



CITY OF RICHMOND

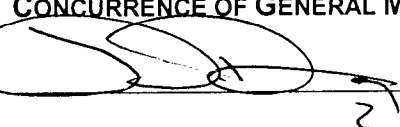
REPORT TO COMMITTEE

TO: Public Works and Transportation Committee **DATE:** April 2, 2004
FROM: Robert Gonzalez, P. Eng.
 Director, Engineering **FILE:** 6340-01
RE: 2003 Capital Program Water Projects Constructed by City Forces

Staff Recommendations

1. That \$110,000 of excess funds from the 2003 Minor Capital Waterworks Program Account No. 40419 be transferred to the Viking Way watermain replacement Capital Project Account No. 40418.
2. That \$37,753 of excess funds from the Blundell Road Capital Project Account No. 40311 be transferred to the Westminster Highway Ditch Infill Project Account No. 40323.

Robert Gonzalez, P. Eng.
Director, Engineering
(4150)

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ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Director Operations.....	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	 2
Budgets	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	

Staff Report

Origin

This report provides background information on Water and Drainage construction projects completed by City Forces in 2002 and 2003.

Discussion

City forces have demonstrated the skill to successfully undertake watermain replacement projects within local subdivisions in an efficient and cost effective manner. Maintaining a philosophy of project completion by City forces provides an opportunity for the City to:

- Maintain and enhance construction skills essential for day-to-day operations and emergency situations.
- Keep the private sector “in-check”, particularly during periods of high construction activity as we are currently experiencing.
- Eliminate the costs associated with risky projects in a competitive bid situation.

City forces were contracted to complete several watermain replacement projects in 2002 and 2003 as highlighted in Appendix A. Of note is the Actual Cost Total comparison to the Budget Total, which highlights the City forces ability to complete the work under budget. On a project specific basis, the Viking Way watermain replacement was the only 2003 project that is expected to exceed its budget by more than 5% in accordance with Purchasing Policy No. 3102.

The Westminster Highway Ditch infill was the only project involving Drainage infrastructure that exceeded the budget and was completed by City Forces in 2003.

Viking Way Watermain – Bridgeport Road to Cambie Road

The approved budget for this project was \$550,000 as compared to the projected final cost of \$660,000.

The portion of Viking Way between Bridgeport and Cambie represents an industrial/commercial area and presented a high degree of complexity in terms of traffic and underground utilities. Specifically, crews experienced a significant number of utility crossings that were more difficult than expected and were required on occasion to work night shifts to maintain water service to a number of businesses whose operations rely upon a regular water supply. Difficult and unanticipated ground conditions slowed crew productivity. Also of note is the recent retirement of the water construction Foreman leading to the assignment of this duty to a staff member new to this leadership role which led to some construction organization and planning inefficiencies.

Because sufficient excess funds remain in the 2003 Water Bylaw from projects completed within budget, this budget over expenditure can be accommodated through a transfer from the 2003 Water Minor Capital Works Account.

Westminster Highway Ditch Infill

The approved budget for this project was \$110,000 and the final cost was \$145,753 as completed by City Forces.

As discovered through the course of construction, a materials change was required to accommodate ground conditions that were not anticipated. Specifically, a different lighter weight material (high density polyethylene) became the required pipe and manhole material which replaced the concrete materials that are normally used in these instances. This change increased the cost of materials and decreased City Forces productivity. Because the construction window for the substantial portion of this project was two weeks, the project could not be delayed without causing significant additional overruns.

The budget over expenditure on this project can be accommodated through a transfer from the 2002/2003 Blundell Road Capital Project Account.

Financial Impact

The Viking Way and Westminster Highway project over expenditures of \$110,000 (estimated) and \$35,753 respectively can be accommodated from 2003 Minor Capital Waterworks project and the 2002/2003 Blundell Road Capital Project.

Conclusion

City Forces completed watermain construction projects within their total budget allowances in 2002 and 2003 and could continue to complete these types of projects in 2004. Given the lone Drainage project completed by City Forces in 2003 exceeded the budget for valid reasons, projects of this nature could continue to be assigned to City Forces.



Scott Groves, P.Eng.
Project Engineer, Engineering Design & Construction

SG/JVY:sg/jvy

Appendix A

2002/2003 Watermain Projects Completed by City Forces Budget versus Actual Cost Comparison

Project Name	Budget	Actual
Monds Watermain (2002)*	\$ 495,043	\$ 462,576
Mores Watermain (2002)*	\$ 574,000	\$ 470,848
Bakerview Watermain (2002)	\$ 251,000	\$ 284,728
Southdale Water Main (2002)*	\$ 330,000	\$ 328,808
Mores Watermain (2003)	\$ 483,000	\$ 497,271
Monds Watermain (2003)	\$ 500,000	\$ 452,358
Viking Way Watermain (2003)**	\$ 550,000	\$ 660,000
TOTAL	\$ 3,183,043	\$ 3,156,589

* Adjusted budgets as per the contracts with the Canada/BC Infrastructure Program grants.

** Estimated final actual cost.