



Report to: General Committee

Meeting Date: April 19, 2022

SUBJECT:	242-T-21 Award of Construction Tender West Thornhill – Phase 3C Storm Sewers and Cast Iron Watermain Upgrades
PREPARED BY:	Prathapan Kumar, Senior Manager, Environmental Services, Ext. 2989 Flora Chan, Senior Buyer, Ext. 3189

RECOMMENDATION:

- 1) That the report entitled “Award of Construction Tender 242-T-21 West Thornhill – Phase 3C Storm Sewers and Cast Iron Watermain Upgrades” be received; and,
- 2) That the contract for Tender 242-T-21 West Thornhill – Phase 3C Storm Sewers and Cast Iron Watermain Upgrades be awarded to the lowest priced Bidder, GFL Infrastructure Group, in the amount of \$15,762,313.46, inclusive of HST; and,
- 3) That a 10% contingency in the amount of \$1,576,231.35 inclusive of HST, be established to cover any additional construction costs and that authorization to approve expending of this contingency amount up to the specified limit be in accordance with the Expenditure Control Policy; and,
- 4) That the construction award in the amount of \$17,338,544.80 (\$15,762,313.46 + \$1,576,231.35) be funded from the following capital projects:
 - (a) 058-6150-22190-005 “West Thornhill Flood Control Implementation - Phase 3C Construction”; and,
 - (b) 053-5350-22204-005 “CI Watermain Replacement – West Thornhill Phase 3C – Construction & CA” as outlined under the financial considerations section in this report; and,
- 5) That the shortfall of \$1,070,646.86 in project #22190 “West Thornhill Flood Control Implementation - Phase 3C Construction” be funded from the Stormwater Fee Reserve and shortfall of \$1,687,191.65 in project #22204 “CI Watermain Replacement – West Thornhill Phase 3C – Const. & CA” be funded from Waterworks Reserve; and,
- 6) That a 5-year moratorium be placed on any major servicing and utility installation along restored areas including Glen Cameron Road (from Henderson Ave to Yonge St), Clark Avenue (40 m west of Willowdale Blvd to Henderson Ave), Mira Road, Lilian Avenue (from Clark Ave to Pheasant Valley Crt), and Pheasant Valley Crt including Cul-de-sac; and further,
- 7) That Staff be authorized and directed to do all things necessary to give effect to this resolution.

EXECUTIVE SUMMARY:

Not Applicable

PURPOSE:

The purpose of this report is to obtain Council approval to award the contract for the 242-T-21 West Thornhill – Phase 3C Storm Sewers and Cast Iron Watermain Upgrades.

BACKGROUND:

The 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 \$367M - \$382M (2018 dollars). The first phase (1A, 1B & 1C) of the remediation included storm sewer capacity upgrades in the Bayview Glen neighbourhood, second phase (2A, 2B, 2C & 2D) includes the Grandview area and Phase 3 includes Clark Ave./ Henderson area. Phase 4 includes Royal Orchard/ Romfield/ Silver Aspen/ Baythorn/ Inverlochy. The implementation schedule is outlined in the table below:

Area	Proposed Implementation Schedule	Status
Phase 1A: Bayview Glen Area	2014 - 2015	Substantially completed as of Nov 2015; 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	Substantially completed as of Dec 2017; Maintenance completion Dec 2019
Phase 2C: Grandview Area	2018 - 2019	Substantially completed as of Nov 2019; Maintenance completion Nov 2021
Phase 2D: Grandview Area	2019 - 2020	Substantially completed as of Nov 2019; Maintenance completion Nov 2021
Phase 3A: Clark Ave./ Henderson Area	2020 - 2021	Substantially completed Sept 2021 Maintenance completion Sept 2023
Phase 3B: Johnson Street Area	2021	Substantially completed Oct 2021 Maintenance completion Oct 2023
Phase 3C: Glen Cameron Road/ Clark Ave/ Lilian Ave/ Mira Road/ Pheasant Valley Crt (This Award)	2022 - 2023	Construction Commencement May 2022
Phase 4A: Royal Orchard/ Kirk Drive	2021 – 2022	Construction in Progress – 60% completed
Phase 4B: Romfeld Circuit	2023 - 2024	

Phase 4C:	Royal Orchard/ Silver Aspen	2024 – 2025	
Phase 4D:	Baythorn/ Inverlochy	2025 - 2026	

To support the program, on June 24, 2014, Council approved the structure of the stormwater fee rates in order to meet the annual revenue target for the first 5-year cycle of the Program. The new stormwater fee supports the 30-year initiative, to improve storm drainage capacity and limit flooding risks in urban areas.

On April 16, 2019 Council approved a \$50 annual fee per residential property for 2020 and further increase of \$1 per year up to 2024 and an increase of 2% per \$100,000 of current value assessment (CVA) and 2% annual increase thereafter for non-residential properties. Stormwater fees will be re-assessed in 2025.

Construction Tender for Phase 3C

Due to the scope of the project, contractors were prequalified to ensure that they had the necessary qualifications, experience and resources to complete the work in accordance with the City's requirements and within the specified timelines. Prequalification 196-P-20 was issued in accordance with the Purchasing By-law 2017-8.

Pre-Qualification Information (196-P-20)

Prequalification closed on	October 5, 2020
Number of Contractors picking up the Pre-qualification document	40
Number of Contractors responding to the Pre-qualification	31
Number of Contractors Pre-qualified	15

Construction Tender Information (242-T-21)

Bids closed on	March 21, 2022
Number picking up the Bid document	9
Number responding to the Bid	4

*Out of 15 prequalified contractors, 9 picked up the bid and 4 submitted. Reasons for no-bid were mainly due to resource availability and current workload.

Price Summary

Bidder	Bid Price (Inclusive of HST)
GFL Infrastructure Group	\$15,762,313.46

OPTIONS/ DISCUSSION:

Watermain Replacement

The existing cast iron watermain on Glen Cameron Road, Mira Road, Lilian Avenue and Pheasant Valley Crt are close to the end of their life cycle. Combined replacement of services will minimize disruption to the local community by avoiding replacement of watermain and repair of the roadway at a later date.

The replacement of cast iron watermain is consistent with the City's strategy to upgrade aged and deficient watermain to improve supply capacity and reliability. Replacement of these old cast iron watermain will also offer improved reliability (less risk of breaks) as well as improve water quality and flows for domestic and fire demand. Based on experience, cast iron watermain are susceptible to internal and external corrosion as they age which leads to poor water quality and increased watermain breaks. The new watermain replacement material will be PVC pipe, which has a service life of 90 years and is superior as it is heat resistant, chemical resistant and non-corrosive.

The Tender award includes the replacement of the existing watermain at a cost of 5,044,551.65 inclusive of 10% contingency and HST impact.

Public Input

An on line Public Information Committee (PIC) meeting will be scheduled in April 2022, prior to construction, to provide an update to the area residents and businesses, as well as to address any potential issues or concerns that the public may have on the proposed construction.

Traffic Management Plan

The objective of the traffic management plan is to limit the traffic within the construction zone (only local traffic will be allowed) and divert through traffic onto adjacent roadways.

Communications Plan

Staff will provide regular updates to the affected stakeholders as well as early notification for any disruptions to driveway access or municipal services. The City's website will provide up-to-date information, as required, on the status of the project.

Construction Moratorium

In August 2019, Environmental Services staff advised all utility companies (e.g. Alectra Utilities Enbridge, Rogers and Bell Canada) that all upgrades to their infrastructure be completed prior to permanent restoration of roads in 2023.

Environmental Services staff is requesting that Council approve a 5-year moratorium on major construction work within the following roadway, which is to be enforced immediately after construction is complete. Minor and emergency repairs would be permitted. The moratorium applies to the enhancement, maintenance, repair or replacement of existing plant and construction of new plant, which may undermine the integrity of the newly improved street infrastructure. The moratorium would not affect any utility projects within the boulevard area.

Exceptions

While these requirements represent the City's current policy, it is recognised that, under certain circumstances, such as emergency work, providing service to a new customer, or construction identified by the Director of Environmental Services, or designate as being necessary to ensure public safety, an exception to the moratorium may be made.

Exemptions may be made, at the sole discretion of the Director of Environmental Services or designate, provided that the Applicant has investigated and evaluated all other options and can demonstrate that they are not feasible or practical. When such exceptions are granted, the

Applicant shall exhaust all trenchless methods available to minimize the number and size of cuts in the street. The City, acting reasonably, may perform more extensive site restoration than would normally be expected, at the Applicant's expense, in order to mitigate the concerns of public inconvenience and the premature degradation and aesthetics of newly improved streets.

- Glen Cameron Road (from Henderson Ave to Yonge St)
- Clark Avenue (40 m west of Willowdale Blvd to Henderson Ave)
- Mira Road
- Lilian Avenue (from Clark Ave to Pheasant Valley Crt)
- Pheasant Valley Crt including Cul-de-sac

Road Closure:

Intersection of Proctor Ave and Glen Cameron Road will be closed for traffic for approx. 4 weeks due to storm sewer upgrades.

Project Schedule for Phase 3C:

- May 2022 - Issue of Purchase Order/ Commencement of work
- December 22, 2022 - Completion of 60% work to base asphalt
- January to Spring 2021 - Winter Shutdown
- Spring 2023 to Summer 2023 - Complete remaining 40% work, top asphalt, restoration etc.
- August, 2023 – Substantial completion of work
- Summer, 2023 – Final Restoration

FINANCIAL CONSIDERATIONS

The following table summarizes the financial considerations for Phase 4A:

	Storm Sewer (#22190)	Watermain (#22204)	
Budget Available for Construction component of this Project (A)	\$ 11,223,346.30	\$ 3,357,360.00	058-6150-22190-005 053-6150-22204-005
Less: Construction Cost (B)	\$ 11,176,357.42	\$ 4,585,956.04	} Awarded to GFL Infrastructure Group
Less: Construction Contingency (10%) (C)	\$ 1,117,635.74	\$ 458,595.60	
Total Cost (D) = (B) + (C)	\$ 12,293,993.16	\$ 5,044,551.65	
Budget Shortfall (E) = (A) – (D)	-\$ 1,070,646.86	-\$ 1,687,191.65	*

*The shortfall of \$1,070,646.86 in project #22190 "West Thornhill Flood Control Implementation - Phase 3C Construction" shall be funded from the Stormwater Fee Reserve and the shortfall of \$1,687,191.65 in project #22204 "CI Watermain Replacement – West Thornhill Phase 3C – Const. & CA" shall be funded from waterworks reserve.

Compared to the 2021 West Thornhill Phase 3B unit pricing:

- The watermain component unit rates have increased by approx. 41%, mainly due to increase in material costs and gas price. Most of the materials are imported from U.S.
- The storm sewer component unit rates have increased by approx. 11%, mainly due to increase in material costs and gas price. Most of the materials are locally sourced.

For comparison purposes, the City awarded previous phases with the following budget surpluses returned to the original funding source:

Budget surpluses returned in previous phases:

Phase	Stormwater Fee Reserve	Waterworks Reserve
2D	\$ 1,734,931.67	\$ 1,266,495.44
3A	\$ 298,433.98	\$ 3,623.66
3B	\$ 1,816,921.34	\$ 1,065,105.09
4A	\$ 4,091,337.96	\$ 7,186.81

HUMAN RESOURCES CONSIDERATIONS

Not Applicable.

OPERATING BUDGET AND LIFE CYCLE RESERVE IMPACT

The constructed storm/ sanitary sewer pipes and associated infrastructure is estimated to last 100 years and PVC watermain service life is estimated to be 90 years. The 2022 Life Cycle Reserve Study will be updated to reflect the current watermain market prices. There is no incremental operating budget impact.

ALIGNMENT WITH STRATEGIC PRIORITIES:

The proposed flood remediation program is aligned 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:

The Finance department has been consulted and their comments have been incorporated.

RECOMMENDED BY:

Eddy Wu
Director of Environmental Services

Morgan Jones
Commissioner, Community Services

ATTACHMENTS:

- Attachment A – Location Map
- Attachment B – West Thornhill Flood Control Implementation Phases