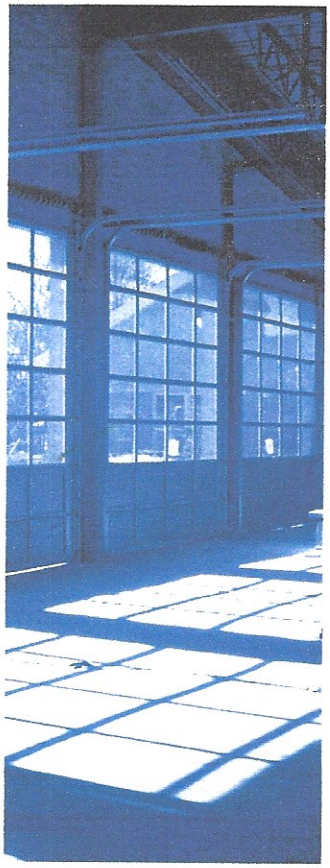
Public Safety Facilities-Additional Services



Town of Ipswich

Addendum to Final Report

March 7, 2003

WINTER STREET ARCHITECTS, INC.

0-Table of Contents

1-Executive Summary

2-Conceptual Design

2.1 Potential Renovation and Occupation of Linebrook Fire Station 2-1

2.2 Itemized List and Cost Estimate of Required Work for Linebrook Fire Station 2-4

2.3 Itemized List and Cost Estimate of Suggested Work for Linebrook Fire Station..... 2-5

2.4 Cost Summary for Linebrook Fire Station..... 2-6

2.5 Potential Relocation of Ipswich Police Station and New Central Fire Station 2-7

2.6 Schematic Site Plans (Central Fire Station & Police Station only)

Scheme 1 2-9

Scheme 2 2-10

3-Report Appendix

A. Linebrook Fire Station Existing Conditions

B. Detailed Central Fire Station Program Breakdown

C. Police Station Program Summary

D. Richard Jones Study

1 Executive Summary

Minimum Renovation of Linebrook Station

Our initial study recommended that the manning of Linebrook Station would provide the most significant improvement to the response of fire department personnel. The minimal renovations of this addendum to the Study meet that priority and for a much reduced cost. However, the amenities are spare and there are no offices, fitness room, tire storage or room for expansion to the station and may be required at a later date.

Relocation of Police Station

It will be feasible for the current Police Station to relocate into the Old Town Hall, but will require a new 3,000 sq. ft. addition to house the sally port, vehicle storage and bulk storage. This option would also require the demolition of the existing Police Station and phasing of the construction or gerrymandering of the addition to allow construction of the new addition then the removal of the existing station.

New Central Fire Station

The new Central Fire Station fits within the site very well and its location is proximate to the ideal location for a Central Station as determined in our original study. The site accommodates parking and distinct access and egress from the site. We have designed two alternate schemes which we believe are both viable options. In both schemes we will make the assumption that the Police Station will be relocating to the Old Town Hall. Also, in both schemes, a special permit will be needed to allow joint parking.

Advantages to Scheme 1 are as follows:

- Apparatus equipment discharges onto primary road (South Main Street/ Route 1A) which could be advantageous in terms of response time.
- Location of Station maximizes visibility and civic presence.
- Proximity of Fire Station and relocated Police Station allow for shared drive and possibility of shared functions.
- Parking requirements are met with convenient potential for expansion with growth of demand.

Disadvantages to Scheme 1 are as follows:

- The location of the Station between existing War memorial and Hall Haskell House will require a highly sensitive exterior design due to the historical nature of the site.
- Location of Station on Lot 113 will take the place of existing parkland.
- Scheme will require a variance for lot density zoning.

Advantages to this Scheme 2 are as follows

- The location of the Station on lot 111 away from the existing historical landmarks will allow a less restricted exterior design of the building.

- Scheme 2 will require construction on only (2) Lots while allowing the War memorial, Hall Haskell House and existing parkland to remain untouched.
- Proximity of Fire Station and relocated Police Station will allow for shared use of drives and parking.

Disadvantages to Scheme 2 are as follows:

- The location of the Station would require Apparatus equipment to discharge onto a secondary road. (County Road); but does give a nod heading toward the "Necks".
- The location of the Station on lot 111 would result in a loss of Public visibility and civic presence.
- Existing parking demand by neighboring residents would be supplied but possibly not as convenient as existing.

2 Conceptual Design

2.1 Potential Renovation and Occupation of Linebrook Fire Station

Introduction

Winter Street Architects, Inc. received a request from the Town to review our initial findings and provide additional study with a focus on minimum work to make the Linebrook Station habitable under modern building codes. Also, we were asked to review, and include as appropriate, items from the Richard Jones list of repairs, maintenance and upgrades provided independently to the building committee. The parameters of the project as given by the Town are:

- Identify the minimum essential work necessary to make Linebrook Station a functioning modern fire sub-station
- The footprint of the building will not change.
- The suggested improvements will suffice to make the structure functional for a span of twenty years or longer.

Conclusions

The Linebrook Fire Station is strategically located on the western end of town, an area sited for future growth, but is unmanned and only houses equipment and apparatus. The building is aged but structurally sound. The existing 5,400 square feet building needs to be rehabilitated and partially renovated in order to house personnel and additional equipment. A comprehensive examination is included in the appendix of this report in Section 3A Existing Conditions – Linebrook. There are several key issues that need to be addressed in order for the station to meet current building code requirements and modern fire fighting needs. These issues are summarized below. Also, see section 2.2 for a detailed breakdown of required work.

Exterior

The main issue that needs to be addressed at the exterior of the building is the apparatus apron. The apron currently slopes toward the building which causes flooding in the bays. It is recommended that the apron be reconstructed to slope away from the building or a trench drain be installed to allow for drainage. Additional issues such as step cracking over the third Apparatus bay door are listed in Section 2.3 as suggested improvements but are not required for building code or functional compliance.

First Floor

The first floor of the station needs several improvements in order to become functional as a modern, manned fire station. In the apparatus bays, the existing floor drains have been capped to avoid gas leakage from entering the storm drains and are no longer functional. It is recommended that they are repaired to allow the trucks to be washed during the winter. If the drains are repaired, code requires that they be equipped with gas traps. The third apparatus bay door on the right side of the building is currently not functional and needs repair. The front two apparatus doors are adequate to discharge two pumper-trucks and the squad truck. If the existing pumper-truck that is currently housed at the station remains in

the first bay, the haz-mat trailer can be discharged from the third bay door. However, if the current truck is replaced by a larger one, or a ladder truck, the side bay door would become obstructed and unusable.

The support spaces in the station are in the most need of renovation to accommodate habitation of fire department personnel. A decontamination room, laundry room, turnout gear room and fire fighting equipment storage will need to be allocated on the first floor. The existing fitness room, oversized mechanical room, tire storage and generator room are good candidates to be reconfigured to serve these functions.

Second Floor

The second floor living quarters will need significant reconfiguration in order to serve modern multi-gendered fire fighters. The area currently houses a single dorm, kitchen, dayroom, single stall toilet rooms and Lyons Ambulance storage. It is recommended that the dayroom and kitchen be reconfigured and scaled down to allow expansion of the single dorm into two separate, double occupancy dorms. The single bathrooms would then need to be upgraded to include shower rooms and lockers. The Lyons Ambulance storage could be relocated to the first floor if space permits.

Accessibility

If, Linebrook Station does not offer any public access, (I.e. meeting rooms, public toilet rooms) it is not required to be handicapped accessible.

Egress

Currently, the second floor has only one means of egress in the form of the existing interior wood stair. The building code requires a minimum of two (2) means of egress and that at least one shall provide a direct means of egress to the exterior. It is recommended that the existing stair be enclosed in a minimum one (1) hour rated enclosure and the handrails and guardrails be upgraded to comply with building code height and load requirements. Additionally, a second means of egress, possibly in the form of an exterior stair must be added to the second floor.

Electrical System

A 120/208-volt, three-phase, 42-circuit electrical panel with a 200 amp main circuit breaker comprises the stations electrical service. The existing load is well served by the existing service capacity. However, any renovation work should include a new panel and branch circuit wiring as required. Additionally, there is a new generator on site that needs only to be connected electrically and to a fuel source to become functional. It is recommended that this generator be used to supply the overhead doors, radio system, garage lighting and miscellaneous loads.

Mechanical and Plumbing Systems

Relocation of the PVC city water service line away from the electrical panel should be a first order of priority to the plumbing system. The new line should be copper and be clear of any electrical equipment, switchboards or circuit breaker panels. All abandoned fixtures on the first floor must be properly drained, and waste piping sealed and capped to prevent sewer gases escaping to occupied areas. All domestic hot and cold water piping should be insulated. The existing septic tank system appears to be in working condition but should be minimally cleaned and chemically treated. Also, prior to renovation, verify septic system capacity is adequate for increased demand. The building is heated by an oil fired hot air furnace that appears to be adequately sized to provide the heating requirements of the building. The furnace

appears to be in good condition, but in desperate need of maintenance. The air filters have been removed from the system and should be replaced, prior to energizing the system. Two 275-gallon fuel oil storage tanks show signs of spillage or leaks either at the fill lines or at the fuel oil piping connection to the burner. Additional recommended mechanical repairs include a complete overhaul and cleaning of the existing furnace and air distribution ducts. In addition, though not required by code, a new exhaust system for the Apparatus bay is highly recommended.

Hazardous Materials

Asbestos was identified in the beige rock pattern sheet flooring in the bathrooms and lead paint was found around the doors and windows, and in other areas of the building. The vibration dampening cloth associated with the mechanical system is also presumed to contain asbestos. Any work being done in these areas will require the hazardous materials to be removed by a licensed professional and disposed of properly.

2.2 Itemized List of Required Work for Linebrook Fire Station

Note: Items listed below are considered mandatory in upgrading Linebrook Station to an occupied, modern, Fire Sub-Station.

* Cost estimates provided by previous study by Richard Jones. Winter Street Architects has reviewed these estimates and agrees with their accuracy.

Category	Location	Description	Cost
Exterior	Apron	Re-Slope Apron or install trench drain to prevent flooding of Apparatus Bays	$10,000*
First Floor	Apparatus Bay	Replace Side Bay Door	$5,000*
First Floor	Apparatus Bay	Install new exhaust system	$19,000
First Floor	Support Areas	Build out support spaces for decontamination, laundry room, turnout gear and fire fighting equipment storage. (Includes finishes)	$75,000
Second Floor	Support Areas	Reconfigure kitchen and dayroom. (Includes finishes)	$45,000
Second Floor	Support Areas	Expand single to dorm to (2) double occupancy dorms. (Includes finishes)	$25,000
Second Floor	Support Areas	Upgrade single stall bathrooms to include gender specific showers and lockers. (Includes finishes)	$12,000
Egress	Stair	Enclose existing wood stair within a (1) hour rated enclosure. Upgrade handrail to meet building code requirements.	$13,000
Egress	Stair	Install new exterior stair to serve second floor living quarters	$35,000
Mechanical	Mechanical Room	Service existing furnace and replace air filters	$1,500
Mechanical	Mechanical Room	Replace oil tank (leaks)	$750*
Plumbing	General Plumbing	Relocation of PVC water service line away from the existing electrical panel	$1,000
Plumbing	First Floor	Cap and drain all abandoned fixtures and seal and cap waste piping.	$750*

Continued on next Page...

Plumbing	General Plumbing	Insulate all hot and cold water piping	$500
Plumbing	General Plumbing	Install backflow valve on water	$500*
		Sub-Total for Required Work:	**$244,000**

2.3 Itemized List of Suggested Work for Linebrook Fire Station

Note: Items listed below are not mandatory, but highly recommended in upgrading Linebrook Station to an occupied, modern, Fire Sub-Station.

*Cost estimate provided by previous study by Richard Jones. Winter Street Architects has reviewed these estimates and agrees with their accuracy.

Category	Location	Description	Cost
First Floor	Apparatus Bay	Repair floor drains, and install gas traps.	$12,000
Electrical	Generator Room	Connect existing generator electrically and to a fuel source. (Price reflects new gas line from street if available. Cost may be reduced if alternate fuel source is used.)	$15,000
Electrical	Generator Room	New Electrical Panel and branch circuit wiring as required.	$5,000
Electrical	Life Safety	Life Safety lighting and exit signs.	$1,800
Electrical	Life Safety	Additional lighting (including battery light units in case of generator failure) and emergency power upgrades.	$1,200
Mechanical	Mechanical Room	Complete overhaul and cleaning of the existing furnace and air distribution ducts.	$3,000
Hazardous Materials	General	Removal and disposal of Hazardous materials (asbestos, lead paint) by a licensed professional.	$2,400
		Sub-Total for Suggested Work:	**$40,400**

Cost Summary

Sub-Total of Required Work	$244,000
Sub-Total of Suggested Work	$40,400
Estimated Sub-Total of Work	**$284,400**
10% Estimate Contingency	$28,440
Total Estimate of Work	**$312,840**
15% Contractor Overhead and Profit	$46,926
10% Design Fee	$31,284
Total Project Cost	**$391,050***

* Does not include costs for clerk of the works, furnishings, or seismic upgrades.
Further field work and testing would be necessary to determine whether the existing structure conforms to building code seismic requirements. In the event the building does not conform, any renovation that exceeds 50% of the fair cash value of the building would require the building to be upgraded to meet those requirements.

2.5 Potential Relocation of the Ipswich Police Station and New Central Fire Station

Introduction

The second phase of additional work to the Public Safety Facilities Study was to, "in a very schematic way", ascertain the feasibility of reconfiguring the four (4) lots owned by the Town of Ipswich (making up the block between Elm Street, County Road, and South Main Street: Lots 111,112,113, and 114) to accommodate a new Central Fire Station and allow for the relocation of the Police Station into the Old Town Hall. In examining this, we are making the assumption that the Court functions which currently take place in the building will be relocated to another location which is not part of this study. The current Police Station may then be demolished under these schemes to accommodate parking and circulation to the Police Station and a New Central Fire Station. (See Schemes 1 & 2 in section 2.5 for more information.

Conclusions: Central Police Station

The Town of Ipswich's Central Police Station currently operates in the approximate 7,000 square feet of space afforded at the current location. In our previous study, Winter Street Architects compiled a list of requirements supplied by the police department representatives which indicated the approximate size building that would be needed to accommodate all of the current functions and provide for expected growth through the year 2020 would be approximately 21,000 square feet of gross area. The Old Town Hall currently provides 17,524 square feet of gross area that could be renovated to serve the needs with a new, single story 3,000 square foot addition to the building's rear to accommodate vehicle storage, sally port functions, and other bulk storage. An alternative not shown is for the existing police station to remain, and used to house the additional storage and miscellaneous functions. For an itemized space program summary for the Police Station, see Report Appendix Section 3D.

Conclusions: New Central Fire Station

In evaluating the feasibility of a new Central Station at this site, many constricting factors were taken into consideration. Among them were the existing War Memorial, the Hall Haskell House and the parking demand not only for the Police and Fire buildings but also that of the surrounding neighborhood and tourists. In response to those factors and with the intent of best satisfying the demands of the program, we have designed two (2) alternate schemes which we believe are both viable options.

(Note: In both scheme's we will make the assumption that the Police Station will be relocating to the Old Town Hall. Also, in both schemes, a special permit will be needed to allow joint parking)

Scheme 1

Scheme 1 would place a new fire station on Lot 113 with the apparatus bays exiting onto South Main Street. The structure would consist of an apparatus bay of 6,300 square feet and approximately a two story structure of 12,000 square feet to accommodate administrative and support functions. See Site Plan –Scheme 1 in Section 2.5 – Schematic Site Plans for a graphic representation. Within this scheme, parking requirements for both the Fire Station and relocated Police Station would be satisfied by new parking on lots 112, and 114. Existing parking located on lot 111 which currently supports the existing police station and area residents would remain.

Advantages to Scheme 1 are as follows:

- Apparatus equipment discharges onto primary road (South Main Street/ Route 1A) which could be advantageous in terms of response time.
- Location of station maximizes visibility and civic presence.
- Proximity of Fire Station and relocated Police Station allow for shared drive and possibility of shared functions.
- Parking requirements are met with convenient potential for expansion with growth of demand.

Disadvantages to Scheme 1 are as follows:

- The location of the Station between existing War memorial and Hall Haskell House will require a highly sensitive exterior design due to the historical nature of the site.
- Location of Station on Lot 113 will take the place of existing park land.
- Scheme will require a variance for lot density zoning.

Scheme 2

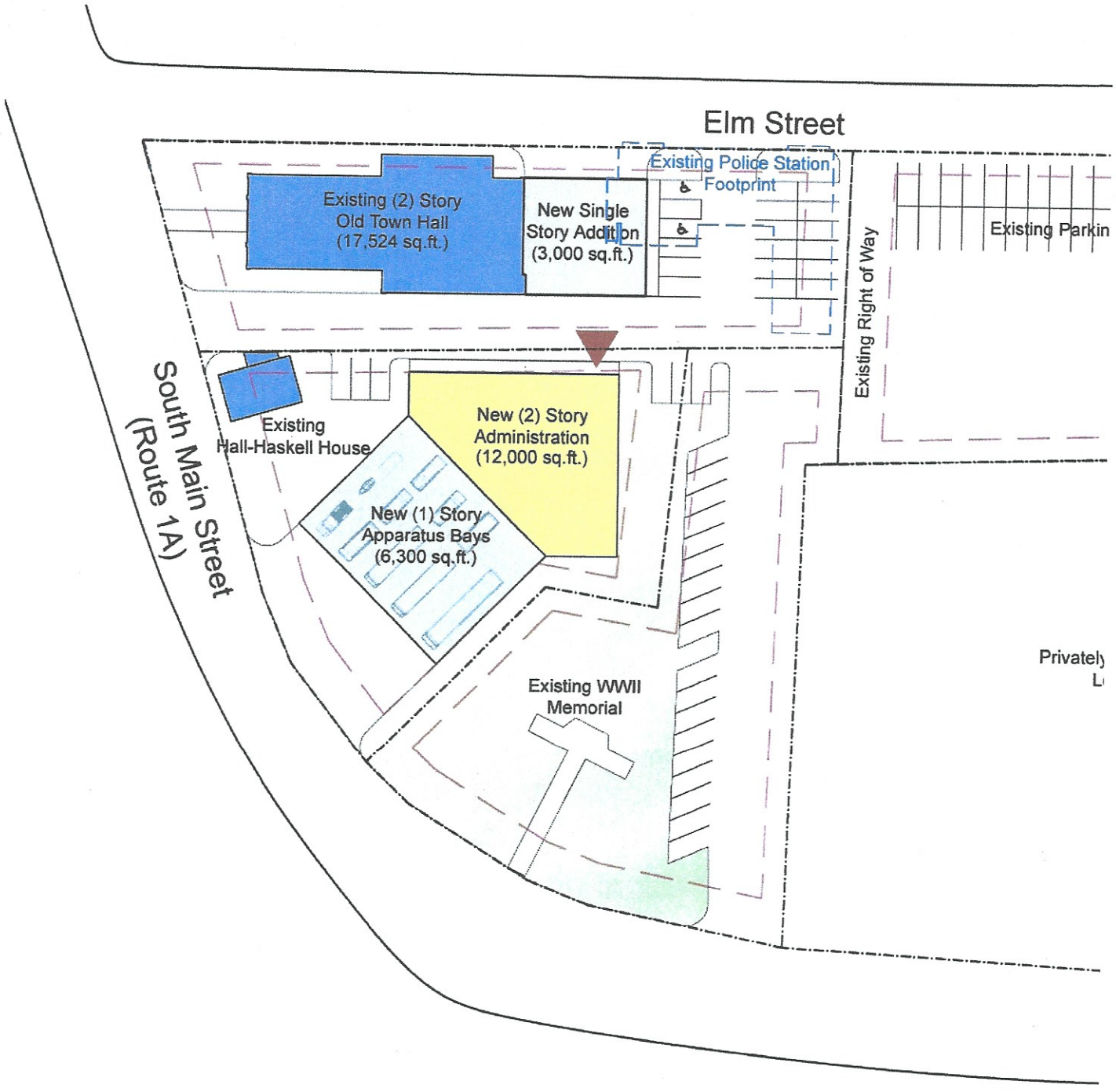
Scheme 2 would place the new fire station on Lot 111 with apparatus equipment exiting onto County Road. The structure would consist of an apparatus bay of 6,200 square feet and a two story structure of 12,300 square feet for administrative and support functions. See Scheme 2 in Section 2.5 – Schematic Site Plans for a graphic representation. Within this scheme, parking requirements for both the Fire Station and relocated Police Station would be satisfied by new parking on lots 112 and 11. Existing parking located on lot 114 which currently supports the existing police station would remain.

Advantages to this Scheme 2 are as follows:

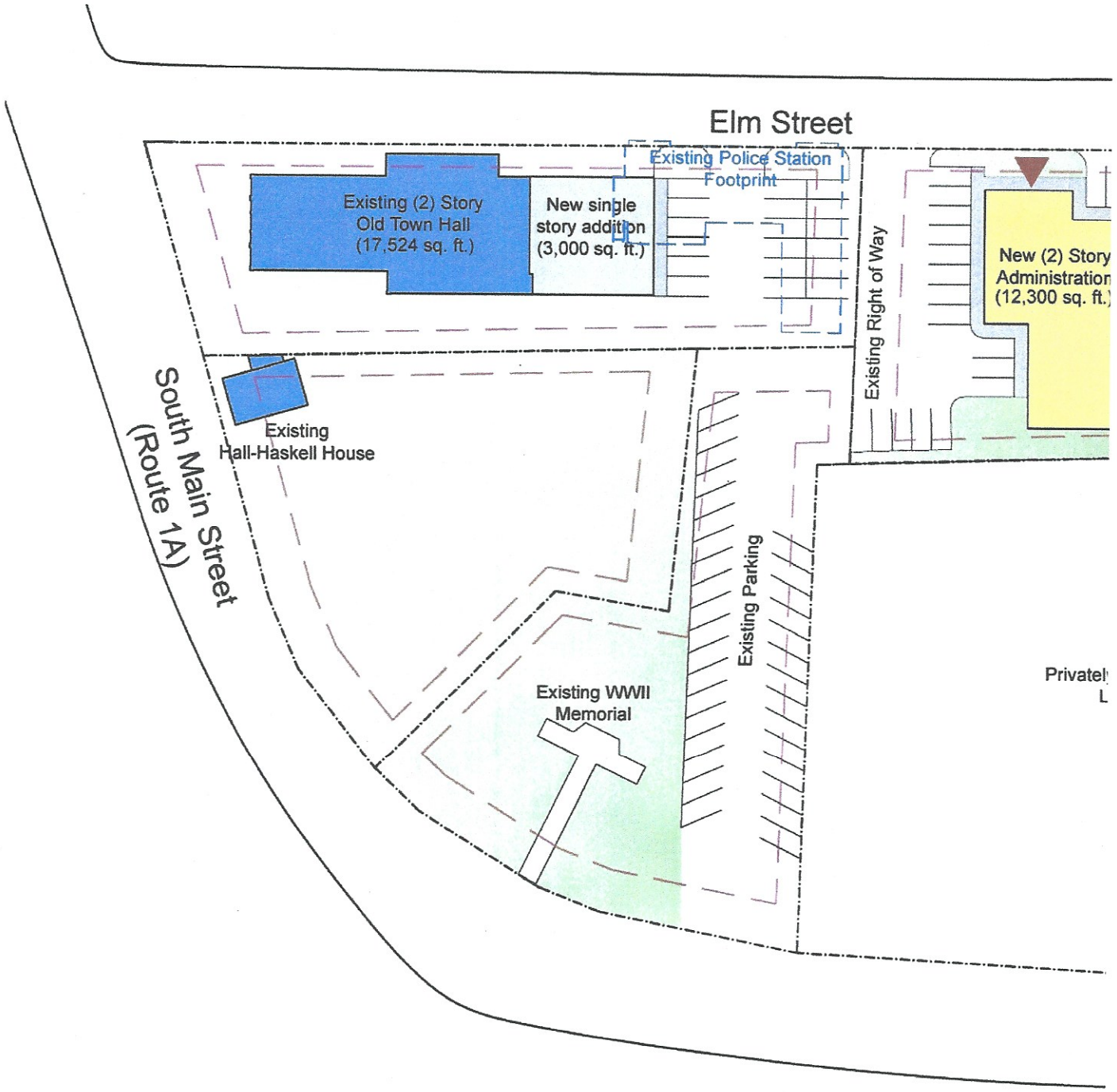
- The location of the Station on lot 111 away from the existing historical landmarks will allow a less restricted exterior design of the building.
- Scheme 2 will require construction on only two (2) Lots while allowing the War memorial, Hall Haskell House and existing park land to remain untouched.
- Proximity of Fire Station and relocated Police Station will allow for shared use of drives and parking.

Disadvantages to Scheme 2are as follows:

- The location of the Station would require apparatus equipment to discharge onto a secondary road. (County Road)
- The location of the Station would on lot 111 would result in a loss of public visibility and civic presence.
- Existing parking demand by neighboring residents would be supplied but possibly not as convenient as existing.



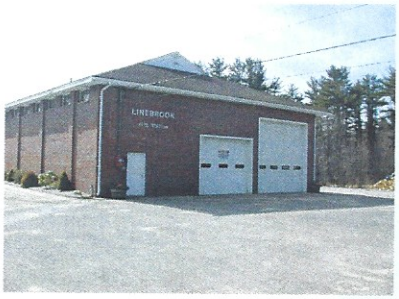
Schematic Site Plan – Scheme 1



Schematic Site Plan – Scheme 2

Linebrook Fire Station

The Linebrook Fire Sub-station is an unmanned, volunteer fire substation located at the intersection of Linebrook Road and Route 1. Linebrook Station was constructed in the 1970's by William Rust. The building is a two-story, structure with masonry wall and brick veneer exterior walls. The structure's façade is void of any compelling architectural features. There are several passage doors located around the exterior, none that clearly identify the main entrance. Additionally, the front elevation includes two different sized overhead doors that are not in proportion with the face of the facility.



Surrounded by privately owned properties that are being used as support storage for neighboring businesses, the property lines or site circulation are not clearly defined

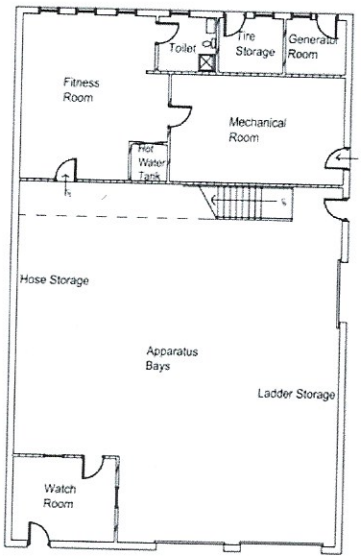
Architectural and Structural

Exterior

The building was constructed in the period when the building code required seismic considerations in the design process. The conformance of the building to seismic and wind load requirements cannot be determined without knowing the reinforcing of the exterior concrete masonry walls and the methods of anchoring the floor and roof system to the walls. Exterior walls are constructed with both 8 inch and 12-inch concrete masonry walls with a 4" brick veneer. The exterior walls exhibited no defects on the exterior surface. However, the interior face of the concrete masonry showed step cracking above an overhead door located on the right side of the building. The roof of this building has a gable over the center portion with an intersecting hip roof on the front and rear elevations (often referred to as a "Boston" hip). Locations checked at the rear of the building showed that the roof truss ends bearing on the masonry walls did not have any metal tie-downs, which is usually an accepted practice. There are some water stains located at the eaves, possibly indicating the presence of ice dams. Along the left and right side of the building is located several clerestory windows that provide natural light to the apparatus bays inside. To the rear, there are several casement type windows serving the living quarters on the second floor.

First Floor

The first floor of the Linebrook Station is at ground level and has two functional apparatus bays. One bay currently houses an engine waiting to be repaired. A third overhead door is located on the right side of the building. Above this door is some step cracking in the concrete masonry. One visiting the station would gain access thru the passage door at the front of the building, and enter directly into the Watch Room. The Watch Room has no visibility to the apron, and has limited visibility to the apparatus floor. Along the perimeter of the apparatus are ladder and hose storage, and a workbench. As the station is not currently housing fire fighters, the necessary support such as decontamination, laundry, turnout, and fire fighting equipment storage areas are not present.



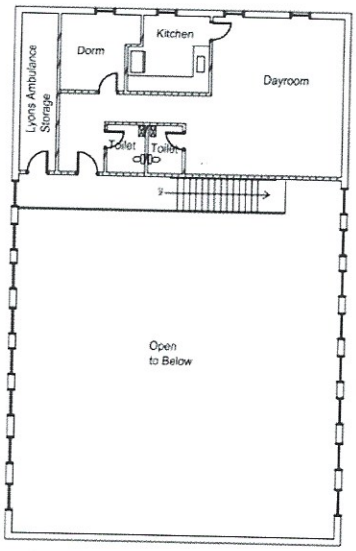
Existing First Floor Plan

The floor of the apparatus bays is a concrete slab on grade and has numerous shrinkage cracks. The concrete slab must be considered for repair or replacement to resolve the cracking and settling that has occurred. Wheel loads from heavy apparatus vehicles would govern redesign or repairs of the slab. To the rear of the building are an elevated fitness room, an oversized mechanical room, and a toilet room. Two rooms that are accessed from the exterior are used for tire storage and to house a non-functioning emergency generator.

Second Floor

Access to the second floor is provided solely via a wood stair located at the rear of the apparatus bays. A makeshift wood railing that defines a balcony that overlooks the apparatus should be replaced with a stable and code conforming guardrail system. The remainder of the second floor provides limited living quarters and includes a large kitchen, a day room and a multi-gender toilet facility. Only one shared dormitory exists with no multi-gender shower facilities which will not support a multi-gender fire fighting force. In the corner exists a deep, narrow room used for EMS storage

The second floor framing supporting these living quarters are adequate for the code-required load of 40 pounds per square foot plus the imposed dead load. The existing 12 inch steel beam is adequate to support the code-required loads.



Existing Second Floor Plan

Code Compliance

Accessibility

In a renovation, the Linebrook Fire Substation should locate all public accommodations, if any are to be had, to the ground floor because the building's first floor is at the same elevation as the exterior grade and access into the building is not a problem for a person with a physical handicap. If not, then an elevator or a limited use/limited access elevator (LULA) would be required. If a Public Accommodation is to be provides, accessible toilet facilities, required signage, parking and the

like would have to be provided as well in accordance with the building code and the Americans with Disability Act as these are not presently accommodated in the existing building.

The first floor toilet room is located at the rear of the building, which is an area that is elevated above the elevation of the Apparatus Bay. Access into this space is not possible for a person with a physical handicap. The second floor toilets have been designed to accommodate a person with disabilities, but some additional requirements are missing but could easily be added. Over the years, systems throughout the building have been replaced but their current configuration and types do not comply with any accessibility codes. This includes fire alarm horn strobes, kitchen faucets, showers, door hardware, lavatories, signage, lighting, and parking.

Egress

The second floor of the building has only one means of egress and is not enclosed in a fire rated enclosure. New codes required a second means of egress and that at least one shall provide a direct means of egress to the exterior. Currently, one must pass thru the Apparatus Bay to an outside door to egress the building. Additionally, the stair handrail and guardrails do not comply with current building code requirements.

Electrical System

A 120/208-volt, three phase, 42-circuit electrical panel with a 200 amp main circuit breaker comprises the stations electrical service. The panel, which is in poor condition, supplies power, lighting, furnace and unit heater loads. The branch circuit wiring method is primarily electric metallic tubing but non-metallic cable is also used. In some areas, the non-metallic cable is in fair to poor condition. The Kitchen area includes ground fault circuit interrupters (GFCIs). No paging system exists.

The existing load is well served by the existing service capacity. However, any renovation work should include a new panel and branch circuit wiring as required. There is no functioning emergency power supply system in the building. There is a new generator on site that needs to be connected electrically and to a fuel source. The generator should be connected to supply the overhead doors, radio system, garage lighting and miscellaneous loads.

Mechanical and Plumbing Systems

The building is heated by an oil fired hot air furnace that appears to be adequately sized to provide the heating requirements of the building. The furnace appears to be in good condition, but in desperate need of maintenance. It was noted that the burner motor and fan drive were exceptionally noisy, possibly due to either drive bearing failure or lack of lubrication. The air filters have been removed from the system and should be replaced, prior to energizing the system. Two 275-gallon fuel oil storage tanks show signs of spillage or leaks either at the fill lines or at the fuel oil piping connection to the burner. Additional recommended mechanical repairs include a complete overhaul and cleaning of the existing furnace and air distribution ductwork. No evidence or air conditioning equipment is apparent.

Relocation of the PVC city water service line away from the electrical panel should be a first order of priority to the plumbing system. The new line should be copper and be clear of any electrical equipment, switchboards or circuit breaker panels. All abandoned fixtures on the first floor must be properly drained, and waste piping sealed and capped to prevent sewer gases escaping to occupied areas. All domestic hot and cold water piping should be insulated.

Hazardous Materials Summary

Winter Street Architects consulted ECMS to perform tests on the stations construction materials. Asbestos was again identified in the beige rock pattern sheet flooring in the bathrooms and lead paint was found around the doors and windows, and in other areas of the building. The vibration dampening cloth associated with the mechanical system is also presumed to contain asbestos. If removed, these materials need to be removed by a licensed professional and disposed of properly.

Ipswich Fire Station Space Requirement Worksheet - Central Station					
ROOM TYPE	MINIMUM AREA		NUMBER	TOTAL AREA (SF)	COMMENTS
Office - Class 1	192	square feet per person	1	192	Fire Chiefs Office
Office - Class 2	120	square feet per person	1	120	Deputy Chiefs Office
Office - Class 3	100	square feet per person	1	100	Training Officer
Office - Class 4	100	square feet per person	2	200	Capt and Haz Mat (Open offices)
Office - Class 5	100	square feet per person	1	100	Fire Prevention Office
Multipurpose space	1400	square feet for 50 people	1	1400	Public Meeting & EOC
Conference room or space	200	200 square feet for 8-10 people	1	200	FD General & Fire Prevention
Office manager with waiting area	180	square feet	1	180	Clerk Reception
Storage room – office supplies	18	square feet	3	54	
Storage room - fire prevention	80	square feet	1	80	
Fire Prevention Plan Review area	80	square feet	1	80	
Training storage room	80	square feet	1	80	
General Storage Room	100	square feet	1	100	
Public Toilet	60	square feet	1	60	Unisex (1st floor)
Entry Vestibule	80	square feet	1	80	
EMS Storage/Office	160	square feet	1	160	
Watch Room/Dispatch Office	120	square feet	1	120	Alternate Dispatch
Haz-Mat Storage Room	120	square feet	1	120	
Fire Fighter Small Equip. Storage	200	square feet	1	200	
Turn-Out Gear Room	10	square feet per locker	44	440	
Hose and drill tower	216	square feet per floor	1	216	
Decontamination	100	square feet	1	100	

Laundry - Protective Clothing	200	square feet	1	200	On first floor
Laundry - work uniforms	100	square feet	1	100	Standard washer/dryer
SCBA Filling/Storage	200	square feet	1	200	
Kitchen (Comm. Equipped)	40	square feet per person on shift	10 people	400	
Eating	40	square feet per person on shift	10 people	400	
Weight Room	350	square feet	1	350	
Day Room	30	square feet per person on shift	10 people	300	
EMS/Firefighter Dormitory	100	square feet per person	10 People	1000	2 person rooms 1 Locker Per Person Per Shift (4)
On-Duty Station officer sleep area	150	square feet per person	3	450	
Chief/Deputy Chief sleep area	130	square feet w/ 2 beds	1	130	
Toilets/showers/lockers	700	square feet	1	700	Men & womens
Study	150	square feet	1	150	
Sub-Total			1	**8570**	
Circulation @ 20%			1	1,714	
Apparatus Bays			1	6,566	See Section 6.4 below
TOTAL SQUARE FEET				**16,850**	

Ipswich Police Department Space Requirement Summary

	2020		
	Area (Net Square Feet)	Grossing Factor	Area (Gross Square Feet)
Administration	3,520	1.35	4,752
Patrol	7,924		10,697
Criminal Investigation	450		608
Shared Spaces	2,224		3,002
Ancillary Spaces	1,440	1.25	1,800
Total Net Area:	15,558	Total Gross Area:	20,859

Memo

To: Jim Foley

From: Richard Jones

CC: George Howe

Date: 9/30/2002

Re: Cost Estimate for Work at Linebrook Fire Station

Attached is a list repairs and improvements needed at the Linebrook Fire Station in anticipation the facility will be manned fulltime next year. The cost estimates are conservative, allow for some adjustment in the scope of work and assume all work will be done by outside contractors at the prevailing wage rate. The cost estimates could be reduced as much as 30% if the work could be done with in-house personnel.

I did not estimate the cost of a new floor drain in the equipment bay. I did not have sufficient information about the condition and location of the septic system to develop an accurate estimate.

Two of the items on this list, re-shingling the roof and replacement of the small overhead door, can be delayed for one to two years, if the cost of this work needs to be reduced. All other items on the list should be addressed before staffing the building.

Please let me know if you have any questions.

Linebrook Fire Station
Repairs & Improvements Estimated Cost List
30-Sep-02

LBFS	Linebrook Fire Station	Plumbing	Equipment Bay	Install floor drain	Replace capped floor drains so equipment can be washed during the winter months.	$0.00
LBFS	Linebrook Fire Station	HVAC	Chimney	Repalce chimney cleanout door	Replace door on Chimney clean out.	$200.00
LBFS	Linebrook Fire Station	Wall - Exterior	Right Side	Repair cracks in CB wall	Repair cracks in masonry at overhead door.	$300.00
LBFS	Linebrook Fire Station	Roof	Sofit	Cover openings in sofit	Cover recessed light fixture openings to prevent birds from	$500.00
LBFS	Linebrook Fire Station	Wall - Exterior	Gable Ends	Paint gable ends	Paint exterior.	$500.00
LBFS	Linebrook Fire Station	Plumbing	Weight Room	Remove plumbing fixtures	Remove plumbing fixtures and cap so space can be used for storage. Health issue.	$750.00
LBFS	Linebrook Fire Station	Wall - Interior	Furnace Room	Install lintel	Opening in cement block wall between furnace room and equipment bay for duct	$1,000.00
LBFS	Linebrook Fire Station	HVAC	Furnace Room	Replace oil tank	Replace leaky oil tank. Tank has been taken out of service.	$750.00
LBFS	Linebrook Fire Station	Door - Exterior	Front of Building	Replace exterior door	Replace deteriorated steel personnel door.	$1,000.00
LBFS	Linebrook Fire	Door - Exterior	Right side	Replace OH door	8X10 Overhead door needs to be replaced.	$5,000.00
LBFS	Linebrook Fire Station	Roof	Roof	Re-shingle roof	Shingles are showing signs of aging. Should schedule replacement in 5 - 10 years.	15,000.00
LBFS	Linebrook Fire Station	Grounds	Apron at OH doors	Reconstruct bay door apron	Apron slopes toward building. Causes floor to flood in heavy rain.	10,000.00
LBFS	Linebrook Fire Station	Floor	Mezanine	Replace carpet	Replace carpet.	6,500.00
LBFS	Linebrook Fire Station	Step	Weight Room	Correct Height of Step	Step is to high constituting a trip hazard	500.00

LBFS	Linebrook Fire Station	Floor	Duty Office	Install floor tiles	Install floor over concrete slab	750.00
LBFS	Linebrook Fire Station	Plumbing	Duty Office	Install backflow valve on water	Code requirement	500.00
LBFS	Linebrook Fire Station	Electric/Plumbing	Duty Office	Enclose electric wires and plumbing service	Safety and appearance	750.00
LBFS	Linebrook Fire Station	Ceiling	Mezanine	Replace ceiling tiles	Tiles are missing and stained	3,500.00
LBFS	Linebrook Fire Station	Walls	Mezanine/Duty Office	Paint walls	Appearance	3,000.00
LBFS	Linebrook Fire Station	Ceiling	Weight Room	Repair ceiling grid and replace tiles	Repair and appearance	750.00
LBFS	Linebrook Fire Station	Elecrical	TBD	Miscellaneous repairs and additional circuits	Work to be determined	1,000.00
LBFS	Linebrook Fire Station	Plumbing	TBD	Miscellaneous repairs and additional circuits	Work to be determined	1,000.00
LBFS	Linebrook Fire Station	Plumbing/Electric/Carpentry	Bathroom	Convert bathroom to shower	No shower facility	5,000.00
						$58,250.00
Furniture Allowance		Sofa, Love Seat, Chair, Desk, Table, Office Chair				$5,000.00