



Report to: General Committee

Meeting Date: March 26, 2018

SUBJECT: Consulting Engineering Services for Markham Village/
Unionville Flood Control Study

PREPARED BY: Robert Grech, Ext. 2357,
Robert Muir, Ext. 2894

RECOMMENDATION:

- 1) THAT the report entitled “Consulting Engineering Services for Markham Village/ Unionville Flood Control Study”, dated March 26, 2018, be received;
- 2) AND THAT the tendering process for the Consulting Engineering Services for Markham Village/ Unionville Flood Control Study be waived in accordance with Purchasing By-Law 2017-8, Part II, Section 11.1 (h); which states that “where it is necessary or in the best interests of the City to acquire non-standard items or Consulting and Professional Services from a preferred supplier or from a supplier who has a proven track record with the City in terms of pricing, quality and service”
- 3) AND THAT the Consulting Engineering Services contract for Markham Village / Unionville Flood Control Study be awarded to R.V. Anderson Associates Limited to an upset fee limit of \$973,195.00 inclusive of disbursement and HST impact;
- 4) AND THAT a contingency amount of \$97,319.50 inclusive of disbursement and HST impact be established to cover any additional work and that the Director of Environmental Services be authorized to approve expenditure of this contingency amounts up to the specified limit in accordance with the Expenditure Policy;
- 5) AND THAT the consulting engineering services in the amount of \$1,070,514.50 (\$973,195.00 + \$97,319.50) be funded from capital project #18273 “Flood Control Remediation – Study” as outlined under the financial consideration section;
- 6) AND THAT the budget remaining in project #18273 “Flood Control Remediation Study” in the amount of \$3,485.50 will be returned to the original funding source;
- 7) AND THAT the Mayor and Clerk be authorized to execute the agreement with R.V. Anderson Associates Limited, in a form approved by the City Solicitor; and
- 8) 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 Council’s authorization for a non-competitive contract award to R.V. Anderson Associates Limited to undertake the Markham Village/ Unionville Flood Control Study.

BACKGROUND:

Following storms and flooding experienced in June and July 2017, Staff provided an update on the implementation of projects within the City-Wide Flood Control Program in the September 18, 2017 report to General Committee. The report recommended activities to address flood risk in response to the 2017 flooding including “technical studies to storm and sanitary infrastructure improvements in Markham Village and Unionville areas”. Recommendations included advancing the technical studies from 2027 to 2017.

OPTIONS/ DISCUSSION:

The Markham Village and Unionville sewer and drainage infrastructure is made up of several small and unique drainage systems. In order to develop flood mitigation strategies for these areas, a comprehensive assessment will need to be completed of each of the areas in order to fully understand the causes of flooding in each area. Based on the findings of the assessment, different options for mitigating flood damages in each area will need to be evaluated, based on the principles outlined in the Environmental Assessment Process.

These technical studies are complicated, and require significant consultation with members of the public, internal Staff and Council to implement. The project is expected to take approximately 18 months to complete (Fall 2019 completion), with public meetings in late 2018 and 2019.

In developing a long-term strategy in reducing the flood damages in these areas, the project will involve significant consultation with the public, internal Staff and Council, and a tailored approach to each area in determining the best way of mitigating damages associated with flooding.

Staff recommends a non-competitive contract award to R.V. Anderson Associates Ltd. “RVA” based on the following rationale:

Technical Expertise

The development of flood mitigation plans is highly technical, complex, specialized, and involves hydrodynamic modelling of the combined stormwater collection, wastewater collection and surface water collection systems in the proposed study area. Consultants (or groups of consultants) who are qualified and experienced in this type of work are very limited. RVA and their specialist modelling team at Cole Engineering (“Cole”, formerly XCG Consultants) have the necessary qualifications/experience, and have a track record of successfully completing projects of similar size and scope, both for the City of Markham and other municipalities.

Proven Track Record

RVA staff have been working with the City on the design and implementation of the West Thornhill Flood Control Program since 2012. They have been successful in delivering these projects and have strong working relationships with City Staff.

In addition to the West Thornhill project, the RVA (and Cole) have worked on flood studies and master planning in several other municipalities, including:

- City of Toronto
- City of Ottawa

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- City of Welland
 - City of Greater Sudbury
 - City of Sault Ste. Marie
 - City of Saint John
 - Town of Newmarket
 - City of Fredericton
 - Region of Durham
 - Region of Niagara
 - Region of Waterloo

The modelling team has also completed City's infrastructure system models in the past, including:

- the Master Servicing Plan Growth Management Strategy (completed in 2011) and
- the Wastewater Master Servicing Model Update (current and ongoing)

RVA (and Cole) have a proven track record of successfully completing these projects, and have received very strong references both internally and externally.

Urgency

Due to unforeseeable extreme flooding events that occurred in 2017, it is necessary to immediately advance the technical studies to identify storm and sanitary infrastructure improvements in the Markham Village and Unionville areas (including functional design and Class Environmental Assessment studies). The EA study is anticipated to take 2-3 years to complete and will coordinate stormwater drainage, sanitary sewer and watermain replacement needs to improve flood resiliency. A competitive tendering process would not allow infrastructure improvements or operational improvements (i.e., services) to be identified or obtained in time for early implementation and short-term risk reduction, including any works that would need to be then advanced to detailed design and construction.

Cost Savings, Efficiency & Interchangeability

The combined experience and knowledge gained by RVA (and Cole) through the West Thornhill Flood Control Program can be applied and transferred to the new Markham Village and Unionville study areas. Cost savings and efficiencies are expected through knowledge transfer and minimizing any duplication of efforts/costs that would be associated with engaging another consultant.

As per RVA's proposal, many of the proposed key staff:

- have worked on the West Thornhill Flood Control Remediation Plan;
- have been involved in the Water and Wastewater Servicing Model Update for the City and Water and Wastewater Plan Update for York Region;
- are familiar with the City's sanitary collection system and York Region's wastewater system;
- are very familiar with the City's standards, processes and procedures, as well as the local utility companies and approval agencies.

Meaningful consultation with stakeholders, agencies and the public are extremely important to the success of these projects. By completing this consultation effectively, through identifying opportunities and constraints in earlier phases of the project (and applying previous experience and knowledge gained), the overall project time and cost are reduced. In previous projects, RVA demonstrated their strengths in this component of the work and in carefully phasing project implementation to avoid stakeholder issues during construction.

No Conflict of Interest

RVA confirmed that there is no conflict of interest to take on this assignment, thereby providing an unbiased perspective on the project and its recommendations.

Qualification of Project Team

The proposed project manager is RVA's Principal and Manager of Municipal Engineering with 37 years of experience in planning, design and construction of municipal infrastructure. He has served as the Project Manager / Project Director for all phases of the West Thornhill Flood Control Program. He has also served as Project Manager / Project Director for the following large multi-year programs undertaken by the City of Toronto:

- Coxwell Bypass Tunnel - \$500 million (teamed with Black & Veatch), 2014 - ongoing
- Stand Alone Water Main Replacement Program - \$130 million, 2009 - 2016 •
Coordinated Toronto Water and Transportation Services Program Management (PM 3A) - \$55 million, 2014 – 2017
- Coordinated Toronto Water and Transportation Services Program Management (PM 4A) - \$75 million, 2017 – 2020

The proposed time/task assignment also indicated a strong and well-experienced team to be assigned to this project.

Market competitiveness

Staff undertook an analysis of the price provided to ascertain its competitiveness. Other consulting firms on recent similar project submitted an average hourly rate between \$151 and \$293/hour with the majority in the \$200/hour plus range. Whereas, the negotiated RVA proposal will be \$152/hour, which is very competitive in the industry.

FINANCIAL CONSIDERATIONS

The total fee estimate for the consulting services is \$1,070,514.50, including 10% contingency and HST impact. The consulting services will be funded from capital project #18273 "Flood Control Remediation – Study".

Account Name	Account #	Budget Amount	Budget Available	Award	Contingency (10%)	Budget Remaining
Flood Control Remediation Study	#18273	\$1,274,000.00	\$1,074,000.00	\$973,195.00	\$97,319.50	\$3,485.50
Total		\$1,274,000.00	\$1,074,000.00	\$973,195.00	\$97,319.50	\$3,485.50

The budget remaining of \$3,485.50 will be returned to the original funding source.

OPERATING BUDGET AND LIFE CYCLE RESERVE IMPACT

The consulting work is only a study and therefore there is no impact to the Life Cycle Replacement and Capital Reserve.

There is no Operating budget impact. Upon completion of the study Staff will assess next steps and determine any life cycle and/or operating budget impacts.

LEGAL CONSIDERATIONS

The City is subject to the following new trade agreements, which apply to public sector procurements above a certain dollar threshold: the Canada-European Union Comprehensive Economic and Trade Agreement (CETA), effective September 21, 2017; and the Canadian Free Trade Agreement (CFTA), effective July 1, 2017.

City Staff are in the process of reviewing the City’s procurement by-law, policies and practices to ensure compliance with the CETA and CFTA trade agreements, and will update them accordingly. The recommended contract award to RVA complies with the CETA and CFTA trade agreements.

HUMAN RESOURCES CONSIDERATIONS

Not Applicable

ALIGNMENT WITH STRATEGIC PRIORITIES:

This project aligns with the Building Markham’s Future Together Strategic Plan, improving the areas of Managing our Growth, Protecting our Environment and Excellence in Municipal Services. Improving flood resiliency through advancing and expanding programs to areas affected by recent flooding have extensive and long-lasting economic and environmental benefits which include:

- reduced property damage due to flooding,
- reduced inflow and infiltration into the sanitary sewer system,
- reduced energy costs for sanitary sewer pumping and treatment,
- enhanced ground water recharge,
- water conservation, and
- reduced sanitary sewer overflows to receiving waters.

BUSINESS UNITS CONSULTED AND AFFECTED:

The Finance Department has been consulted and provided input and reviewed this report.

RECOMMENDED BY:

2018-03-21

2018-03-21

X 

Phoebe Fu
Director, Environmental Services
Signed by: cxa

X 

Brenda Librecz
Commissioner, Community & Fire Services
Signed by: cxa

ATTACHMENTS:

Attachment “A” – Markham Village and Unionville Flood Remediation Study Areas