

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON OCTOBER 24, 2017</b>
<b>FROM:</b>	<b>KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES &amp; CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>CLEAN WATER AND WASTEWATER FUND LARGE DIAMETER WATERMAIN INSPECTION – ELGIN PIPELINE</b>

<b>RECOMMENDATION</b>
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That, on the recommendation of the Managing Director, Environmental and Engineering Services & City Engineer, the following actions **BE TAKEN** with respect to the Large Diameter Watermain Inspection:

- (a) The bid submitted by Echologics Engineering Ltd., 6295 Northam Drive, Mississauga, Ontario, L4V 1W8, in the amount of \$1,093,302 (excluding H.S.T.) **BE AWARDED** in accordance with Section 15.2 (e) of the City of London’s Procurement of Goods and Services Policy;
- (b) The financing for this project **BE APPROVED** as set out in the Sources of Financing Report attached hereto as Appendix "A";
- (c) The Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this project; and
- (d) The Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

<b>PREVIOUS REPORTS PERTINENT TO THIS MATTER</b>
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- Concrete Pressure Pipe Inspection Fiber Optic Installation – Amendment of Existing Contract, May 29, 2012, Civic Works Committee.
- Sole Source: EW3717 Concrete Pressure Pipe Inspection – Fiber Optic Installation, April 14, 2010, Board of Control.
- Water System Risk Management Exercise and Evaluation, April 23, 2007, Environment and Transportation Committee.
- Long-Term Large Diameter Pipe Inspection Strategy and Single Source Procurement, July 21, 2014, Civic Works Committee.

<b>2015-2019 STRATEGIC PLAN</b>
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This report supports the Strategic Plan in the following areas:

- Building a Sustainable City: robust infrastructure; strong and healthy environment; responsible growth.
- Leading in Public Service: Open, accountable and responsive government; excellent service delivery.

## BACKGROUND

### Purpose

This report recommends that Echologics be appointed as the consultant to undertake the large diameter watermain inspection of the Elgin pipeline.

### Context

The Elgin pipeline is large diameter watermain that supplies approximately 15% of the City's water supply from Lake Erie and is a critical piece of infrastructure in our water supply system. This pipeline has not been inspected since it was constructed. The inspection of the Elgin pipeline will secure the reliability of the City of London's water supply and allow staff to make informed decisions regarding its condition and need for repair. This project will identify the need to carry out maintenance on the Elgin pipeline which would reduce the potential for catastrophic watermain breaks in the future.

## DISCUSSION

In the early 1990's, a plan was developed to take water from Lake Erie in order to both secure the City's water supply, which at the time was dependent on the Lake Huron supply, and to satisfy increasing water demands. At this time, the Elgin-Middlesex pumping station, located in St. Thomas, was constructed along with the Elgin pipeline (Appendix B: Location Map). The City of London owns and is responsible for Elgin pipeline from its origin at the Elgin-Middlesex pumping station to where it connects to the City's trunk watermain network at the intersection of Jackson Road and Commissioners Road.

The Elgin pipeline is planned to be inspected from the Elgin-Middlesex Pumping Station to its terminus for a total distance of 25 km. A similar inspection was undertaken in 2014 on the major pipeline that supplies water from the Lake Huron system. This inspection found that repairs were necessary in order to prevent a catastrophic failure of the pipeline.

### Clean Water and Wastewater Fund

The first phase of funding for the CWWF is a 2 year - \$2 Billion Government of Canada investment to meet immediate priorities for clean water and wastewater to support a cleaner and healthier environment for communities. CWWF focuses on investing in projects that:

- Rehabilitate and optimize water, stormwater and wastewater related infrastructure;
- Improve asset management approaches including pilots and studies;
- Plan for future upgrades to wastewater treatment and collection infrastructure; and
- Include new construction projects like naturalized systems.

### Procurement Process

In June of 2017, two engineering firms were invited and responded to an RFQUAL in accordance with section 15.2 (e) of the City of London's Procurement of Goods and Services Policy. It was determined by staff that both firms that submitted an RFQUAL were qualified to undertake the work. In August, 2017, an RFP was issued to both of the qualified firms from the RFQUAL process. After evaluation of the RFP, the City's evaluation team determined that Echologics provided the best value and their technology required the least amount of operational support from operational staff to undertake.

## **Scope of Work**

There are a limited number of firms with the complex, proprietary equipment capable of undertaking watermain inspection work. In an open market, only two firms submitted an RFQUAL to be pre-qualified for this work.

As part of the work, Echologics will expose the pipe in regular intervals and place their hydrophones (sensors) on top of the pipe. These sensors will correlate with one another and record the manner in which sound travels through the pipe, and the time it takes to make its way between sensors. This will give an information regarding the structural integrity of the pipe while listening for leaks between the sensors. The company will move these sensors along the 25km of pipeline, giving condition and leak information for the entire Elgin Pipeline. Further analysis, excavation, and visual inspection are allowed for in the event that the sensors detect an anomaly in the pipe.

## **Project Costs**

The inspection costs were estimated at \$1,735,000 and were approved as part of the CWWF funding application process. This amount is 50% funded by the federal government, 25% funded by the province, and 25% funded by the City of London.

Echologic's fee submission of \$1,093,302 (excluding H.S.T.) is below the preliminary cost estimate by approximately \$640,000. The preliminary estimate was based on unit costs from previously awarded inspection work and quotes received over the last five year period. The project's evaluation team reviewed Echologic's proposal and found it met all of the key project requirements. It is the opinion of the evaluation team that the actual fees are lower than the preliminary estimate due to further refinement of Echologic's proprietary technologies and the economies of scale of an inspection of this magnitude (25km).

## **CONCLUSIONS**

Echologics has experience undertaking similar work of this caliber while providing useful and actionable information for large diameter watermain repairs. The proposed consulting team has extensive experience with similar work and is well qualified to undertake the required inspection. Based on the review by the evaluation team, it is determined that retaining Echologics is in the best financial and technical interests of the City. It is recommend that Echologics be awarded this contract in the amount of \$1,093,302 (excluding H.S.T.) to undertake all tasks related to the large diameter watermain inspection of the Elgin pipeline.

## **Acknowledgements**

This report was prepared by Kevin Graham, E.I.T, of the Wastewater and Drainage Engineering Division.

<b>PREPARED BY:</b>	<b>REVIEWED &amp; CONCURRED BY:</b>
<b>AARON ROZENTALS, P. ENG. DIVISION MANAGER, WATER ENGINEERING</b>	<b>SCOTT MATHERS, MPA, P. ENG. DIRECTOR, WATER AND WASTEWATER</b>
<b>RECOMMENDED BY:</b>	
<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL &amp; ENGINEERING SERVICES &amp; CITY ENGINEER</b>	

October 16, 2017

Attach: Appendix "A" – Sources of Financing  
Appendix "B" – Project Location

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John Freeman – Manager, Purchasing & Supply  
Gary McDonald – Budget Analyst, Finance & Corporate Services  
Alain Lalonde – Regional Manager, Echologics  
Kevin Graham, E.I.T, Wastewater & Drainage Engineering