

FILE: 1640

THE CORPORATION OF THE DISTRICT OF BURNABY

REPORT OF THE FIRE SERVICES COMMITTEE  
ON THE FIRE PREVENTION AND CONTROL PLAN

HIS WORSHIP THE MAYOR  
AND MEMBERS OF THE MUNICIPAL COUNCIL

Madam and Gentleman:

Your Committee would report as follows:

Council, on 1982 December 13, referred the Fire Prevention and Control Plan to the Fire Services Committee for review and a subsequent report to the Municipal Council.

The Committee has held meetings on 1983 February 03, March 02, March 22, April 27, May 31 and August 09, during which time the Fire Prevention and Control Plan has been thoroughly reviewed and discussed. The recommendations outlined in this report have been formulated for Council's consideration, as a result of that Committee review.

The purpose behind the preparation of the "Fire Prevention and Control Plan" was to determine the adequacy of the community's fire protection system, and to recommend those improvements, in both the private and public sectors, which would provide a satisfactory level of protection consistent with the ability to pay of Burnaby's property owners and taxpayers.

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The principal finding of the Fire Services Committee is that Burnaby needs to place ever increasing emphasis on fire prevention and fire protection as the major part of its overall strategy for fire services in this community. The Committee is strongly of the view that, while short term increases to the fire suppression capability of the Department may be necessary to address current needs, the future must see a lessening emphasis on costly fire suppression approaches, in favour of a more prevention oriented strategy.

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In the field of fire protection, greater knowledge and better teaching methods have now made it possible to reduce the incidence of fires and their severity in a cost effective way, by concentrating upon fire prevention through education. Also cost effective, through advances in technology, is the reduction in the time which elapses between the ignition and detection of fires, and the suppression of fires in their incipient stage through automatic self-protection.

Modern methodology of fire protection tends to lean toward the above techniques and away from continuous increases in men and equipment. This is the approach recommended in this report. Equally strong emphasis must be given to education, to early detection (smoke alarms) and to automatic self protection (sprinklers), as it is to the response time of fire crews.

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With the objective of reducing the number of fires and the incidence of injuries and property damage, a comprehensive fire education program is proposed, with a special sub-program to encourage smoke alarms, together with a proposed change in Provincial legislation which would require sprinklers in all new larger buildings.

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:- AGENDA 1983 AUGUST 22  
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With respect to firehalls, the analysis of the existing situation has shown that, with the exception of unsatisfactory responses to the Burnaby Hospital area and a lack of on site fire suppression staff and equipment at Simon Fraser University, our present firehalls are basically in the right location for current development. It is not, however, possible to accommodate both current and future long range development by the single expedient of re-arranging our six existing halls, nor is it possible to meet the needs of the Hospital and University by doing so.

Due to the labour intensive nature of firefighting, the operating cost of a firehall is extremely high. The number of firehalls constructed in a community varies with the standard of response time\* which is chosen. The response time standard selected has, then, a strong influence on the location of the halls and hence the capital and operating costs of the Fire Department.

To reach an optimum balance between cost and risk, alternative plans of varying maximum response times were developed and their capital and operating costs compared. It was concluded that a 4-minute maximum response time standard would be the least expensive alternative which would be consistent with an acceptable level of risk. The Committee supports that view.

Implementation of this plan, shown on the attached map, will require the relocation of No. 1 Hall (4867 at Sperling) firefighting operations to a new Hall at Canada Way and Banff. It is clearly evident that the inadequate protection at Simon Fraser University can only be corrected by the construction of a Fire Hall on University grounds. Over the longer term, an addition to No. 3 Fire Hall (6511 Marlborough) and a firehall in the Big Bend Area are proposed.

The level of risk associated with a 4-minute response time will, it is considered, be acceptable because a reduction in the time between ignition and alarm will make response time less critical, because education will reduce the incidence of fires, and because more widespread use of self protection will sharply reduce the severity of fires. The Committee as mentioned previously strongly supports the concept of preventing fires and shortening discovery time, as opposed to major new investments, as new development occurs, in addition men, equipment and halls beyond those proposed here.

The prevention-detection-automatic suppression proposals should, most importantly, reduce any pressure which there might otherwise be to increase men and equipment. Based upon information presently available, it is fully expected that after the proposals in this report have been put into effect, the basic Fire Department staff and equipment complement will meet the needs of the community for a further decade.

This trend toward 'holding the line' on staff and equipment will be reinforced by the advent of even more advanced technology such as the "telemergency" by which smoke alarms automatically ring through the telephone system to a central alarm station, where a computer relays the call to the fire department control. The Municipality should, it is considered, be committed on a continuous basis to a policy of investigating advanced technological improvements, and to implementing them when they prove to be cost effective.

\* Response time means the number of minutes which elapse between the receipt of an alarm and the arrival of the fire suppression crew at the scene of the fire.

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Fig.22  
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A proposal is made that Burnaby staff examine with the Ministry of Health, means of avoiding the current duplication of service between the Burnaby Fire Department and the Provincial ambulance service.

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Lastly, some improvements to the water system are recommended.

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The recommendations in the plan have been divided into "Short Range" and "Long Range". "Short Range" means in operation within a five year period; "Long Range" is beyond five years, and includes those projects the timing of which is difficult to predict due to the uncertain economy.

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RECOMMENDATIONS

The following recommendations, divided into General, Short and Long Range, are designed to attain the goals and objectives listed on pages 56 to 58 inclusive, of the main report, entitled "Fire Prevention and Control Plan, 1982 November".

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It is recommended:

A. GENERAL RECOMMENDATION:

1. Fire Services Strategy

"THAT the Corporation of the District of Burnaby adopt as its primary goal in the development of its fire services strategy a major focus and emphasis on fire prevention, public education, and automatic detection/suppression, with a view to significantly limiting the need for expansion in fire suppression crews and equipment."

B. SHORT RANGE RECOMMENDATIONS (IN OPERATION WITHIN 5 YEARS)

(See attached Tables for timing and method of financing.)

1. Public Education

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- a) "THAT a Public Education Officer be appointed in 1984 within the Fire Department. 6
- b) AND THAT an ongoing Public Education Program as described under, "Role of Public Education Officer" in the main report be put into effect, financed by an initial budget allocation of \$46,000, subject to the budget process. 114

c) AND THAT a committee, comprised of representatives from the School Board and the Fire Department, be created to develop and monitor a fire education program in the schools."

- d) "THAT a special Municipal education program be undertaken to persuade people of the value of smoke alarms and the importance of installing and maintaining these within the home. 6

2. Sprinklers

"THAT the Fire Commissioner's office request the Building Advisory Council of the Building Standards Committee to initiate changes in Provincial legislation which would require that:

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Sprinklers be provided within all new buildings which are both over 3 storeys or 14 meters (45 ft.) in height and 600 square meters (6,500 sq. ft.) in area."

### 3. Firehalls

"THAT the plan of firehall locations in the attached map, based on a 4-minute maximum response time standard, be adopted.

Adoption of this plan will authorize the staff to proceed with the following in the short range:

- (a) Relocating No. 1 hall (4867 Sperling) firefighting operations to Canada Way and Banff.

#### Capital Cost

\$1,345,000

(Building operating cost will require an additional \$17,000 for normal heating, lighting and maintenance, etc. of the new building.)

- (b) Converting the existing No. 1 hall (4867 Sperling) to a Fire Department headquarters for:

- i) administration, including communications (control)
- ii) fire prevention
- iii) training (including physical training and rehabilitation but not exercises involving the burning of materials)
- iv) vehicle maintenance
- v) recreation

#### Capital Cost

\$ 28,000

#### Operating Cost

Same as at present

- (c) (i) "THAT the need for a firehall in the Simon Fraser University area be recognized, from the perspective of public safety and the protection of property."
- (ii) "THAT the costs associated with the construction and operation of such a firehall be borne primarily by Simon Fraser University and the Government of British Columbia."
- (iii) "THAT the District of Burnaby advise the Board of Governors of the University of its concerns and proposed recommendations to resolve this deficiency."

### 4. Primary Care Services (Ambulance Support)

"THAT the Ministry of Health be requested to undertake with Burnaby staff a joint examination of the delivery of comprehensive emergency health care services in Burnaby, and the desirability and feasibility of different means of avoiding the current duplication of service between the Burnaby Fire Department and the Provincial Ambulance Service."

C. LONG RANGE RECOMMENDATIONS - BEYOND 5 YEARS

(See attached Tables for timing and method of financing)

1. Firehalls

(Refer again to plan of firehall locations in the attached map which include the following for the long range:)

"THAT No. 3 hall (6511 Marlborough) be retained in its present location and an extra pumper bay added when this is warranted by significant development in the Metrotown Area."

Capital Cost	
Operating Cost of additional pumper crew	\$ 575,000
	998,000

2. "THAT the construction of a firehall be considered in the Big Bend area on Byrne Road southwest of Marine Way when the present approximate 1.6 million square feet of building in the Big Bend doubles to about 3.2 million square feet."

(Implementation of this possibly in 10 to 12 years).

Capital Cost	
Operating Cost	\$1,464,500
	1,481,000

3. "THAT the water system be brought to the standard acceptable to the Insurance Advisory Organization (Fire Underwriters), starting with those areas with the greatest deficiency in fire flow proceeding to the areas with less deficiency in fire flow and scheduled with GWD water system improvements."

Capital Cost	\$ 491,000
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Respectfully submitted,

Alderman D.A. Lawson  
Chairman  
Fire Services Committee

Members:

Alderman T.W. Constable  
Alderman D.P. Drummond  
Alderman A.H. Emmott  
Alderman V.V. Stusiak

TABLE 1  
FIRE PREVENTION - CONTROL PLAN - TIMING - SHORT RANGE RECOMMENDATIONS

REF NO.	RECOMMENDATION	ITEM	1983	1984	1985	1986	1987
1	Education program. Includes salary of new Education Officer, including benefits and allowances, the use of a municipal car and materials.	N/A	46,000	46,000	46,000	46,000	46,000
2	Smoke Alarm Education Program				Included in Ref. No. 1		
3	Proposed new regulations in regard to sprinklers				No cost to Municipality		
4	Relocation of No. 1 Hall firefighting operations	Property Acquisition	368,000				
		Architect Consultant	89,000				
		Construction			444,000	444,000	
		Additional Operating Costs Resulting from Relocation				17,000	17,000

REF NO.	RECOMMENDATION	ITEM	1983	1984	1985	1986	1987
5	Converting the existing No. 1 Hall to a fire Department headquarters for Administration (i) Fire prevention (ii) Training (iii) Vehicle Maintenance (iv) Recreation (v)						28,000

TABLE 1  
 FIRE PREVENTION - CONTROL PLAN - TIMING - SHORT RANGE RECOMMENDATIONS

TABLE II - METHODS OF FINANCING

REF. NO.	PROJECT	METHODS OF FINANCING
	<u>Operating Costs</u>	
1.	Education Program	Operating budget of Fire Department; to be reviewed by Director Fire Services.
2.	Additional resulting from relocation of No. 1 hall firefighting operations.	As above
3.	Smoke Alarm Education Program	Costs included within general fire education program (Item No. 1 above) - i.e., fire department operating budget.
4.	<u>No Cost to Municipality</u> Proposed new regulations in regard to sprinklers.	No cost to the Municipality.
	<u>Capital Costs</u>	
5.	Property acquisition for new site for No. 1 hall firefighting operations.	\$368,000 now in 1983 C.I.P. to be financed from Capital Works Financing Fund.
6.	Architect Consultant for relocation of No. 1 hall firefighting operations.	Alternative methods of financing projects 6-8 inclusive are: a) Borrowing internally from the Capital Works Machinery & Equipment reserve and repaying the money over 10 years at long term interest rates. b) External borrowing from the market via the Municipal Financing Authority with terms of repayment dependent on market conditions, probably over 10-15 years. This will require the assent of the electors. c) Partly from contributions to Capital from the Operating budget.
7.	Construction of hall for relocated No. 1 hall firefighting operations.	
8.	Converting the existing No. 1 hall to a fire department headquarters.	

COMMENTS ON CAPITAL COST METHODS OF FINANCING

The one 1983 expenditure, the acquisition of the site for the No. 1 hall firefighting operations, is in the current C.I.P. The Finance Department suggests that the selection of the best method of financing for the projects occurring in years beyond 1983 can be made most effectively when we are closer to the actual years of expenditure; this is because decisions can then be made in the light of trends in the general economy, interest rates etc. in existence at those times, as a part of the C.I.P. process.





