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CONSULTANT SELECTION FOR THE CONDITION ASSESSMENT OF THE YORK-PEEL FEEDERMAIN

The Environmental Services Committee recommends the adoption of the recommendation contained in the following report dated September 12, 2012, from the Commissioner of Environmental Services.

1. RECOMMENDATION

It is recommended that:

1. Pure Technology Ltd. (Pure Technology) be engaged to undertake the condition assessment of the York-Peel Feedermain as outlined in this report, at a fee of \$1,243,000 excluding taxes.

2. PURPOSE

This report seeks Council authorization to obtain consulting services to undertake the condition assessment of the York-Peel Feedermain.

The Region's Purchasing By-law requires Council authorization to award a Request for Proposal (RFP) over \$500,000. In this case, the sole responding proponent's bid is greater than \$500,000.

3. BACKGROUND

Condition assessment of infrastructure supports rehabilitation and replacement planning

Infrastructure in York Region is key to the quality of life enjoyed by residents. Water infrastructure is a key enabler to provide drinking water services, and it helps to sustain a growing Region. Large diameter transmission mains owned by the Region form the backbone of the water supply system in the Region. Reliability of large diameter transmission mains is vital to deliver uninterrupted and quality water services to customers. Large diameter watermain transport water from the sources (treatment plant, pumping stations, etc.) to the local distribution system and smaller diameter watermain (owned by local municipalities) distribute water to customers.

Watermain deteriorate as they age and longevity of the watermain depends on many factors, including external and internal operating conditions, construction and material

quality, and soil conditions. Condition assessment provides information necessary to assess the physical condition and operating performance, probability of failure, remaining service life and possible intervention time for rehabilitation and replacement to avert failure. Condition assessment is important to manage watermain in a proactive manner to make informed asset management and risk mitigation decisions.

The York-Peel Feedermain is the most critical watermain delivering water from Peel Region to the York Water System

In 2011, the York-Peel Feedermain delivered approximately 17% of the total water consumed in York Region, which is expected to grow to approximately 37% by 2031. The York-Peel Feedermain connects the York water system with one of the key water sources and provides water supply security in the event that water supply from Toronto is interrupted for any reason.

The York-Peel Feedermain was constructed in 2005. It is an 1800 mm watermain made of pre-stressed concrete pipe. The Region owns approximately 18 km, starting from Highway 50 and Rutherford Road to South Maple Reservoir located at Teston Road and Keele Street (see *Attachment 1*). The feedermain traverses through varied topographies, urban development and soil conditions between Peel Region and the South Maple Reservoir in York Region. Although the York-Peel Feedermain is relatively young, it is important to assess the condition of this pipe as it is the single link from Peel Region which makes this watermain critical to ensure reliable water service in the Region.

The York-Peel Feedermain is a priority project in the Condition Assessment Program

This project is part of a Region-wide condition assessment program. As part of sustainable asset management, condition assessment projects are prioritized based on risk in an effort to balance risk and cost. The York-Peel Feedermain has been identified as a priority project based on the high criticality, lack of redundancy and potentially high consequence and cost of failure.

The project will determine the baseline condition of this critical watermain to guide development of future condition assessments and monitoring programs to mitigate risks. The project will perform leak detection along the entire 18 km of the feedermain by deploying acoustic leak detection tools while the watermain remains in service. The project will also confirm the condition of pre-stressed wires within the 18 km of the feedermain by using a non-destructive electromagnetic tool without interrupting water services. Based on the condition of the York-Peel Feedermain derived from this condition assessment project, the Region will continue to consult with Peel staff on the need to have a subsequent condition assessment performed on the 6.7 km of feedermain located in Peel Region.

The Region is also planning to install an acoustic-fibre-optic monitoring system for real-time condition monitoring for the York-Peel Feedermain in 2014. Baseline data collected from this condition assessment project will assist in monitoring the integrity of this pipeline over its projected service life.

4. ANALYSIS AND OPTIONS

Request for Proposal for condition assessment of York-Peel Feedermain was issued through an open bid process and closed on August 2

In accordance with the Region's Purchasing By-law, Request for Proposal (RFP) P-12-56 was released to obtain engineering consulting services for the condition assessment of the York-Peel Feedermain. RFP P-12-56 detailed the scope of work required, which included the following components:

- Pre-Assessment Work
- Field Investigation
- Condition Assessment and Reporting
- Other Requirements, including site restoration and project management

The RFP closed on August 2, 2012. Although fourteen (14) firms obtained the bid document, Pure Technology was the only firm to submit a proposal. Supplies and Services staff contacted the companies who received the RFP document but did not respond. The primary reasons provided for not responding were as follows:

- Insufficient capability to perform the specialized work
- Company does not provide the service as specified in the scope
- Could not submit a competitive bid

Condition assessment of the York-Peel Feedermain requires specialized acoustic and electromagnetic equipment and experience to perform condition assessment of buried pre-stressed concrete pipe while keeping this critical feedermain in service. Recent consolidations in the industry have resulted in a limited number of companies in North America and world-wide that have these specialized condition assessment technologies.

Proposals evaluated using the two-envelope system

The proposal was evaluated using the two-envelope system with technical and financial information submitted in two separate envelopes. The overall proposal score was evaluated based on a weighting of 80 points for the technical proposal and 20 points for the financial proposal. The technical proposal was evaluated prior to any knowledge of financial information.

The Region's proposal evaluation team reviewed the submitted technical proposal based on the following criteria as listed in Request for Proposal P-12-56:

- Proponent Project Team experience
- Corporate experience including similar work with the Region
- Project Manager's experience
- Professional and Technical Support Staff experience
- Staff training
- References
- Project implementation
- Completeness and comprehensiveness of the proposal submission
- Understanding of the project and the services to be provided
- Viability of the approach methodology
- Understanding of the deliverables to be provided
- Approach to health and safety
- Value added services
- Innovative concepts/ideas

Technical components of the proposal must achieve a minimum technical score of 60 per cent (48 points out of the potential 80 points) to have the financial portion of the proposal considered. If a proponent does not achieve this minimum technical score, their financial proposal is returned unopened. Technical and financial results are summarized in Table 1.

Table 1
Consultant Proposal Evaluation Summary

Consulting Engineering Firm	Technical Score (out of 80)	Financial Score (out of 20)	Total Score (out of 100)	Total Price (\$)
Pure Technology Ltd.	57.65	20	77.65	\$1,243,000.00

Evaluation of proposals revealed Pure Technology as the successful bidder with required skills to deliver project

The Region's proposal evaluation team, including Supplies and Services evaluated the proposal and the score assigned to Pure Technology was attributed largely to the specialized technology to be used for condition assessment, experience of the team and resources assembled for this project. The proposal submitted by Pure Technology represents good value to the Region. The fee quoted for this project is within the range of staff's pre-bid cost estimate and the total cost appears in line with similar work on large diameter watermains completed in other jurisdictions (see Table 2).

Table 2
Cost Comparison of Condition Assessments by Pure Technology

Client	Year	Pipeline	Length and Diameter	Total Cost	Cost per km
City of Ottawa	2011	Orleans Watermain	3.9 km, 1200 mm	\$214,800	\$55,076
York Region	2012	York-Peel Feedermain	18 km 1800 mm	\$1,243,000	\$69,055
City of Calgary	2010	Fish Creek & Anderson	11.0 km 750 mm	\$840,000	\$76,363
Baltimore County, USA	2011	Patasco	1.6 km 1350 mm	\$185,000	\$115,625

Supplies and Services reviewed the evaluation summary and issued their internal report confirming that Pure Technology be recommended as the successful overall proponent to undertake the condition assessment of the York-Peel Feedermain.

Link to Key Council-approved Plans

This project aligns with the Region's 2011 to 2015 Strategic Plan objective of continuing to deliver and sustain critical infrastructure.

5. FINANCIAL IMPLICATIONS

The fee for the proposed work being approved by this report is \$1,243,000 excluding taxes. Funds are allocated for this project in the approved 2012 10 year capital plan and this project is funded through water rates.

6. LOCAL MUNICIPAL IMPACT

One of the key objectives of this project is to ensure the security and reliability of drinking water services to local area municipalities. This project will benefit local municipalities by ensuring that the associated risk with critical infrastructure is monitored and addressed.

7. CONCLUSION

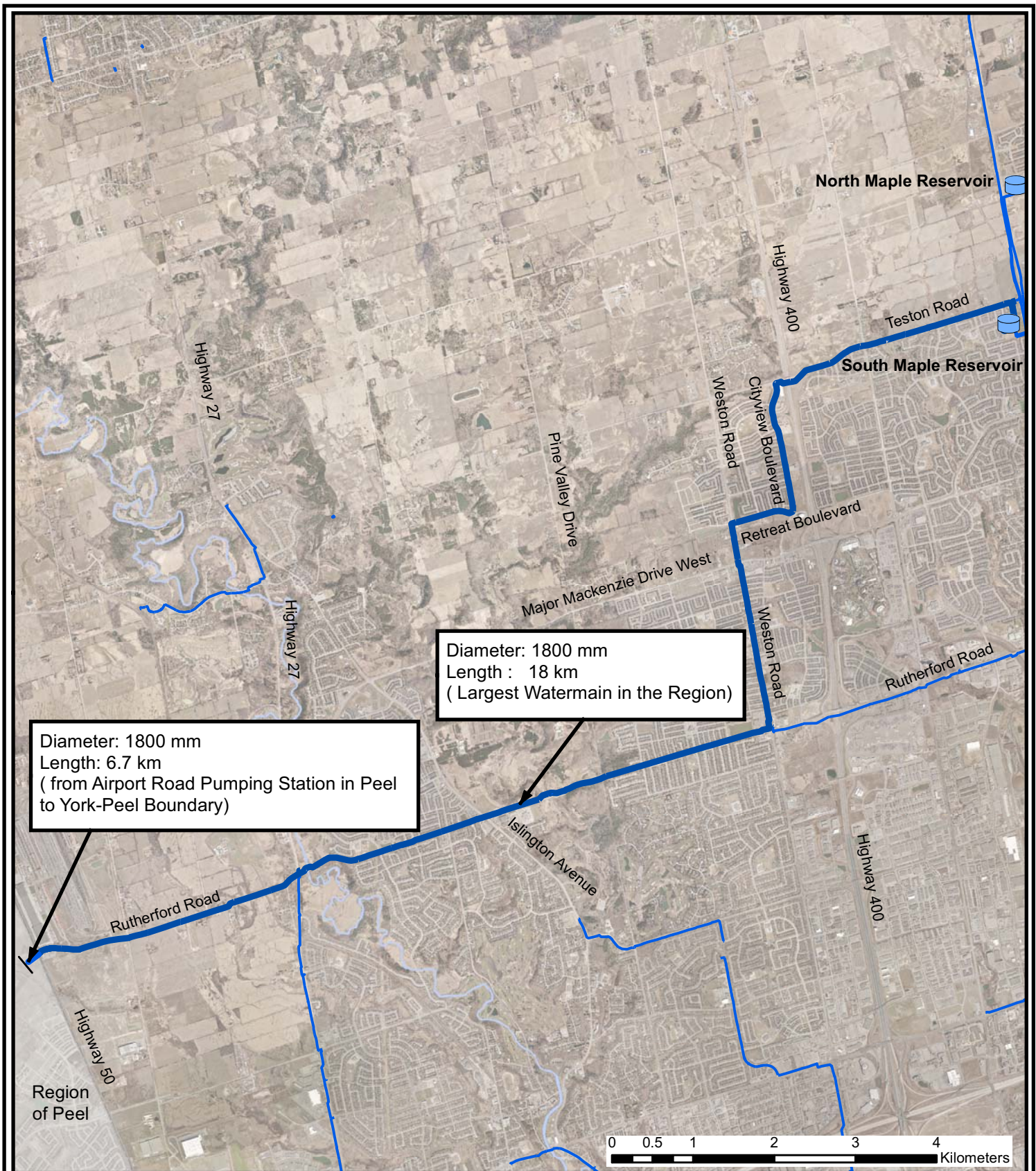
The condition assessment of the York-Peel Feedermain is important to ensure that the Region's critical water transmission infrastructure is managed efficiently to deliver reliable water services.

The proposal was received through open bid and evaluated in accordance with the Region's Purchasing By-law. The proposal from Pure Technology represents good overall value to the Region and it is recommended that Pure Technology be engaged to undertake the condition assessment of the York-Peel Feedermain at a cost of \$1,243,000 excluding taxes.

For more information on this report, please contact Lucas Cugalj, Director, Strategy and Business Planning, Environmental Services at 905-830-4444 Ext. 5041.

The Senior Management Group has reviewed this report.

(The attachment referred to in this Clause is attached to this report.)



York Region Peel Feedermain Location Map City of Vaughan, Ontario

Legend

-  Reservoir
-  Peel Feedermain
-  Other York Region Watermains