

ITEM 4
MANAGER'S REPORT NO. 67
COUNCIL MEETING 87/11/02

RE: MARINE WAY/10TH AVENUE CONNECTOR AND THE GILLEY ALTERNATE

MUNICIPAL MANAGER'S RECOMMENDATION:

1. THAT the recommendation of the Director Engineering be adopted.

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TO: MUNICIPAL MANAGER 1987 OCTOBER 28

FROM: DIRECTOR ENGINEERING

**SUBJECT: MARINE WAY/10TH AVENUE CONNECTOR AND THE GILLEY
ALTERNATE**

RECOMMENDATION:

THAT this report be received for the information of Council.

R E P O R T

Background

Council, at its regular meeting of 1987 February 23, approved the retention of an engineering consultant to design the Gilley Alternate phase of this project, which includes a portion of the Marine Way/10th Avenue Connector and the Gilley Alternate to 19th Street. The consultant's terms of reference included the preparation of an evaluation report addressing the question of how the three major intersections at 19th Street/18th Avenue, 19th Street/Edmonds, and Griffiths/Rumble would interact with each other, given that they are located in very close proximity to each other. The terms of reference also requested a separate report outlining the available alternatives for crossing Byrne Creek, B. C. Hydro Rail and the A.L.R.T. in the area immediately south of 19th Street. In addition, the successful consultant, Reid Crowther and Partners Ltd., proposed to examine a number of alternatives for crossing the Byrne Creek ravine immediately north of Marine Drive.

All three of these reports have now been completed and the consultant is proceeding with detailed design. The basic content of these reports is being submitted to Council for its information, in recognition of the fact that the detailed design stage must now recognize and incorporate the recommendations inherent in each of the respective special reports mentioned above.

Traffic Study at Three Intersections

This report was specifically requested in our terms of reference to prepare an evaluation report including recommendations on how the three intersections of 19th Street/18th Avenue, 19th Street/Edmonds, and Griffiths/Rumble, which are all in very close proximity to each other, will interact. The objectives of this study were: (1) to forecast travel demand on the proposed road network, (2) to analyze the impact of this traffic on the intersections, and (3) to develop the configuration of intersections to accommodate all turning movements.

(Cont'd.)

The consultant's report identifies both a very high 19th Street to Griffiths Avenue through traffic volume as well as a high 19th Street/Griffiths Avenue westbound to Rumble Street left-turning demand. The consultant therefore confirms the basic intersection configuration as shown on attached Figure 1 as being the most suitable one to accommodate those major movements; a number of possible alternatives were examined but no other configuration works as well as that shown on Figure 1. In addition, the consultant's final report makes the following recommendations with respect to the three identified intersections:

- (1) Each of the three intersections must be signalized. The optimization and phasing of this signalization will be carried out in the design phase.
- (2) The proposed intersection layout for each of these intersections is for 4-lane roadways with exclusive left-turn lanes where warranted. In addition, there should be right-of-way provisions made for widening Griffiths Avenue between Gilley and Kingsway. The consultant's report also recommends that the alignment of the proposed Griffiths Avenue/19th Street connection be finalized at this time, as it impacts on the detailed design of the Gilley Alternate/Edmonds intersection.
- (3) That 18th Avenue north of 19th Street be realigned to create a standard properly aligned intersection. This recommendation has already been incorporated into the Edmonds Station Area Plan.

Report on the Crossing of Byrne Creek/B. C. Hydro Railway/B. C. Transit Skytrain

The consultant's terms of reference specifically requested that he prepare a report outlining the available alternatives for crossing Byrne Creek, B. C. Hydro Rail, and the Skytrain line, which all co-exist just south of 19th Street. This report was to give due consideration to the environmental impact on Byrne Creek and, furthermore, it was to recognize input from B. C. Hydro Rail and B. C. Transit, the latter having responsibility for the A.L.R.T. guideway structure. Furthermore, the report was to address the cost/benefit aspects of each alternative and identify particular problems associated with any of the possible alternatives.

The consultant identified five (5) alignments which represented the range of solutions available. These alignments consisted of two basic categories: (1) at grade road/B. C. Hydro Rail crossings, and (2) separated road/B. C. Hydro Rail crossings. The general proximity of Byrne Creek, B. C. Hydro Rail and the Skytrain guideway severely constrained the design possibilities. In addition, the agencies responsible for these various facilities each had firm criteria, and, as such, the design possibilities were even further constrained. Considering all these factors, plus such others as roadway alignment aspects, land acquisition impact, and construction complexity and cost, the consultant has recommended that an at-grade crossing best meets all of the project requirements. The recommended alternative will require the lowering of a portion of the B. C. Hydro Railway in order to provide sufficient clearance between the proposed Gilley Alternate and the underside of the A.L.R.T. guideway structure. This recommended alternative also has the least amount of encroachment on Byrne Creek, requires the least amount of land acquisition and provides the best overall horizontal and vertical road alignments.

Arising out of the recommended alignment are a number of matters which will be dealt with during the design phase. These include establishing an arrangement and alignment for new culverts between 19th Street and Griffiths Avenue, arranging for B. C. Hydro Rail requirements for a temporary storage track during construction, the finalization of intersection design at 19th/Edmonds and determining whether the B. C. Parkway is to be grade-separated from the proposed Gilley Alternate by way of an overpass or an underpass. This latter item will be the subject of a separate report which will be available within a month.

Byrne Creek Bridge Alternatives (near Marine Drive end)

The consultant's terms of reference generally recognized an earlier study done with respect to the Gilley Alternate and Byrne Road upgrading. This earlier study identified an alignment which included a bridge structure over Byrne Creek ravine immediately north of Marine Drive. This alignment of the proposed Marine Way/10th Avenue Connector was approved in principle by Council at its meeting of 1983 September 06.

The consultant's proposal acknowledged that considerable work had been done on that previous study and that the bridge alternative appeared to be quite firm notwithstanding that the consultant did propose to examine other alternatives for crossing the Byrne Creek ravine. The principal reasons for the consultant wanting to review other alternatives are based on the following: (1) the potential for significant cost savings, (2) the possibility of changes in environmental agencies' requirements since the completion of the previous report which was more than seven years ago, and (3) the potential existence of alternative approaches to better address the question of linking Byrne Creek ravine park to the north with a new Byrne Creek linear park reconstruction to the south of Marine Drive. This aspect of the consultant's proposal was identified in our report to Council on 1987 February 23, at which time approval was given to engage the consultant. Based on Council's adoption of that report, we worked with the consultant on examining a number of alternatives for the Marine Drive/Byrne Road intersection and the crossing of Byrne Creek ravine.

The consultant has now completed sufficient detailed examination of a number of alternatives to show that one clearly emerges as the recommended solution. This recommended alignment has been thoroughly discussed with all affected Municipal Departments and has been given approval in principle by each. As the recommended alignment differs from that indicated in the earlier Gilley Alternate study, we are now advising Council of this fairly significant change.

The attached Figure 2 schematically shows three alternative alignments, of which #2 has two different approaches to the treatment of the Byrne Creek ravine and watercourse. The recommended alignment (#2) is considerably less costly than the original alignment requiring a bridge as proposed by the previous study; the magnitude of net savings is roughly estimated to be in excess of \$1,000,000. The recommended alternative does have a greater impact on acquisition of private properties than do the other alternatives. However, it does have the best road alignment and provides for a north-south continuity of the Byrne Creek ravine park across Marine Drive. The recommended alignment also has minimal impact on the agricultural land reserve.

The alternative alignment being recommended was not available at the time of the earlier study because at that time, which was

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prior to the adoption of the Municipal Transportation Plan, Marine Drive was considered to be a major arterial and, as such, it was required to connect to the Gilley Alternate by way of a fully-signalized intersection. Our current transportation plan downgrades Marine Drive, and accordingly the consultant was able to take more latitude with the recommended alignment in that it was no longer critical that Marine Drive be a full-movement intersection with the Marine Way/10th Avenue Connector.

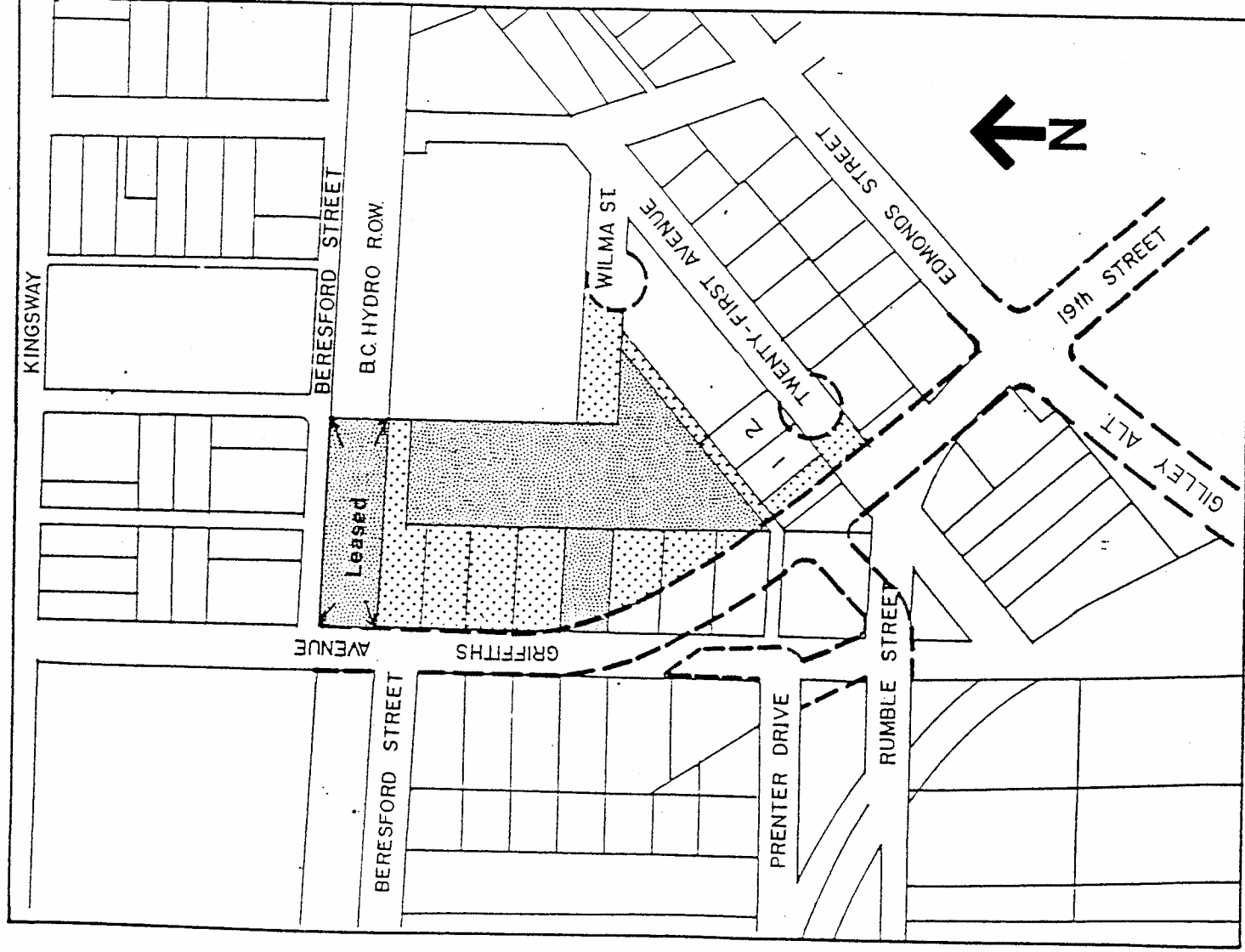
The consultant has been instructed to proceed with detailed design work but has not yet commenced work specifically on the newly-recommended alignment. The next step is to advise him to proceed with that portion of the design as well, which will identify necessary property acquisitions, following which a further report to Council will seek authority to commence negotiations for the required property.

VNW/EEO:ml
Attach.

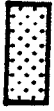

cc: Director Planning and Building Inspection
Director Recreation and Cultural Services


DIRECTOR ENGINEERING

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LEGEND

-  proposed park property
-  existing park property

PROPOSED INTERSECTION CONFIGURATION
 ON 19th. ST. /GRIFFITHS AVE.

