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YDSS 16TH AVENUE TRUNK SEWER PROJECT POST-CONSTRUCTION ENVIRONMENTAL MONITORING AND MITIGATION PROGRAM TOWN OF MARKHAM, PROJECT 74030

The Transportation and Works Committee recommends the adoption of the recommendations contained in the following report, January 24, 2008, from the Commissioner of Environmental Services:

1. RECOMMENDATIONS

It is recommended that:

1. The budget for the third year of the three-year program for the Gartner Lee Limited assignment related to post-construction environmental monitoring, mitigation and constructive engagement services be approved in the amount of \$695,369 excluding GST.
2. The upset limit for Gartner Lee Limited services be increased by \$695,369 from \$4,111,518.29 to \$4,806,887.29 excluding GST.

2. PURPOSE

This report seeks approval to continue the third year of services with Gartner Lee Limited for the post-construction environmental monitoring and mitigation program. These services are necessary to satisfy the requirements of the Permit to Take Water for the YDSS 16th Avenue Trunk Sewer Project. The Purchasing By-law requires Regional Council approval to proceed with this increase.

3. BACKGROUND

To satisfy requirements under the Permit to Take Water issued to the Region by the Ministry of the Environment (MOE), an extensive monitoring and mitigation program is in place. Regional Council, at its meeting on January 26, 2006 adopted Clause 1 of Report No. 1 of the Transportation and Works Committee which approved the retention of Gartner Lee Limited to provide post-construction monitoring and mitigation services for a three-year term. At that time, the costs associated with the three year program were outlined in detail, however, given the uncertain nature of the scope of services and to ensure accountability and further optimization of costs, it was agreed the post-construction budget would be approved annually.

With the completion of construction in August 2007, the need for construction related dewatering has been completely eliminated. Current project dewatering is only required to meet the supplementation requirements of area creeks as outlined in the Region's Permit to Take Water.

Accordingly, at this point, authorization is being sought for the approval of year three of the post-construction monitoring budget.

4. ANALYSIS AND OPTIONS

4.1 Rationale

Reason to Continue with Gartner Lee Limited for a Third Year of Services

On February 1, 2006, Gartner Lee Limited assumed monitoring and mitigation responsibilities for a large portion of the project from the design-build consortium (the McNally/Aecon Joint Venture). Gartner Lee Limited assumed monitoring and mitigation responsibilities for the balance of the project on November 1, 2006. Gartner Lee Limited's transition into post-construction monitoring on all project sites was seamless. Since 2006, all monitoring and reporting requirements have been streamlined and made more efficient.

Given that Gartner Lee Limited has successfully completed over two years of monitoring for this project and has extensive knowledge specific to this project, it would be advantageous to have the same consultant complete the third year of monitoring.

4.2 Scope of Work

Some Gartner Lee services are pending

To satisfy requirements under a Permit to Take Water issued to the Region by the Ministry of the Environment (MOE), an extensive environmental monitoring and mitigation program is in place. Furthermore, in order to satisfy an MOE requirement that the Region complete a series of environmental improvements, an in-depth consultation program is underway to help strategically identify and select specific improvement opportunities.

Information is exchanged with various approval agencies including the Toronto and Region Conservation Authority (TRCA), Federal Department of Fisheries and Oceans and Ministry of the Environment. The following summarizes the key elements of the program:

Surface Monitoring and Mitigation

- Continue to monitor and report on the health of area creeks within the project zone of influence.
- Implement mitigation, as required.
- Monitor the effects of mitigation and determine the need for continued response if necessary.

The area of monitoring will continue to decrease in size as the area of dewatering influence grows smaller. The monitoring approach is designed to comply with the Region's Permit to Take Water. Surface monitoring locations are identified on *Attachment 3*.

Groundwater Monitoring

Groundwater monitoring includes the following activities:

- Collect groundwater levels.
- Record levels and input into a database.
- Evaluate/interpret data to determine aquifer recovery.
- Report bi-monthly.

The monitoring program includes the collection of groundwater levels from a network of 79 observation wells, 49 piezometers, and 50 private wells on a weekly and bi-weekly basis as described in the monitoring plan entitled York Region's Commitment to Well Mitigation (Inspec-Sol/CRA, 2004). Groundwater monitoring locations are identified on *Attachments 1 and 2*.

Post-Construction Mitigation Approach

- Operate pumps and distribution systems to meet stream supplementation needs.

Reporting

- Satisfy all reporting requirements of the Permit to Take Water including detailed bi-monthly monitoring submissions and less detailed weekly submissions.

Stream Net Improvement Plan

- Liaise with a stakeholder advisory group regarding the selection and implementation of environmental enhancement projects mandated by the Minister of the Environment's letter dated October 1, 2004.
- Provide design and inspection services for environmental enhancement projects.

Constructive Engagement of Stakeholders

- Ongoing communication with the public and agencies throughout the post-construction monitoring and mitigation.

All information collected during the monitoring program is assessed and reported on a regular basis through the constructive engagement process. As well, it is proposed that the constructive engagement process continue to effectively communicate the state of the environment and status of environmental improvements to stakeholders.

The work program is required to maintain compliance with the MOE's requirement for a complete public engagement program for the 16th Avenue Trunk Sewer project during the post-construction phase of the project.

The Region has been successful in mitigating any adverse environmental effects associated with the dewatering activities of the 16th Avenue Trunk Sewer project. Over the next few months mitigation, as required, will be provided, with flow supplementation to area creeks, using small amounts of groundwater until the Thorncliffe aquifer has fully recovered. The Thorncliffe aquifer has already recovered by over 80% in the area of Stone Mason Boulevard and continues to recover steadily. Full recovery of the Thorncliffe aquifer is expected before the end of 2008, far sooner than originally anticipated.

5. FINANCIAL IMPLICATIONS

The requested fees, for the third year of the program, in the amount of \$695,369 represent approximately 0.7% of the total project cost which is currently estimated at \$103 million. Forty percent of the recommended amount of \$695,369 is allocated to tasks relating to environmental improvement initiatives while the remaining amount is budgeted for continued environmental monitoring and reporting.

The Table below provides a summary of past increases. Increases approved by staff were for scope changes that were required after the annual report to Council.

Table 1
Summary of Blanket PO B8482

Year	Council Approved P.O. Amount	Increases Approved by Staff	Total
2005	\$750,000.00		\$750,000.00
2006 (Year 1)	\$1,469,000.00	\$244,090.00	\$1,713,090.00
2007 (Year 2)	\$1,215,661.00	\$432,767.29	\$1,648,428.29
2008 (Year 3)	\$695,369.00		\$695,369.00
			\$4,806,887.29

Funding for this project is derived from wastewater development charges and wastewater user rates allocated 80% and 20%, respectively. Sufficient funds are available within the 2008 10-Year Capital Plan to cover the cost of services to be provided by Gartner Lee Limited for this project.

6. LOCAL MUNICIPAL IMPACT

The 16th Avenue Trunk Sewer is an integral component of long-term infrastructure being constructed to maintain the environmental protection afforded by the YDSS. The section of trunk sewer provides needed relief to all of the local municipalities reliant upon YDSS servicing.

7. CONCLUSION

As the 16th Avenue Trunk Sewer project nears completion, it is necessary to complete the monitoring and reporting of the groundwater recovery and the health of the surrounding environment.

Post-Construction monitoring is necessary throughout 2008. At this time it is not anticipated that monitoring and mitigation will not be required in 2009.

For more information on this report, contact Bala Araniyasundaran, extension 5131, Director, Capital Delivery of the Water and Wastewater Branch in the Environmental Services Department.

The Senior Management Group has reviewed this report.

(The attachments referred to in this clause are attached to this report.)