



Report to: General Committee

Date Report Authored: Jan 17, 2014

SUBJECT: York Region Funding Memorandum of Understanding for
Markham Leak Detection Project

PREPARED BY: Shu Min Gao, Water System Engineer, ext: 6230

RECOMMENDATION:

- 1) THAT the report “York Region Funding Memorandum of Understanding for Markham Leak Detection Project” be received;
- 2) AND THAT the Director of Environmental Services be authorized to approve and execute MOU;
- 3) AND THAT the Waterworks 2014 budget for Annual Leak Detection (Project 14301) be increased by \$18,000 from \$162,000 to \$180,000 in order to retain a consultant to complete evaluation of the leak detection program as required under the MOU with a cost sharing agreement of 50% from Markham and 50% from York Region;
- 4) AND THAT Markham upfront York Region’s funding, funded from the Waterworks Stabilization and Capital Reserve (“Waterworks Reserve”) and the the Region’s funding be recovered in accordance to the MOU (75% on effective date of MOU, 15% upon delivery of interim report to the Region and 10% upon delivery of the final report satisfactory to the Region);
- 5) AND THAT the funding for projects 10335 Water Loss & Leak Detection Phase 1 and 14301 Annual Leak Detection – Phase 2 of 5 be amended to reflect 50% funding from York Region and 50% from Markham and that the York Region’s funds be temporarily up-fronted by Markham’s “Waterworks Reserve” until receipt of funds from York Region;
- 6) AND THAT staff be authorized and directed to do all things necessary to give effect to this resolution.

PURPOSE:

The purpose of this report is to seek authority to approve and execute an MOU with York Region, such that the City can receive funds from York Region to support its leak detection program.

BACKGROUND:

City undertaking Leak Detection Project

The City is undertaking a multi-year leak detection project to investigate potential areas of leakage in the water distribution system. Acoustic leak survey, the most common way to detect leaks, was the selected methodology to undertake the survey in Markham.

In 2013, the City completed 230km of ductile iron (D.I.) and 60km of cast iron (C.I.) watermain leak detection at a cost of \$50,000 under the capital project 10335 Water Loss & Leak Detection Phase 1, funded 100% from the "Waterworks Reserve".

In 2014, Waterworks is planning to complete an additional 200 km of PVC watermain leak detection through project 14301 Annual Leak Detection Program – Phase 2 of 5, which has a budget of \$162,000, funded 100% from the "Waterworks Reserve".

The driver of the cost per km differential between project 10335 and 14301 is due to the type of pipes being investigated. Noise caused by leaks can travel up to 100 meters in D.I. and C.I. (metallic) pipe material. As the spacing between fire hydrants is between 90m and 120m, trained technicians can detect leaks on metallic pipes by listening for leaking sounds through fire hydrants. On PVC (plastic) pipes however such noise can only travel between 10 m and 20 m. In order to detect leaks on plastic pipes, the technician will need to listen for leaking sounds through hydrants, valves and service connections. This results in the unit cost difference between metallic and plastic watermain leak detection.

York Region Funds Available to Support Markham's Leak Detection Project

The City's leak detection project aligns with both the City's and the Region's commitment to water conservation. The Region supports the City's initiative and has agreed to contribute funding to the 2013 and 2014 capital projects for leak detection.

The Region has prepared a MOU for this project and is prepared to share in the funding. The MOU stated that The Region shall contribute 50% of the cost of Markham Leak Detection Project over two years 2013 and 2014, to a maximum of \$115,000, inclusive of HST impact. Markham, will have to fulfill some general obligations listed in the MOU including completing a program evaluation in addition to leak survey of all of Markham's D.I. and C.I. watermains and 200 km of PVC watermain. As 50% of the funding will be recovered from York Region throughout different project completion stages, Markham will need to upfront York Region's portion of the funding.

OPTIONS/ DISCUSSION:

The Leak Detection project is a new initiative that the City is undertaking. The City has just over 1000 km of watermain in the Water Distribution System. The oldest watermain was tested first.

In 2013, Waterworks incurred a cost of \$50,000 for the Leak Detection Program through project 10335. As per the MOU, the Region will reimburse \$25,000 to Markham for 50% of the 2013 costs. Upon receipt of the Region's funds, surplus funds in project 10335 in the amount of \$25,000 will be returned to the "Waterworks Reserve".

In 2014, Waterworks will complete 200km of PVC watermain leak detection as budgeted. The scope of the project will be expanded to include Leak Detection Program evaluation as agreed in Markham's Leak Detection Funding Request to York Region and required as part of the MOU. The additional program evaluation cost is estimated at

\$18,000. As such, the budget for project 14301 will be increased from \$162,000 to \$180,000. As per the MOU, the Region will reimburse \$90,000 to Markham for 50% of the 2014 costs. Upon receipt of Region’s funds, surplus funds in project 14301 will be returned to the “Waterworks Reserve”.

Waterworks staff will invoice Region of York according to the schedule detailed in MOU (75% on effective date of MOU, 15% upon delivery of interim report to the Region and 10% upon delivery of the final report satisfactory to the Region).

Upon completion of 2014 project, Markham will discuss with Region of York the future phases of the program based on the program evaluation recommendations.

FINANCIAL CONSIDERATIONS AND TEMPLATE: (external link)

The Region agrees to contribute 50% of the cost of Markham Leak Detection Project for 2013 and 2014 work, to a maximum of \$115,000, including HST, subject to the conditions listed in the MOU.

	Cost Sharing Arrangement (In \$000)		
	Total (100%)	Markham (50%)	Region (50%)
2013 Leak Detection Program	50	25	25
2014 Leak Detection Program	180	90	90
Total	230	115	115

Currently, both the 2013 and 2014 Leak Detection Programs are funded 100% from the “Waterworks Reserve”. It is recommended that projects 10335 and 14301 be amended to reflect 50% shared funding by Markham and the Region. Markham will upfront York Region’s portion and recover the funding in accordance to the payment schedule as outlined in the MOU. Upon receipt of all funds, surplus funds will be returned to the “Waterworks Reserve”.

In \$000	a	b	c=a-b	
	Current Markham Funding (100%)	Revised Markham Funding (50%)	York Region Funding (50%)	Surplus Funds to be returned to WW Reserve
2013 Leak Detection Program	50	25	25	25
2014 Leak Detection Program	180	90	90	90
Total	230	115	115	115

HUMAN RESOURCES CONSIDERATIONS

Not applicable

ALIGNMENT WITH STRATEGIC PRIORITIES:

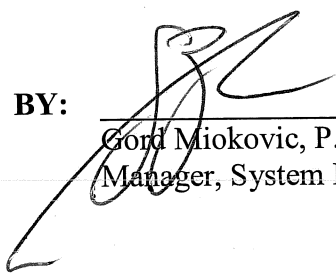
Not applicable

BUSINESS UNITS CONSULTED AND AFFECTED:

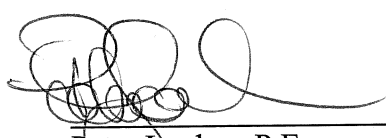
Finance and Legal department has been consulted.

RECOMMENDED

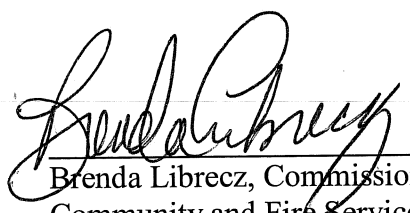
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