

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC
Deputy City Manager, Environment and Infrastructure

Subject: Request for Proposal RFP-2022-245 Contract Award of
Pollution Prevention Control Plan (PPCP) Update Study

Date: February 22, 2023

Recommendation

That, on the recommendation of the Deputy City Manager, Environment and Infrastructure, the following actions **BE TAKEN** with respect to Request for Proposal RFP-2022-245 for the Pollution Prevention Control Plan (PPCP) Update Study:

- a) GM BluePlan Engineering Limited **BE APPOINTED** consulting engineers to complete the Pollution Prevention Control Plan (PPCP) Update Study, in the total amount of \$300,839.00 (including contingency), excluding HST, in accordance with Section 15 of the City of London's Procurement of Goods and Services Policy;
- b) the financing for this project **BE APPROVED** as set out in the Sources of Financing Report attached hereto as Appendix "A";
- c) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this project;
- d) the approval given, herein, **BE CONDITIONAL** upon the Corporation entering into a formal contract; and
- e) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

Executive Summary

Purpose

The purpose of this report is to award a contract for the Pollution Prevention Control Plan (PPCP) Update Study. This PPCP Master Plan update study is undertaken every 5 years to provide an update on the Recommended Implementation Plan (Table 9-3 from Phase 3 of the PPCP, see Appendix B) for the projects that have been suggested during the initial PPCP report.

Context

The City of London's Pollution Prevention Control Plan, which was undertaken as a Master Plan in accordance with Municipal Engineers Association Municipal Class Environmental Assessment guidelines, was completed in three phases, beginning in 2014. The purpose of Phase One was to identify and locate all Combined Sewer Overflows (CSOs) and Sanitary Sewer Overflows (SSOs) within the City. Phase Two included twelve modelling assignments. The modelling assignments were completed to characterize the overflows and to determine the discharge frequency and overflow volume for each overflow during various rainfall event simulations. The purpose of

Phase Three was to evaluate, prioritize, and recommend preferred measures to mitigate overflows. The Phase Three report was originally completed in 2018.

The primary objective of the PPCP is to develop and implement a plan to achieve a long-term solution that will limit the volume and frequency of untreated wastewater discharges to the Thames River and receiving streams from combined sewer and sanitary sewer overflows (CSOs and SSOs) throughout the City, while maintaining an acceptable level of service and protection against basement flooding. This plan follows the principles outlined in the Ministry of the Environment, Conservation and Parks (MECP) Procedure F-5-5.

Procedure F-5-5 outlines the minimum overflow controls for municipal and private combined and partially separated sewer systems. The primary goals of the Procedure are to eliminate the occurrence of dry weather SSOs, to capture 90% of wet weather flows in an average year, and to minimize the potential for impacts on human health and aquatic life.

Linkage to the Corporate Strategic Plan

The following report supports the 2019 – 2023 Strategic Plan through the strategic focus area of Building a Sustainable City:

- London's Infrastructure is built, maintained and operated to meet the long-term needs of our community;
- London's growth and development is well planned and sustainable over the long term.
- London has a strong and healthy environment.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

- Civic Works Committee - November 21, 2017 - Agenda Item # 7 - Pollution Prevention and Control Plan Update
- Civic Works Committee – May 24, 2017 – Agenda Item #9 – Pollution Prevention and Control Plan Phase Three - Consultant Appointment Continuation
- Civic Works Committee – March 8, 2016 – Agenda Item #11 – Pollution Prevention and Control Plan InfoWorks Modelling Consultant Appointments
 - Civic Works Committee – August 25, 2014 – Agenda Item #13 – Pollution Prevention and Control Plan InfoWorks Modelling Consultant Appointment
 - Civic Works Committee – February 3, 2014 – Agenda Item #4 – Pollution Prevention and Control Plan Consultant Appointment Continuation (ES2464-11)
 - Civic Works Committee – May 14, 2012 – Agenda Item #12 – Consultant Appointment - Pollution Prevention and Control Plan Project ES5419

2.0 Discussion and Considerations

2.1 Work Description

The PPCP Master Plan update will include a review and summarization of all related background information from the previous reports and studies including the Recommended Implementation Plan (Appendix B) from Phase 3 of the 2018 PPCP. This will include an updated prioritized action plan for the next 5 years that includes short, medium, and long term goals. This plan should include both program (such as weeping tile disconnection programs), and capital works projects. A cost benefit

analysis with consideration of available external funding and/or cost sharing opportunities shall be included.

An updated Recommended Implementation Plan (Appendix B) shall be produced based on the status of City projects that were completed or in progress since 2018.

A review shall be undertaken to better achieve the objectives that were recommended in the last PPCP report. Areas to focus on will include the following:

Weeping Tile Disconnection:

Phase 3 of the PPCP identified multiple areas would benefit from a weeping tile disconnection program. This PPCP update study will focus on the feasibility of weeping tile disconnection along with implementation plans or strategies to achieve required extraneous flow removal. If weeping tile disconnection strategies are not deemed to be viable, the consultant shall identify alternative options while considering factors such as cost of implementation and overall effectiveness.

Hydraulic Sewer Model:

The City of London has hydraulic pipe models of the sanitary sewer system. The consultant will use hydraulic modelling to identify opportunities and limitations and to provide recommendations in the PPCP Update Study.

First Nations Relationships:

Known as Deshkan Ziibi to the the Anishinaabeg (Chippewas of the Thames First Nation) and Lunaapeewuk (Munsee-Delaware Nation, Delaware Nation) and Kahwy^hatati to the Onyota:ka (Oneida Nation of the Thames), the Thames River is a natural feature of paramount importance and significance. It is important to recognize that these Nations have inherent, ancestral ties to the land, spanning thousands of years prior to European arrival and subsequent colonization. In the spirit of reconciliation, a respectful approach and a mindful, collaborative effort is needed to include Indigenous communities in this process. This will be accomplished through the development of an Indigenous consultation plan which will include effective engagement and consultation strategies along with relevant and meaningful opportunities for community involvement throughout the study process.

3.0 Financial Impact/Considerations

3.1 Procurement Process

The selection of a consultant for the Pollution Prevention Control Plan (PPCP) Update Study followed the Request for Proposal (RFP) procurement, in accordance with section 15 of the Procurement of Goods and Services Policy. A RFP process was chosen due to the technical considerations and experience necessary.

Following public posting of the Pollution Prevention Control Plan (PPCP) Update Study RFP, three proposal submissions were received and evaluated by staff from Environment and Infrastructure. Evaluation criteria included previous experience, methodology, project team qualifications, and cost. The proposal submitted by GM BluePlan Engineering Limited with an upset limit of \$300,839.00 (excluding HST, including 10% contingency) was the highest scoring submission and is recommended for approval in accordance with Section 15.2 of the Procurement of Goods and Services Policy.

Funds have been budgeted in the sewer capital budget to support the PPCP Update Study in Appendix 'A', 'Sources of Financing'.

Conclusion

City staff have reviewed the proposal submissions and have recommended GM BluePlan Engineering Limited be awarded the contact for the Pollution Prevention Control Plan (PPCP) Master Plan Update Study. This Pollution Prevention and Control Plan Master Plan Update Study will provide the City, Ministry of the Environment, Conservation and Parks (MECP), and community with an update to the long term plan for limiting the volume and frequency of untreated wastewater discharges to the Thames River and receiving streams from throughout the City.

Prepared by: **Kyle Chambers, P.Eng**
Division Manager, Sewer Engineering

Submitted by: **Ashley M. Rammeloo, MSc., P.Eng**
Director, Water, Wastewater, and Stormwater

Recommended by: **Kelly Scherr, P. Eng., MBA, FEC**
Deputy City Manager, Environment & Infrastructure

Attachments:

Appendix 'A' – Sources of Financing

Appendix 'B' – Recommended Implementation Plan (Table 9-3 from Phase 3 of the PPCP

CC: K.Christensen, A.O'Brien

Appendix "A"

#23026

February 22, 2023

(Appoint Consulting Engineer)

Chair and Members
Civic Works Committee

RE: Request for Proposal RFP-2022-245 Contract Award of Pollution Prevention Control Plan (PPCP) Update Study
(Subledger NT23ES03)

Capital Project ES2463 - Sewer Overflow Investigation and Mitigation Program

GM BluePlan Engineering Limited - \$300,839.00 (excluding HST)

Finance Supports Report on the Sources of Financing:

Finance Supports confirms that the cost of this project can be accommodated within the financing available for it in the Capital Budget and that, subject to the approval of the recommendation of the Deputy City Manager, Environment and Infrastructure, the detailed source of financing is:

Estimated Expenditures	Approved Budget	Committed To This Date	This Submission	Balance for Future Work
Engineering	1,487,002	1,094,539	306,134	86,329
Construction	480,407	19,599	0	460,808
City Related Expenses	49,564	49,564	0	0
Total Expenditures	\$2,016,973	\$1,163,702	\$306,134	\$547,137

Sources of Financing

Drawdown from Sewage Works Renewal Reserve Fund	2,016,973	1,163,702	306,134	547,137
Total Financing	\$2,016,973	\$1,163,702	\$306,134	\$547,137

Financial Note:

Contract Price	\$300,839
Add: HST @13%	39,109
Total Contract Price Including Taxes	339,948
Less: HST Rebate	-33,814
Net Contract Price	\$306,134

Jason Davies
Manager of Financial Planning & Policy

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Table ES-2. Recommended Implementation Plan

Project Implementation Number	Group ID.	Group Description	Recommendation	SSO(s) Impacts	Infrastructure/Construction Cost Estimate	Engineering Cost Estimate	Considerations	Implementation Timeframe
S1	N/A	N/A	Egerton Street sewer separation (from Dundas Street to 75 m north of Brydges Street, King Street from Egerton St to Kellogg Lane) and King Street (from Egerton Street to Kellogg Lane)	N/A	\$5,800,000 ^a	-	This planned project will help reduce the wet weather flows in the sanitary system in the Vauxhall sewershed.	Short-Term Phase 1 - 2018
S2	Group A	King/Thames, York/Ridout and Richmond	Storm Sewer Separation Phase 1 (River to Talbot Street, and Talbot Street south to CN rail tracks), Phase 2 (Talbot Street to Clarence Street, and Talbot Street from York Street to King Street), Phase 3 (Richmond Street – York Street to Dundas Street), Phase 4 (King Street – Richmond Street to Wellington Street), Phase 5 (Clarence Street – York Street to Dundas Street; York Street – Clarence Street to Wellington Street)	SW-01, CW-04	\$45,336,000 ^{a,d}	\$ 4,450,000 ^d	This project will help reduce the wet weather flows in the Group A catchment area. Remaining phases of downtown sewer separation are recommended in subsequent years, depending on budget availability etc.	Short-Term Phase 1 - 2018 Phase 2 – 2019 Phase 3 – 2020 Phase 4 – 2021 Phase 5 – 2022
S3	Group A and C	King/Thames, York/Ridout and Richmond and Pall Mall Relief System	Storm sewer disconnection at MC-02 and DS-01	SW-01, CW-04, PM-02, PM-09, SD-05, PM-03	\$4,000	-	Verify no sanitary PDC connections remain upstream of storm sewers.	Short-Term
S4	Group A and C	King/Thames, York/Ridout and Richmond and Pall Mall Relief System	Conduct an I&I reduction analysis to determine the feasibility of reducing the I&I by 50 percent in the PM-02, PM-03, and PM-09 catchment areas. Conduct a second study to determine the feasibility of removing storm flows from the Pall Mall Storm and Relief sewer to utilize sewer as in-line storage for the Pall Mall Trunk SSOs.	SW-01, CW-04, PM-02, PM-09, SD-05, PM-03	-	\$250,000	This should be carried out to determine the feasibility/ effectiveness of I&I reduction and removal of storm flows	Short-Term
S5	Group D	Cavendish	Construct the new proposed Cavendish Trunk. Monitor the overflow volume at SD-01 after completion of the construction of the new Cavendish Trunk to reassess this SSO	SD-01	\$2,695,000 ^a	\$10,000 (flow monitoring)	Phase 1 of the Cavendish trunk is planned for construction in 2018. SD-01 has a relatively large overflow volume during the typical year.	Short-Term
S6	Group E	Edward/Tecumseh	That an I&I study to identify the sources of I&I and determine the feasibility of removing the I&I be conducted before any infrastructure upgrades are implemented for CP-09	CP-09	-	\$150,000	This study should be initiated in 2018 of 2019 to determine the potential for I&I reduction in this catchment area.	Short-Term

Table ES-2. Recommended Implementation Plan

Project Implementation Number	Group ID.	Group Description	Recommendation	SSO(s) Impacts	Infrastructure/Construction Cost Estimate	Engineering Cost Estimate	Considerations	Implementation Timeframe
S7	Group B	Cathcart/ Devonshire	Implement a targeted weeping tile disconnection program to achieve a 60 percent participation rate, which corresponds to 250 homes in the Group B catchment area	SP-45, SW-03	\$1,948,000	-	Requires home owner participation	Short-Term
M1	N/A	N/A	Storm Sewer Separation for the City's combined sewer areas (that are not included in S1, S2, and M2). This includes separating 80% of the City's combined sewers by 2029 (through complete infrastructure renewal and road reconstruction). ^b	N/A	\$87,040,000 ^c	\$13,040,000 ^e	The planned sewer separation projects will help reduce wet weather flow within the City's sanitary system. Please refer to the Canada-Ontario Lake Erie Action Plan for phosphorus reduction for further details.	Medium- Term
M2	Group A	King/Thames, York/ Ridout and Richmond	Storm Sewer Separation Phase 6 (Wellington Street – Dundas Street to King Street; King Street – Wellington Street to Colborne Street), and Phase 7 (York Street – Wellington Street to Colborne Street)	SW-01, CW-04	\$25,210,000 ^d	\$3,150,000.00 ^d	This project will help reduce the wet weather flows in the Group A catchment area. Remaining phases of downtown sewer separation are recommended in subsequent years, depending budget availability etc.	Medium-Term
M3	Group F	Evergreen/ Riverview	Implement the proposed Horton/Wharnccliffe Sewer Realignment infrastructure upgrades. Monitor the overflow volume at SN-05 after completion of the construction of the new proposed Horton/Wharnccliffe Sewer Realignment to reassess this SSO	SN-05	\$5,100,000 ^f	\$10,000 (flow monitoring) \$765,000 ^e	Needs to be implemented before Group A and Group C pipe capacity upgrades, but implemented after some wet weather flow reduction is achieved upstream so that flows to the Greenway WWTP are not substantially increased.	Medium-Term
M4	Group H	Medway PS	Implement a targeted weeping tile disconnection program in the Group H catchment area.	N/A	\$17,243,000 ^g		Requires home owner participation.	Medium-Term
M5	Group I	Sunninghill PS	Implement a targeted weeping tile disconnection program in the Group I catchment area.	N/A	\$1,907,000 ^g		Requires home owner participation.	Medium-Term
L1	N/A	N/A	Storm Sewer Separation for the City's combined sewer areas (that are not included in S1, S2, M1, and M2). This includes separating all of the City's remaining combined sewers (through complete infrastructure renewal and road reconstruction). ^b	N/A	\$21,760,000	\$3,260,000 ^e	The planned sewer separation projects will help reduce wet weather flow within the City's sanitary system. Please refer to the Canada-Ontario Lake Erie Action Plan for phosphorus reduction for further details.	Long-Term
L2	Group A and C	King/Thames, York/ Ridout and Richmond and Pall Mall Relief System	Upsizing the 900-mm-diameter pipe from the intersection of King St. and Ridout St. to Wharnccliffe Rd. and Becher St. to a 1,200-mm-diameter pipe. Increase SW-01 invert elevation to pipe obvert.	SW-01, CW-04, PM-02, PM-09, SD-05, PM-03	\$6,205,000 ^h	\$931,000 ^e	This is a requirement to reduce discharges and has a major impact on SSO volumes and frequency. The pipe capacity increases at Wharnccliffe/ Horton need to be implemented first. To avoid excessive construction in the downtown core, this should not be implemented until the sewer separation projects are complete.	Long-Term

Table ES-2. Recommended Implementation Plan

Project Implementation Number	Group ID.	Group Description	Recommendation	SSO(s) Impacts	Infrastructure/Construction Cost Estimate	Engineering Cost Estimate	Considerations	Implementation Timeframe
L3	Group A and C	King/Thames, York/ Ridout and Richmond and Pall Mall Relief System	Depending on outcome of S4 feasibility study, complete I&I removal projects and then increase the SSO control elevations along the Pall Mall trunk sewer to reduce the potential for overflow, (Option 1). Alternatively, remove adequate storm flow from the Pall Mall Storm and Relief sewer such that the storm and relief sewer can be utilized for inline storage for the Pall Mall Trunk SSO overflows (Option 2). Option 2 also involves upsizing the Pall Mall Trunk sewer downstream of Ann Street Park to Dundas Street to a 900-mm-diameter pipe.	SW-01, CW-04, PM-02, PM-09, SD-05, PM-03	N/A ⁱ		The implementation depends on the outcome of S4 feasibility studies. Either Option 1 or Option 2 should be implemented. These are preferred approaches to improve capacity and reduce SSOs than increasing the Pall Mall sewer pipe size. Increasing the SSO control elevations and the pipe upsizing associated with Option 2 should not be implemented until after upsizing the 900-mm-diameter pipe from the intersection of King St. and Ridout St. to Wharnccliffe Rd. and Becher St. to a 1,200-mm-diameter pipe.	Long-Term (if feasible)
L4	Group A and C	King/Thames, York/ Ridout and Richmond and Pall Mall Relief System	Replace the Pall Mall trunk sewer with a 900-mm-diameter pipe from Elizabeth St. and Lorne Ave. to Dundas St. and then increase the SSO control elevations along Pall Mall trunk to reduce the potential for overflow (Option 3).	SW-01, CW-04, PM-02, PM-09, SD-05, PM-03	\$24,066,000	\$3,610,000 ^e	This option should only be implemented if Option 1 and Option 2 are determined to not be feasible. If required, this pipe upsizing should not be completed until after upsizing the 900-mm-diameter pipe, from the intersection of King St. and Ridout St. to Wharnccliffe Rd. and Becher St. to a 1,200-mm-diameter pipe.	Long-Term (if required)
L5	Group E	Edward/Tecumseh	Complete I&I removal projects.	CP-09	N/A ⁱ		Relatively low overflow volume. This is a preferred approach to improve capacity and reduce SSOs than increasing pipe sizes.	Long-Term (if feasible)
L6	Group E	Edward/Tecumseh	Upsize the sewers downstream of CP-09 to Wharnccliffe and Horton.	CP-09	\$10,652,000	\$1,598,000 ^e	Relatively low overflow volume. This option should only be implemented if sufficient I&I reduction cannot be achieved (based on the I&I study).	Long-Term (if required)

^a Cost based on tendered value

^b Source: City of London (2017b)

^c Cost based on a unit cost, with the assumption that the average cost of this full road reconstruction (watermain, sewer and selected utility upgrade/replacement) is equivalent to installing 900 mm diameter sewers at 5 m depth.

^d Source: AECOM (2017)

^e Cost assumed from 15% of construction cost

^f Source: R.V. Anderson Associates Limited (2016)

^g Cost based on the assumption that 100% of the homes with weeping tile connections in the catchment area will participate in disconnecting weeping tiles from the sanitary system.

^h Assuming bridge work on the King Street Pedestrian Bridge is not required

ⁱ Cost of reducing I&I to be determined during I&I reduction feasibility study