



Report to: General Committee

Meeting Date: April 3, 2017

SUBJECT: West Thornhill Flood Control Implementation – Additional
Watermain design within Phases 2C & 2D Areas

PREPARED BY: Prathapan Kumar, Environmental Services, Ext. 2989
Flora Chan, Senior Buyer, Ext. 3189

RECOMMENDATION:

- 1) THAT the report entitled “West Thornhill Flood Control Implementation – Additional Watermain design within Phase 2C & 2D Areas” be received;
- 2) AND THAT the contract for the detailed design of watermain for the Phases 2C & 2D area (Grandview) be awarded to R.V. Anderson Associates Ltd. in the amount of \$172,686.72 inclusive of disbursements and HST;
- 3) AND THAT a 10% contingency in the amount of \$17,268.67 inclusive of HST be established to cover any additional costs and that the authorization to approve expenditures of this contingency amount up to the specified limit be in accordance with the Expenditure Control Policy;
- 4) AND THAT the watermain replacement design component in the amount of \$189,955.39 inclusive of contingency and HST (\$172,686.72 + \$17,268.67) be funded from the “Waterworks Stabilization/ Capital Reserve” and a new Waterworks capital project be established for ‘Additional Watermain design within Phases 2C & 2D Areas’;
- 5) AND THAT the procurement process be waived in accordance with Purchasing By-Law 2004-341, Part II, Section 7 Non Competitive Procurement, item 1 (c), which states “When the extension of an existing contract would prove more cost-effective and beneficial”;
- 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 obtain Council approval to award the West Thornhill Flood Control Implementation – Additional Watermain design within Phase 2C & 2D areas (Grandview).

BACKGROUND:

Stormwater flood control implementation strategy was approved by Council on November 8, 2011 for the West Thornhill area in accordance with the City’s November 2010 Class EA Study. The City-wide Flood Control Program is a 30 year program with an estimated cost of \$234M - \$288M (2014 dollars). The first phase (1A, 1B & 1C) of the remediation includes storm sewer capacity upgrades in the Bayview Glen neighbourhood, second phase (2A, 2B, 2C & 2D) includes the Grandview area, third phase (3A, 3B & 3C) includes Clark Avenue/ Henderson Avenue area and phase 4 includes Royal Orchard Road area.

In 2014, Council approved the detailed design for Phase 2 (Grandview) areas, however, recently Staff noticed that watermain replacement on five roads (Grandview Ave, Woodward Ave, Dudley Ave, Dalmeny Rd and Delair Cres) within the Phases 2C & 2D areas were inadvertently omitted in the overall design – refer to Attachment “A”. The cast-iron watermain in these roads are approx. 56 years old and are at their end of service life (estimated service life 60 - 65 years). Upgrading these aged cast iron watermain concurrently with the storm sewer upgrades in the neighbourhood is more efficient and will avoid disrupting the neighbourhood twice.

OPTIONS/ DISCUSSION:

R.V. Anderson Associates Ltd. is currently carrying out the storm sewer and watermain design works for Phases 2C & 2D through contract 247-R-11 and Staff has identified the following synergies and cost efficiencies by awarding the additional watermain within Phase 2C & 2D to R.V. Anderson Associates Ltd.:

1. Value for Money:

- (a) Additional watermain design award to R.V. Anderson Associates Ltd. in Nov 2014 for Phase 2 preliminary and detailed design watermain was 4% (2% for preliminary design and 2% for detailed design) of the estimated construction cost. Note that based on four recently completed storm sewer and watermain projects, the design fees were in the range of 4.7% to 8.8% of construction costs.
- (b) The current R.V. Anderson Associates Ltd. quote for additional watermain design in Phases 2C & 2D is 4% (2% for preliminary design and 2% for detailed design) of the estimated construction cost which is very competitive with the current market rates.
- (c) R.V. Anderson Associates Ltd. contract administration/ inspection costs for stormwater works will cover the contract administration/ inspection costs for the watermain works, eliminating duplication of services and additional fees estimated at \$9,000 per week of construction. It is estimated that the construction of the additional 2,820m watermain in Phases 2C & 2D area will take approximately 16 weeks, which would then translate to \$144,000 (\$9,000/week x 16 weeks) contract administration cost avoidance.

2. Continuity of Work:

- (a) Minimize disruption to the local community by avoiding replacement of the stormwater in one year, and then the watermain a few years later.
- (b) Opportunity to leverage replacement of stormwater and watermain pipes under one construction contract to attain a more favourable construction price due to volume.
- (c) Synergy of having a consistent design for both the stormwater and watermain from one consultant. Hiring another consultant to undertake the design for the watermain would impact the construction tender as it would be extremely difficult to include both consultant designs (stormwater and watermain) into one single construction tender.

A total of 2,820 metres of existing cast iron watermain have been identified for replacement in the five roads within Phases 2C & 2D.

Construction tender for Phase 2C will be released to market in Jan/ Feb 2018 and Phase 2D in Jan/ Feb 2019. Following is the anticipated implementation schedule for construction:

West Thornhill Flood Control Implementation Schedule:

Area	Proposed Implementation Schedule	Status
Phase 1A: Bayview Glen Area	2014 - 2015	Total Completion as of Nov 2016; Maintenance completion Nov 2017
Phase 1B: Bayview Glen Area	2015 - 2016	Substantially completed as of Aug 2016; Maintenance completion Aug 2018
Phase 1C: Canadiana Road	2016	Substantially completed as of Dec 2016; Maintenance completion Dec 2018;
Phase 2A: Grandview Area	2016 - 2017	Substantially completed as of Dec 2016; Maintenance completion Dec 2018
Phase 2B: Grandview Area (Park & Proctor Ave)	2017 - 2018	Construction Commencement: May 2017
Phase 2C: Grandview Area	2018 - 2019	
Phase 2D: Grandview Area	2019 - 2020	
Phase 3: Clark Ave/ Henderson Area	2020 - 2022	Design consultant will be retained in April 2017
Phase 4: Royal Orchard Area	2022 - 2025	

FINANCIAL CONSIDERATIONS:

Staff recommends the award to R.V. Anderson Associates Ltd. in the amount of \$189,955.39 (Detailed Design \$172,686.72 plus Contingency \$17,268.67) for the additional watermain design (2,820m) within Phases 2C & 2D. A 2017 Waterworks capital project will be established and funded from the Waterworks Stabilization/Capital Reserve.

The 2,820 meters of watermain being proposed for replacement have been included in the Waterworks Reserve Study at a cost of \$3,591,129 (in 2017 \$) in various years from 2018 to 2023. Staff recommends the replacement be accelerated to 2018/2019 due to reasons outlined on this report. The 2017 reserve study will be updated accordingly.

The construction for the additional sections of watermain replacement will be requested as part of the 2018/2019 Capital Budget process.

HUMAN RESOURCES CONSIDERATIONS:

Not Applicable.

ALIGNMENT WITH STRATEGIC PRIORITIES:

The proposed flood remediation and watermain upgrading programs are in line with City's goal to provide better quality services to the public and is consistent with the Building Markham's Future Together strategic priority on the "Growth Management" and "Environment" as it considers sustainability on the built environment.


BUSINESS UNITS CONSULTED AND AFFECTED:

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

RECOMMENDED BY:

X 

Phoebe Fu
Director, Environmental Services

X 

Brenda Librecz
Commissioner, Community and Fire Services

ATTACHMENTS:

[Attachment "A" - Map showing Additional Watermain Replacement in Phases 2C & 2D Areas](#)

[Attachment "B" - Map showing West Thornhill Flood Control Implementation Phases](#)