- Phone
<table>
<thead>
<tr>
<th>PROGRAM DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>MERCER ISLAND FIRE STATION STUDY</td>
</tr>
<tr>
<td>AREA IV</td>
</tr>
<tr>
<td>ROOM NAME</td>
</tr>
<tr>
<td>ROOM FUNCTION</td>
</tr>
<tr>
<td>OCCUPANTS</td>
</tr>
<tr>
<td>PROXIMITIES</td>
</tr>
<tr>
<td>EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS</td>
</tr>
<tr>
<td>*EXERCISE EQUIPMENT</td>
</tr>
</tbody>
</table>
### PROGRAM DATA

**MERCER ISLAND FIRE STATION STUDY**

<table>
<thead>
<tr>
<th>AREA IV</th>
<th>TRAINING</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOM NAME</td>
<td>EXTERIOR DRILL AREA</td>
</tr>
</tbody>
</table>

**ROOM FUNCTION**

1. PROVIDE LARGE EXTERIOR PAVED AREA FOR MISC. TRAINING ACTIVITIES, HYDRANT, AND STANDPIPE CONNECTIONS, AND GENERAL HOSE WORK AREAS.
2. TRAINING TOWER?

**OCCUPANTS**

**PROXIMITIES**

APPARATUS BAY AREA

**EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS**

* EXERCISE EQUIPMENT
* EXTERIOR SPEAKER
V. Crew Area
Dormitory (4)
Men’s Restroom and Shower
Women’s Restroom and Shower
Kitchen Area
Dayroom/Training
Dining Area
Laundry
Storage
Mech.
Exterior Patio
ROOM SURFACES

FLOOR: CARPET
WALLS: GYPSUM WALLBOARD
CEILING: ACOUSTICAL CEILING TILE
DOOR/WINDOWS: ESCAPE OR RESCUE WINDOWS
STORAGE

PROGRAM DATA

MERCEY ISLAND FIRE STATION STUDY

AREA V

CREW AREA

ROOM NAME: DORMITORY
ROOM SQUARE FOOTAGE: (4) 8144 s.f.

ROOM FUNCTION: PRIVATE SLEEPING AREAS FOR (4) FIREFIGHTERS - 9' X 16' ROOMS. 3 - 2' X 2' X 7' STORAGE LOCKERS PER BUNK, MAY HAVE LOCKERS IMMEDIATELY ADJACENT TO BUNKS, BUNKS TO BE FLOOR MOUNTED. SMALL WORK DESK AT EACH BUNK. QUIET. EASY ACCESS TO APPARATUS BAY. BEDS DESIGNED WITH (3) LARGE UNDER-BED DRAWERS FOR INDIVIDUAL STORAGE OF LINENS.

OCCUPANTS

PROXIMITIES: APPARATUS BAY, RESTROOMS, DAY ROOM

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS

PHONE

2.41
ROOM SURFACES

FLOOR HARD/MOISTURE-RESISTANT
WALLS HARD/MOISTURE-RESISTANT
CEILING GWR(WR)
DOOR/WINDOWS PERSONAL
STORAGE HANGING

PROGRAM DATA

MERCER ISLAND FIRE STATION STUDY

AREA V CREW AREA

ROOM NAME MEN'S RESTROOM/SHOWER ROOM SQUARE FOOTAGE 250 s.f.

ROOM FUNCTION
(2) SHOWERS
(2) LAVATORIES
(2) TOILETS
(1) URINAL

HANGING STORAGE
STORAGE

OCCUPANTS

PROXIMITIES DORM
DAY ROOM
APPARATUS BAY

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS

*SKYLIGHT
*EXHAUST

2.43
ROOM SURFACES

FLOOR HARD/MOISTURE-RESISTANT
WALLS HARD/MOISTURE-RESISTANT
CEILING CUB/WIR
DOOR/WINDOWS
STORAGE PERSONAL HANGING

PROGRAM DATA

MERCER ISLAND FIRE STATION STUDY

AREA V
CREW AREA

ROOM NAME WOMEN'S RESTROOM/SHOWER
ROOM SQUARE FOOTAGE 110 s.f.

ROOM FUNCTION
(1) SHOWERS
(1) LAVATORIES
(1) WATER CLOSET

OCCUPANTS WOMEN CREW

PROXIMITIES DORM
DAY ROOM
APPARATUS BAY

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS

'SKYLIGHT
'EXHAUST
ROOM SURFACES

FLOOR HARD SURFACE VINYL OR TILE
WALLS GYPSUM WALLBOARD
CEILING GYPSUM WALLBOARD
DOOR/WINDOWS
STORAGE UPPER & LOWER CABINETS

PROGRAM DATA

MERCER ISLAND FIRE STATION STUDY

<table>
<thead>
<tr>
<th>AREA V</th>
<th>CREW AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOM NAME</td>
<td>KITCHEN</td>
</tr>
<tr>
<td>ROOM SQUARE FOOTAGE</td>
<td>200 s.f.</td>
</tr>
<tr>
<td>ROOM FUNCTION</td>
<td>COOKING OF MEALS, DISH WASHING, STORAGE OF KITCHEN UTENSILS</td>
</tr>
</tbody>
</table>

OCCUPANTS

PROXIMITIES

DAY ROOM
DINING
DORM
APPARATUS BAY

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS

'AMPLE FOOD STORAGE-BOTH DRY AND REFRIGERATED - 2 EACH REFRIGERATORS,'
'INDIVIDUAL FOOD STORAGE LOCKERS 12" x 12" x 2'.
'PROVIDE APPLIANCES - OVENS, COOKTOP, MICROWAVE, EXHAUST FAN
GOOD VENTILATION AND EXHAUST OF SMOKE AND FOOD FUMES.'
'COUNTER TO OPEN TO DAYROOM, BUILT-IN COOKTOPS, SEATING ON ONE SIDE.'
'AMPLE WORKING COUNTER AREA.'
'GOOD LIGHTING.'
'ALL APPLIANCES TO BE COMMERCIAL GRADE'
'AUTO SHUT-OFF ON ALL APPLIANCES'

2.47
ROOM SURFACES

FLOOR       CARPET
WALLS       GWB - PAINT
CEILING      10'-0"
DOOR/WINDOWS "6-0"
STORAGE

PROGRAM DATA
MERCIER ISLAND FIRE STATION STUDY

AREA
CREW AREA

ROOM NAME  DAYROOM/TRAINING
ROOM SQUARE FOOTAGE 280 s.f.

ROOM FUNCTION
LIVING ROOM FOR THE STATION. OPEN TO KITCHEN/DINING AND EASY ACCESS TO APPARATUS BAY. PROVIDE CASUAL SEATING AND RECREATION AREA INCLUDING TV, READING, ETC. ACCESS TO PATIO AREA.

OCCUPANTS

PROXIMITIES
KITCHEN
DINING
DOOR
APPARATUS

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS

*TELEVISION WITH ADEQUATE SIZE SCREEN FOR VIEWING VIDEOS.
*COMFORTABLE CHAIRS FOR VIEWING STUDY MATERIAL.
*SHELVING SYSTEM OR CABINETS FOR STORAGE OF VIDEOCASSETTES, TAPES, BOOKS, ETC.
*PHONE
PROGRAM DATA
MERCER ISLAND FIRE STATION STUDY

<table>
<thead>
<tr>
<th>AREA</th>
<th>CREW AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROOM NAME</td>
<td>DINING</td>
</tr>
<tr>
<td>ROOM SQUARE FOOTAGE</td>
<td>150 s.f.</td>
</tr>
</tbody>
</table>

ROOM FUNCTION
OPEN TO KITCHEN AND DAYROOM
PROVIDE TABLE AND CHAIRS FOR MAXIMUM OF 6 SIT DOWN, PROVIDING EATING BAR AT EDGE OF KITCHEN FOR 3.

OCUPANTS

PROXIMITIES
KITCHEN
DAYROOM
DORM

EQUIPMENT/FURNITURE/SPECIAL REQUIREMENTS
'TABLES & CHAIRS
### ROOM SURFACES

<table>
<thead>
<tr>
<th>Floor</th>
<th>Water Resistant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walls</td>
<td>Water Resistant</td>
</tr>
<tr>
<td>Ceiling</td>
<td>Gypsum Wallboard Water Resistant</td>
</tr>
<tr>
<td>Door/Windows</td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>Upper &amp; Lower Cabinets</td>
</tr>
</tbody>
</table>

### PROGRAM DATA

**Mercer Island Fire Station Study**

<table>
<thead>
<tr>
<th>Area</th>
<th>Crew Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room Name</td>
<td>Laundry</td>
</tr>
<tr>
<td>Room Square Footage</td>
<td>100 s.f.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Room Function</th>
<th>Laundry Area for Station</th>
</tr>
</thead>
</table>

#### Occupants

<table>
<thead>
<tr>
<th>Proximities</th>
<th>Apparatus Bay</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dorm</td>
</tr>
<tr>
<td></td>
<td>Restroom</td>
</tr>
</tbody>
</table>

#### Equipment/Furniture/Special Requirement!

- *Washer & Dryer*
- *Deep Sink*
- *Counter Area with Uppers*
- *Exhaust System*
### Room Surfaces

<table>
<thead>
<tr>
<th>Floor</th>
<th>Carpet or Vinyl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walls</td>
<td>Gypsum Wallboard</td>
</tr>
<tr>
<td>Ceiling</td>
<td>Acoustical Ceiling Tile</td>
</tr>
<tr>
<td>Door/Windows</td>
<td>General</td>
</tr>
</tbody>
</table>

### Program Data

**Mercer Island Fire Station Study**

<table>
<thead>
<tr>
<th>Area</th>
<th>V</th>
<th>Crew Area</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Room Name</th>
<th>Storage</th>
<th>Room Square Footage</th>
<th>40 s.f.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Room Function</th>
<th>General Station Storage</th>
</tr>
</thead>
</table>

**Occupants**

**Proximities**

- Day Room
- Dorm

**Equipment/Furniture/Special Requirements**

- *Storage units*
### Room Surfaces

- **Floor**: Carpet or Vinyl
- **Walls**: Gypsum Wallboard
- **Ceiling**: Acoustical Ceiling Tile
- **Door/Windows**: General
- **Storage**: General

### Program Data

**Mercer Island Fire Station Study**

<table>
<thead>
<tr>
<th>Area V</th>
<th>Crew Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room Name</td>
<td>Mechanical Room</td>
</tr>
<tr>
<td>Room Function</td>
<td>Area for Mechanical Equipment</td>
</tr>
</tbody>
</table>

**Occupants**

**Proximities**

**Equipment/Furniture/Special Requirements**

*Mechanical Equipment*
APPENDIX

A. Building Envelope Report Stations 1 & 2.

B. Structural Report Stations 1 & 2.

C. Mechanical and Electrical Report Stations 1 & 2.

D. Cost Estimates Stations 1 & 2.

E. Building Program Stations 1 & 2.