

ITEM	14
MANAGER'S REPORT NO.	54
COUNCIL MEETING	1978 07 31

RE: NO. 1 FIREHALL, 4867 SPERLING AVENUE  
PROPOSED NEW MECHANICAL WORKSHOP

The attached is the report of the Chief Building Inspector dated July 13 in this connection.

Attached also is the report of the Director-Fire Services dated 1978 July 12 in which he outlines the justification for the construction of a separate Mechanical Workshop rather than the use of the bays of the present No. 1 Firehall. The Workshop has always been considered as part of the development of the No. 1 Firehall Unit, but it was dropped from the initial design and construction in 1969 because of budget restraint. It is now recommended that we construct a separate building which would act as the Workshop rather than try to add to the present No. 1 Firehall. The new building will be on the same site and to the west of the present building. A \$25,000 provision has been made on page 89 of the Capital Improvement Program for the retention of a design consultant and the production of a preliminary design.

The Director-Fire Services, Chief Building Inspector and Municipal Manager concur in the recommendations made in this report item.

RECOMMENDATIONS:

1. THAT an ad hoc committee consisting of the Mayor and the Liaison Alderman to the Fire Department be established to recommend the architectural consultant for this project; and
2. THAT the Chief Building Inspector be appointed as Project Co-ordinator for the development of the project; and
3. THAT the ad hoc committee be authorized to interview architectural consultants with the Municipal Manager, Director-Fire Services, Chief-Fire Operations and Chief Building Inspector for the purposes of recommending one consultant to the Municipal Council.

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1978 07 13

**Mr. M.J. Shelley,  
MUNICIPAL MANAGER.**

**Subject: No. 1 Firehall, 4867 Sperling Ave.  
New Mechanical Workshop**

This report will bring up-to-date, current circumstances regarding a proposed new mechanical workshop to complete the facilities of No. 1 Firehall.

**BACKGROUND:**

This department reported to you 1977 10 26 in connection with the '78 Provisional CIP Budget of the Fire Department. On 1977 11 09 the Director of Fire Services submitted to you a full explanatory report on the urgency of constructing a mechanical workshop. You raised a number of comments and questions to that report by memo of 1977 11 14.

On 1978 03 21 the undersigned and Mr. F.R. Mehling, Deputy Chief Building Inspector, met with the Director of Fire Services, Mr. T.G. Nairn, and Chief of Operations, Mr. H. Brown, at No. 1 Firehall and reviewed with the fire officials the status of the mechanical workshop.

**DISCUSSION:**

The contemplated shop is a major extension of the facilities at No. 1 Firehall and is now urgently required if No. 1 Firehall is to maintain and develop its full level of operating efficiency. The workshop has always been considered as part of the development of the No. 1 Firehall unit, and was only dropped from initial design and construction in 1969 because of budget restraint. Full background information on the workshop was given by the Director in his report of 1978 July 12.

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DISCUSSION: cont'd

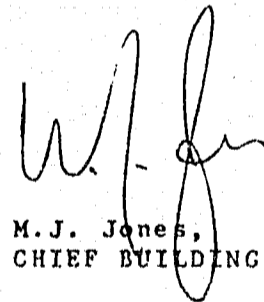
The Building Department has held preliminary discussion with the Planning Department over the proposed shop - discussed general quality of architectural finish to be followed, relationship of shop to existing Hall structure, and yard limits to be observed. To proceed beyond these general parameters, it is necessary to produce design drawings as a basis for application for Preliminary Plan Approval. The actual location of the workshop as it is proposed, and generally agreed to by the Director of Fire Services and the Planning Department, is partially underlain by peat soil, or at least very close to the peat area of the site. Detailed soil analysis will be necessary at the outset, and soil-bearing conditions may have to be considered in selection of final location for the shop.

SUMMARY:

In summary, there is an urgent need to get on with design of the proposed workshop in order that a designed operating bay of No. 1 Firehall can be recovered from its present shop function to an operating function. Provision for design study has been made in the Fire Department budget.

To this end, therefore, it is RECOMMENDED,

- (1) THAT an architectural consultant be retained to commence design study of a proposed mechanical workshop on the site of No. 1 Firehall;
- (2) THAT a selection committee be established to recommend the above consultant; and
- (3) THAT the Chief Building Inspector be appointed as Project Co-Ordinator for development of the proposed mechanical workshop.



M.J. Jones,  
CHIEF BUILDING INSPECTOR.

MJJ:lm

c.c. DIRECTOR - FIRE SERVICES,  
T.G. Nairn

DIRECTOR OF PLANNING,  
A.L. Parr

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FIRE DEPARTMENT

TO: MUNICIPAL MANAGER  
FROM: DIRECTOR-FIRE SERVICES  
SUBJECT: NEW MECHANICAL WORKSHOP - NO. 1 FIREHALL

A review of the factors leading up to the construction of No. 1 Firehall, located at 4867 Sperling Avenue, in 1971 reflected the then current, if not urgent, need to provide a separate Mechanical Workshop in close proximity to the Firehall.

For a variety of reasons not the least of which related to cost, the Fire Department's recommendation was rejected.

With the passage of time the Burnaby Fire Department, has, in keeping with the urban growth and development of the area, acquired much more sophisticated equipment with its attendant need for more precise and detailed maintenance.

To accommodate the increased demand for space it has been necessary to restrict our operational personnel to two bays, to eliminate the possibility of injury when responding to an alarm. A situation which is further compounded in terms of health standards by the need to use cutting torches and sanding equipment when undertaking major overhauls, such as the recently completed #5 Aerial.

Apart from the less than satisfactory conditions now prevailing from the operational and administrative viewpoint, conditions which undoubtedly will get worse with the passage of time, it is becoming apparent our mechanics have to continually improvise and accept additional health and safety hazards during a normal work day.

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Reasons For An Independent Fire Department Mechanical Workshop

- 1) There is a current need by the fire chiefs for information relative to the vehicles and equipment used by the fire department. There is also a frequent need for the mechanical staff to consult with the Director-Fire Services for authorization to initiate and carry out work projects. These consultations may be long range programs or very frequently are of an emergency nature to deal with day to day incidents. This type of effective close liaison becomes impossible when the fire department and the mechanical workshop are in two different locations. This is even more so when that location is married into another department of the municipality with a different outlook on repair work.
- 2) There is no intent here to downgrade the municipal garage facilities, but their basic outlook is of necessity different from the fire department's. The fire department is an emergency service that must at all times respond with maximum efficiency. To do this requires a different outlook on maintenance to that of the municipal garage which is servicing gravel trucks, graders, garbage trucks, etc. It is fully realized that it would be extremely foolish to maintain municipal service equipment to the same standard as fire trucks, but it must be pointed out that it is equally unrealistic to allow fire apparatus to drop to the maintenance standard of municipal service equipment.

In the one instance, if a service vehicle fails to function it is a nuisance and an inconvenience, and it is practical to go to only certain limits to prevent this happening. In the case of fire equipment however, if a piece of apparatus fails to function, or even fails to function efficiently, great loss of life and/or property may occur and so those maintenance limits have to be extended considerably. It is these two basic differences in outlook that prevent a successful marriage of the two service facilities.

- 3) There is also the ever-present conflict of priorities in scheduling work. Even where fire department personnel are used in the municipal garage this does not answer the problem as they will still be sharing the use of equipment and so the conflict of priorities will still exist.
- 4) Where the fire department operates an independent repair shop there is full control of stockroom inventory. This is extremely important where fire apparatus is concerned, because for much of the equipment, there are no spare parts available except from eastern Canada and in many cases from the U.S.A. As fire equipment has such a long life span, the availability of spare parts becomes more difficult as the age of the vehicle grows. Where the stock inventory is kept by personnel who have an intimate knowledge of the equipment, much can be done to foresee problems that will arise and make sure parts are available when needed. Where the stockroom is incorporated in the municipal maintenance stockroom this degree of control is impossible and as a result apparatus down time increases sharply. Another result of parts not being available is that all too frequently, when faced with a long parts wait and out of service situation, a temporary repair is made to get the vehicle mobile again. When parts become available, the work has to be done over again with consequent down time and waste of labour. Alternatively the temporary repair becomes permanent, either because it is still working, or there are more pressing repairs needed on other apparatus. If this occurs, very often there is a consequent deterioration in the standard of maintenance and reliability of the equipment.

In cities that have used, or tried to use the one facility to service all equipment, experience has shown that regardless of whether the work is performed by municipal garage staff or fire department personnel there is constant conflict between these two concepts of service. As a result the fire department maintenance standard suffers, there is a loss of confidence in the equipment by the firefighters and a consequent detrimental effect upon morals.

- 5) It is important to note that the mechanical division's work extends far beyond servicing the vehicle chassis. There is a great deal of specialized equipment on each vehicle, some mechanical, some hydraulic,

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some electrical, and now a considerable amount of electronic equipment. In addition much related equipment is also serviced, such as:

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- a) Electric smoke ejectors;
- b) Portable electric generators;
- c) Electric generating systems on the vehicles;
- d) A multiplicity of electric reels, cables, converters and power tools and lights;
- e) Standby generators in the firehalls;
- f) Chain saws;
- g) Hand lamps;
- h) Pump cans;
- i) All manner of hand extinguishers;
- j) All types of nozzles;
- k) Hose clamps and hose bridges;
- l) Bucking straps, safety straps, etc;
- m) Inhalator equipment;
- n) Breathing air equipment;
- o) Breathing air generating and storage facilities.

In fact there are so many objects used by the firefighter and maintained by the mechanical staff that it would be difficult to list them all. A very important point to consider is that some of the equipment listed above must be serviced in a spotlessly clean working area, something that is usually difficult to come by in most municipal garages.

- 6) When the repair facilities and mechanics are located in the firehall, there is good communication between the firefighters and the mechanics. This close liaison results in clearing up misunderstandings regarding the use of equipment, improved techniques of operations, etc. If the repair shop is located in the same area as the training ground this becomes even more important as the staff is right there when problems relating to the operation of equipment arise. This cooperation between firefighters and repair staff minimizes mechanical troubles that result either in part or in whole from misuse of equipment.
- 7) In the past few years both the cities of Vancouver and Calgary have made extensive studies of this very matter. As a result, Calgary has built one of the most modern fire department services facilities, not only in Canada but in North America.

Vancouver now has a new central firehall and as a result of the studies they conducted, have incorporated full repair facilities at the former #1 hall.

The City of New Westminster Fire Department, which for years had been serviced by the municipal shops with unsatisfactory results, has developed its own workshops within recent years result in the improvement and increased quality of vehicle maintenance.

Predicated on the foregoing coupled with the experiences of Vancouver, Calgary and New Westminster Fire Departments, I am absolutely convinced that to deviate from our present system to an integrated service shop would be an unwise and retrograde step.

#### Structural And Mechanical Requirements

With the advice of our Senior Mechanic, the attached sketch reflects the departmental thoughts on the structural requirements which should be incorporated in the mechanical workshop.

To this end the Master Mechanic has recommended a separate building, the main section of which would be 12.19m (40 ft.) wide to provide two bays with an overall length of 24.38m (80 ft.). The two bays should be 6.09m (20 ft.) open at both ends and equipped with 4.26m (14 ft.) overhead doors to accommodate the larger apparatus which is envisaged for the future.

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One bay should be provided with an overhead hoist of at least 1,814 kg (2 ton) capacity running on a centre mounted track the full length of the building and curving around on the ends to another track mounted closer to the wall. To facilitate the handling of major automotive components, engines, turntables, transmissions, etc., provision of this hoist and track will permit the mechanics to bring these components into the appropriate section for major repairs.

A three post hydraulic hoist should be installed in the other bay to provide the required lifting power and capacity to handle the heavy equipment in use by the department.

Sections approximately 4.57m (15 ft.) wide and 3.04m (10 ft.) high running the full length of the apparatus bays should be built on each side to provide working areas, machine shop facilities, stock rooms, etc. One of these sections would also house our high pressure air system, storage rooms and our fire extinguisher recharging room with the necessary venting to the outside.

Additional factors to be evaluated relate to the question of heating, both as to type and design once the actual site in relation to No. 1 Firehall is determined.

Approval of the foregoing will result in a mechanical workshop designed to accommodate the Burnaby Fire Department for many years to come.

Capital Cost

Estimates provided by the Chief Building Inspector reflects a capital cost of \$250,000.00.

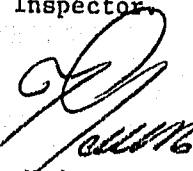
Financing

Under the 1978 Provisional Budget, \$25,000.00 has been requested so as to allow for the retention of a design consultant and the production of a preliminary design.

The additional capital requirements would be financed by a general revenue contribution in 1979.

RECOMMENDATION

THAT approval be granted for representatives of suitable design firms to meet with a selection committee consisting of two (2) members of Council, one of whom should be the Fire Department's Liaison Alderman, the Municipal Manager, Director-Fire Services, Chief-Fire Operations and the Chief Building Inspector.

  
T.G. Nairn  
DIRECTOR-FIRE SERVICES

ATT:

TGN/jlm

PROPOSED SHOP FACILITY

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