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mapping those agencies' facilities. These menus are of utmost importance, and should be ready to use when facility mapping begins, about April 15, 1977.

For Burnaby Engineering facility mapping, specific menus are required for roads, survey, water, sewer, drainage, illumination and traffic control. Also, the traffic control schema must be developed. Our immediate concern here is that Burnaby does not currently have personnel with the appropriate background to accomplish this in the time frame remaining before facility mapping commences. Menu design demands faciliarity with computer systems, and a detailed knowledge of the Synercom mapping software and procedures.

Proposal

It is recommended that the Corporation of the District of Burnaby retain S.L. Garth & Associates Ltd., (hereinafter called the Consultant), on a consulting basis, to deal with this problem. The Consultant will design the seven Engineering menus discussed above, to be ready for use when facility mapping begins. In addition, the Consultant will provide the necessary assistance to develop a suitable schema for traffic control.

The Consultant estimates that the charges to the Corporation for this work will be approximately \$6,000. This is determined from the Consultant's standard fee structure as follows:

24 days engineering time at \$250/day = \$6,000.

Fractional days are charged on an hourly basis, at \$35/hour for engineering time.

If the design work is begun immediately, a realistic completion date is 15 April, 1977.

Having these menus available will enable the Burnaby Engineering Department to more effectively address the anticipated problems inherent in facility mapping. As the project progresses, it will likely become necessary to develop more menus for specific functions, and to expand the data structure to accommodate the requirements of other users. The Consultant hopes to be of service in analysis of such requirements and further schema/menu design.

Eventually, to facilitate better understanding and more efficient ongoing usage of the mapping system by Burnaby staff, the Consultant would be prepared to function in an educational role, providing training seminars and/or additional documentation relevent to the usage, operation and maintenance of the system. This will become especially important if the Corporation decides to purchase the system software under the Irrevocable License, in which case Burnaby would have the responsibility of maintaining all source code, as well as the capability of modifying it.

Since the computerized mapping programme is highly specialized, we were not able to invite proposals from three consulting firms, in fact, the only alternative to the above proposal was to have a qualified computer programmer supplied by Synercom Technology Ltd. in Houston, Texas. This would have cost approximately \$15,000 including travel and accommodation costs.

Sufficient funds are available in the 1977 Budget to cover the proposed expenditure.

ITEM

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MANAGER'S REPORT NO. 11
COUNCIL MEETING Feb. 14/77

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RECOMMENDATION:

THAT the Municipal Engineer be authorized to retain S.L. Garth & Associates Ltd. to provide Burnaby Corporation with complete engineering menus and schema for the computerized mapping programme pilot project for the lump sum cost of \$6,000.

MR:wlh

MacKenzie Ross, P. Eng. MAPPING ADMINISTRATOR

E. E. Olson, P. Eng. MUNICIPAL ENGINEER