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As can be seen, the updated schedule identifies a three year construction program for Phase I with significant expenditures commencing in 1992. Some minor construction expenditures were made in 1991 however these were limited by the poor soil conditions encountered during the Fall rainy season. The updated schedule shows that if construction were to proceed continuously on Phase I, the two lane roadway could be completed by year end 1994. This schedule is, of course, contingent upon funding approvals in subsequent years beyond 1992.

The Phase I construction has been split into five stages, the first four of which are associated with geotechnical pre-loading and the fifth undertakes the road construction. Under the current schedule, placement of pre-load east of Royal Oak Avenue would be completed during 1992 with the exception of a crossing of the GVRD trunk sewer. To date, Council has approved construction of Phase I Stage I.

Tenders for Phase I Stage 2 have called and are scheduled to be presented to Council for contract award on 1992 June 29.

3.0 COSTS & FINANCING

Little inflation in construction costs has occurred since we last reported on this project in 1991 May.

A minor increase of \$75,000 is reflected in the adjusted estimates on Attachment "A". In addition, some components of work have been reallocated between Phase I and Phase II. Total project costs are now estimated at \$7,750,000.

To date, two Capital Works funding bylaws have been adopted for this project, namely bylaws #9351 and #9651 in the amounts of \$300,000 and \$400,000 for engineering fees and Phase I Stage 1 construction respectively. The 1992 Capital Budget includes an unappropriated amount of \$747,000. In order to proceed with the construction of Phase I Stage 2 it will be necessary to bring down a Capital Works Machinery & Equipment Reserve Fund Expenditure Bylaw in the amount of \$800,000, which will result in an increase in the current year's Capital Budget spending limit by \$53,000. This will permit completion of pre-loading east of Royal Oak Avenue with the exception of the GVRD sewer crossing.

	Current Estimate to <u>Dec 31/92</u>	Bylaws 9351/ <u>9651</u>	Funds Required for 1992
Engineering Fees	\$ 440,000	\$300,000	\$140,000
Construction	<u>1,060,000</u>	<u>400,000</u>	<u>660,000</u>
	<u>\$1,500,000</u>	<u>\$700,000</u>	<u>\$800,000</u>

The Municipality has recently been notified that a Provincial Revenue Sharing Grant has been awarded for this road project in the amount of 50% of \$2.37 million (ie. \$1.185 million). In order to take full advantage of this grant award, expenditures in the gross amount of \$2.37 million must be expended prior to 1994 March 31. Continuous implementation of the attached construction schedule would ensure full grant award.

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4.0 ENGINEERING FEES

This project has a heavy component of engineering services primarily due to its:

- environmental sensitivity
- geotechnical requirements
- extensive survey monitoring of settlement
- extended construction program

Bylaw #9351 authorizes engineering expenditures to an amount of \$300,000. Expenditures to date total \$260,000, the principle components of which are:

- predesign study including geotechnical, environmental, landscaping and acoustical subsections
- detailed design including several iterations culminating in the decision to phase the project
- Phase I Stage 1 construction supervision

Our consultant has reassessed the amended project scope and has projected additional engineering fees of \$140,000 to complete to the end of Phase I Stage 2. Subsequent Phases and Stages will require additional engineering allowances however the overall costs shown in the attached schedule make provision for these fees. The estimated overall engineering fee for the total project represents approximately 14% of the estimated construction cost which is considered reasonable for a project of this complexity.

At this time, however, specific Council authorization is required to increase Engineering Agreement E2/90 (Reid Crowther) by \$140,000 to cover engineering fees to the completion of Phase I Stage 2.


DIRECTOR ENGINEERING

WCS:jb
Attach.

cc: Director Admin. & Community Services
Director Finance
Director Planning & Building Inspection
Director Recreation & Cultural Services
Municipal Solicitor

DISTRICT OF BURNABY
MOSCROP / GILPIN CONNECTOR

PROJECT SCHEDULE AND COST ANALYSIS
prepared by REID CROWTHER
for June 8, 1992

OVERALL COST PER STAGE INCLUDING ENGINEERING	1990	1991	1992	1993	1994	1995	1996 and beyond
PHASE I TWO LANE ROAD CONSTRUCTION							
STAGE 1 Preload east of GVRD sewer Design Construction (Contract #9128) Settlement (9 months)	\$460,000						
STAGE 2 Preload west of GVRD sewer and east of Royal Oak Design Tender Construction (Contract #9213) Settlement (9 months)	\$760,000						
STAGE 3 Preload west of Royal Oak to Moscrop Street at Wayburne Drive Design Tender Construction Settlement (9 months)	\$1,495,000						
STAGE 4 Sewer relocation and associated preload (GVRD and Burnaby) Design Tender Construction Settlement (9 months)	\$475,000						
STAGE 5 Roads Construction Design Tender Construction	\$1,350,000						
PHASE II WIDEN TO ULTIMATE FOUR LANES	\$3,100,000						
ENGINEERING STUDY COSTS (completed in 1990)	\$110,000						
TOTAL COSTS AND EXPECTED CASH FLOW	\$7,750,000	\$130,000	\$150,000	\$1,220,000	\$1,900,000	\$1,250,000	NIL
all costs in 1992 dollars: inflation and GST not included							

ITEM 2
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