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**TO:** GENERAL COMMITTEE

**SUBJECT:** DUNLOP STREET WEST ROW REPLACEMENT – ECCLES TO TORONTO

**WARD:** 2

**PREPARED BY AND KEY CONTACT:** K. SURESH, SUPERVISOR OF GROWTH, EXT. 4107

**SUBMITTED BY:** B. ARANIYASUNDARAN, P. ENG., DIRECTOR OF ENGINEERING

**GENERAL MANAGER APPROVAL:** A. BOURRIE, RPP, ACTING GENERAL MANAGER OF INFRASTRUCTURE AND GROWTH MANAGEMENT

**CHIEF ADMINISTRATIVE OFFICER APPROVAL:** M. PROWSE, CHIEF ADMINISTRATIVE OFFICER

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### **RECOMMENDED MOTION**

1. That the approved budget for project EN1071 (Dunlop Street West ROW Replacement – Eccles to Toronto) be increased by \$2,800,000 for a total of \$12,925,600 with amendments to the project funding plan consisting of a \$3,467,473 increase to be funded from the Federal Gas Tax and a \$667,473 decrease to be funded from the Tax Capital Reserve.

### **PURPOSE & BACKGROUND**

2. The purpose of this Staff Report is to request additional project budget to ensure storm drainage works can be completed as soon as possible to reduce/eliminate flooding and to comply with the timelines associated with the National Disaster Mitigation Program (NDMP) grant.
3. Kidd's Creek flows from headwaters near Cundles Road, through Sunnidale Park, and downtown Barrie to its outlet at Kempenfelt Bay on Lake Simcoe. For much of the length of the creek, channels and culverts are undersized and flooding in the surrounding areas occurs regularly, as presented in Appendix A.
4. The Kidd's Creek Master Drainage Plan (Oliver, Mangione, McCalla & Associates, 2001) outlines various scenarios for reducing flooding along Kidd's Creek. As the City completes the work recommended in the Master Plan, the progression would generally be from the downstream end to the upstream. The existing drainage system downstream of Bradford Street was upgraded to a 6 m x 1.5 m concrete box and conveys the 100-year flow to Lake Simcoe. The section of Kidd's Creek from Bradford Street to Eccles Street is the next logical section to be addressed. In addition to being in an area at high risk of flooding, this work is also required to facilitate future flood mitigation work further upstream. The 2001 Master Plan for Kidd's Creek recommended as flood mitigation, that the City purchase the property at 36-38 High Street, currently being used as an unpaved surface parking lot, and construct an appropriately sized channel to accommodate the 100-year storm. The City is currently in the process of expropriating 36-38 High Street for the creek realignment (ENG012-18)(18-G-139).

5. The 2019 Drainage Master Plan, being undertaken by C.C. Tatham and Associates, has confirmed the findings of the previous studies and indicated that conveyance improvements are recommended for this section of Kidd's Creek. The draft report presented at the Master Drainage Plan Public Information Centre in April 2018, showed that a section of Kidd's Creek required daylighting north of Dunlop Street and between Dunlop Street and High Street.
6. In an effort to further reduce the potential of flooding, the City and Lake Simcoe Region Conservation Authority staff collaborated to find a solution. The preferred solution is to implement an open channel designed to contain the regulatory flow. This regulatory flow is based on the Hurricane Hazel storm and is greater than the 100-year storm event. This channel would then discharge into the extended 100-year culvert at Bradford Street with flows above the 100-year level overtopping the roadway and continuing overland. The open watercourse solution also has significant environmental and cost benefits over the proposed pipe and culvert upgrade option recommended in the original Master Plan (2001).
7. The City has successfully applied for a grant under the National Disaster Mitigation Program (NDMP) for \$1.5 million towards construction of the drainage improvements from upstream of Dunlop Street to the Bradford Street culvert crossing. The grant conditions require that all eligible costs for the construction be incurred by March 31, 2020.
8. Engineering staff are coordinating this open watercourse solution with planned upstream work identified north of Dunlop Street as part of the Kidd's Creek Master Drainage Plan. The City has completed the design of the creek realignment and daylighting to the 90% design stage and has a target tender date of April 30, 2019 and construction start of June 1, 2019. This construction start will ensure substantial completion of the culvert replacement by March 2020, in order to benefit from the NDMP grant.
9. In accordance with the City's 2019-2028 Capital Plan, construction will be initiated in 2019. Staff secured grant funding for the construction of the drainage improvements based on construction in 2019.

## **ANALYSIS**

Additional funds are required for the reasons outlined below.

10. The soil investigations were completed late in 2018, once the access to the property was secured.
11. The results of the soil investigation showed that the soil on the southwest quadrant of Dunlop Street West and High Street was contaminated with benzene, lead and mercury. These soils would be removed from the site as part of the creek daylighting following set provincial protocols for contaminated soil removal and disposal.
12. The geotechnical investigation results on Dunlop Street required that non-standard foundation design be applied to the new culvert, maintenance holes and catch basins due to the poor soil conditions in this area.
13. The combination of the foundation design required to support structures and the removal and disposal of the contaminated soil on the southwest quadrant resulted in additional cost to the project. The estimate for the additional works is \$2,800,000.
14. When the 2019 capital budget was developed in 2018, the estimate had not included for the above as the information was not available at that stage due to lack of access to the site.

**ENVIRONMENTAL MATTERS**

15. The following environmental matters have been considered in the development of the recommendation:
- a) Improving the capacity of Kidd’s Creek as identified in the Kidd’s Creek Master Drainage Plan will reduce the likelihood of flooding; and
  - b) Opening Kidd’s Creek north and south of Dunlop Street and naturalizing the channel will enhance water quality and provide a green space area for tree planting.
  - c) The proposed soil removal is standard engineering practice in situations like this and there is no concern about contamination impact.

**ALTERNATIVES**

16. The following alternative is available for consideration by General Committee:

**Alternative #1** General Committee could choose not to approve the recommended motion by approving only a portion of it.

This alternative is not recommended as a delay to construct the Kidd’s Creek realignment could affect possible applicability of the construction grant funding and delay the implementation of flood mitigation measures.

**FINANCIAL**

17. The project to realign Kidd’s Creek is included in the 2019 and 2020 Capital budget as project EN1071 Dunlop Street West ROW Replacement – Eccles Street to Toronto Street.
18. The approved total budget is \$10,125,600 with \$5,349,900 funded from the tax capital reserve, \$320,400 funded from the wastewater capital reserve, \$255,300 funded from the water capital reserve and \$3,000,000 funded with a grant from the National Disaster Mitigation Program (NDMP).
19. A total project budget of \$12,925,600 is required to cover all costs associated with the award of the contract, staff time and contingencies. An additional \$2,800,000 is required to move forward with the project.
20. The current and proposed funding plan for the project is shown in the table below along with the impact of the proposed changes:

<b>Funding Source</b>	<b>Current</b>	<b>Proposed</b>	<b>Change</b>
Tax Capital Reserve	\$5,349,900	\$4,682,427	(\$667,473)
Wastewater Capital Reserve	\$320,400	\$320,400	\$0
Water Capital Reserve	\$255,300	\$255,300	\$0
Federal Gas Tax Reserve	\$1,200,000	\$4,667,473	\$3,467,473
Grant – NDMP	\$3,000,000	\$3,000,000	\$0
<b>Total</b>	<b>\$10,125,600</b>	<b>\$12,925,600</b>	<b>\$2,800,000</b>



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**LINKAGE TO 2018-2022 STRATEGIC PLAN**

21. The recommendations included in this Staff Report support the following goal identified in the 2018-2022 Strategic Plan:
  - Fostering a Safe and Healthy City
  
22. The recommendations included in this Staff Report support fostering a Safe and Healthy City as it ensures that the City ensure the flood mitigation measures are constructed and the project eligibility for grant funding will not be missed.

APPENDIX "A"



Looking west on Dunlop Street at Parkside Drive (October 2018)