



To: Richmond City Council
From: Councillor Linda Barnes
Chair, Community Safety Committee
Re: **Hamilton Fire Hall**

Date: May 21st, 2002
File: 2050-20-F5

The Community Safety Committee, at its meeting held on May 14th, 2002, considered the attached report, and recommends as follows:

Committee Recommendation

That:

- (1) the project be approved, based upon the recommended fire rescue facility (as shown in the plans attached to the report dated March 28th, 2002, from the Fire Chief), subject to the financing program approved by Council;*
- (2) the project be presented to the Hamilton Community as part of the project communication plan;*
- (3) the option to construct the proposed fire hall in MacLean Park also be presented to the Hamilton community; and*
- (4) staff be instructed to prepare options for redevelopment of the current fire hall site.*

Councillor Linda Barnes, Chair
Community Safety Committee

Attach.

VARIANCE

Please note that staff recommended the following:

That:

- (1) the project be approved, based upon the recommended fire rescue facility (as shown in the plans attached to the report dated March 28th, 2002, from the Fire Chief);
- (2) the project be presented to the Hamilton Community as part of the project communication plan.

STAFF REPORT**ORIGIN**

At the closed Council meeting held on January 14, 2002, it was moved and seconded:

- a) *That Option 2 for the design of a 'standard fire hall' (be proceeded with):*
- i. *In Hamilton, adjacent to McLean Park;*
 - ii. *On Bridgeport Road; and*
 - iii. *On Sea Island, based on negotiations with YVR*
- b) *AND THAT the matter of the design for a standard fire hall facility be referred to staff for a report to the Community Safety Committee on:*
- i. *The proposed footprints of the new sites;*
 - ii. *The possibility of combining sites, i.e. third floor and site disposition; and*
 - iii. *the height of the building in terms of having a third floor; and providing a cost analysis on the proposed design.*

BACKGROUND

During the discussions of the January 14, 2002 meeting, Councillors identified an interest in reviewing the site development plans, for the various sites where new fire halls are proposed, in more detail. Additionally, staff was directed to proceed with the development of designs for the proposed new fire halls in Hamilton, Bridgeport and Sea Island.

This report addresses possible "Standard" Fire Hall configurations, and recommends one for the Hamilton Fire Hall. It also addresses site selection issues for the Hamilton Fire Hall and recommends a preferred site.

ANALYSIS - "Standard" Fire Hall

In addressing possible "Standard" Fire Hall configurations, five primary components were identified as making-up a typical fire hall. Although these components are standard in all fire halls, they can be provided in different sizes and combinations to meet the needs of a specific site or fire hall. The following table identifies four different combinations:

Component	Optimum* 2 Bay Fire Hall + Community space	Recommended 2 Bay Fire Hall	Minimum 2 Bay Fire Hall	Not Recommended Single Bay Fire Hall
Engine Bays	2,400	2,400	2,000	1,000
Workshops	1,000	1,000	1,000	500
Accommodation	2,000	1,750	1,500	1,500
Operations	2,800	2,000	2,000	2,000
Tower	500	500	500	500
Total	8,700	7,650	7,000	5,500

*NB * Optimum requirements include approximately 1,000 sq. ft. of General Purpose space*

The combinations identified in the table are presented graphically in Appendices A and B. Recognizing different readers will have different interests and questions on these drawings, staff have presented the graphics with the expectation of fuller discussion at committee. In addition, the following comments are provided in direct response to the resolution of Council of January 14, 2002:

1. Proposed Footprint

A specific building footprint for each of the new sites will largely depend upon the specific site chosen and the final building design approved by Council. As illustrated in Appendix A, the recommended fire hall size varies between 7,400 sq. ft. for a two level facility and 7,650 sq. ft. for a single level. The two level option offers a smaller overall footprint and was the model used to determine the ideal site area of $\frac{3}{4}$ acre.

2. Combining Sites

The engine bays form the largest single use area in a fire hall. There are many examples where crew accommodation is located above the engine bays. Typically, in this type of design, the fire hall operations remain on the ground floor. There is no need, or benefit to go beyond two levels, primarily because of inefficient functional use in locating crews further from the rescue vehicles. There is also added construction cost required for increased height, and the resulting building is not, as a rule, visually attractive. (Appendix B)

3. Building Height

If a third floor was considered, the minimum height would be approximately 30 feet, if not over the engine bay roof, and approximately 40 feet, if constructed over the engine bay. The maximum height could also be determined by the height of the training and hose-drying tower, which is generally between 30 and 50 feet. (See Appendix B)

ANALYSIS - Hamilton Fire Hall Site Analysis

There was specific discussion regarding the possible layouts for the Hamilton Fire Hall at the January 14, 2002 meeting. Council requested more information and background regarding the options available. General information is provided in this report, with the expectation that staff can address specific questions at the committee meeting.

Appendix C illustrates that the $\frac{1}{2}$ acre current Hamilton Fire Hall site is too small to safely accommodate a facility that is built to current standards. Additionally, with the expectation that the facility will survive a 75-year lifecycle, there is no provision possible for expansion to accommodate changing needs or standards. Although a recommended, two level, fire hall could be constructed on the site, the set backs would not permit a fire truck to safely park outside of the bay. This would necessitate the unsafe practice of vehicles reversing from Westminster Highway into the building and is not recommended, given the nature and volume of traffic on Westminster Highway.

The existing site can support a single bay fire hall, which would require a 2,750 sq. ft. footprint. Appendix D identifies how such a facility can be aligned on the site to allow safer access and egress onto Westminster Highway.

Unfortunately, the financial benefits of selecting the existing smaller site are lost, because of the need to provide a temporary facility located “off site” while a new facility is being constructed. The cost of temporary accommodation is estimated at \$400,000 to \$500,000, and would be non-recoverable.

Of the five sites originally considered for the Hamilton Fire Hall, Council preferred the location of the privately owned one-acre site at 22451 Westminster Hwy. From a technical perspective, staff believes this is still the better location for the new fire hall.

Given Council’s desire not to disturb or encroach into McLean Park, this site is ideally located at the south end of the Park, and is well situated for the direction given to Community Safety in regards to increased community visibility and involvement. The site would allow the recommended “Optimum” Fire Hall with community space being incorporated into the design (Appendix E). The site will also support a “Recommended Size” Fire Hall. The owners are willing to sell the site and are aware of the future use planned for the site.

OPTIONS

The following options have been considered and are available to Council:

- The site of the existing fire hall could be sold, (estimated value \$200,000), to mitigate the land acquisition costs for 22451 Westminster Hwy, (estimated value \$700,000).
- McLean Park at 10.86 acres is larger than considered necessary for a community park. A location within the park could be reconsidered thus avoiding the need to purchase the additional property. Council previously rejected this possibility.

FINANCIAL IMPACT

The following table presents the different cost implications for the locations considered:

Description	Existing Site	Recommended Site	McLean Park
Land Acquisition (Estimated)	N/A	\$700,000	N/A
Single Engine Bay Fire Hall – Construction	\$2,000,000	N/A	N/A
Recommended Fire Hall - Construction	N/A	\$2,500,000	\$2,500,000
Temporary Facilities	\$500,000	N/A	N/A
Land Sale Benefit (Estimated)	None	(\$200,000)	(\$200,000)
Total Cost	\$2,500,000	\$3,000,000	\$2,300,000

Staff estimates a total cost of \$3 million to construct a replacement fire hall of approximately 7,650 sq. ft. at the recommended site. The \$700,000 land acquisition cost, provisionally funded through the Industrial reserve account could be partially offset through the sale of the existing fire hall site.

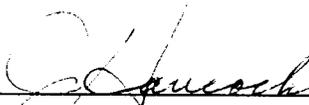
CONCLUSION

Of the five sites originally considered by Council, the preferred location for the Hamilton Fire Hall was the privately owned one-acre site at 22451 Westminster Hwy. Staff has since approached the owners to determine their willingness to sell the property and a valuation is expected shortly.

The existing site offers no practical or long-term advantages to the City as a functional fire hall location. Any cost savings accrued by constructing a smaller fire hall would be lost by the need to construct a temporary facility. The finished product would be a sub-standard facility from an operational perspective with no options for future growth. The site could be sold to support the desired site acquisition costs.

Overall, the recommended site at 22451 Westminster Highway permits the construction of a recommended fire hall of 7,650 sq. ft and remains ideally situated to McLean Park providing public security, improved visibility and safe access onto Westminster Highway through an existing intersection.

Council could locate the fire hall within McLean Park without compromising the park site. The two sites offer similar characteristics to the recommended location, with the advantage of lower costs through the sale of the current fire hall site.



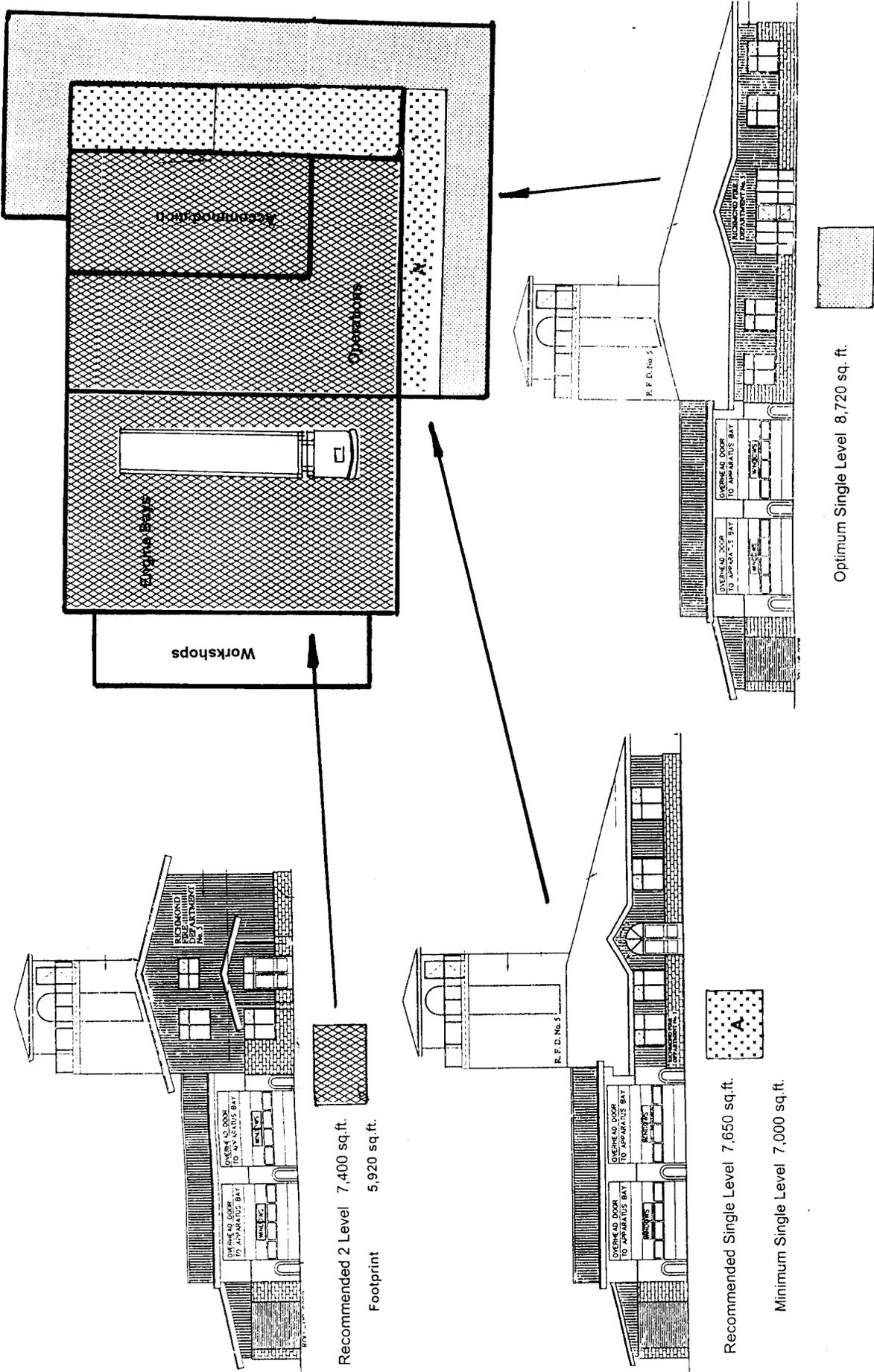
Jim Hancock, Fire Chief



David Naysmith, P. Eng.
Manager, Facilities Planning & Construction

DN:cmm

FIRE HALL CONFIGURATION



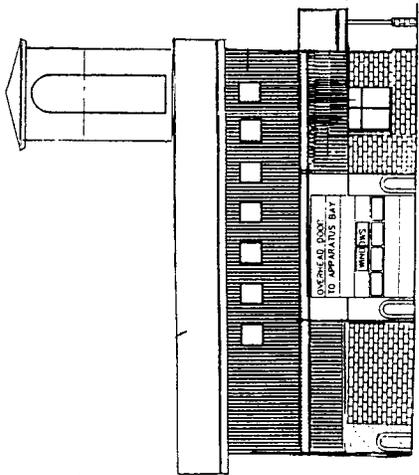
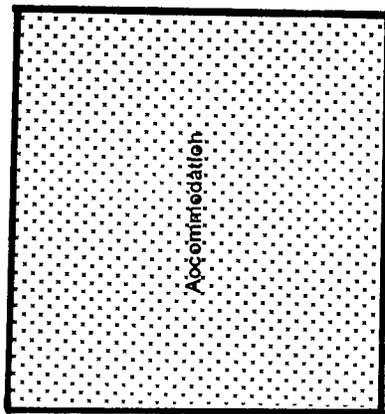
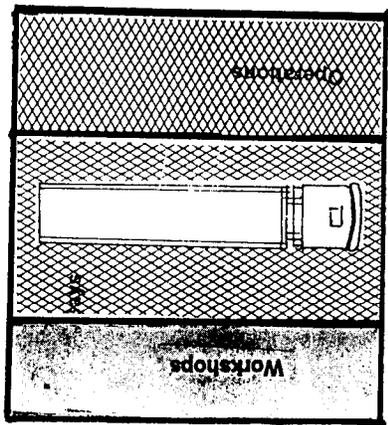
Recommended 2 Level 7,400 sq. ft.
Footprint 5,920 sq. ft.

Recommended Single Level 7,650 sq. ft.
Minimum Single Level 7,000 sq. ft.

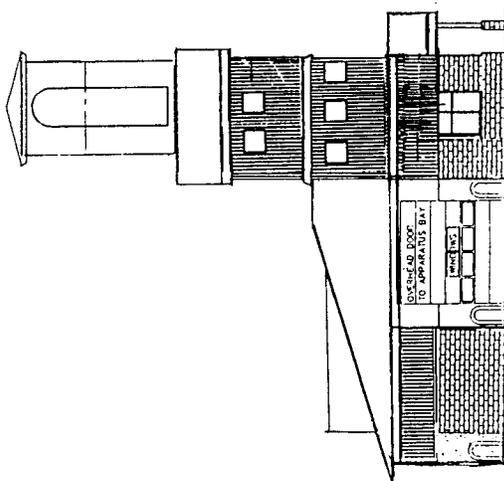
Optimum Single Level 8,720 sq. ft.

FIRE HALL CONFIGURATION MINIMUM FOOTPRINT

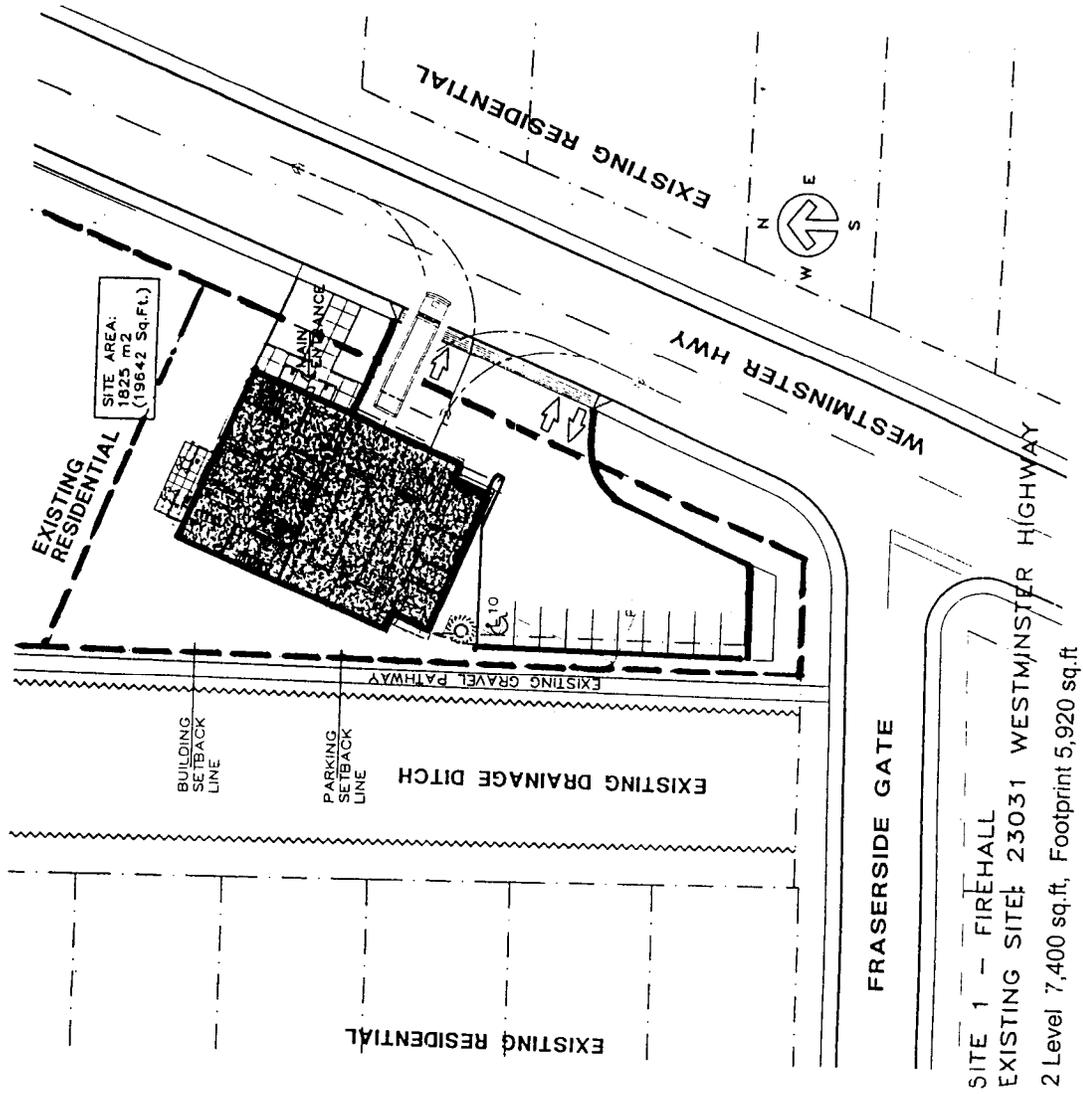
2,750 SQ. FT.



Not Recommended Single Bay 2 Level 5,500 sq.ft.



Not Recommended Single Bay 3 Level 6,000 sq.ft.



SITE 1 - FIREHALL
 EXISTING SITE# 23031 WESTMINSTER HIGHWAY
 2 Level 7,400 sq.ft, Footprint 5,920 sq.ft

Hamilton Current Site - Minimum Hall 6,750 sq.ft

Pros	Cons
No land exchange or property acquisition required	Size of property is too small to meet operational needs, e.g. hose testing, pump operations
Centrally located in Hamilton community	Difficulty with access/egress, e.g. engine has to back up off Westminster Highway
Neighbours accustomed to Fire Hall next door	New location would back onto residential properties
	Public pathway behind Fire Hall restricts the use of the site
	Will have to seek temporary quarters for Engine Company while constructing new Fire Hall, (\$500,000)
	Will not accommodate optimum size fire hall
	No opportunity for community use
	Set back too small for engine routine maintenance, e.g. washing truck, checking equipment, air brake checks
	No drive through capability

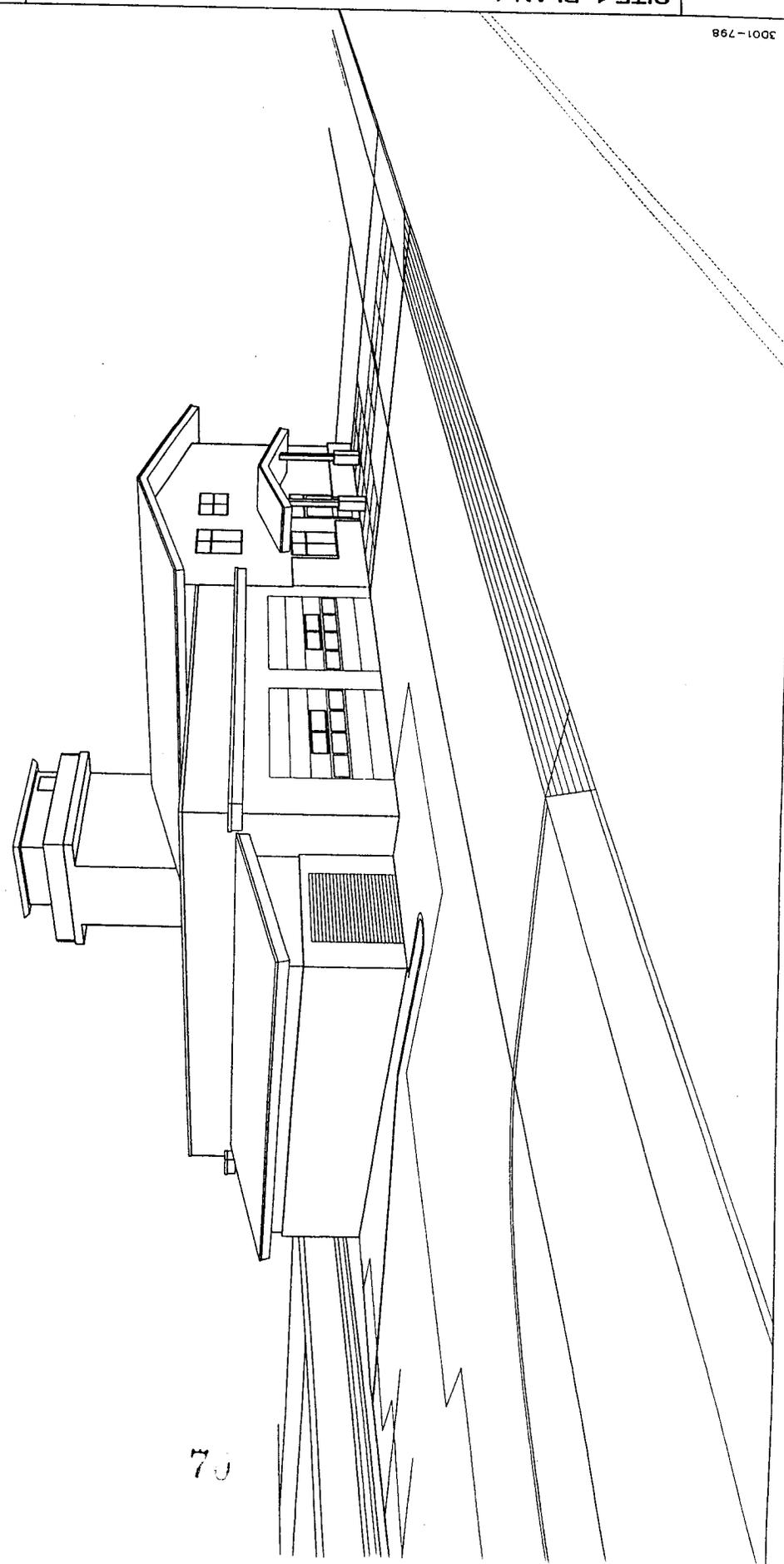
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METZ
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ROSE
ARCHITECTS PLANNERS INC.

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SITE 1, PLAN 1
FIREHALL NO. 5
FACILITY STUDY
RICHMOND B.C.

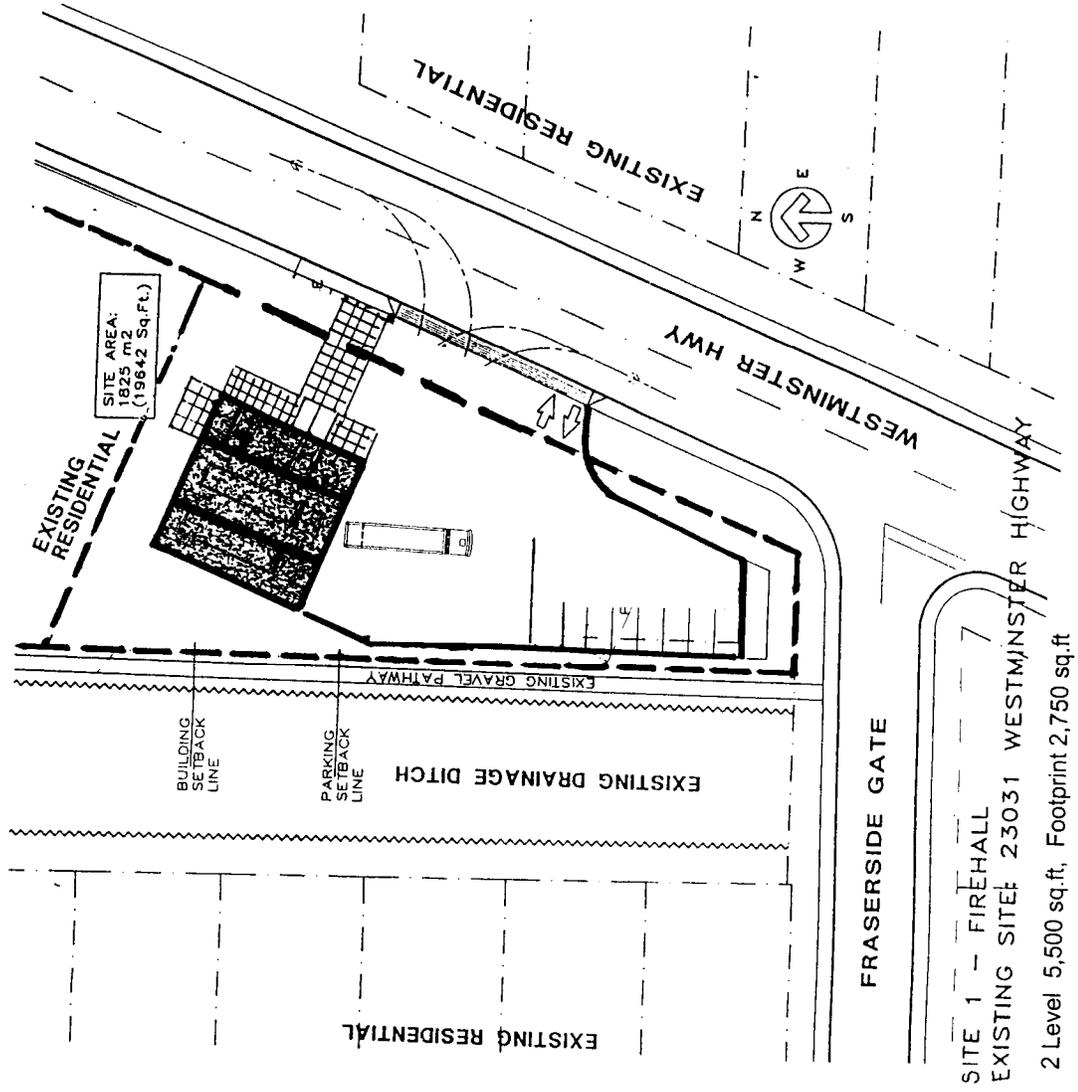
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Appendix C1



Hamilton Current Site – Single Bay Substandard Hall 5,500 sq.ft

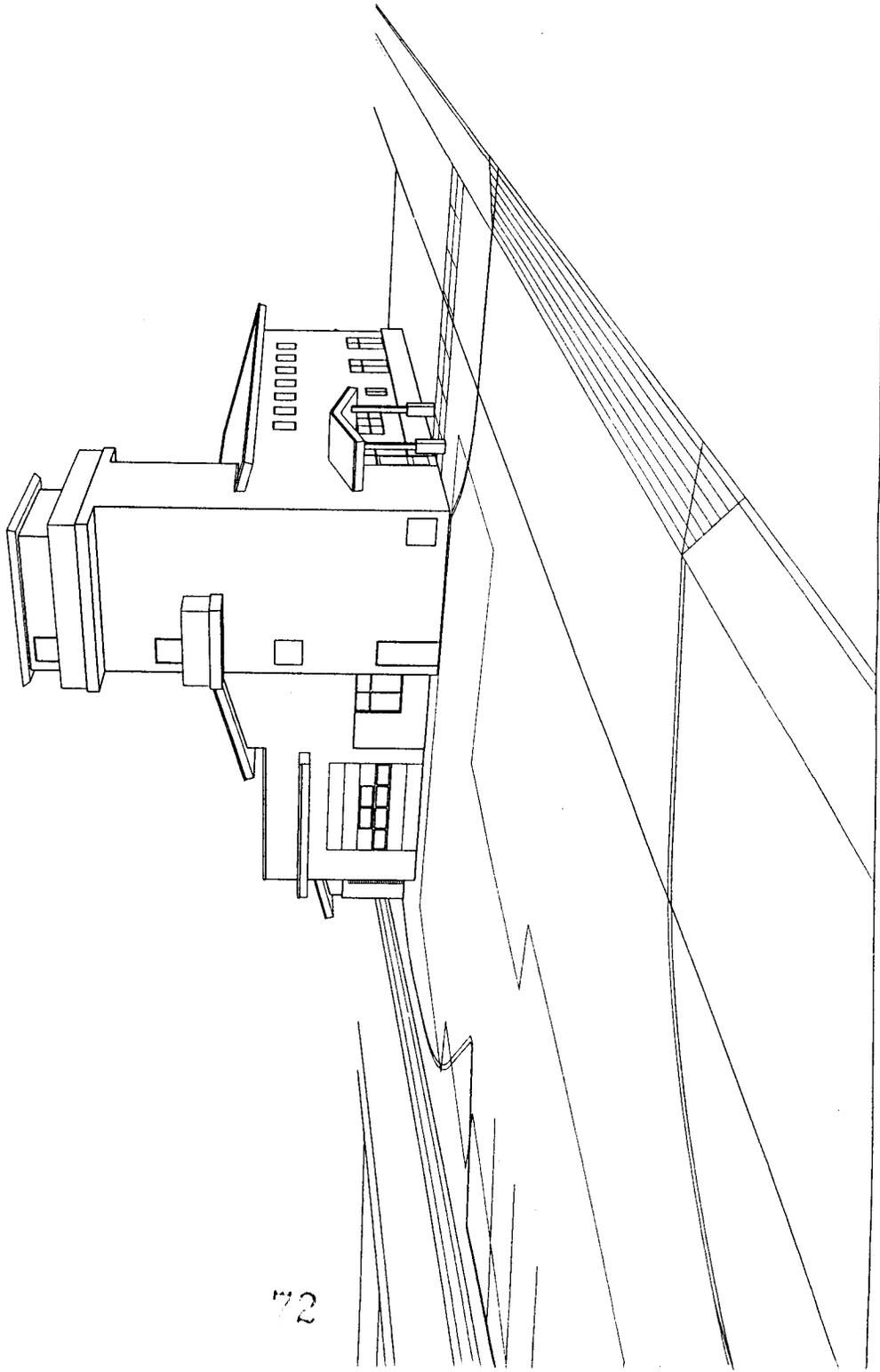
Pros	Cons
No land exchange or property acquisition required	Size of property is too small to meet operational needs, e.g. hose testing, pump operations
Centrally located in Hamilton community	New location would back onto residential properties
Neighbours accustomed to Fire Hall next door	Public pathway behind Fire Hall restricts the use of the site
	Will have to seek temporary quarters for Engine Company while constructing new Fire Hall. (\$500,000)
	Will not accommodate optimum size fire hall
	No opportunity for community use



SITE 1 - FIREHALL
EXISTING SITE# 23031 WESTMINSTER HIGHWAY

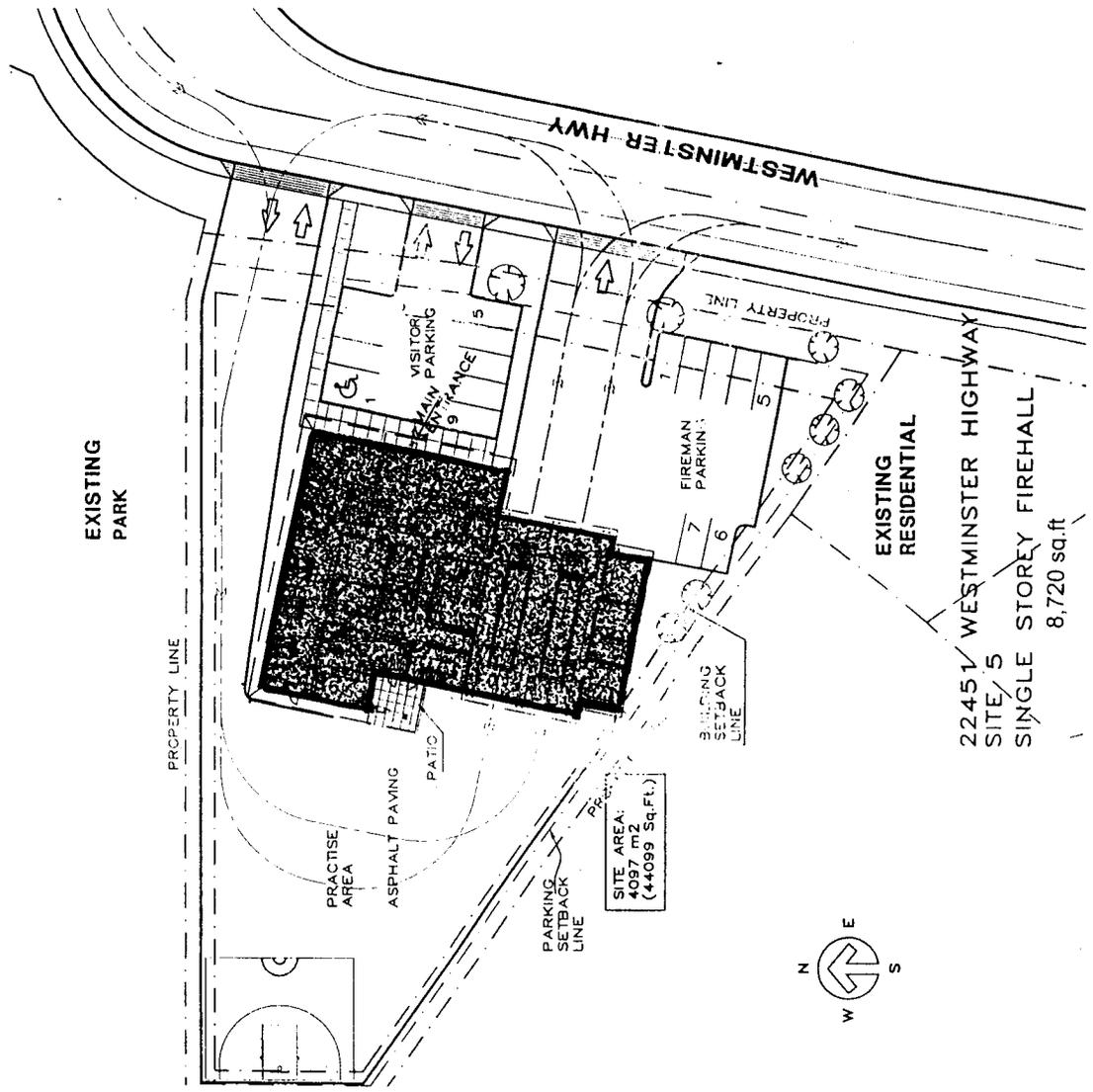
2 Level 5,500 sq.ft, Footprint 2,750 sq.ft

Appendix D1



Hamilton 22451 Westminster Hwy. Site - Optimum Hall 8,700 sq. ft

Pros	Cons
Larger 1 acre site, more operational advantages	Cost of purchasing site estimated \$800,000
Adequate set back for Engine maintenance	Not as visible from Westminster Hwy.
Centrally located in Hamilton community	Site larger than the recommended ¾ acre requirement
Drive through engine bays	
Opportunity for community use	
Increased security in park, due to proximity of Fire Rescue staff	
Accommodates preferred building footprint	
Land purchase can be offset by as much as 50% from sale of existing site	
Minimal impact on local housing and residents	
Safer access and egress onto Westminster Hwy	



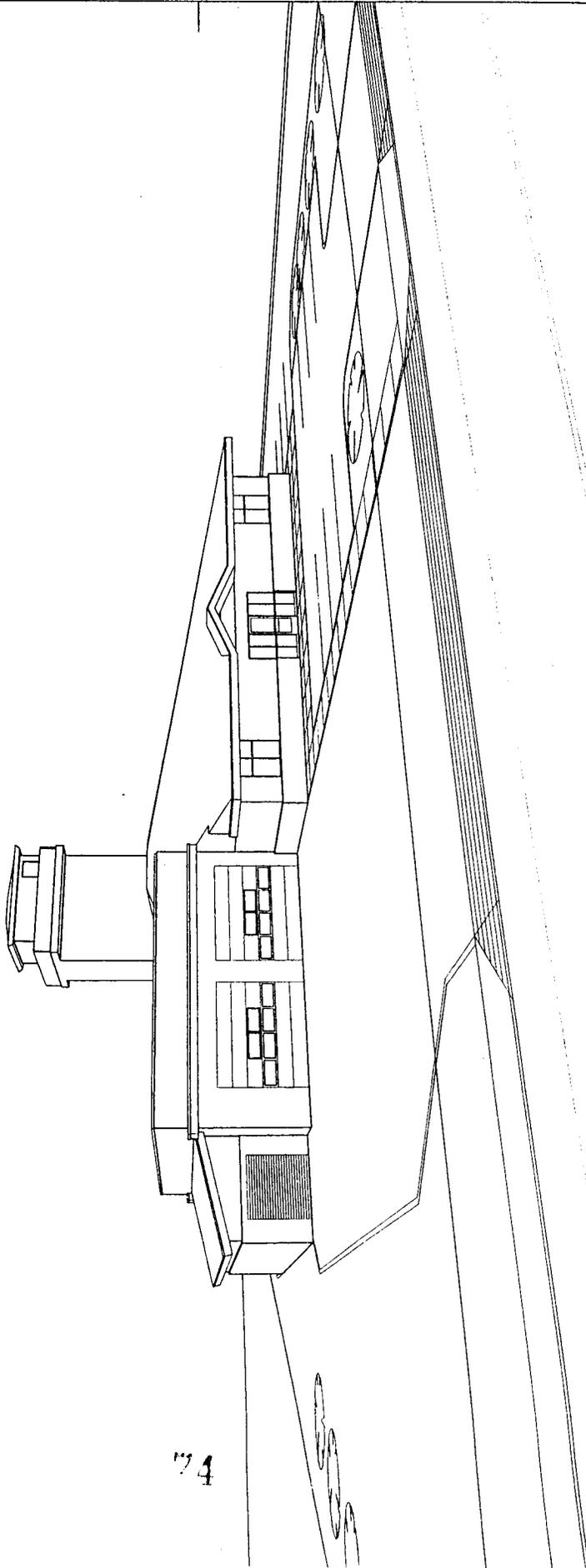
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SITE 5, PLAN 4
FIREHALL NO. 5
FACILITY STUDY
RICHMOND B.C.

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Appendix E1



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