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CONSULTANT AWARD FOR CONSTRUCTION INSPECTION AND CONTRACT ADMINISTRATION SERVICES FOR THE YDSS INTERCEPTOR TRUNK SEWER PROJECT 76050

(At the Regional Council Meeting of May 25, 2006 Mayor Black disclosed an interest in the following Clause as her spouse works for a company that is a sub-contractor on this project. Mayor Black did not take part in the consideration or discussion of or vote on this item.)

The Transportation and Works Committee recommends the adoption of the recommendations contained in the following report, April 28, 2006, from the Commissioner of Transportation and Works:

1. RECOMMENDATIONS

It is recommended that:

1. The consulting engineering firm of Earth Tech Canada Inc. (Earth Tech) and their subconsultants be retained for the remainder of the YDSS Interceptor Trunk Sewer project to provide environmental management, construction inspection and contract administration services at an upset limit of \$1,080,900 and \$3,819,808, excluding GST, respectively, for the open cut contract and tunnelling contract.
2. Existing purchase orders totalling \$4,859,737 issued to Earth Tech be increased by \$375,000 to a combined upset limit of \$5,234,737, excluding GST.

2. PURPOSE

The purpose of this report is twofold:

1. To seek authorization to continue the services of Earth Tech to complete the environmental management, construction inspection and contract administration services for the YDSS Interceptor Trunk Sewer Project, subject to Earth Tech executing the Region's standard Engineering Agreement.
2. Additionally, to seek authorization to increase the current purchase orders under the design phase of the project for additional engineering services.

3. BACKGROUND

3.1 The Need

Both the 1997 York Durham Sewage System (YDSS) Master Plan and 2002 Master Plan Update stated that the existing YDSS Interceptor Sewer would reach its capacity based on projected infill, densification and managed growth in the Towns of Richmond Hill, Aurora and Newmarket. The interceptor is needed to alleviate the potential surcharging and to accommodate approved growth in accordance with the Regional Official Plan and the Province's "Places To Grow" document.

3.2 Project Description

A Schedule B Class Environmental Assessment was completed in June 2003 which identified a sewer connecting to the existing YDSS sewer at Yonge Street, running east along 19th Avenue in the Regional right-of-way and south along Leslie Street to reconnect into the existing YDSS sewer as the preferred alternative.

Subsequent to the Minister's letter of October 1, 2004, the Region submitted to the Ministry of the Environment (MOE) on October 17, 2005, the "New Comparison of Alternative Route Alignments" documentation. In a letter dated March 28, 2006, the Ministry has accepted the preferred route of 19th Avenue and Leslie Street and confirmed the proposed technology for the project (*see Attachment 1*).

3.3 Project Status

3.3.1 Original Scope of Work

Earth Tech was retained in November of 2003 through a competitive process to undertake the detailed design and contract administration services for the 19th Avenue Interceptor Trunk Sewer Project at an upset fee of \$794,655 Earth Tech proceeded on the basis of an open cut construction sewer.

Following receipt of the letter from the Minister of the Environment in October 2004 and the denial of a bump up request against the YDSS Interceptor project, the Minister imposed 11 conditions which dramatically changed the nature of the project and the scope of work. Regional staff met Earth Tech representatives to discuss the work plan required in order to satisfy the Minister's conditions. At this point, Earth Tech assembled a partnership of first-class specialists to undertake this assignment and address all issues from the additional alternative assessment phase through to tendering.

In December 2004, Regional staff prepared a report to reflect the increase in scope of work that was anticipated at that time, to comply with the Minister's Conditions. Council authorized \$2,683,000, excluding GST, to complete the work up to tendering. With respect to the contract administration and site inspection services, the *December 2004 Council Report, Section 5.1.1* clearly articulated the following:

“The Region will negotiate the terms of the contract administration services once the detailed design and the permitting and approvals have been completed and the construction methodology identified. Regional Council’s approval for the contract administration fees will be secured if significant additional fees are required in addition to the already authorized purchase order.”

Given the preferred route identified in the New Comparison of Alternative Route Alignments document and the substantial change in technology and construction methodology recommended to minimize impacts to the natural environment and the public, significant additional Contract Administration fees are required. Table 1 provides a listing of the fees required to complete engineering services for the construction inspection / contract administration portion of this project itemized opposite Earth Tech and their team of subconsultants.

3.3.2 Design of the YDSS Interceptor Trunk Sewer

Earth Tech Consultants have completed the design and contract documents for this YDSS Interceptor Sewer Project. The construction phase has been separated into two contracts; one for the open cut portion along Leslie Street and another for the predominantly tunnelled portion along 19th Avenue with a short reach, also using Earth Pressure Balance (EPB) machines, south on Leslie Street.

3.3.3 Approvals and Tendering

All applications for approvals and permits for both construction projects have been submitted to the appropriate agencies with the Permit to Take Water (PTTW) and the Certificate of Approval for 19th Avenue Tunnel portion expected in May 2006. The Toronto Region Conservation Authority (TRCA) permit required to complete the crossing of two Rouge tributaries on Leslie Street along with the Department of Fisheries and Oceans (DFO) Letter of Advice is expected by the end of April 2006.

Subsequent to receiving a letter from the MOE on March 28, 2006 in which the Ministry accepted the preferred route of 19th Avenue and Leslie Street and confirmed the use of EPB tunnelling technology and the recommended construction technologies, the Region received the Certificate of Approval for the Leslie Street open cut contract T-06-18 from the MOE on March 29, 2006.

This Leslie Street open cut contract closed April 11, 2006 and was awarded on April 18, 2006 to the low bidder, Memme Excavation Company Ltd. at a bid cost of \$8,485,001.67 including taxes. Contract T-06-29 for 19th Avenue tunnelled was tendered April 25, 2006, and closes May 30, 2006.

4. ANALYSIS AND OPTIONS

Originally, it was anticipated the YDSS Interceptor Trunk Sewer would be completed as recommended in the 2003 EA, in open cut and be similar to various sewer projects completed in the past. However, the Region's recent experiences with the 16th Avenue Trunk Sewer project have highlighted new and emerging technical, hydrogeotechnical, environmental, stakeholder, public and political concerns and issues which are applicable to the YDSS Interceptor project. Lessons learned show that all studies, field data collection and collation as well as public consultation, an environmentally sound design and above all, a transparent process must be completed at considerably greater cost to the project to anticipate and avoid future negative impacts.

Therefore, Regional staff have now followed through on the commitment to negotiate the terms of the contract administration services with Earth Tech and are seeking Council approval for significant additional fees for the contract administration in addition to the already authorized purchase order.

4.1 Construction Inspection / Contract Administration / Environmental Management

A proposal submitted by Earth Tech addresses all the Region's requirements to complete the management and administration of both contracts. Further, Regional staff has required Earth Tech to submit a staffing and organizational chart appropriate for each of the two contracts. In particular, for the tunnelling contract, with EPB technology and specialized design for the segment sections, the Region has required that Earth Tech retain Hatch Mott MacDonald as the experts for this part of the project. There is a vital component of each contract to be staffed by Earth Tech's subconsultants Beatty & Associates and Michalski Nielsen Associates related to environmental field monitoring, interpretation and reporting of all aspects relating to the Environmental Management Plan. Earth Tech's role will be the overall coordination for both contracts and the administering of the Leslie Street open cut contract.

It is recommended that Earth Tech and their subconsultants continue for the remainder of the project in order to maintain the continuity and knowledge gained on the project to date and to ensure accountability throughout the construction phase. Key members have been selected based on their project experience and their successful relationships with York Region and the approval agencies. This is consistent with our previous commitment in Section 5.1.1 of the December Council Report regarding negotiation of contract administration services.

5. FINANCIAL IMPLICATIONS

5.1 Project Engineering Fees

5.1.1 Construction Inspection/Contract Administration

In support of the Regional Project Team's request for the award of the construction inspection and contract administration to Earth Tech Consultants and in acknowledgement that Earth Tech has put together two teams that meet the Region's expectation in experience and expertise, attached are the two construction organizational charts supplied by Earth Tech. (*See Attachments 2 and 3*).

The table below sets out the highlights of Earth Tech's and their subconsultant's fee and staffing proposal with a total dollar amount being requested for each of the two contracts.

Table 1
Costing to Administer YDSS Interceptor Construction Contracts

Consultant	Task/Item	Cost
T-06-18 Leslie Street Open Cut		
Earth Tech	Fee	\$457,980
Earth Tech	Disbursements	81,580
Subs – Beatty & Associates, Michalski Nielsen, Parrish	Environmental Monitoring	422,092
Sub - InspecSol	Reactive Mitigation Call Centre	41,600
Subs	Geotechnical/Materials Testing	77,648
TOTAL COST		<u>\$1,080,900</u>
T-06-29 19th Avenue Tunnelled		
Earth Tech	Fee	\$1,151,016
Earth Tech	Disbursements	205,400
Sub – Hatch Mott MacDonald	Tunnel inspection services	679,080
Subs – Beatty & Associates, Michalski Nielsen, Parrish	Environmental Monitoring	1,189,663
Sub - InspecSol	Reactive Mitigation Call Centre	253,005
Subs	Geotechnical/Materials Testing	341,644
TOTAL COST		<u>\$3,819,808</u>

The Environmental Management Plan required and produced for this project is unprecedented from previous Regional projects in terms of depth of baseline field testing and documentation, wide ranging scope of monitoring, recording and reporting in defence and protection of the natural and protected environment including requirements for the Oak Ridges Moraine and consideration of ground and surface water protection. This is reflected in the \$1.2M fee associated with environmental monitoring. Two tasks that exemplify the complexity are outlined below.

1. Verification of construction conformance to the following:
 - Environmental permit and exemption requirements.
 - Protection of wetland and other environmentally sensitive areas.
 - Erosion and sedimentation control.
 - Noise abatement requirements.
 - Spill response.
 - Excess material/waste management.
 - Site remediation.
 - Watercourse/fisheries protection.
 - Groundwater taking (PTTW – maximum L/min and L/day).
2. Prepare an environmental monitoring report every two months to include all data collected since the previous report. These reports will identify any exceedances of trigger levels, the response to such exceedances, and any associated longer-term implications of such occurrences.

5.1.2 Additional Out-of-Scope Consultant Fee Requirement

Following extensive review and consideration by the Regional project team, the following table sets out the approved fee history and the additional fees that are considered to be relevant and owed to Earth Tech in their completion of the design of the YDSS Interceptor Trunk Sewer. This combines two purchase orders issued to Earth Tech, B7928 and B8578. The total at the bottom provides the total fixed value of Earth Tech's fees up to completion of the design and tendering phase of the YDSS Interceptor Trunk Sewer project.

Table 2
Earth Tech Consulting Fees (excluding GST)

Original Fee	Added Fee / Contingency Activation	Rationale	Date of Revision	Revised Fee total
\$794,655	\$406,690	Additional EA requirements	March 25, 2004	\$1,201,345
\$2,709,920*	\$948,472	Additional work after October 2004 Minister's letter	September 23, 2005	3,658,392
\$4,859,737**	\$375,000	Approved scope of work changes	Pending Council Approval	<u>\$5,234,737</u>

* Council Authorized December 2004

** combined revised fee total

6. LOCAL MUNICIPAL IMPACT

The YDSS Interceptor Trunk Sewer system is one of the pillars of our public infrastructure – providing both environmental and public health protection. Planned growth within our communities demands ever increasing attention as we pursue the objective in the Regional Official Plan; sustainability, measured through healthy communities, a robust economy and protection of the natural environment. The original YDSS project met these needs for over 20 years. Growth requirements have been the subject of comprehensive Master Plans in 1997 and 2002, completed in accordance with the Environmental Assessment Act. This project now pending construction is required to uphold the high degree of environmental and public health protection afforded by the system since its inception, which reflects Regional Council's commitment to protect the environment.

7. CONCLUSION

The YDSS Interceptor Trunk Sewer will have a direct impact on existing approved development if not in service in a timely manner. This project is considered critical to the ability of the Region to provide continued safe, effective wastewater service to its residents.

Providing Earth Tech Consultants with the required fees to undertake and successfully complete both the construction inspection/contract administration of the two contracts as well as fully complete the design and approvals phase will allow the Region to benefit from Earth Tech's thorough understanding of the project and ensure continuity and one source of accountability for all issues associated with completion of the project.

The Senior Management Group has reviewed this report.

(The attachments referred to in this clause were included in the agenda for the May 10, 2006 Committee meeting.)