



CITY OF RICHMOND

REPORT TO COMMITTEE

TO: General Purposes Committee

DATE: July 5, 2000

FROM: Jeff Day, P. Eng.
Director, Engineering

FILE: 6340-20-P.99301

RE: No. 5 Road Box Culvert Construction - Horseshoe Slough to Machrina Way

STAFF RECOMMENDATION

That City forces construct the No. 5 Road Box Culvert from Horseshoe Slough to Machrina Way for a total estimated cost of \$1,544,000.00 including GST.

Jeff Day, P. Eng.
Director, Engineering

FOR ORIGINATING DIVISION USE ONLY		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Budget	Y <input type="checkbox"/> N <input type="checkbox"/>	

STAFF REPORT

ORIGIN

Construction of the No. 5 Road Box Culvert is included in the 2000 Construction Program. The City's Purchasing Policy states that any project exceeding \$250,000 "shall require a publicly tendered contract." The purpose of this report is to obtain Council's authorization to construct this project utilizing City forces.

ANALYSIS

Construction of the No. 5 Road Box Culvert requires construction of a concrete slab and box section as two separate construction operations. This has been the common practice in Richmond for many years in order to ensure that slab and box joints are staggered ensuring a water tight system. The City fabricated custom box culvert forms many years ago for this type of box culvert. For private contractors to construct this type of box culvert, custom forms would have to be manufactured, adding a significant cost to the project.

In addition, the Public Works forces have demonstrated their ability and skill in undertaking construction of box culvert ditch infills on several similar projects in past years in both a cost effective and efficient manner. We have confirmed with Public Works that their schedules will accommodate this work without adversely impacting current infrastructure maintenance levels. Construction will commence August 8, 2000 and be complete by December 15, 2000.

In addition, this project will allow City forces to maintain their construction skills, gaining experience and improving their efficiency.

FINANCIAL IMPACT

The estimated construction cost for this project is \$1,544,000 which is \$44,000 over the budget of \$1,500,000 allocated for this project in the 2000 Capital Program. The \$1,500,000 budget was based upon historical performance of City forces on similar projects. In the case of the No. 5 Road Box Culvert, a crossing of CN Railway tracks is required. CN Rail would not permit an open cut installation of the box culvert through their right of way due to the frequent use of these tracks. As a result, two large drainage pipes are to be jacked under the CN Rail. The pipe jacking work, which is worth approximately \$230,000 was not included in the original budget allocation of \$1,500,000.

We propose to re-allocate the additional \$44,000 required for this project from the Westminster Highway – No. 6 Road to No. 7 Road Ditch Infill and Watermain project (T.1521) unallocated funds (Project No. 45371). Funding details are appended.

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CONCLUSION

City forces have the necessary equipment and expertise to construct the No. 5 Road Box Culvert from Horseshoe Slough to Machrina Way efficiently. Utilizing this experience will allow City forces to further improve their skills ultimately resulting in reduced construction and maintenance costs.

Robert Gonzalez, P.Eng.
Project Engineer

RG:rg

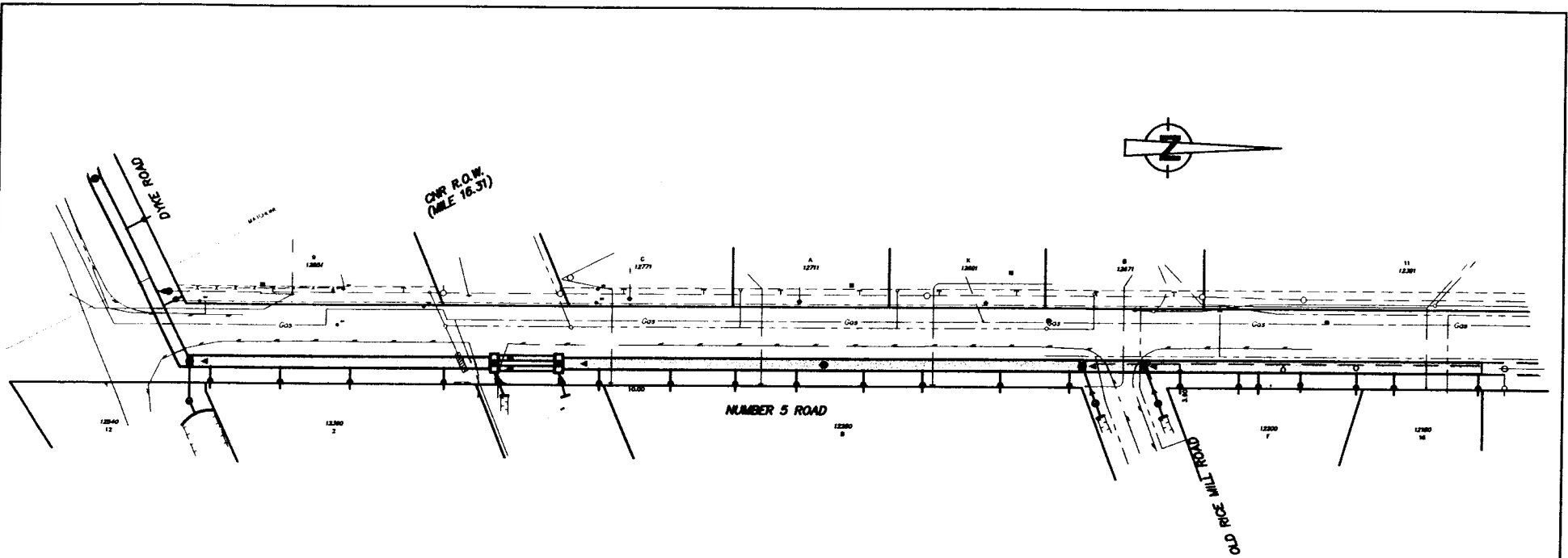
APPENDIX A

COST BREAKDOWN: No. 5 Road Box Culvert	
Cost Estimate (includes 11% Overhead and 3% GST)	\$ 1,470,000.00
Contingency (5%)	\$ 74,000.00
Estimated Total Project Cost	\$ 1,544,000.00

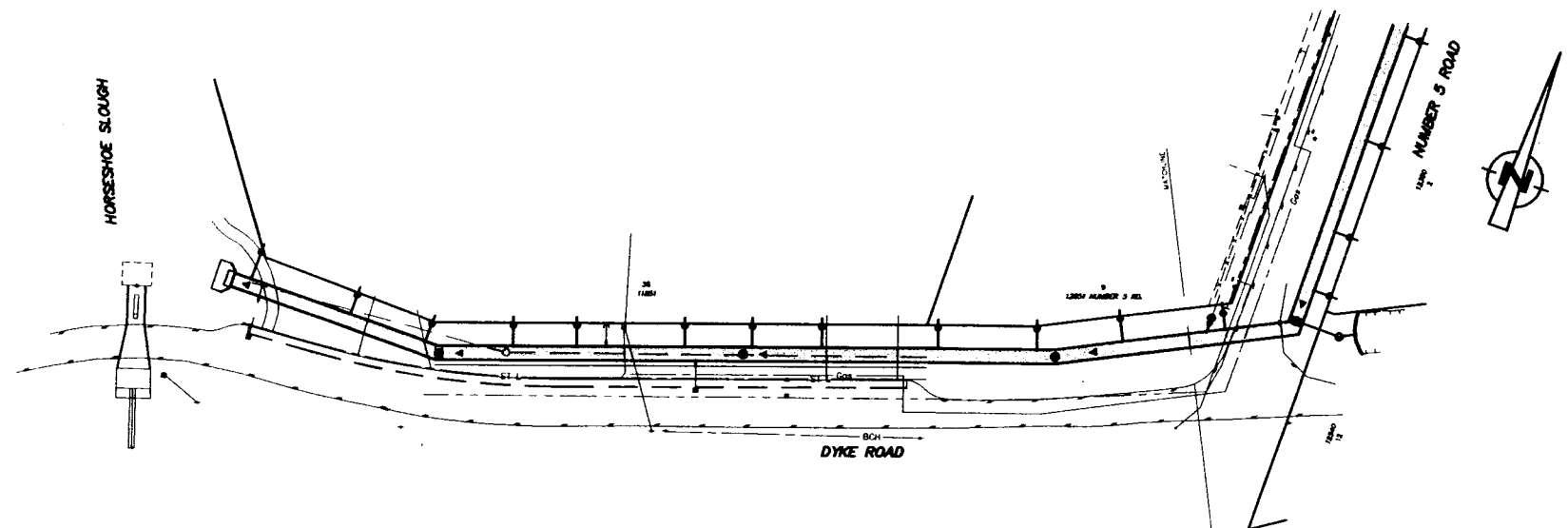
Funding sources are as follows:

Funding Source:	Project	Funding Approval to Date	Total Package Funding Required	Additional Funding Required (Unallocated)
1999 DCC Drainage BL# 6992 (1429)	No. 5 Rd. Box Culvert	\$ 1,425,000.00		
1999 Capital Rsv BL# 6991 (1409)	No. 5 Rd. Box Culvert	\$ 75,000.00		
TOTAL		\$ 1,500,000.00	\$ 1,544,000.00	\$ 44,000.00

Funding Source: Tender T.1521	Remaining Unallocated Funds	Additional Funding Required For No. 5 Road Box Culvert	Remaining Unallocated Funds
Westminster Highway – No. 6 Rd. to No. 7 Rd. Storm Sewer (2000 DCC Drain. BL# 7080 (1420))	\$ 291,418.00	\$ 44,000.00	(\$ 247,418.00)
TOTAL	\$ 291,418.00	\$ 44,000.00	(\$ 247,418.00)



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CONSTRUCTION OF STORM SEWER
 (2.29m x 1.37m BOX CULVERT)
 NORTH SIDE DYKE ROAD
 AND EAST SIDE NUMBER 5 ROAD
 FROM HORSESHOE SLOUGH TO MACHRINA WAY