

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON JUNE 18, 2019
FROM:	KELLY SCHERR, P.ENG. MANAGING DIRECTOR ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	UPPER THAMES RIVER CONSERVATION AUTHORITY AND CITY OF LONDON FLOOD PROTECTION PROJECTS

RECOMMENDATION

That, on the recommendation of the Managing Director Environmental & Engineering Services and City Engineer, the following action **BE TAKEN** with respect to City of London's contribution to infrastructure:

- a) The Upper Thames River Conservation Authority **BE AUTHORIZED** to carry out the following projects in concert with the City by increasing the City's share by \$657,500 including contingency, excluding HST, in order to complete the following 2018 approved works:
 - i. Phase 4 of the West London Dyke reconstruction project;
 - ii. Phase 5 of the Fanshawe Dam concrete and dam repair;
- b) The Upper Thames River Conservation Authority **BE AUTHORIZED** to carry out the Phase 5 of the West London Dyke detailed design with the City's share being \$69,750 including contingency, excluding HST;
- c) The Upper Thames River Conservation Authority **BE AUTHORIZED** to carry out the Phase 6 of the West London Dyke detailed design with the City's share being \$33,250 including contingency, excluding HST;
- d) The Upper Thames River Conservation Authority **BE AUTHORIZED** to carry out the Fanshawe Dam Safety Study with the City's share being \$38,500 including contingency, excluding HST;
- e) The financing for this work **BE APPROVED** as set out in the Sources of Financing Report attached hereto as Appendix 'A', and,
- f) The Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary to give effect to these recommendations.

PREVIOUS REPORTS PERTINENT TO THIS MATTER
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Civic Works Committee, July 17, 2018 – Water and Erosion Control Infrastructure (WECI) Program: 2018 Provincially Approved Project Funding (Sole Sourced)

Civic Works Committee, July 17, 2017 – Water and Erosion Control Infrastructure (WECI) Program: 2017 Provincially Approved Project Funding (Sole Sourced)

Civic Works Committee, July 29, 2016 – Water and Erosion Control Infrastructure (WECI) Program: 2016 Provincially Approved Project Funding (Sole Sourced)

Civic Works Committee, February 2, 2016 – West London Dyke Master Repair Plan Municipal Class Environmental Assessment Study

Strategic Priorities and Policy Committee – January 28, 2016 – Downtown Infrastructure Planning and Coordination

Council, March 21, 2011 – UTRCA 2010 and 2011 Levies for Remediating Flood/Erosion Control, Dykes and Dam Structures within the City

2019 – 2023 STRATEGIC PLAN

This report aligns with the Strategic Plan’s “Building a Sustainable City” strategic area of focus by supporting the following expected results:

- Improve London’s resiliency to respond to potential future challenges;
- Build infrastructure to support future development and protect the environment; and
- Maintain or increase current levels of service; manage the infrastructure gap for all assets.

BACKGROUND

Purpose

To recommend funding to facilitate 2019 capital projects for dykes and dams in the City of London.

Context

The City of London owns flood and erosion control structures throughout the watershed that are maintained by the Upper Thames River Conservation Authority (UTRCA) under the terms of a Memorandum of Understanding (MOU). The MOU defines a collaborative approach to operation and maintenance and capital improvements to the flood and erosion control structures in which the City and UTRCA share an interest.

As the regulator of the floodplain, the UTRCA is in the best position to coordinate work on these structures and can also access funding from the provincial and federal governments for maintenance and capital improvement of these structures that is not available to municipalities.

Because of the importance of the flood and erosion control structures to both the City and UTRCA, there is a long history of cooperation on the construction and maintenance of these structures. The City of London annually provides funding to the UTRCA to complete necessary dyke and dam capital and maintenance works.

DISCUSSION

The UTRCA has identified the following capital construction and design work to be completed in 2019:

West London Dyke – Phase 4 Finishing Work

The majority of the reconstruction work for Phase 4 was completed by the end of December 2018. This was primarily focused on the removal of the existing concrete revetment and installation of reinforced concrete block wall. Some general grading and stabilizing of the site for the winter and spring was also completed. The remainder of the work for completion this year is to finish the hand rail installation, electrical and lighting installation, and landscaping. The estimated value of this work is \$437,500.

Fanshawe Dam Phase 5 and 6 Paint and Concrete Repairs

The Fanshawe Dam paint and repair work for Phase 5 began in 2018 but its final completion has been carried into the spring of 2019. Much of the work was completed in 2018, however, a late start, weather issues, and unforeseen need to operate the dam at higher water levels required that the project continue into 2019. To remobilize to

complete Phase 5 and undertake Phase 6, an additional \$220,000 of funding is required.

West London Dyke Phases 5 and 6 Design

The continuation of the West London Dykes Phases 5 and 6 project will extend the reconstructed section of the dyke approximately 325 meters, from the north side of Blackfriars Bridge to St. Patrick Street.

Phases 5 and 6 of the project will be combined as one tender package with construction to commence in July. Combining the two phases results in more efficient construction access and techniques while also reducing the duration of construction within the neighbourhood by one season.



Figure 1: West London Dykes Phase 4 (2018)

Consulting fees for the detailed design of Phases 5 and 6 are approximately \$67,750 and \$33,250, respectively. These fees include contingency and exclude HST, and will be awarded to a consultant through the UTRCA’s procurement processes.

Fanshawe Dam Safety Study

The Canadian Dam Association recommends that a full Dam Safety Review be undertaken once every 10 year period, especially for Flood Control Dams. The last full report, completed by Acres International, for the Fanshawe Dam was 2007. The proposed 2019 Dam Safety Study for the Fanshawe Dam will be the first stage for the full review, which is expected to be completed over a multi-year period. The intent for this phase is to enter into an engineering agreement with a qualified consultant in order to prepare the terms of reference for the full review and perform any necessary inspections and testing to facilitate a complete report.

Total of 2019 Projects

The total requested amount to fund the dykes and dams projects for 2019 results in a total amount of:

Project	Full Project Amount	DMAF Funding	London Share
West London Dyke Phase 4 Finishes	\$437,500		\$437,500
Fanshawe Dam Phases 5 and 6	\$220,000		\$220,000
West London Dyke Phases 5 Detailed Design	\$69,750		\$69,750
West London Dyke Phases 6 Detailed Design	\$55,350	\$22,100	\$33,250
Fanshawe Dam Safety Study	\$38,500		\$38,500
Total (excluding HST)			\$799,000

Potential Funding Impacts

There have been two recent developments that may impact the funding for the rehabilitation of the City’s dyke and dam infrastructure:

1. A new funding announcement from Infastructure Canada’s Disaster Mitigation

and Adaptation Fund (DMAF) that will support reconstruction and raising of the West London Dyke.

2. Potential changes to the province's funding from the Ministry of Natural Resources and Forestry's Water and Erosion Control Infrastructure (WECI) program.

1. Disaster Mitigation and Adaptation Fund (DMAF)

The DMAF is a two-billion dollar merit-based national program provided by Infrastructure Canada to support large scale infrastructure projects that reduce the risks of natural hazards. In order to be eligible, projects must have a minimum cost of \$20 million and must be able to be completed by 2027-2028. The level of cost sharing varies by the recipient.

The UTRCA and City successfully applied to this program for phases 5 through 13 of the West London Dyke Reconstruction (Appendix 'A'; DMAF Approved West London Dyke Phases). The federal government confirmed by a funding announcement on March 27th, 2019 to commit \$10 million of the project's estimated \$25 million dollar total cost over the next ten years. For this project, the program funds up to 40% of the engineering design and construction costs up to the approved program total.

The DMAF will allow the City and UTRCA to continue to focus on upgrading the West London Dyke to further protect properties in the Blackfriars neighbourhood and improve climate change resiliency to extreme rain events.

2. Water and Erosion Control Infrastructure (WECI) Program

Over the last 15 years, the UTRCA in partnership with the City, has been successful in securing approximately \$12,000,000 in WECI funding through the Ministry of Natural Resources and Forestry (MNRF) to repair and reconstruct City-owned flood control infrastructure. Due to the cost sharing nature of the WECI program, the Remediating Flood Control Works within City Limits (ES2474) account has been able to achieve twice the work for the budget available.

Unfortunately, the WECI program is in question for 2019 and beyond. The UTRCA received a letter from the MNRF at the end of March 2019 requesting submissions; however, the letter indicated that the program is still subject to provincial funding commitments and may not be realized this year. The request for submissions was sent out about two months later in the year than usual, which limits the projects that will be ready to be undertaken. The UTRCA has submitted a 2019 WECI application requesting funding for projects, including a request for up to \$1,500,000 for West London Dyke Phases 5 and 6 reconstruction.

The potential cancellation or reduction in funding available through WECI would result in a substantial increase to the City's capital budget or the need to reduce the number of projects that can be completed each year.

Financing Upcoming Work

The ES2474 UTRCA Dykes and Dam account currently has an available budget of \$3,600,000. Following the recommended 2019 commitments, there will be approximately \$2,800,000 in funding available to finance the Phase 5/6 dyke construction.

The estimated construction cost of the combined West London Dyke Phases 5 and 6 is \$4,900,000. The DMAF will fund 40% of this project or approximately \$1,900,000. Therefore, the City share would be approximately \$3,000,000, noting that there is the potential to reduce the City's share further if WECI funding is provided.

If the WECl funding is not received, the City may need to draw from the reserve funds to finance the WLD project and meet the commitments to the DMAF. A subsequent report to committee will detail the City share of the WLD Phase 5/6 project following the tender process and provide an update regarding the status of the WECl program. The impact of the DMAF funding and any changes to the WECl funding program will be incorporated into the wastewater financial plan as part of the 2019-2023 multi-year budget process.

CONCLUSIONS

Due to a need to complete the carryover projects from 2018, two existing purchase orders will need to be increased. Furthermore, three new projects are recommended to proceed in 2019 including the detailed design of Phases 5 and 6 of the West London Dyke reconstruction and the Fanshawe Dam Safety Study. The City’s share for these projects will be sourced out of the existing budget from the ES2474 account.

A subsequent report to Committee will be prepared to commit the City share of Phases 5 and 6 West London Dyke Construction following the tender results. A status update of the WECl funding program will also be provided at this time.

Acknowledgements

This document has been prepared by Chris McIntosh, P.Eng., Environmental Services Engineer.

SUBMITTED BY:	REVIEWED AND CONCURRED BY:
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RECOMMENDED BY:	
KELLY SCHERR, P. ENG., FEC MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER	

June 10, 2019

Attach: Appendix ‘A’ – Source of Financing
 Appendix ‘B’ – West London Dyke DMAF Phases

cc: Fraser Brandon-Sutherland – UTRCA
 Dave Charles – UTRCA
 Debbie Gibson – Financial Business Support
 Gary McDonald –Tangible Capital Assets