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ADDITIONAL SCOPE OF SERVICE AND ENGINEERING CONSULTING FEES FOR BOGART CREEK SEWAGE PUMPING STATION UPGRADES

The Transportation and Works Committee recommends the adoption of the recommendation contained in the following report dated February 19, 2009, from the Commissioner of Environmental Services.

1. RECOMMENDATION

It is recommended that:

Approval be given to increase the scope of services and the expenditure limit of the contract issued to Delcan Corporation to provide engineering services for the detailed design, site inspection and contract administration services for the “York Durham Sewage System (YDSS) Overflow Security Implementation Project – Bogart Creek Pumping Station (PS) Upgrade” Project in the amount of \$47,084 from \$212,915 to \$260,000 excluding GST to cover additional contract administration and site supervision for a period of 78 days.

2. PURPOSE

This report is to obtain Regional Council approval to increase the purchase order amount for the previously retained consulting engineer to complete additional work. The Region’s Purchasing By-law A-0353-2004-089 allows the value of a purchase order to be increased beyond the 15% contingency and 20% scope subject to Council Approval. As both of these limits have been exhausted and additional funds are required to complete the contract administration and site inspection services, Regional Council authorization is required for the increase.

3. BACKGROUND

Delcan Corporation was retained in April 2006 to provide services for the Bogart Creek PS Upgrades

In 2006, Bogart Creek Pumping Station was assumed as a Regional facility. Prior to 2006, the facility was owned by the Town of Newmarket and operated by York Region. In 2006, a project was initiated to assess and upgrade the facility. The original assignment included review and assessment of the Bogart Creek PS equipment and processes (mechanical, electrical, SCADA, instrumentation and control), design of upgrade equipment and processes, detailed and contract administration. The primary scope of the project RFP was to undertake a condition assessment and provide detailed design services

and contract administration, retrofit the inlet works consisting of a channel grinder, overflow system and provide a new flow meter.

4. ANALYSIS AND OPTIONS

Merging of Capital Project 75270 required addition of fourth pump during the Design Stage to allow development in the Bogart Creek Subcatchment following the condition assessment

In 2007 during the detailed design phase of the Bogart Creek Sewage Pumping Station Upgrades project, a new project was identified by the Infrastructure Planning group to service future development by increasing pumping capacity. To realize economies of scale and minimize disruptions to operations, staff merged the two projects and increased the scope of the project and the associated engineering fees within limits approved by the Region's Purchasing By-law. Consequently, the engineering scope was revised to include design, contract administration and site inspection services associated with addition of a fourth pump. Consideration was given to minimizing the impact on the cost and schedule of the ongoing project. Merging the projects also allowed for enhancement of the instrumentation and controls at the pumping station.

These design changes required more time for construction than was envisioned in the original assignment. The RFP had contemplated 87 construction days. The construction schedule was revised to account for the scope by adding the fourth pump and revisiting the control philosophy of the Bogart Creek Sewage Pumping Station.

As noted above, the original purchase order was increased in accordance with the provisions of the Purchasing By-law by 15% contingency and 20% scope (increased by \$55,200 from \$157,715 to \$212,915). This increase addressed the design fees for the above scope change related to the inclusion of the fourth pump (\$46,485) and contract administration services for 15 construction days (\$8,715).

Subsequent to the increase in project design scope, it was determined that the actual number of person days required for contract administration (CA) and site inspection (SI) was 180 days (i.e. additional 93 construction days). One of the primary reasons for the additional person days was the lack of accurate as-built information on the existing system. As a result, the consultant was required to physically locate electrical and control wiring and troubleshoot various difficulties encountered by the contractor in connecting and commissioning various components. Additional funds are now required in order to address the 78 additional construction days associated with the expanded project scope. (See Table 1 below.)

Table 1
Engineering Fee Breakdown

	Fees	Person Days for CA and SI
Condition Assessment	\$19,610	
Detailed Design	\$72,525	
Construction Supervision and Contract Administration (in RFP)	\$65,580	87
Original RFP Total Fee	\$157,715	
Increase Approved by Staff	\$55,200*	15
Subtotal	\$212,915	102
Additional funds required for new duration of construction	\$47,084**	78
Total	\$260,000	180

*Design services (\$46,485), and Contract admin and site inspection (\$8,715)

**Contract administration and construction inspection services only

5. FINANCIAL IMPLICATIONS

Engineering Contract Includes Add/Delete pricing for Additional Construction Duration

The engineering agreement with Delcan Corporation includes add/delete pricing for contract administration and site inspection services in the amount of \$600 each construction day of additional or less time required.

An increase to the purchase order in the amount of \$47,084 is now required to cover contract administration and site inspection services for the additional 78 construction days.

There are sufficient funds in the 2009 Wastewater Capital Plan to cover the cost of additional required services during construction as documented in this report.

The combined projects in the 2007 Capital Plan had a combined project budget of \$1,400,000. It should be noted that the combined project will be completed within budget at a total project cost of \$900,000.

Since 2002, 686 purchase orders with a total value of \$1,257,887,574 have been issued to secure engineering, consulting and construction services on water and wastewater projects. Of these, 64 or 9% of the purchase orders have required increases beyond the increases allowed in the Regional Purchasing By-law. The total value of such increases is \$36,197,666 or 3% of the total original value of the purchase orders.

6. LOCAL MUNICIPAL IMPACT

This work has resulted in a more reliable and efficient wastewater pumping station in the town of Newmarket.

7. CONCLUSION

Delcan Corporation is completing this project in a professional manner; however to compensate them for the additional required work, an increase in the current purchase order is necessary.

For more information on this report, contact Tom Agnew, Manager, Engineering, Environmental Services at extension 5073.

The Senior Management Group has reviewed this report.