

Civic Works Committee

Report

8th Meeting of the Civic Works Committee
April 16, 2019

PRESENT: Councillors P. Squire (Chair), M. van Holst, S. Lewis, S. Lehman, E. Pelosa
ABSENT: Mayor E. Holder
ALSO PRESENT: T. Copeland, G. Gauld, G. Irwin, S. King, D. MacRae, S. Maguire, S. Mathers, C. McIntosh, K. Oudekerk, P. Shack, S. Spring, J. Stanford and B. Westlake-Power

The meeting was called to order at 4:03 PM

1. Disclosures of Pecuniary Interest

That it BE NOTED that no pecuniary interests were disclosed.

2. Consent

Moved by: M. van Holst
Seconded by: S. Lehman

That all items except 2.2, BE APPROVED.

Yeas: (5): P. Squire, M. van Holst, S. Lewis, S. Lehman, and E. Pelosa

Absent: (1): E. Holder

Motion Passed (5 to 0)

2.1 Fanshawe Park Road and Richmond Street Intersection Detailed Design and Tendering - Appointment of Consulting Engineer

Moved by: M. van Holst
Seconded by: S. Lehman

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions be taken with respect to the appointment of a Consulting Engineer for the Fanshawe Park Road and Richmond Street intersection improvements:

- a) Dillon Consulting Limited BE APPOINTED Consulting Engineers for the detailed design and tendering at an upset amount of \$596,167 (excluding HST) in accordance with Section 15.2 (g) of the Procurement of Goods and Services Policy;
- b) the financing for this appointment BE APPROVED as set out in the Sources of Financing Report as appended to the staff report dated April 16, 2019;
- c) the Civic Administration BE AUTHORIZED to undertake all the administrative acts that are necessary in connection with this appointment;
- d) the approvals given herein BE CONDITIONAL upon the Corporation entering into a formal contract with the consultant for the work; and,
- e) the Mayor and the City Clerk BE AUTHORIZED to execute any contract or other documents, if required, to give effect to these recommendations. (2019-A05)

Motion Passed

2.3 Contract Award - Tender No. RFT 19-43 - 2019 Infrastructure Renewal Program Contract No. 3 - Waterloo Street (Oxford Street East to Grosvenor Street)

Moved by: M. van Holst

Seconded by: S. Lehman

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions be taken with respect to the award of contracts for the 2019 Infrastructure Renewal Program Contract #3 – Waterloo Street (Oxford Street East to Grosvenor Street) reconstruction project:

- a) the bid submitted by L82 Construction Ltd. at its tendered price of \$3,687,977.82, (excluding HST), BE ACCEPTED; it being noted that the bid submitted by L82 Construction Ltd. was the lowest of nine bids received and meets the City's specifications and requirements in all areas;
- b) AECOM Canada Ltd. BE AUTHORIZED to carry out the resident inspection and contract administration for the said project in accordance with the estimate, on file, at an upset amount of \$248,534.00, (excluding HST), in accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy, noting that this firm completed the engineering design for this project;
- c) the financing for this project BE APPROVED as set out in the Sources of Financing Report as appended to the staff report dated April 16, 2019;
- d) the Civic Administration BE AUTHORIZED to undertake all the administrative acts that are necessary in connection with this project;
- e) the approval given, herein, BE CONDITIONAL upon the Corporation entering into a formal contract, or issuing a purchase order for the material to be supplied and the work to be done, relating to this project (Tender RFT19-43); and,
- f) the Mayor and the City Clerk BE AUTHORIZED to execute any contract or other documents, if required, to give effect to these recommendations. (2019-T04)

Motion Passed

2.4 Update and Next Steps for the London Waste to Resources Innovation Centre

Moved by: M. van Holst

Seconded by: S. Lehman

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, with the support of the Director, Environment, Fleet and Solid Waste the following actions be taken with respect to the London Waste to Resources Innovation Centre:

- a) the proposed by-law, as appended to the staff report dated April 16, 2019, BE INTRODUCED at the Municipal Council meeting to be held on April 23, 2019 to;
 - i) authorize and approve Agreement between The Corporation of the City of London and The University of Western Ontario;
 - ii) authorize the Mayor and the City Clerk to execute the Agreement;

- b) the Civic Administration BE AUTHORIZED to undertake all administrative acts that are necessary in connection with executing the above noted Agreement;
- c) the Civic Administration BE AUTHORIZED to promote the role, contribution and opportunities to grow the London Waste to Resources Innovation Centre through its relationship with Western University, with existing businesses that have signed Memorandums of Understanding with the City of London, and with new businesses and organizations looking for opportunities in the broad field of resource recovery, creating resources from materials that would normally be discarded, and reducing materials that require disposal; and,
- d) the Civic Administration BE DIRECTED to report annually to the Civic Works Committee on the activities and actions taken through the London Waste to Resources Innovation Centre including a status on the operating structure and financial matters. (2019-E07)

Motion Passed

2.5 Memorandum of Understanding with Green Shields Energy as Part of the London Waste Resources Innovation Centre

Moved by: M. van Holst
Seconded by: S. Lehman

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, with the support of the Director, Environment, Fleet and Solid Waste, the proposed by-law as appended to the staff report dated April 16, 2019 BE INTRODUCED at the Municipal Council meeting to be held on April 23, 2019 to:

- a) authorize and approve a Memorandum of Understanding between 9003711 Canada Inc. operating as Green Shields Energy ("GSE") and The Corporation of the City of London and,
- b) authorize the Mayor and the City Clerk to execute the Memorandum of Understanding authorized and approved in part a), above. (2019-E07)

Motion Passed

2.6 Environmental Programs Annual Overview Update

Moved by: M. van Holst
Seconded by: S. Lehman

That, on the recommendation of the Director – Environment, Fleet and Solid Waste, the following actions be taken with respect to the Environmental Programs Annual Overview Update :

- a) the report dated April 16, 2019 BE RECEIVED for information; and,
- b) the report BE FORWARDED to the Advisory Committee on the Environment (ACE) for information. (2019-C06A)

Motion Passed

2.7 Vauxhall Wastewater Treatment Plant (WWTP) Flood Protection - Additional Dewatering Costs

Moved by: M. van Holst
Seconded by: S. Lehman

That, on the recommendation of the Managing Director of Environmental and Engineering Services and City Engineer, the following actions be taken with respect to the construction contract for flood protection measures at Vauxhall Wastewater Treatment Plant (WWTP):

- a) the value of the engineering consulting fees for AECOM Limited BE INCREASED by \$75,000 including contingency, due to increased efforts related to the project extension;
- b) the value of the engineering consulting fees for Dillon Limited BE INCREASED by \$40,000.00 to restore contingency that had previously been reallocated; and,
- c) the financing for the projects BE APPROVED in accordance with the Sources of Financing Report as appended to the staff report dated April 16, 2019. (2019-E21)

Motion Passed

2.8 Upper Thames River Conservation Authority and City of London -
Schedule B Municipal Class Environmental Assessment - Notices of Study
Completion

Moved by: M. van Holst
Seconded by: S. Lehman

That, on the recommendation of the Managing Director Environmental and Engineering Services and City Engineer, the report entitled Upper Thames River Conservation Authority and City of London- Schedule B Municipal Class Environmental Assessment- Notice of Study Completion BE RECEIVED for information. (2019-E21)

Motion Passed

2.9 Pincombe Drain Stormwater Management Facility No. 3 Budget
Adjustment

Moved by: M. van Holst
Seconded by: S. Lehman

That, on the recommendation of the Managing Director of Environmental and Engineering Services and City Engineer, the following actions be taken with respect to the Pincombe Drain Stormwater Management Facility #3 (ESSWM-PD3):

- a) the budget adjustment to increase Development Charges funding for above noted project ESSWM-PD3 in the amount of \$935,200 BE APPROVED, for a revised overall budget total in the amount of \$3,502,200; and,
- b) the financing for the above noted increase BE APPROVED in accordance with the Sources of Financing Report as appended to the staff report dated April 16, 2019. (2019-E03)

Motion Passed

2.10 Contract Award - Tender T19-21 - Colonel Talbot Sanitary Sewer and
Forcemain Installation

Moved by: M. van Holst
Seconded by: S. Lehman

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, and subject to receipt of requisite regulatory approvals, the following actions be taken with respect to the award of contract for the Colonel Talbot Pumping Station Sanitary Sewer and Forcemain construction project:

- a) the bid submitted by Omega Contractors Inc. at its tendered price of \$6,404,243.82 (excluding HST), BE ACCEPTED; it being noted that the bid submitted by Omega Contractors Inc. was the lowest of five bids received and meets the City's specifications and requirements in all areas;
- b) the financing for this project BE APPROVED as set out in the Sources of Financing Report as appended to the staff report dated April 16, 2019;
- 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 relating to this project (Tender 19-21); and,
- e) the Mayor and the City Clerk BE AUTHORIZED to execute any contract or other documents, if required, to give effect to these recommendations. (2019-E01)

Motion Passed

2.11 Audible Pedestrian Pushbutton Equipment Irregular Result

Moved by: M. van Holst
Seconded by: S. Lehman

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer the following actions be taken with respect to the Audible Pedestrian Pushbutton Equipment Irregular Result:

- a) the irregular bid submitted by Tacel Ltd. at its tendered price of \$215,250.00 (excluding H.S.T.) BE ACCEPTED, in accordance with the Procurement of Goods and Services Policy Section 8.10 Irregular Result, part b and Section 13.2 part b;
- b) the financing for this project BE APPROVED as set out in the Sources of Financing Report as appended to the staff report dated April 16, 2019;
- 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 for the material to be supplied and the work to be done relating to this project (RFT19-25); and,
- e) the Mayor and the City Clerk BE AUTHORIZED to execute any contract or other documents, as required, to give effect to these recommendations. (2019-T07)

Motion Passed

2.12 Contract Award - T19-42 Arterial Road Rehabilitation Project Contract No. 2

Moved by: M. van Holst
Seconded by: S. Lehman

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions be taken with respect to the award of the 2019 Arterial Road Rehabilitation Project Contract No. 2:

- a) the bid submitted by Dufferin Construction Company at its submitted tendered price of \$5,735,706.55 (excluding HST), for the said project BE ACCEPTED; it being noted that the bid submitted by Dufferin Construction Company was the lowest of two (2) bids received and meets the City's specifications and requirements in all areas;
- b) the financing for this project BE APPROVED as set out in the Sources of Financing Report as appended to the staff report dated April 16, 2019;
- 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 for the material to be supplied and the work to be done relating to this project (Tender 19-42); and,
- e) the Mayor and the City Clerk BE AUTHORIZED to execute any contract or other documents, if required, to give effect to these recommendations. (2019-T04)

Motion Passed

2.13 Consultant Supervision Engineering Services Award - 2019 Infrastructure Renewal Program - Wistow Street Reconstruction Project

Moved by: M. van Holst
Seconded by: S. Lehman

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions be taken with respect to the award of consulting supervision services for the 2019 Infrastructure Renewal Program Wistow Street reconstruction project:

- a) Stantec Consulting BE AUTHORIZED to carry out the resident inspection and contract administration services, including geotechnical services for the said project in accordance with the estimate, on file, at an upset amount of \$294,230.20 including contingency, (excluding HST), in accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy, noting that this firm completed the engineering design for this project;
- b) the financing for this project BE APPROVED as set out in the Sources of Financing Report as appended to the staff report dated April 16, 2019;
- c) the Civic Administration BE AUTHORIZED to undertake all the administrative acts that are necessary in connection with this project;
- d) the approvals given herein BE CONDITIONAL upon the Corporation entering into a formal contract or issuing a purchase order for the work to be done; and,

e) the Mayor and the City Clerk BE AUTHORIZED to execute any contract or other documents, if required, to give effect to these recommendations. (2019-T04)

Motion Passed

2.14 Comments on Environmental Registry of Ontario (ERO) - Reducing Litter and Waste in our Communities - Discussion Paper

Moved by: M. van Holst

Seconded by: S. Lehman

That, on the recommendation of the Managing Director of Environmental and Engineering Services and City Engineer, the comments as appended to the staff report dated April 16, 2019, BE ENDORSED and BE SUBMITTED to the Ministry of the Environment, Conservation and Parks' Environmental Registry of Ontario posting (013-4689) titled Reducing Litter and Waste in Our Communities: Discussion Paper. (2019-E07)

Motion Passed

2.15 Huron Industrial Storm Management Facility Municipal Class Environmental Assessment - Notice of Completion

Moved by: M. van Holst

Seconded by: S. Lehman

That, on the recommendation of the Managing Director, Development and Compliance Services and Chief Building Official, the following actions be taken with respect to the Huron Industrial Stormwater Management Facility Environmental Assessment:

- a) the preferred outfall improvement alternative, executive summary appended to the staff report dated April 16, 2019, BE ACCEPTED in accordance with the Schedule 'B' Municipal Class Environmental Assessment process requirements;
- b) a Notice of Completion BE FILED with the Municipal Clerk; and,
- c) the Municipal Class Environmental Assessment Schedule 'B' project file for the Huron Industrial Stormwater Management Facility BE PLACED on public record for a 30-day review period. (2019-E03)

Motion Passed

2.16 Cooperative Purchase Tender Award - Supply and Delivery of Diesel, Biodiesel and Gasoline - Elgin, Middlesex, Oxford Purchasing (EMOP) Co-operative

Moved by: M. van Holst

Seconded by: S. Lehman

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions be taken with respect to the supply and delivery of diesel, biodiesel and gasoline:

- a) Fleet Services and Purchasing and Supply BE AUTHORIZED to continue as a member of the Elgin, Middlesex, Oxford Purchasing (EMOP) Cooperative for the supply and delivery of diesel, Biodiesel and Gasoline;

- b) the recommendation from the London Transit Commission to EMOP members for the Supply and Delivery of Diesel, Biodiesel and Gasoline be awarded to Suncor/Petro Canada, 2489 North Sheridan Way Mississauga, Ontario L5K 1A8 for five (5) years with two(2) one(1) year option terms, as appended to the staff report dated April 16, 2019, BE ACCEPTED;
- c) the Civic Administration BE AUTHORIZED to undertake all the administrative acts that are necessary in connection with this award; and,
- d) the approval given herein BE CONDITIONAL upon the Corporation entering into a formal contract or issuing a purchase order relating to the subject matter of this approval. (2019-V01A)

Motion Passed

2.2 Amendments to the Traffic and Parking By-law

Moved by: S. Lewis
 Seconded by: E. Pelosa

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the proposed by-law, as appended to the staff report dated April 16, 2019, BE INTRODUCED at the Municipal Council meeting to be held on April 23, 2019, for the purpose of amending the Traffic and Parking By-law, PS-113. (2019-T02/T08)

Yeas: (5): P. Squire, M. van Holst, S. Lewis, S. Lehman, and E. Pelosa
 Absent: (1): E. Holder

Motion Passed (5 to 0)

3. Scheduled Items

3.1 Public Lane Policy Review

Moved by: M. van Holst
 Seconded by: S. Lewis

That the following actions be taken with respect to the Redan Public lane:

- a) the Civic Administration BE DIRECTED to survey the impacted property owners, with the intent to close the lane and divest the property, at the cost of \$1 to each of the property owners and with all other land transfer costs to be assumed by the City; and,
- b) that staff BE DIRECTED to report back to Civic Works Committee with recommendations for future potential lane closure subsidies.;

it being noted that the Civic Works Committee received the attached presentation from M. Koch Denomme, with respect to this matter. (2019-T03)

Yeas: (5): P. Squire, M. van Holst, S. Lewis, S. Lehman, and E. Pelosa
 Absent: (1): E. Holder

Motion Passed (5 to 0)

4. Items for Direction

4.1 Opt-in Green Bin Service Motion - Councillor M. van Holst

Moved by: E. Pelosa

Seconded by: S. Lewis

That the communication from Councillor M. van Holst, dated April 8, 2019, with respect to an Opt-in Green Bin Service, BE RECEIVED.

Yeas: (5): P. Squire, M. van Holst, S. Lewis, S. Lehman, and E. Pelosa

Absent: (1): E. Holder

Motion Passed (5 to 0)

6. Confidential

6.1 Litigations/Potential Litigations/Solicitor-Client Privilege Advice/Directions and Instructions to Officers and Employees

Moved by: S. Lewis

Seconded by: S. Lehman

That the Civic Works Committee convene, In Closed Session at 5:29 PM, for the purpose of considering a matter that pertains to potential litigation with respect to Tender T17-04 Vauxhall Wastewater Treatment Plant, including matters before administrative tribunals, affecting the municipality or local board with respect to; advice that is subject to solicitor-client privilege, including communications necessary for that purpose in connection with the work done on Tender T17-04 Vauxhall Wastewater Treatment Plants; directions and instructions to officers and employees or agents of the municipality regarding settlement negotiations and conduct of litigation in connection with the Tender T17-04 Vauxhall Wastewater Treatment Plant.

Yeas: (5): P. Squire, M. van Holst, S. Lewis, S. Lehman, and E. Pelosa

Absent: (1): E. Holder

Motion Passed (5 to 0)

The Civic Works Committee convened, In Closed Session from 5:29 PM to 5:39 PM.

7. Adjournment

The meeting adjourned at 5:40 PM.

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON APRIL 16, 2019
FROM:	KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	FANSHAWE PARK ROAD & RICHMOND STREET INTERSECTION DETAILED DESIGN AND TENDERING APPOINTMENT OF CONSULTING ENGINEER

RECOMMENDATION

That on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to the appointment of a Consulting Engineer for the Fanshawe Park Road and Richmond Street intersection improvements:

- (a) Dillon Consulting Limited **BE APPOINTED** Consulting Engineers for the detailed design and tendering at an upset amount of \$596,167 (excluding HST) in accordance with Section 15.2 (g) of the Procurement of Goods and Services Policy;
- (b) the financing for this appointment **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 appointment;
- (d) the approvals given herein **BE CONDITIONAL** upon the Corporation entering into a formal contract with the consultant for the work; and,
- (e) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

PREVIOUS REPORTS PERTINENT TO THIS MATTER
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- Civic Works Committee – June 19, 2012 – London 2030 Transportation Master Plan
- Strategic Priorities and Policy Committee – June 23, 2014 – Approval of 2014 Development Charges By-Law and Development Charges Background Study.
- Civic Works Committee – March 23, 2015 – Environmental Assessment Study Appointment of Consulting Engineer
- Civic Works Committee – September 25, 2018 – Richmond Street and Fanshawe Park Road Intersection Improvements - Environmental Study Report

2015-19 STRATEGIC PLAN

The following report supports the Strategic Plan through the strategic focus area of *Building a Sustainable City* by implementing and enhancing mobility choices for cyclists, transit, automobile users and pedestrians. The environmental assessment identifies the solution to improve operations and safety at this intersection.

BACKGROUND

Purpose

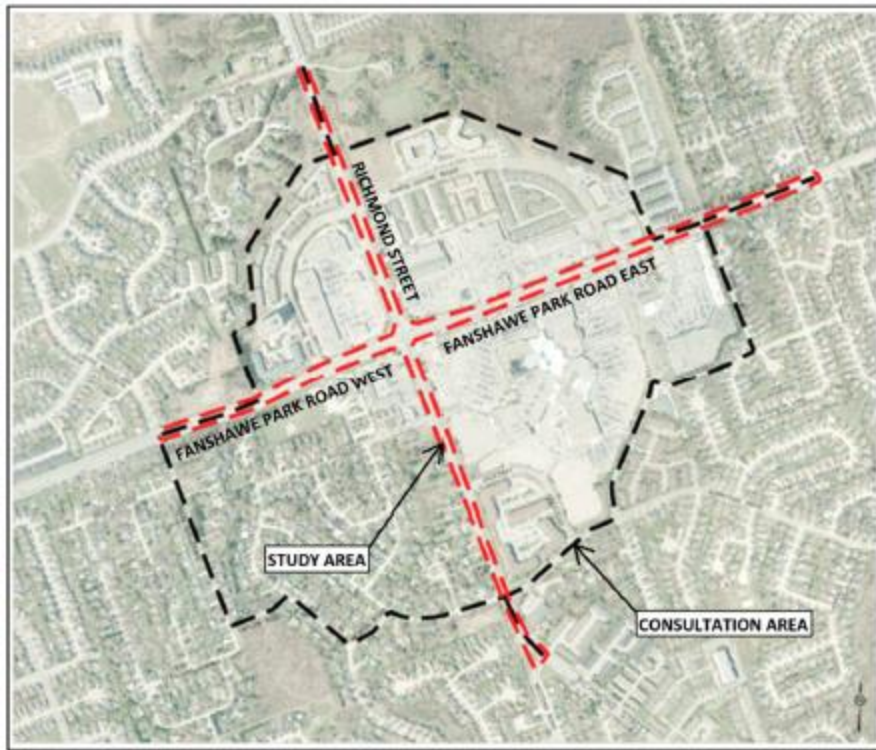
This report seeks the approval of the Municipal Council to retain an engineering consultant to complete the detailed design and tendering for the Fanshawe Park Road and Richmond Street intersection improvements.

Context

Fanshawe Park Road is four lanes wide and serves as a major east/west Urban Thoroughfare road. Richmond Street is a four-lane Civic Boulevard/Rapid Transit Boulevard and serves as a northern gateway into the City. Forming a primary link in London’s arterial road network, it connects the Masonville, Stoneybrook, Sunningdale and Uplands Planning Districts to London’s downtown. It also provides access to regional facilities including Western University. Improvements to the subject intersection provides enhanced cycling and pedestrian facilities, additional vehicular traffic capacity, and includes design features such as landscaping and urban design elements to be consistent with the transit village vision.

An Environmental Study Report (ESR), the result of a comprehensive Environmental Assessment (EA) for Fanshawe Park Road and Richmond Street intersection was completed in September 2018. The preferred design option for the intersection improvements improves traffic operations, better accommodates pedestrians, and is compatible with future potential rapid transit design, the “Main Street”, “Transit Village” and “Rapid Transit Boulevard” designations of the London Plan, and future widening of Fanshawe Park Road.

See below for a map illustrating the project study area.



Fanshawe Park Road & Richmond Street Intersection - Project Area

DISCUSSION

Project Description

The key design improvements of the intersection include westbound dual left turn lanes, northbound dual left turn lanes, northbound and eastbound right turn lanes as well as additional through lanes westbound and eastbound changing Fanshawe Park Road to six lanes in the vicinity of the intersection. The existing southbound and westbound right turn lanes and all right turn channelization will be removed. Other design features include improved pedestrian and cycling facilities, landscaping and urban design elements. The project preliminary design has been coordinated to seamlessly abut and operate with the current rapid transit design; however, the need and justification for this project is independent of the rapid transit project and the project can proceed as a standalone improvement.

Implementation timing is anticipated in 2022 based on the 2019 Transportation Development Charges Background Study (DCBS) with early preparations and infrastructure works such as complex property acquisition and utility relocations being completed as early as 2021. The award of the design at this time aims to maintain this project schedule.

The primary deliverables from this detailed design assignment include field investigations, design, approvals, property acquisition support, and contract preparation. Particular focus areas for the assignment include:

- Detailed design for the subject intersection;
- Coordination of service needs, including expansion of existing and new infrastructure, and the transfer of the London Hydro system to underground plant;
- Stormwater management plan;
- Traffic signals and street lights design;
- Public consultation with stakeholders including local businesses;
- Securing all necessary approvals and permits;

- Property acquisition support for both the acquisitions and the consent-to-enter agreements;
- Preparation of utility plans and coordinate the installation of utilities; and
- Preparation of the complete tender package, including advertisement, review of the submitted tenders for completeness, and contractor recommendations.

Consultant Procurement

Dillon Consulting Limited was previously awarded the environmental assessment assignment through a competitive process involving a two-stage process beginning with an open advertised Request for Qualifications. Proposal submissions were received for the EA assignment from three consultants, in accordance with the City’s Procurement of Goods and Services Policy 15.2 (d). The process, which included a Request for Proposal (RFP), identified the selected consultant from a short list of engineering consultants based on evaluations from an inclusive City project team.

Due to the consultant’s knowledge and the positive performance on the project during the environmental assessment, Dillon Consulting Limited was invited to submit a proposal to carry out the detailed design and tendering of this project. Staff reviewed the fee submission in detail considering the hourly rates provided by each of the Consultant’s staff members. City staff have confirmed that hourly rates are consistent with those submitted through competitive processes. City staff also reviewed the time allocated to each project related task. The amount of time allocated to each project task is consistent with prior projects of a similar nature noting the unique complexities of this assignment. Appointment of Dillon Consulting Limited as the consulting engineer for the design phase creates efficiencies providing financial advantage to the City by eliminating duplication that would be required if another firm were introduced. The firm is familiar with City staff and procedures through recent work on other multi-disciplinary assignments.

In accordance with Section 15.2 (g) of the Procurement of Goods and Services Policy, Civic Administration is recommending that Dillon Consulting Limited be authorized to carry out the detailed design and tendering of this project for a fee estimate of \$596,167.00 (excluding HST). The submission from Dillon Consulting Limited includes a fee submission that indicates that the detail design can be completed within the funds available in the project account.

The approval of this work will bring the value of the overall consulting assignment including the environmental assessment study to \$776,644.50 (excluding HST). Dillon Consulting Limited may be considered for future construction administration services subject to successful completion of this project phase.

<p>CONCLUSION</p>

The environmental assessment for Fanshawe Park Road and Richmond Street intersection improvements was completed by Dillon Consulting Limited. The environmental assessment was prepared with input from the impacted property owners and businesses, First Nations, relevant stakeholder groups, external agencies, utilities, and local property owners within the public consultation study area.

The detailed design will balance the requirements of all current and potential users of all ages and abilities by providing enhanced cycling and pedestrian facilities, additional vehicular traffic capacity, and landscaping and urban design elements consistent with

the transit village vision of this intersection. The project preliminary design has been coordinated to seamlessly abut and operate with the current rapid transit design; however, this project can also proceed independently.

Given their understanding of the project, it is recommended that Dillon Consulting Limited be awarded the consulting assignment for the detailed design and tendering of Fanshawe Park Road and Richmond Street intersection improvements in the amount of \$596,167 (excluding HST).

Acknowledgements

This report was prepared with assistance from Maged Elmadhoon, Traffic and Transportation Engineer in the Transportation Planning and Design Division.

SUBMITTED BY:	RECOMMENDED BY:
DOUG MACRAE, P.ENG., MPA DIRECTOR ROADS AND TRANSPORTATION	KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER

Attachment: Appendix A – Source of Financing

cc. Brian Huston, P.Eng., Dillon Consulting Limited

APPENDIX 'A'

Chair and Members
Civic Works Committee

#19048
April 16, 2019
(Appoint Consulting Engineer)

RE: Fanshawe Park Road & Richmond Street Intersection
Detailed Design and Tendering - Appointment of Consulting Engineer
(Subledger RD140016)
Capital Project TS1134 - Richmond St & Fanshawe Pk Rd Intersection Improvements
Dillon Construction Limited - \$596,167.00 (excluding H.S.T.)

FINANCE & CORPORATE SERVICES REPORT ON THE SOURCE OF FINANCING:

Finance & Corporate Services confirms that the cost of this project can be accommodated within the financing available for it in the Capital Works Budget and that, subject to the adoption of the recommendations of the Managing Director, Environmental and Engineering Services and City Engineer, the detailed source of financing for this project is:

ESTIMATED EXPENDITURES	Approved Budget	Revised Budget	Committed To Date	This Submission	Balance for Future Work
Engineering	\$1,200,000	\$1,200,000	\$205,822	\$606,660	\$387,518
Land Acquisition	2,600,000	2,600,000			2,600,000
Construction		941	941		0
Relocate Utilities	100,000	100,000			100,000
City Related Expenses	50,000	49,059	5,624		43,435
NET ESTIMATED EXPENDITURES	\$3,950,000	\$3,950,000	\$212,387	\$606,660 1)	\$3,130,953

SOURCE OF FINANCING:

Debenture By-law No. W.-5581-134	3)	\$395,000	\$395,000	\$21,239	\$60,666	\$313,095
Drawdown from City Services - Roads Reserve Fund (Development Charges)	2)	3,555,000	3,555,000	191,148	545,994	2,817,858
TOTAL FINANCING		\$3,950,000	\$3,950,000	\$212,387	\$606,660	\$3,130,953

Financial Note:

- 1)

Contract Price
Add: HST @13%
Total Contract Price Including Taxes
Less: HST Rebate
Net Contract Price
- 2)

Development Charges have been utilized in accordance with the underlying legislation and the Development Charges Background Studies completed in 2014.
- 3)

Note to City Clerk:
The City Clerk be authorized to increase Debenture By-law No. W.-5581-134 by \$310,000 from \$85,000 to \$395,000.

lp

Jason Davies
Manager of Financial Planning & Policy

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON APRIL 16, 2019
FROM:	KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	AMENDMENTS TO THE TRAFFIC AND PARKING BY-LAW

RECOMMENDATION

That on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the attached proposed by-law (Appendix A) **BE INTRODUCED** at the Municipal Council meeting to be held on April 23, 2019, for the purpose of amending the Traffic and Parking By-law (PS-113).

2015-19 STRATEGIC PLAN

The following report supports the Strategic Plan through the strategic focus area of **Building a Sustainable City** by improving safety, traffic operations and residential parking needs in London’s neighbourhoods.

BACKGROUND

The Traffic and Parking By-law (PS-113) requires amendments (Appendix A) to address traffic safety, operations and parking concerns. The following amendments are proposed:

1. No Stopping Anytime

King Street

2019 construction plans include work on Dundas Street from Richmond Street to Wellington Street, King Street from Ridout Street to Colborne Street and York Street from Talbot Street to Clarence Street. To assist with the detour routes for Dundas Street and York Street, as well as tie into construction plans with King Street, it is recommended to implement ‘No Stopping Anytime’ zones on the north side of King Street from Ridout Street to Colborne Street to remove the ‘2 Hour Parking 8:00 a.m. to 6:00 p.m.’ and ‘Loading Zones’. The south side of King Street parking regulations will be affected based on the construction and future King Street configuration. A future PS-113 Traffic and Parking By-law amendment addressing those changes will be submitted once parameters are finalized.

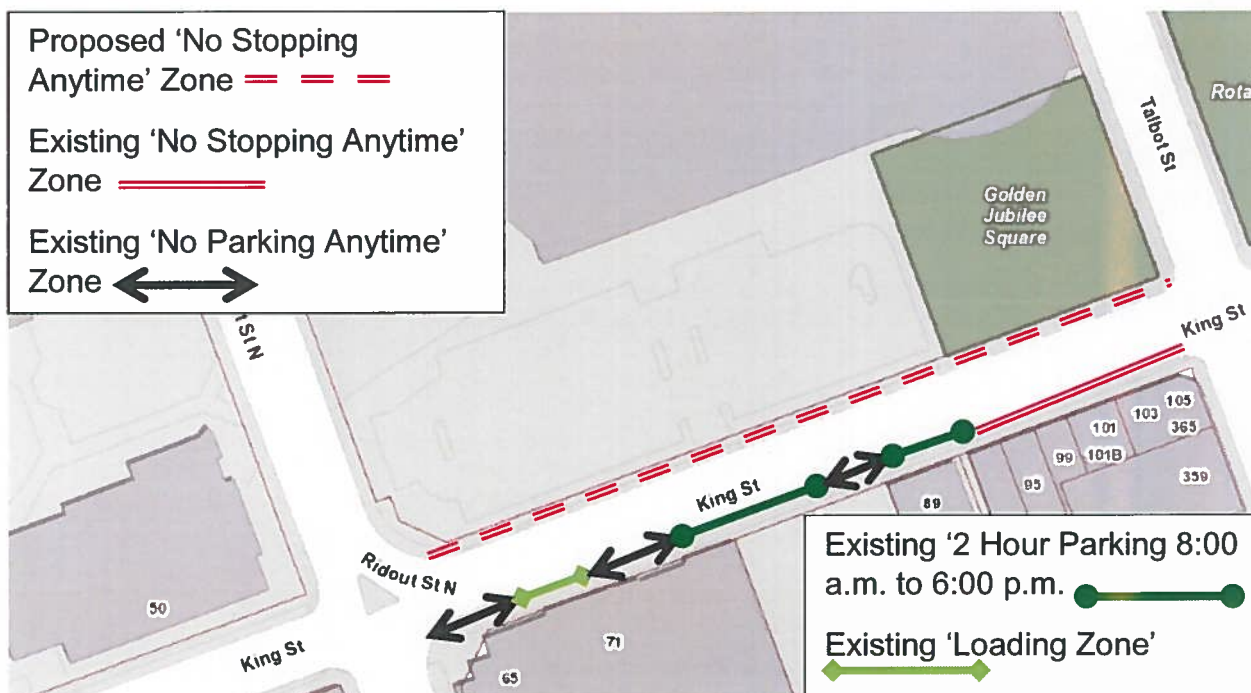


Figure 1: King Street from Ridout Street North to Talbot Street

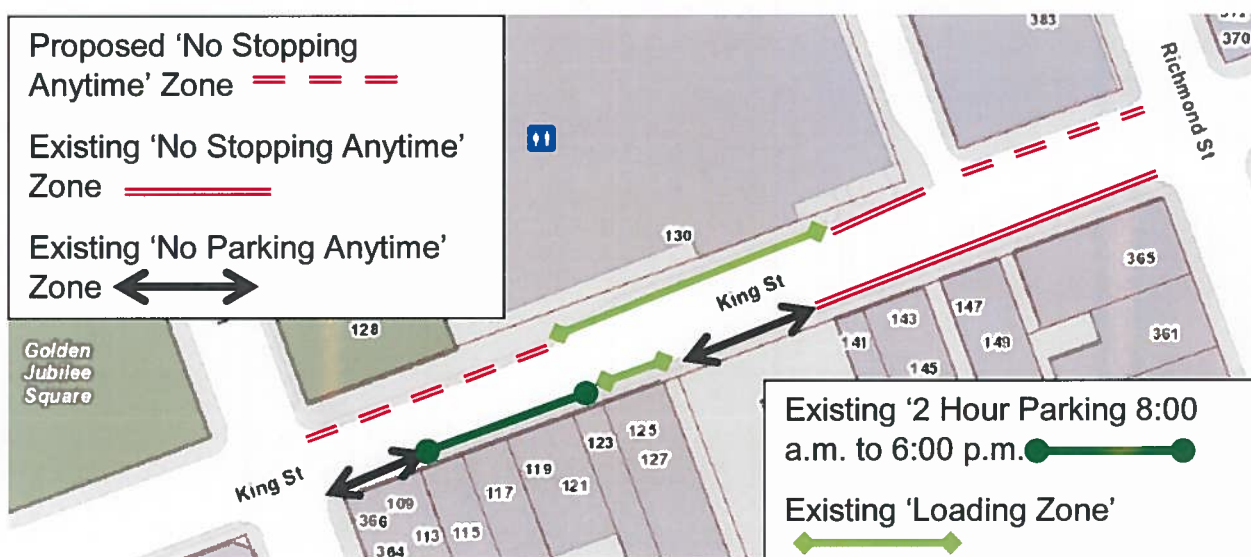


Figure 2: King Street from Talbot Street to Richmond Street

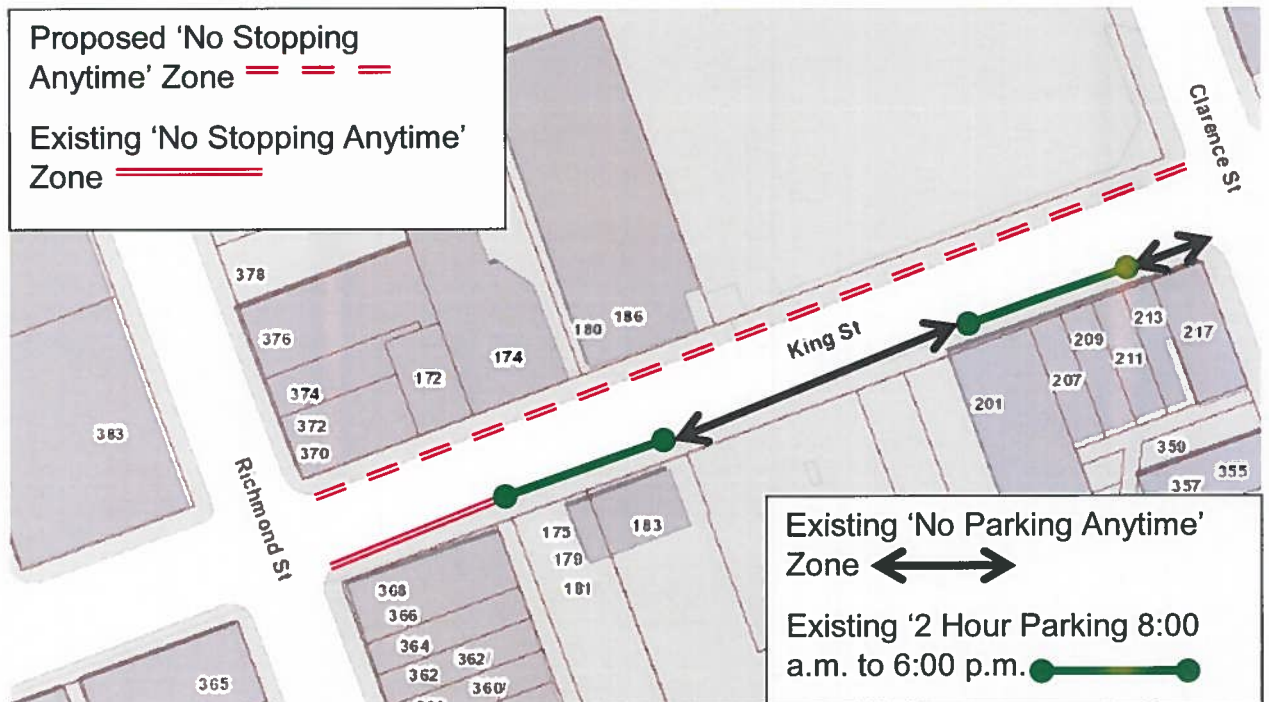


Figure 3: King Street from Richmond Street to Clarence Street

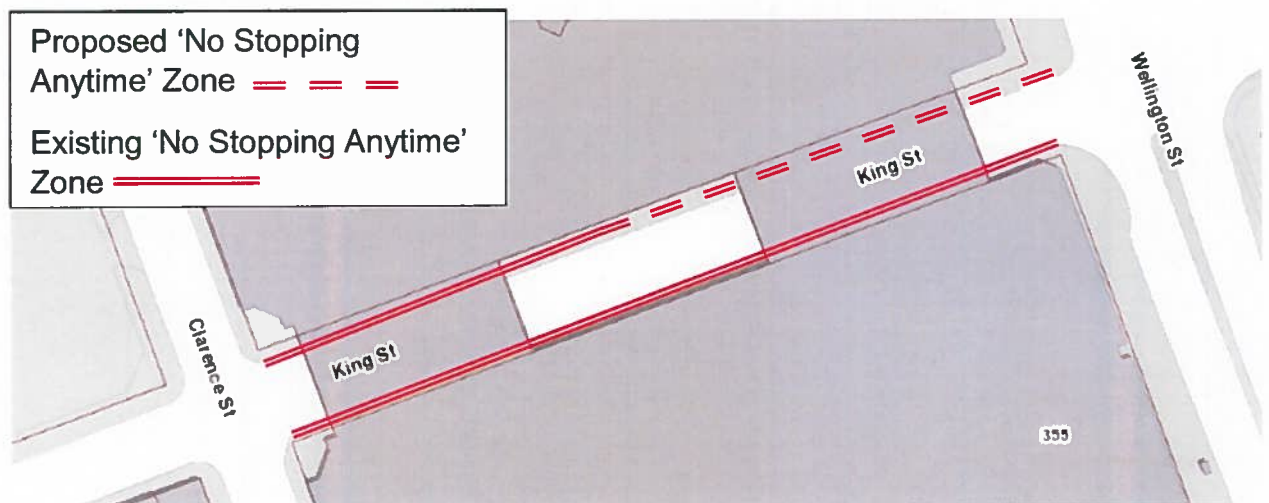


Figure 4: King Street from Clarence Street to Wellington Street

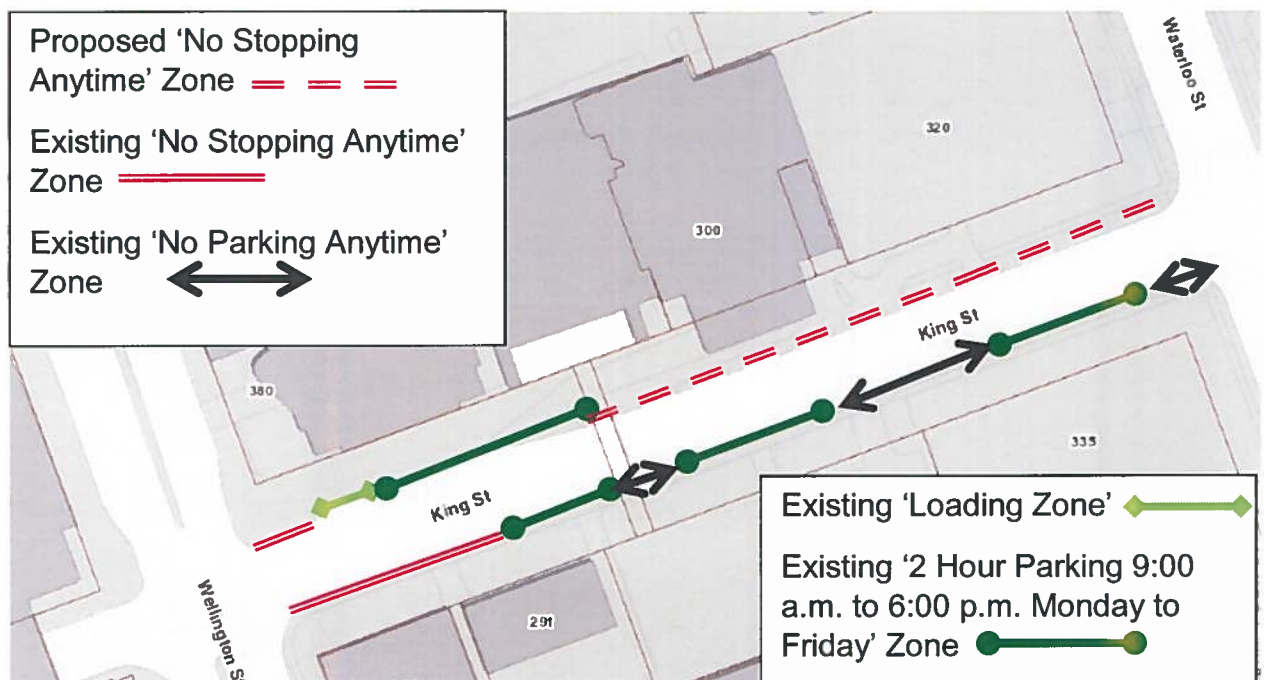


Figure 5: King Street from Wellington Street to Waterloo Street

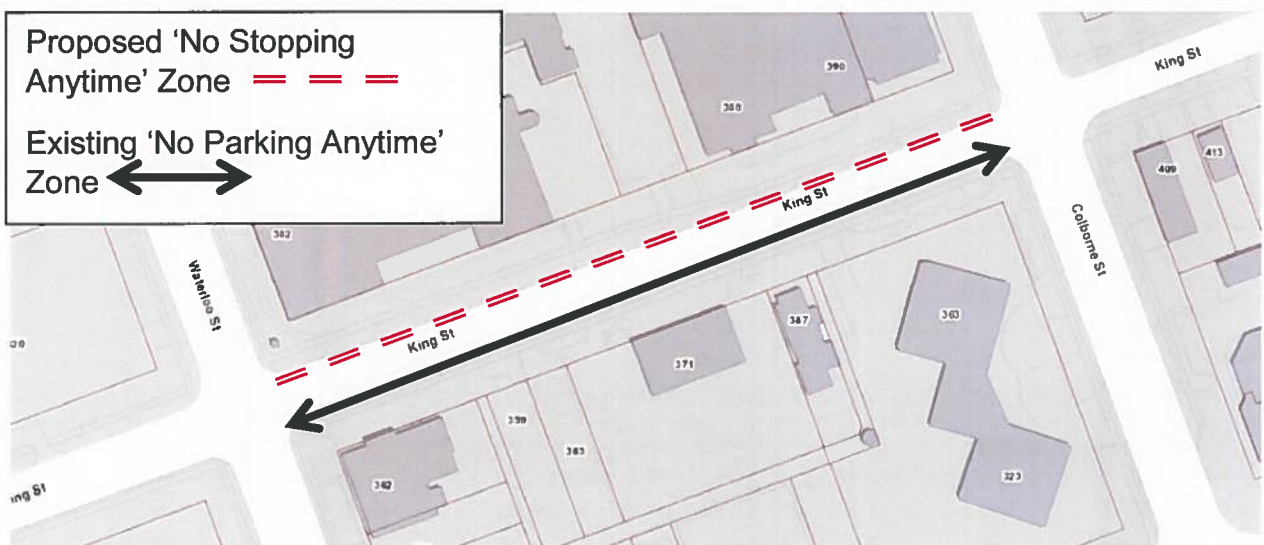


Figure 6: King Street from Waterloo Street to Colborne Street

Amendments are required to Schedule 1 (No Stopping), Schedule 2 (No Parking), Schedule 5 (Prohibited Parking at Loading Zones) and Schedule 20 (On-Street 2 Hour Metered Zones) to address the above changes.

2. No Parking

Killarney Road

The subdivision development agreement specifies the construction of parking bays on the south side of Killarney Road from 50 m east of Cedarhollow Boulevard to the east limit of Killarney Road. 'No Parking Anytime' zones are recommended for the north side of Killarney Road opposite the parking bays and the south side of Killarney Road outside the limits of the parking bays.

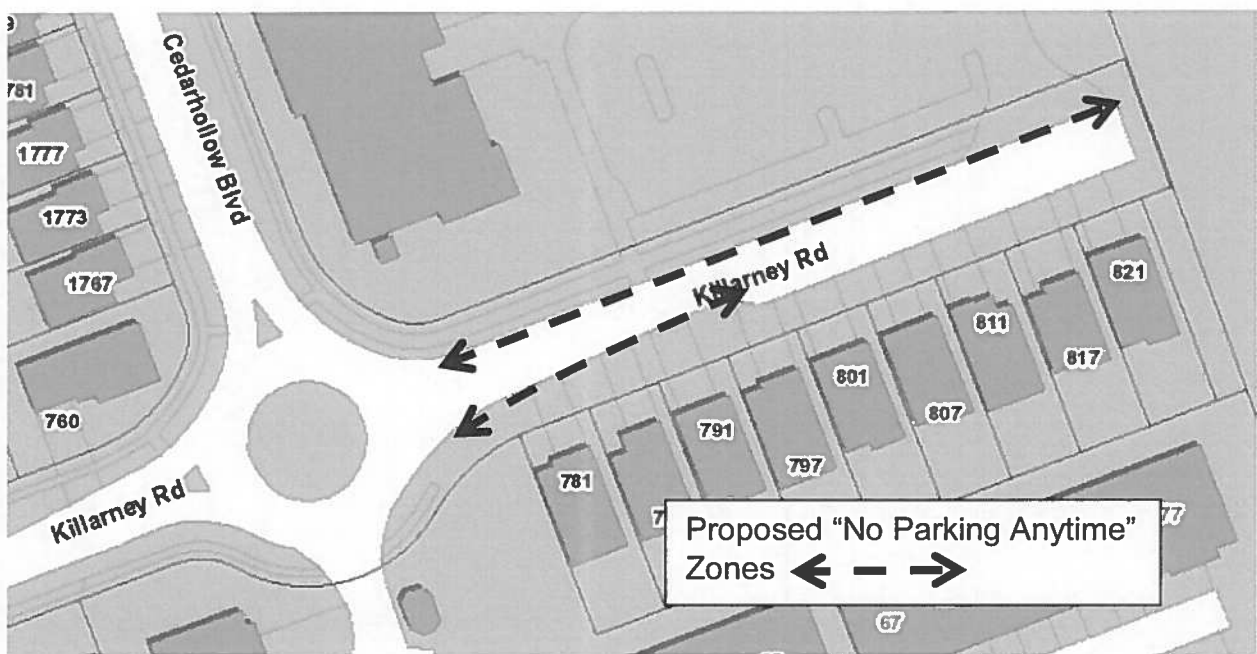


Figure 7: Killarney Road

An amendment to Schedule 2 (No Parking) is required to address the above change.

3. Street Name Change

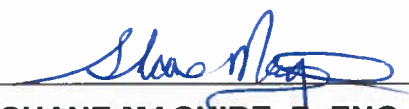

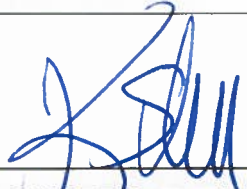
Third Street to Baransway Drive

Municipal Council approved the renaming of Third Street from Oxford Street East to Cheapside Street to Baransway Drive, effective February 1st, 2019.

An amendment to Schedule 2 (No Parking Anytime) is required to address the above change.

ACKNOWLEDGEMENT:

This report was prepared with the assistance of Doug Bolton of the Roadway Lighting and Traffic Control Division.

PREPARED BY:	REVIEWED AND CONCURRED BY:
	
SHANE MAGUIRE, P. ENG. DIVISION MANAGER, ROADWAY LIGHTING AND TRAFFIC CONTROL	DOUG MACRAE, P.ENG., MPA DIRECTOR, ROADS AND TRANSPORTATION
RECOMMENDED BY:	
	
KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER	

\\FILE2\users-ulestr\Shared\Administration\COMMITTEE REPORTS\Civic Works\2019\Draft\04-16\CWC - TRAFFIC PARKING BY-LAW AMENDMENTS CWC April 16 2019 Council April 23 2019 Ver. 2.docx

April 1, 2019/db

Attach: Appendix A: Proposed Traffic and Parking By-Law Amendments

cc. City Solicitor's Office
Parking Office

APPENDIX A

BY-LAW TO AMEND THE TRAFFIC AND PARKING BY-LAW (PS-113)

Bill No.

By-law No. PS-113

A by-law to amend By-law PS-113 entitled, "A by-law to regulate traffic and the parking of motor vehicles in the City of London."

WHEREAS subsection 10(2) paragraph 7. Of the *Municipal Act, 2001*, S.O. 2001, c.25, as amended, provides that a municipality may pass by-laws to provide any service or thing that the municipality considers necessary or desirable to the public;

AND WHEREAS subsection 5(3) of the *Municipal Act, 2001*, as amended, provides that a municipal power shall be exercised by by-law;

NOW THEREFORE the Municipal Council of The Corporation of the City of London enacts as follows:

1. **No Stopping**

Schedule 1 (No Stopping) of the By-law PS-113 is hereby amended by **deleting** the following rows:

King Street	North	A point 96 m west of Talbot Street	Talbot Street	7:30 am to 9:00 am
King Street	North	A point 30m west of Covent Market Place	Covent Market Place	Anytime
King Street	North	Covent Market Place	Richmond Street	3:30 p.m. to 6:30 p.m.
King Street	North	Clarence Street	A point 80 m east of Clarence Street	Anytime
King Street	North	A point 29 m west of Wellington Street	A point 20 m east of said street	Anytime

Schedule 1 (No Stopping) of the By-law PS-113 is hereby amended by **adding** the following rows:

King Street	North	Ridout Street N	A point 63 m east of Talbot Street	Anytime
King Street	North	A point 30 m west of Covent Market Place	Colborne Street	Anytime

2. **No Parking**

Schedule 2 (No Parking) of the By-law PS-113 is hereby amended by **deleting** the following rows:

King Street	North	Thames Street	A point 27 m east of Ridout Street N	Anytime
King Street	North	A point 47 m west of Talbot Street	A point 62 m east of said street	Anytime
King Street	North	A point 74 m east of Richmond Street	A point 77 m west of Clarence Street	Anytime
King Street	North	Wellington Street	A point 42 m west of Waterloo Street	Anytime
Third Street	Both	Cheapside Street	Oxford Street E	Anytime

Schedule 2 (No Parking) of the By-law PS-113 is hereby amended by **adding** the following rows:

Baransway Drive	Both	Oxford Street E	Cheapside Street	Anytime
Killarney Road	North	Cedarhollow Boulevard	East limit of Killarney Road	Anytime

Killarney Road	South	Cedarhollow Boulevard	A point 69 m east of Cedarhollow Boulevard	Anytime
King Street	North	Thames Street	Ridout Street N	Anytime
King Street	North	Colborne Street	A point 27m east of Colborne Street	Anytime

3. Prohibited Parking at Loading Zones

Schedule 5 (Prohibited Parking at Loading Zones) of the By-law PS-113 is hereby amended by **deleting** the following rows:

King Street	North	A point 18 m east of Richmond Street to a point 30 m east of Richmond Street	Monday to Sunday
King Street	North	From a point 52 m east of Richmond Street to a point 74 m east of said street	
King Street	North	From a point 46 m west of Wellington Street to a point 29 m west of said street.	8:00 a.m. to 6:00 p.m.

4. On-Street 2 Hour Metered Zones

Schedule 20 (On-Street 2 Hour Metered Zones) of the By-law PS-113 is hereby amended by **deleting** the following rows:

King Street	North	Ridout Street N	A point 68 m east of said street	8:00 a.m. to 6:00 p.m.
King Street	North	Talbot Street	A point 96 m east of said Street	8:00 a.m. to 6:00 p.m.
King Street	North	Talbot Street	Burwell Street	8:00 a.m. to 6:00 p.m.

Schedule 20 (On-Street 2 Hour Metered Zones) of the By-law PS-113 is hereby amended by **adding** the following rows:

King Street	North	A point 27 m east of Colborne Street	Burwell Street	8:00 a.m. to 6:00 p.m.
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This by-law comes into force and effect on the day it is passed.

PASSED in Open Council on April 23, 2019

Ed Holder, Mayor

Catharine Saunders, City Clerk

First Reading – April 23, 2019

Second Reading – April 23, 2019

Third Reading – April 23, 2019

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON APRIL 16, 2019
FROM:	KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	CONTRACT AWARD TENDER NO. RFT 19-43 2019 INFRASTRUCTURE RENEWAL PROGRAM CONTRACT #3 WATERLOO STREET (OXFORD STREET EAST to GROSVENOR STREET)

RECOMMENDATION

That on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to the award of contracts for the 2019 Infrastructure Renewal Program Contract #3 – Waterloo Street (Oxford Street East to Grosvenor Street) reconstruction project:

- (a) the bid submitted by L82 Construction Ltd. at its tendered price of \$3,687,977.82, excluding HST, **BE ACCEPTED**; it being noted that the bid submitted by L82 Construction Ltd. was the lowest of nine bids received and meets the City's specifications and requirements in all areas;
- (b) AECOM Canada Ltd. **BE AUTHORIZED** to carry out the resident inspection and contract administration for the said project in accordance with the estimate, on file, at an upset amount of \$248,534.00, excluding HST, in accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy, noting that this firm completed the engineering design for this project;
- (c) the financing for this project **BE APPROVED** as set out in the Sources of Financing Report attached, hereto, as Appendix 'A';
- (d) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this project;
- (e) the approval given, herein, **BE CONDITIONAL** upon the Corporation entering into a formal contract, or issuing a purchase order for the material to be supplied and the work to be done, relating to this project (Tender RFT19-43); and
- (f) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

PREVIOUS REPORTS PERTINENT TO THIS MATTER
--

- Appointment of Consulting Engineers, Infrastructure Renewal Program 2017-2019, Civic Works Committee, July 17, 2017, Agenda Item #5

2015-2019 STRATEGIC PLAN

The 2015 – 2019 Strategic Plan under Building a Sustainable City identifies Robust Infrastructure, more specifically to this report; 1B – Manage and improve our water, wastewater and stormwater infrastructure and services, in addition to improving safety, traffic operations and residential needs in London's neighbourhoods.

BACKGROUND

Purpose

This report recommends award of a construction tender to L82 Construction Ltd. and extension of consulting services to AECOM Canada Ltd. for the reconstruction of:

- Waterloo Street from Oxford Street East (not including the intersection) to Grosvenor Street (including the intersection).

A project location map is included for reference in Appendix 'B'.

Context

This section of Waterloo Street has been identified as a high priority in the infrastructure renewal program due to the poor condition of the municipal infrastructure. Most of this sewer infrastructure dates from 1903-1916. The existing Waterloo Street watermain is a century-old cast iron main with a number of lead water services.

DISCUSSION

The Waterloo Street infrastructure renewal project includes the following improvements:

- Replacement of the existing watermain with larger diameter pipe and replacement of water services to property line;
- Replacement of sanitary sewers;
- Replacement of storm sewers and catch basins to improve road drainage;
- Renewal of sanitary and/or storm private drain connections (PDC) where requested;
- Implementation of low impact development stormwater management controls (LIDS) through a 3rd pipe infiltration system; and
- Road reconstruction including new curb & gutter, asphalt, and sidewalk replacement all following the same widths and alignments as existing.

In addition, the following new features will be incorporated into this project:

- Raised concrete intersections at both Waterloo Street/St. James Street and Waterloo Street/Grosvenor Street; and
- Streetscape improvements including construction of two boulevard 'pocket parks'.

The project limits are located wholly within the Bishop Hellmuth Heritage Conservation District. The project team has been working with the City's Heritage Planner to ensure the heritage components are implemented throughout the project, namely the two pocket parks, street name signage, and street names stamped into the concrete sidewalks.

Due to the pouring and curing of the concrete at the proposed Waterloo Street/St. James Street and Waterloo Street/Grosvenor Street raised concrete intersections, complete closures of both these intersections will be required for a minimum of seven days. Closures of the intersections will not be scheduled concurrently.

The St. Georges Public School is located within the project limits. In an effort to avoid construction while school is in session, construction staging will propose work in front of the school between July 2nd – August 30th. Co-ordination and communication has occurred between the school and project staff.

Both Bell Canada and London Hydro have identified infrastructure renewal needs for their respective utility works which have been incorporated into the Waterloo Street project tender. The City has entered into Cost Sharing Agreements with the utility

companies for these works and the construction costs will be recovered from the respective utility companies following completion of the project.

Infrastructure replacement needs have been coordinated within the Environmental and Engineering Services Department. Originally conceived for 2018, the project construction was originally anticipated to be funded through the Clean Water and Wastewater Fund. Unfortunately that funding source did not materialize and the construction had to be deferred. The 2019 construction of Waterloo Street is funded through existing approved budgets.

Public Consultation

A project update meeting was held on February 26, 2019 for all owners and residents within and immediately bordering the project area to address questions and concerns. This meeting was well attend with many engaged attendees interested in and asking questions about the construction project. Response to the project was generally positive overall.

Service Replacement

In conjunction with the construction of this project, the City is administering the Private Drain Connection (PDC) subsidy program, which allows property owners within the project limits an opportunity to voluntarily replace their PDC at a reduced cost. As part of this project, the water service connections will be replaced to the property line at the City’s cost and the property owner may elect to replace their private side connection at their own cost. Homeowners may also be eligible to participate in the Lead Service Extension Replacement Loan Program.

Tender Summary

Tenders for the 2019 Infrastructure Renewal Program Contract #3 – Waterloo Street (Oxford St E to Grosvenor St) reconstruction project were opened on March 7, 2019. There were nine (9) contractors which submitted bids with their respective tender prices listed below (excluding HST):

CONTRACTOR		TENDER PRICE SUBMITTED
1	L82 Construction Ltd.	\$ 3,687,977.82
2	Blue-Con Construction	\$ 3,913,936.10
3	Omega Contractors Inc.	\$ 3,940,876.63
4	CH Excavating (2013)	\$ 3,977,567.35
5	Bre-Ex Construction Inc.	\$ 4,079,437.16
6	291 Construction Ltd.	\$ 4,143,036.91
7	J-AAR Excavating Limited	\$ 4,236,664.97
8	Elgin Construction	\$ 4,381,099.84
9	PV-EX Construction Ltd.	\$ 4,403,465.50

All tenders have been checked by the Environmental and Engineering Services Department and the City’s consultant, AECOM. No mathematical errors were found.

The pre-tender construction cost estimate for RFT19-43 was \$3,851,500.00, excluding HST. All tenders include a contingency allowance of \$300,000.00.

Additional annual Sewer Operations operating costs of \$1,200.00 have been identified for the low impact development 3rd pipe stormwater infiltration system. No additional operating costs have been associated with Water Operations.

Consulting Services

AECOM Canada Ltd. was awarded the detailed design fees by Council on July 25, 2017 as a Clean Water and Wastewater Fund project. Due to the consultant's knowledge and positive performance on the project, AECOM was invited to submit a proposal to carry out the construction contract administration and resident supervision. AECOM submitted a fee proposal of \$248,534.00 which includes a 10% contingency. Staff have reviewed the fee submission in detail considering the time allocated to each project task, along with hourly rates provided by each of the consultant's staff members. That review of assigned personnel, time per project task, and hourly rates is consistent with other infrastructure renewal program assignments of this scope and nature. The continued use of AECOM on this project for construction administration is of financial advantage to the City because AECOM has specific knowledge of the project and has undertaken work for which duplication would be required if another firm were to be selected.

In addition to the financial advantage, there are also accountability and risk reduction benefits. The City requires a professional engineer to seal all construction drawings. These "record drawings" are created based on field verification and ongoing involvement by the professional engineer. This requirement promotes consultant accountability for the design of these projects, and correspondingly, reduces the City's overall risk exposure. Consequently, the continued use of the consultant who created and sealed the design drawings is required in order to maintain this accountability process and to manage risk.

In accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy, this firm has satisfactorily completed a substantial part of the project and is recommended for award of the balance of the project. The administration recommends that AECOM Canada Ltd. be authorized to carry out the remainder of engineering services to complete this project for the provided fee estimate of \$248,534.00, excluding HST, noting the upset amount for total engineering services for the project is \$440,246.00, excluding HST, with the pre-design and detailed design being funded through the Clean Water and Wastewater Fund.

CONCLUSIONS

Award of the 2019 Infrastructure Renewal Program Contract #3 – Waterloo Street (Oxford Street East to Grosvenor Street) reconstruction project to L82 Construction Ltd. will allow the project objectives to be met within the available budget and schedule.

The retention of AECOM Canada Ltd. for the remainder of engineering services for this project is in the best financial and technical interests of the City.

Acknowledgements

This report was prepared within the Wastewater and Drainage Engineering Division by Ryan Armstrong, C.E.T., Technologist II and reviewed by Kyle Chambers, P. Eng., Environmental Services Engineer.

SUBMITTED BY:	REVIEWED & CONCURRED BY:
TOM COPELAND, P. ENG. DIVISION MANAGER WASTEWATER AND DRAINAGE ENGINEERING DIVISION	SCOTT MATHERS, MPA, P. ENG. DIRECTOR WATER & WASTEWATER
RECOMMENDED BY:	
KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER	

Attach: Appendix ‘A’ – Sources of Financing
 Appendix ‘B’ – Project Location Map

c.c.	Aaron Rozentals	John Freeman	Gary McDonald
	Doug MacRae	Ugo DeCandido	Bell Canada
	L82 Construction Ltd.	AECOM Canada Ltd.	Alan Dunbar
	Jason Davies	Chris Ginty	City Solicitor’s Office
	London Hydro		

APPENDIX 'A'

#19041

April 16, 2019
(Award Contract)

Chair and Members
Civic Works Committee

RE: 2019 Infrastructure Renewal Program - Contract #3 Waterloo Street RFT 19-43
(Oxford Street East to Grosvenor Street)
(Subledger WS18C003)
Capital Project ES241419 - Sewer Infrastructure Lifecycle Renewal
Capital Project ES242819 - Erosion Remediation Open Watercourses Management and Reclamation
Capital Project EW376519 - Water Infrastructure Lifecycle Renewal
Capital Project TS144619 - Road Networks Improvements (Main)
L82 Construction Ltd. - \$3,687,977.82 (excluding H.S.T.)
AECOM Canada Ltd. - \$248,534.00 (excluding H.S.T.)

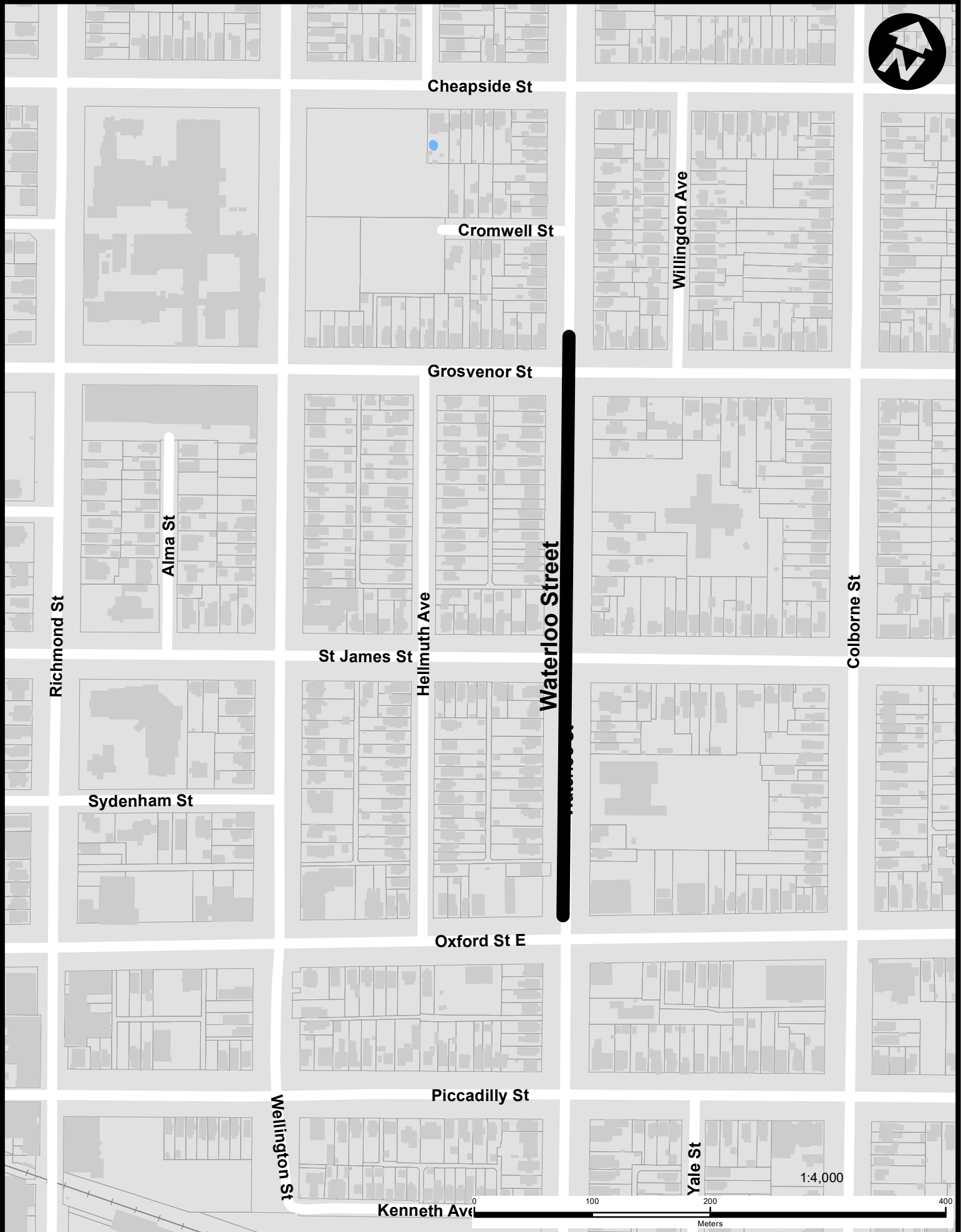
1) <u>Financial Note: (CONSTRUCTION)</u>		ES241419	ES241419	Bell ES241419	ES242819	EW376519
	Contract Price	\$1,955,381	\$7,500	\$425,660	\$99,946	\$1,048,837
	Add: HST @13%	254,200			12,993	136,349
	Total Contract Price Including Taxes	2,209,581	7,500	425,660	112,939	1,185,186
	Less: HST Rebate	219,785			11,234	117,889
	Net Contract Price	<u>\$1,989,796</u>	<u>\$7,500</u>	<u>\$425,660</u>	<u>\$101,705</u>	<u>\$1,067,297</u>
					TS144619	CONSTRUCTION TOTAL
<u>Financial Note (CONSTRUCTION continued)</u>					\$150,654	\$3,687,978
Contract Price					19,585	423,127
Add: HST @13%					170,239	4,111,105
Total Contract Price Including Taxes					16,934	365,842
Less: HST Rebate					<u>\$153,305</u>	<u>\$3,745,263</u>
Net Contract Price						
				ES241419	EW376519	ENGINEERING TOTAL
<u>Financial Note: (ENGINEERING)</u>				\$124,267	\$124,267	\$248,534
Contract Price				16,155	16,155	32,310
Add: HST @13%				140,422	140,422	280,844
Total Contract Price Including Taxes				13,968	13,968	27,936
Less: HST Rebate				<u>\$126,454</u>	<u>\$126,454</u>	<u>\$252,908</u>
Net Contract Price						
TOTAL CONSTRUCTION & ENGINEERING						<u>\$3,998,171</u>

- 2) The expenditures have increased to accommodate the PDC (Private Drain Connections) funding.
- 3) London Hydro and Bell Canada have confirmed the approval of their contribution towards this project. The expenditures have increased to accommodate their contributions.

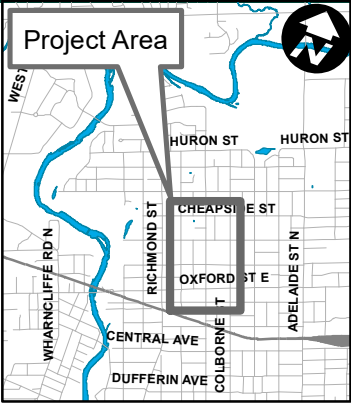
JG

Jason Davies
Manager of Financial Planning & Policy

APPENDIX 'B'



LOCATION MAP



2019 Infrastructure Renewal Program
Contract 3

Waterloo Street from Oxford Street East (not including the intersection)
to 20m north of Grosvenor Street

 Project Area

Map Produced by
the Wastewater &
Drainage Engineering
Division

March 15 2019 CM

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON APRIL 16, 2019
FROM:	KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR - ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER
SUBJECT	UPDATE AND NEXT STEPS FOR THE LONDON WASTE TO RESOURCES INNOVATION CENTRE

RECOMMENDATION

That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, with the support of the Director, Environment, Fleet and Solid Waste,

- a) the attached proposed by-law (Appendix A) **BE INTRODUCED** at the Municipal Council meeting to be held on April 23, 2019 to approve the Industrial Research Chair Agreement (in Thermochemical Conversion of Biomass and Waste to Bioindustrial Resources) with the University of Western Ontario attached as Schedule "A" to the by-law;
- b) the Mayor and the City Clerk **BE AUTHORIZED** to execute the Agreement authorized and approved in a), above;
- c) Civic Administration **BE AUTHORIZED** to undertake all administrative acts that are necessary in connection with executing this Agreement;
- d) Civic Administration **BE AUTHORIZED** to promote the role, contribution and opportunities to grow the London Waste to Resources Innovation Centre through its relationship with Western University; with existing businesses that have signed Memorandums of Understanding with the City of London; and with new businesses and organizations looking for opportunities in the broad field of resource recovery, creating resources from materials that would normally be discarded, and reducing materials that require disposal; and
- e) Civic Administration **BE DIRECTED** to report annually to the Civic Works Committee on the activities and actions taken through the London Waste to Resources Innovation Centre including a status on the operating structure and financial matters.

PREVIOUS REPORTS PERTINENT TO THIS MATTER
--

Relevant reports that can be found at www.london.ca under City Hall (Meetings) include:

- Memorandum of Understanding with the University of Western Ontario (Institute of Chemicals and Fuels from Alternative Resources) as Part of the London Waste to Resources Innovation Centre (December 12, 2016 meeting of the CWC, Item #8)
- Update and Next Steps: London Waste to Resources Innovation Centre and Green Shields Energy (October 4, 2016 meeting of the CWC, Item #10)
- Preliminary Concept for a London Waste to Resources Innovation Centre (February 3, 2015 meeting of the CWC, Item #4)

STRATEGIC PLAN 2015-2019 AND DEVELOPMENT OF COUNCIL'S 2019-2023 STRATEGIC PLAN

Municipal Council has recognized the importance of solid waste management, climate change, other related environmental issues and innovation in its previous Strategic Plan (2015-2019) and to “Increase waste reduction, diversion, and resource recovery” and “Increase partnerships that promote collaboration, innovation, and investment” in the development of its 2019-2023 Strategic Plan for London. This work touches on three Areas of Focus:

- Building a Sustainable City
- Growing our Economy
- Leading in Public Service

BACKGROUND

PURPOSE

The purpose of this report is to:

- provide an update on the activities at the London Waste to Resources Innovation Centre and the next steps including operating and financial matters; and
- provide Civic Works Committee and Council with the details to recommend the execution of the Industrial Research Agreement (in Thermochemical Conversion of Biomass and Waste to Bioindustrial Resources) with the University of Western Ontario as part of the London Waste to Resources Innovation Centre.

CONTEXT

February 9, 2015 Council Direction - London Waste to Resources Innovation Centre

At its February 9, 2015 meeting, Council approved and adopted the following recommendation with respect to the London Waste to Resources Innovation Centre:

- a) *the concept of a London Waste to Resources Innovation Centre BE APPROVED IN PRINCIPLE; it being noted that the Centre would build upon the numerous innovative activities that have already occurred to date and are being planned for 2015 and 2016;*
- b) *the Civic Administration BE DIRECTED to:*
 - i) *identify potential partners, projects, resource requirements and funders;*
 - ii) *obtain initial feedback from potential partners; and,*
 - iii) *develop a scope of work for the London Waste to Resources Innovation Centre concept;*
- c) *the Civic Administration BE DIRECTED to report back with a proposed scope of work and funding plan for the London Waste to Resources Innovation Centre.*

Municipal Council's Strategic Plan 2015-2019 (approved March 2015)

The London Waste to Resources Innovation Centre is listed as a component of London's Strategic Plan 2015-2019 under local, regional and global innovation.

Municipal Council Approval of 60% Waste Diversion Action Plan

The 60% Waste Diversion Action Plan containing programs and initiatives to be phased in between 2019 and 2022 to achieve 60% waste diversion was approved subject to further financing considerations. The Action Plan includes an update on the progress of the long-term Resource Recovery Strategy that will be completed in 2020.

Development of Municipal Council’s Strategic Plan 2019-2023 (as of April 1, 2019, a report before the Strategic Priorities and Policies Committee)

The London Waste to Resources Innovation Centre is listed as a proposed component of London’s Strategic Plan 2019-2023 under Growing Our Economy:

Outcome 2: London is a leader in Ontario for attracting new jobs and investments
a) Increase partnerships that promote collaboration, innovation, and investment
GOE-06 Expand opportunities and activities through the London Waste to Resources Innovation Centre.

DISCUSSION

This section contains three parts:

PART A: Overview of the London Waste to Resources Innovation Centre as of March 2019

PART B: Major Research and Development Program Awarded to Western University

PART C: Overview of Operations and Financial Considerations

**PART A: Overview of the
London Waste to
Resources Innovation
Centre as of March 2019**



Primary Goals

The primary goals of the London Waste to Resources Innovation Centre are to:

- build on the existing foundation of traditional and innovative projects to divert waste from landfill and create value added products from residues and waste;
- create a focal point (location or locations) for the ongoing examination of innovative solutions for waste reduction, resource recovery, energy recovery and/or waste conversion into value-added materials, chemicals, heat and power;
- establish partnerships and collaborations between government, academia and businesses to synergistically build on existing strengths to create opportunities to prevent waste, to create products of value from waste, and to solve existing waste management challenges; and
- be known as an innovative centre of excellence with shared facilities and resources providing leadership, implementing best practices, undertaking leading edge research, providing knowledge and support to industry, while educating and training students, researchers and postdoctoral fellows in the various fields of resource and waste management.

Four Locations

The London Waste to Resources Innovation Centre currently operates using four existing locations:

1. Material Recovery Facility (MRF) on Manning Drive (beside the W12A Landfill) including the area just to the west of the facility which is approved for resources recovery/waste management demonstration projects (picture below).
2. 300 Dufferin Avenue City of London – City Hall. Most City of London staff involved in this project work out of City Hall.
3. The Institute for Chemicals and Fuels from Alternative Resources (ICFAR) is a research institute within the Faculty of Engineering at Western University. ICFAR has a 2,320 square metre (25,000 square foot) research centre and laboratory capable of conducting small and large scale pilot plants, undertaking advanced analytical facilities and prototypes. The aim of ICFAR is to be a leader in the development of technologies and processes for the production of chemicals and fuels from alternative resources (picture below).
4. Western University – access to facilities and professors working primarily on the main campus.



The City of London Regional Materials Recovery Facility (MRF) is located at 3438 Manning Drive. The blue star represents the area for proposed demonstration projects.



The Institute for Chemicals and Fuels from Alternative Resources (ICFAR) is located at 22312 Wonderland Rd N, Ilderton, a few minutes north of London, Ontario.

Main Activity Areas and Current Participants

The London Waste to Resources Innovation Centre currently has activities in five main areas with activities and accomplishments between 2015 and 2018 identified in Appendix B:

- 1. Research & Development
- 2. Training, Testing & Auditing
- 3. Resource & Waste Management Knowledge Exchange
- 4. Technology Demonstrations
- 5. Outreach & Engagement

The City has six Memorandums of Understanding (MoUs) approved by Council and one MoU that is pending that involve businesses working within the Innovation Centre with additional details found in Appendix B:

- Green Shields Energy – pending, April 16, 2019
- Canadian Plastic Industry of Canada (CPIA); approved March 2018
- Resource Energy Development of Canada (RediCan); approved March 2018
- Try Recycling; approved June 2017
- Bio-TechFar Inc; approved June 2017
- Tucker Engineering (via the former Hawthorne Green Key Group); approved June 2017; and
- University of Western Ontario (ICFAR); approved December 2016.

PART B: Major Research and Development Program Awarded to Western University

Western University, a partner in the London Waste to Resources Innovation Centre, has recently been awarded an Industrial Research Chair Agreement by the Natural Sciences and Engineering Research Council (NSERC) Collaborative Research. The focus is on projects related to the thermochemical conversion of biomass and waste to bioindustrial resources. Details of the Research Chair include:

Item	Details
Lead organization	Western University (Dr. Franco Berruti)
Partners in the five year project (noting that the list of partners can be expanded at any time)	1. Domtar Inc. 2. CHAR Technologies 3. TRY Recycling Inc. 4. Canadian Plastics Industry Association 5. Grain Farmers of Ontario 6. Ontario Greenhouse Vegetable Growers 7. Titan Clean Energy Projects Corporation 8. Ontario Federation of Agricultural 9. A&L Biologicals 10. City of London
Financial value contributed by the 10 partners	\$1,150,000
City financial value (included above)	\$150,000 (\$30,000 per year)
NSERC (matching funds)	\$1,150,000
Estimated in-kind value contributed by the 10 partners	\$723,000

Item	Details
Estimated City in-kind value (included above)	\$67,500 (\$13,500 per year)
Estimated total value over five years	\$3 million
Timeframe	July 1, 2018 to June 30, 2023

The full agreement and particulars are contained in Appendix A and Schedule A. Key projects that will be a focus of City of London staff and a number of the partners include:

- recycling and recovery of hard to recycle plastics such as flexible plastic packaging (including mechanical recycling, chemical recycling, conversion to fuels, creation of fuel sources);
- enhancing leaf and yard waste compost quality through the use of biochars;
- creating products from bulky items (e.g., furniture, mattresses, textiles);
- processing select biomass materials with individual streams of municipal solid waste to create value added inputs to other processes; and
- examining current and future end markets for source separated and/or facility separated organic materials beyond traditional aerobic composting.

PART C: Overview of Operations and Financial Considerations

The London Waste to Resources Innovation Centre is designed to operate based on the following operating principles:

- All project work performed or to be performed by the City of London is approved as part of existing Solid Waste Management programs or capital projects. At this time, there is no specific City of London budget assigned to the London Waste to Resources Innovation Centre.
- City staff time (in-kind) will be assigned to the London Waste to Resources Innovation Centre on a case-by-case basis in consideration of direction set by Council (e.g., 60% Waste Diversion Action Plan, preparation of a long-term Resource Recovery Strategy), obligations from an MoU approved by Council, or obligations from an agreement approved by Council.
- Any business or organization that would like to enter into a relationship with the City of London does so through a Memorandum of Understanding (MoU) presented to Civic Works Committee and approved by Council.
- All projects where City funds are used will follow the City’s of London Procurement of Goods & Services Policy.
- Any program or budget that is not approved within the annual program budget (operating or capital) will require a submission to the Civic Works Committee and Council for approval.
- City staff will report annually to the Civic Works Committee on the activities and actions taken through the London Waste to Resources Innovation Centre including a status on the operating structure and financial matters.

In its current form, London to Waste Resources Innovation Centre is best described as being very opportunistic with respect to partners, funding and projects. It is set up as a collaborative network. There are no liabilities or assets assigned to it. Council can wind-

down participation at any time subject to the commitments noted in any MoUs and agreements.

The table on the next page provides an indication of how budgets are allocated to accomplish both City of London work and work that specifically aligns with the London to Waste Resources Innovation Centre including the new Industrial Research Chair. Investing in advancing waste diversion and resource recovery is a key part of the City's 60% Waste Diversion Action Plan and development of the long-term Resource Recovery Strategy.

Year	Past and Proposed Expenditures			Estimated Past and Proposed In-kind by City Staff		
	LWRIC	Research Chair	Total	LWRIC	Research Chair	Total
2015 – 2017	\$55,000 (about \$18,000 per year)	-	\$55,000	\$12,000 (about \$3,000 per year)	-	\$12,000
2018	\$3,000	\$15,000	\$18,000	\$4,000	\$6,750	\$10,750
2019	\$5,000	\$30,000	\$35,000	\$3,000	\$13,500	\$16,500
2020	\$10,000	\$30,000	\$40,000	\$4,000	\$13,500	\$17,500
2021	\$5,000	\$30,000	\$35,000	\$2,000	\$13,500	\$15,500
2022	\$5,000	\$30,000	\$35,000	\$2,000	\$13,500	\$15,500
2023	\$5,000	\$15,000	\$20,000	\$2,000	\$6,750	\$8,750

ACKNOWLEDGEMENTS

This report was prepared with assistance of Legal Services, Finance and Corporate Services (Financial Business Support) and Dr. Franco Berruti, ICFAR, Western University and Legal Services.

PREPARED BY:	PREPARED AND SUBMITTED BY:
MICHAEL LOSEE, B.SC. DIVISION MANAGER SOLID WASTE MANAGEMENT	JAY STANFORD, M.A., M.P.A. DIRECTOR, ENVIRONMENT, FLEET & SOLID WASTE
RECOMMENDED BY:	
KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER	

Schedule A Industrial Research Chair Agreement

Appendix B Activities and Accomplishments at the London Waste to Resources Innovation Centre

- c Dr. Franco Berruti, ICFAR, Western University, 22312 Wonderlnad Road North, Ilderton, Ontario N0M 2A0

Appendix A

Bill No.
2019

By-law No. A.-

A by-law to authorize and approve an Agreement between The University of Western Ontario, and The Corporation of the City of London and to authorize the Mayor and the City Clerk to execute the Agreement.

WHEREAS section 5(3) of the *Municipal Act, 2001*, S.O. 2001, c. 25, as amended, provides that a municipal power shall be exercised by by-law;

AND WHEREAS section 9 of the *Municipal Act, 2001*, S.O. 2001, c. 25, as amended, provides that a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act;

AND WHEREAS it is deemed appropriate for The Corporation of the City of London (the “City”) to enter into an Agreement with the University of Western Ontario to be a part of the Industrial Research Chair that has faculty members with research expertise in the area of thermochemical conversion of biomass and waste to bio-industrial resources; Western University wishes to further develop research expertise and train students in the area of thermochemical conversion of biomass and waste to bio-industrial resources and the City and other Sponsors are prepared to support the University in this endeavour, and in return will receive certain rights with respect to the results of such endeavour as set forth in the Industrial Research Chair Agreement and will be applied to the London Waste to Resources Innovation Centre program;

AND WHEREAS it is deemed appropriate to authorize the Mayor and the City Clerk to execute the Agreement on behalf of the City;

NOW THEREFORE the Municipal Council of The Corporation of the City of London enacts as follows:

1. The Agreement between The Corporation of the City of London and the University of Western Ontario, attached as Schedule A to this by-law, is hereby authorized and approved.
2. The Mayor and the City Clerk are hereby authorized to execute the Agreement authorized and approved under section 1 of this by-law.
3. This by-law shall come into force and effect on the day it is passed.

PASSED in Open Council April 23, 2019

Ed Holder
Mayor

Catharine Saunders
City Clerk

First Reading – April 23, 2019
Second Reading – April 23, 2019
Third Reading – April 23, 2019

Schedule A

INDUSTRIAL RESEARCH CHAIR AGREEMENT (hereinafter the “Agreement”)

THIS AGREEMENT is made as of July 1, 2018 (the “Effective Date”)

BETWEEN:

THE UNIVERSITY OF WESTERN ONTARIO
(hereafter the “University”)

- and -

**DOMTAR INC, CHAR TECHNOLOGIES, TRY RECYCLING INC., CANADIAN PLASTICS
INDUSTRY ASSOCIATION, GRAIN FARMERS OF ONTARIO, ONTARIO GREENHOUSE
VEGETABLE GROWERS, TITAN CLEAN ENERGY PROJECTS CORPORATION,
ONTARIO FEDERATION OF AGRICULTURE, A&L BIOLOGICALS -and- THE
CORPORATION OF THE CITY OF LONDON, ONTARIO**
(The “Sponsors” or individually a “Sponsor”)

WHEREAS:

- A. The University has faculty members with research expertise in the area of thermochemical conversion of biomass and waste to bio-industrial resources.
- B. The University wishes to further develop research expertise and train students in the area of thermochemical conversion of biomass and waste to bio-industrial resources.
- C. The Sponsors are prepared to support the University in this endeavour, and in return will receive certain rights with respect to the results of such endeavour as set forth in this Agreement.

NOW THEREFORE in consideration of the mutual covenants of the parties set forth in this Agreement and other good and valuable consideration, the University and the Sponsors agree as follows:

ARTICLE I - DEFINITIONS

As used in this Agreement:

1.1 “Chair Program” means the thermochemical conversion of biomass and waste to bio-industrial resources and development activities conducted under this Agreement including administrative support thereof, which is to be partially funded by the Natural Sciences and Engineering Research Council (“NSERC”) and other parties.

1.3 “Confidential Information” means all technical, scientific, business and marketing information of a party hereto or its affiliates which is disclosed to the other party hereto and which:

- a) if in written or other tangible form, is marked by the disclosing party as confidential at the time of disclosure; or
- b) if disclosed orally or visually, is identified by the disclosing party as confidential at the time of disclosure and is summarized in writing, marked as confidential and provided by the disclosing party to the receiving party within thirty (30) days of such oral or visual disclosure.

1.4 “Inventions” means all discoveries, creations, intellectual property (as such is broadly defined by the Canadian Intellectual Property Office), and improvements thereto made by any party/parties, in the performance of the Research Projects and which are capable of being protected by law.

1.5 “Incremental Faculty Position” means the person with expertise in the thermochemical conversion of biomass and waste to bio-industrial resources appointed or designated as such by the University who, in addition to being a Participant, may be assigned or delegated by the Chair

to direct certain research and development activities conducted by the University under this Agreement.

1.6 “Participant(s)” means the person(s) appointed or designated by the University from time to time to perform work on the Research Projects identified in Schedule A.

1.7 “Research Projects” means those Research Projects identified in Schedule A attached hereto, as may be amended from time to time.

1.8 “Research Results” means any and all findings and results made, developed or conceived in the performance of the Research Projects and includes, without limitation, all data and Inventions.

1.9 “Chair” means, Dr. Franco Berruti, who is the person with expertise in the thermochemical conversion of biomass and waste to bio-industrial resources appointed or designated as such by the University, who shall direct the research and development activities conducted by the University under this Agreement.

ARTICLE 2- NATURE AND SCOPE OF CHAIR PROGRAM

2.1 **Name of Chair Program.** The Chair Program shall be named the “NSERC Industrial Research Chair in thermochemical conversion of biomass and waste to bio-industrial resources.”

2.2 **Objectives.** The objectives of the Chair Program are to develop new, practical solutions for the thermochemical transformation of biomass, organic residues, co-products and wastes, into value-added products and resources that will be successfully commercialized, generating environmental and economic benefits, jobs and wealth.

2.3 **The Chair.** The Chair shall be responsible for carrying out the objectives of the Chair Program, ensuring that the Research Projects form a significant part of the overall research and development activities under this Agreement.

2.4 **No Representations or Warranties.** The University agrees to carry out the Research Projects in accordance with appropriate scientific and professional standards. However, the University does not promise success in achieving any desired result, given the exploratory nature of the research and development activities contemplated hereunder. The University makes no representations or warranties, express or implied, as to any matter including, without limitation, the condition, quality or freedom from error of the results of any of the work undertaken under the Research Projects, or that such results will be merchantable or fit for any particular purpose, and all warranties, including warranty against infringement, and conditions, express or implied, statutory or otherwise, are hereby disclaimed.

2.5 **Effect of Chair Program on Other University Activities.** Nothing contained in this Agreement shall be deemed to prevent or restrict other research agreements and/or activities between the University and the Sponsors (or any individual Sponsor) or third parties with respect to any area of research and/or any other matters outside the Chair Program; provided that such other matters outside the Chair Program shall not use, involve, or refer to Sponsor Confidential Information, Sponsor Background Intellectual Property, or Sponsor Inventions and to allow Sponsor to review and object to the inclusion of any Sponsor Confidential Information

2.6 **Legally Binding.** The Sponsors and the University agree that this Agreement shall be legally binding.

ARTICLE 3- Members of CHAIR PROGRAM

3.1 Qualifications of members. The members in the Chair Program shall consist of:

(a) a full-time tenured or tenure-track academic staff member of the University with rank, namely Professor Franco Berruti, as the Chair; and

(b) such other positions as are determined necessary by the University from time to time, which may include persons appointed to any of the following position(s):

(i) tenured or tenure-track academic faculty members, including the Incremental Faculty Position, and

(ii) technicians; graduate students, post-doctoral associates and project manager.

3.2 **Rank of members within the University.** The Chair and the Incremental Faculty Position shall each have the rights, duties, and responsibilities (including teaching responsibilities, which will be reduced for the Chair) of a full-time professor at the University determined by the University in accordance with its policies and procedures and/or as described under any collective agreement between the University and the University’s faculty association or similar body, with a

compensation commensurate with such position, and shall have tenure (for the Chair) or tenure-track status (for the Incremental Faculty Position). Such duties and responsibilities include teaching activities assigned by the University from time to time.

ARTICLE 4- FUNDING

4.1 Sponsors' Funding Commitment. The Sponsors shall fund an amount of at least \$ 1,150,000 Canadian Dollars during the period beginning on July 1, 2018 and ending on June 30, 2023, as detailed in the payment terms and budget attached here to as "Schedule B". Such funding will be utilized by the University in paying costs and expenses of the Chair Program (including the purchase of equipment). The Sponsors shall also honour all of their respective in-kind commitments detailed in the Proposal as further indicated in Schedule B, attached hereto.

4.2 Total Limit of Sponsor's Commitment. The total financial obligation of the Sponsors under this Agreement is set out in Schedule B as of the Effective Date of this Agreement. Should the Sponsors and the University wish to add Sponsor(s) in the future they will ensure that all necessary letters of support, appropriate NSERC forms, budget and project justification documentation and all applicable NSERC policies and procedures are followed. The Industrial Advisory Board will review requests for the addition of new Sponsor(s) and voice their support or concerns to the Chair who will then make recommendation to the University and to NSERC. Prior to remittance of annual payment, a partner may opt to discontinue as a Sponsor. The University, through the Chair, shall notify NSERC and provide all necessary documentation.

4.3 Acknowledgement of Additional Committed Funding. The Sponsors acknowledge that funds will also be provided to the University by NSERC for the purpose of paying costs and expenses of the Chair Program. Furthermore, the Sponsors each individually covenant to ensure that their respective in-kind commitments (such as but not necessarily limited to, the supply of feedstock, student internship sponsorship, meeting hosting, etc.), as applicable, anticipated in the Chair proposal will be honoured and reported upon (as required). The University will collaborate in good faith with the Sponsors on ensuring the in-kind commitments will be properly accounted for throughout the Chair Program.

ARTICLE 5- INDUSTRIAL ADVISORY BOARD

5.1 Composition. There shall be an industrial advisory board (the "Advisory Board") composed of one (1) representative from each of the Sponsors and the University, the Chair, and such other persons as may be designated from time to time by University in consultation with the Chair.

5.2 Role. The Advisory Board shall convene every six months at a mutually agreeable time in order to advise the Chair regarding the general objectives of the Chair Program, but shall not have any responsibilities or rights regarding the operation or affairs of the University or the Chair Program.

ARTICLE 6- REVIEWS OF CHAIR PROGRAM

6.1 Annual Assessment. The University and the Advisory Board shall jointly conduct an annual assessment of the Chair Program. The purpose of such assessment shall be to review the quality of the Research Projects as well as the nature of the activities with respect to the objectives set out above and herein. Furthermore, individual Sponsors shall receive quarterly summaries of the progress of all agreed upon Research Projects (as envisaged in Schedule "A" attached).

6.2 NSERC Review. The parties shall make commercially-reasonable efforts to participate in any of NSERC's program review/s of the Research Projects.

ARTICLE 7 - RESEARCH RESULTS

7.1 General Reporting. The University, in addition to the reporting requirements of Article 8, shall report Research Results and all Inventions to NSERC, in the form of written reports as part of the NSERC performance review process; provided, however, that a Sponsor or the University may delay any such report by up to a maximum of 60 days to allow for an owning Sponsor of any pertinent Invention under Article 8.2 to determine whether it will seek, and if elected to seek, statutory protection of the pertinent Invention. Such reporting shall be of a general nature and summarize the Inventions, Research Results and activities undertaken in the Research Projects.

7.2 Further Detailed Reporting. The University shall provide detailed reporting to the Sponsors through the Advisory Board as envisaged in Article 8 below. The Sponsors will ensure

that they each respectively make commercially-reasonable efforts to provide all reports requested of, or required by, NSERC, including financial reporting and research reporting, at NSERC's sole discretion, as such pertains to the Sponsors' activities.

ARTICLE 8 - INTELLECTUAL PROPERTY

8.1 Ownership of Original Documents and Materials. For the purposes of Articles 8.1, 8.2, 8.3 and 8.4, the "Sponsor" shall be defined as "Sponsor and its affiliates" and "Sponsors" shall be defined as "Sponsors and their affiliates. The University shall retain possession of, ownership of and copyright to all original documents and materials used and developed during the course of this Agreement, including but not limited to notes, reports and data, unless such notes, reports, and data include Sponsor Confidential Information.

8.2 Ownership of Inventions. All Inventions (including but not limited to all intellectual property rights therein) developed or generated during any individual Research Project under this Agreement shall be solely owned by the particular Sponsor who collaborated with the University during the pertinent Research Project. If any non-owning Sponsor expresses interest in commercializing any Invention that is owned by another Sponsor, then it will need to negotiate in good faith with the owning Sponsor toward a pertinent contract between themselves. The University will make no ownership claims to any Inventions (except as qualified in Article 8.4 below). Therefore, in recognition of the University foregoing its usual ownership rights, the owning Sponsor of any Inventions expressly agrees to pay to the University 2% of any and all Net Revenue, generated by the owning Sponsor (or any of its licensees, sublicensees or assignees) which is directly attributable to commercialization of the Invention, net of (a) discounts, in amounts customary in the trade, for quantity purchases, cash payments, wholesalers, and distributors; (b) amounts repaid or credited by reason of rejection or returns; (c) any freight or other transportation costs, insurance, duties, tariffs and sales and excise taxes based directly on sales or turnover or delivery of material produced under this Agreement; and (d) patent expenses incurred by the respective Sponsor in connection with such Invention(s). The University does not guarantee that any Inventions will be generated during the Research Projects. Commercialization, if any, of Inventions must be carried out with "**Benefit to Canada**" to the extent required by NSERC's policies. Other than the deduction permitted for Net Revenue, the University will not be responsible for any commercialization costs associated with any invention, including, but not necessarily limited to, patenting or other costs, but the owning Sponsor of a pertinent Invention will be responsible solely for said costs.

8.3 Publication and Student Rights. Notwithstanding any other condition of this Agreement, nothing herein shall be construed in such a manner as to interfere with the ability and right of a student to complete his/her academic program at the University or to graduate. Nothing will interfere with the ability of any student to defend his/her thesis. Students shall own the copyright in any paper of publication of their creation, along with the professors and/or co-authors, including postdoctoral fellows, who may have assisted. For greater certainty, no Sponsor shall own any copyright in any student papers. A student thesis defence cannot be prevented or delayed for any reason by the Sponsors. Nevertheless, a student publication or any other University publication, such as a Chair publication, may be delayed up to a maximum of 60 days to allow for an owning Sponsor of any pertinent Invention under Article 8.2 to determine whether it will seek, and if elected to seek, statutory protection of the pertinent Invention and to allow Sponsor to review and object to the inclusion of any Sponsor Confidential Information..

8.4 Background IP. No license or other right is implied or given under this Article 8 with respect to any intellectual property which is not a part of any Invention. For greater certainty, the Sponsors and the University acknowledge that the Chair Program might involve the use of existing, separate intellectual property of each party. An initial comprehensive description and declaration of pertinent background intellectual property ("Background Intellectual Property"), which for purposes of a definition means and includes the valid intellectual property and proprietary rights in the descriptions provided in Schedule "C" below, along with any other industrial, proprietary and intellectual property rights of a party to this Agreement that existed before, or was created outside, the Chair Program and is brought into the Chair Program for further research and development. *No party shall obtain any rights, except for the right of use merely for academic participation in the Chair Program, and the University's right to use such for academic participation in the Chair Program, in any other party's Background Intellectual Property, unless the interested parties negotiate a separate contract specifying commercial rights to same.* For purposes of the Chair Program and this Agreement, the parties do hereby each expressly agree that in the event any improvements to any Background Intellectual Property are made during the Chair Program, *those particular improvements, even if same rise to the level of an Invention, shall be jointly owned by the party who owns said Background Intellectual Property (the "Owning Party") and, if applicable, the other Party by or with whom the improvement is developed or conceived.* Notwithstanding Article 8.2 above, the University will own any

improvements that it solely makes to its Background Intellectual Property. In the event that any Sponsor is interested in commercializing said improvements and/or licensing the University's Background Intellectual Property, it will need to negotiate the pertinent contract, utilizing the University's standard agreement template, at said time, taking into account standard business terms. The University is not obliged to, and does not guarantee that it will ever be able to, finalize a contract with any Sponsor with respect to the University's Background Intellectual Property and/or any improvements to same.

ARTICLE 9- EQUIPMENT

9.1 Ownership of Equipment. The University could purchase equipment as it deems necessary for use under this Agreement, using funds from the Sponsors, NSERC or other third parties. The University shall own any equipment purchased by the University.

ARTICLE 10 - FACILITIES AND TECHNICAL COOPERATION

10.1 Required Space or Facilities. The University shall arrange for any space or facilities on premises owned by the University which it considers required for the purposes of carrying out research and development activities under this Agreement.

10.2 Co-Operation by Sponsors. The Sponsors shall in their sole discretion and at their own expense provide the Chair Program with technical assistance, consultation and use of their facilities, as applicable, for the purpose of conducting the Research Project activities under this Agreement.

ARTICLE 11 — CONFIDENTIALITY

11.1 Confidentiality and Non-Disclosure. The parties may disclose information that they consider confidential one to the other to facilitate work on the Research Projects. The receiving party shall exercise reasonable efforts to treat and keep confidential, and cause its officers and employees to treat and keep confidential, and not to disclose to any other party, or use for any purpose other than the Research Projects, any Confidential Information. Such reasonable efforts shall be no less than the efforts as each normally takes with its own proprietary information to prevent disclosure to third parties. Confidential Information will be disclosed within the receiving party only on a "need to know" basis.

11.2 Designated Representatives. The disclosing party shall disclose any Confidential Information to the Designated Representative of the receiving party. The Designated Representatives are as follows Shabnam Sanaei for DOMTAR INC., Rick Vandersluis for TRY, Joseph Hruska for CPIA, Nicole Mackellar for GFO, Justine Taylor for OGVG, Andrew White for Char, George Lazarovits for A&L, Jamie Bakos for Titan, Don McCabe for OFA, Jay Stanford for the City of London and the Designated Representative of the University shall be Franco Berruti. Any party may change its Designated Representative for this purpose by notice in writing to the other parties.

11.3 Exclusions from Confidentiality. The obligations regarding confidentiality shall not apply to information which:

- (a) is already known to the receiving party as evidenced by written records; or
- (b) is or becomes a matter of public knowledge without breach of this Agreement by the receiving party; or
- (c) is received by the receiving party from a third party which had no duty of confidentiality with respect to such information; or
- (d) is developed independently of and without reference to the information received from the disclosing party, as evidenced by written records kept in the ordinary course of the receiving party's business ; or
- (e) is made subject to an order by judicial or administrative process requiring the receiving party to disclose any or all of the information, provided receiving party shall promptly notify the disclosing party allowing some reasonable time to oppose such process, before disclosure occurs; or
- (f) is disclosed by the receiving party with the disclosing party's prior written approval, but solely to the extent of such written approval by the disclosing party.

11.4 Duration of Confidentiality. The obligations of confidentiality with respect to Confidential Information shall survive termination of this Agreement and shall terminate two (2) years from

the date of termination of this Agreement or completion of all Research Projects hereunder, whichever first occurs.

11.5 Right to Publish and Graduate Not Affected. By its nature and policies, the University requires that Research Results be published. Nothing, but for the provisions of Article 8 above, in this Agreement shall affect the right of the University and its students, staff, faculty, post docs and researchers to publish the Research Results during or after the term of this Agreement.

ARTICLE 12- PUBLICITY

12.1 Public Statements and Media Releases. Any party may make public statements, issue publicity or media releases or make other disclosures revealing the existence of this Agreement and the general relationship of the parties hereunder without the prior approval of the other party; provided, however, that no such public statement, release, or disclosure may name another party without such party's consent. All such communications shall acknowledge the support of the Research Projects by NSERC and the Sponsors and shall, where appropriate, state the name of the Chair Program. Notwithstanding, no party may issue any press releases regarding the Chair Program or this Agreement until NSERC approves such press release.

12.2 Restriction on Use of University's Name. Trademarks. The Sponsors shall not use the University's name or trademark or name of any member of University staff in any advertising or promotional material or publicity release relating to the Research Results or other activities undertaken hereunder or upon any products, materials or designs arising from this Agreement, without the prior written consent of the University.

12.3 Restriction of Use of Sponsors' Names, Trademarks. The University shall not use any of the Sponsors' names or trademarks in any advertising or promotional material or publicity release relating to the Research Results or other activities undertaken hereunder or upon any products, materials or designs arising from this Agreement, without the prior written consent of the affected party/ies.

ARTICLE 13 - TERM, EXTENSION OF TERM AND TERMINATION

13.1 Term. This Agreement is effective from the Effective Date, as defined above, and will terminate on June 30, 2023, unless extended under Section 13.2.

13.2 Extension of Term. The parties may by mutual agreement in writing, extend the term of this Agreement, upon such terms and conditions as they may mutually agree, subject to NSERC's approval, as applicable.

13.3 Termination. This Agreement may only be earlier terminated by mutual agreement of the parties.

13.4 Rights Prior to Termination Survive. Termination under any provision herein shall not affect the rights of the parties which have accrued prior to the date of termination.

ARTICLE 14- LIABILITY AND EXCUSABLE DELAYS

14.1 Delays Beyond University's Reasonable Control. No liability shall be incurred by the University for delay in progress of the Research Projects unless such delay arises from the gross negligence or willful misconduct of the University. Furthermore, under no circumstances whatsoever, will the University's liability to any Sponsor exceed the amount of cash received from that Sponsor under this Agreement in the calendar year in which any cause of action arises.

ARTICLE 15— GENERAL PROVISIONS

15.1 Notices. All notices, reports, invoices and other written communications which any party may desire to give to any other may be delivered or sent to the address/coordinates below. If to:

DOMTAR INC.:

Shabnam Sanaei
Domtar
395, boul. de Maisonneuve Ouest
Montreal, QC H3A 1L6
Email: Shabnam.sanaei@domtar.com

TRY RECYCLING:

Rick Vandersluis
TRY Recycling Inc.

11110 Longwoods Rd.
 Delaware, ON N0L 1E0
 Email: rick.vandersluis@tryrecycling.com

CPIA:

Joseph P. Hruska
 Canadian Plastics Industry Association
 5955 Airport Rd., Suite 125
 Mississauga, ON L4V 1R9
 Email: jhruska@plastics.ca

GFO:

Nicole Mackellar
 Grain Farmers of Ontario
 679 Southgate Drive
 Guelph, ON N1G 4S2
 Email: nmackellar@gfo.ca

OGVG:

Nathan Warkentin
 Ontario Greenhouse Vegetable Growers
 32 Seneca Rd.
 Leamington, ON N8H 5H7
 Email: n.warkentin@ontariogreenhouse.com

CHAR:

Andrew White
 CHAR Technologies Ltd.
 2425 Matheson Blvd E., Suite 816
 Mississauga, ON L4W 5K4
 Email: andrew.white@chartechnologies.com

A&L:

George Lazarovits
 A&L Biologicals
 Agroecology Research Service Ctr
 2136 Jetstream Rd.
 London, ON N5V 3P5
 Email: lazarovitsg@alcanada.com

CITY OF LONDON:

Jay Stanford
 City of London
 300 Dufferin Ave.
 P.O. Box 5035
 London, ON N6A 4L9
 Email: jstanfor@london.ca

TITAN CLEAN ENERGY PROJECTS CORPORATION:

Jamie Bakos
 Titan Clean Energy Projects Corporation
 P.O. Box 296, 501 Crossford Avenue
 Craik, SK S0G 0V0
 Email: jbakos@titan-projects.com

ONTARIO FEDERATION OF AGRICULTURE:

Neil Currie
 Ontario Federation of Agriculture
 Ontario AgriCentre
 100 Stone Road West, Suite 206
 Guelph, ON N1G 5L3
 Email: neil.currie@ofa.on.ca

ONTARIO FEDERATION OF AGRICULTURE (for invoicing):

Jon Lazarus
 Ontario Federation of Agriculture
 Ontario AgriCentre
 100 Stone Road West, Suite 206
 Guelph, ON N1G 5L3 jon.lazarus@ofa.on.ca
 Email: jon.lazarus@ofa.on.ca

If to the University:

Respecting industry liaison, project management, interpretation, amendment or termination of this Agreement:

Chantal Gloor
 Institute for Chemicals and Fuels from Alternative Resources (ICFAR)
 The University of Western Ontario
 22312 Wonderland Rd. N.
 Ilderton, Ontario N0M 2A0
 E-mail: cmgloor@uwo.ca

Respecting scientific and technical (research) aspects of this Agreement:

Franco Berruti
 Institute for Chemicals and Fuels from Alternative Resources (ICFAR)
 The University of Western Ontario
 22312 Wonderland Rd. N.
 Ilderton, Ontario N0M 2A0
 E-mail: fberruti@uwo.ca

Respecting financial reporting, invoicing and financial communications with NSERC:

Svetlana Berdnik
 Financial Services
sberdnik@uwo.ca
 Tel: 519-661-2111 ext 85458

In order for any notices, requests, directions, or other communications to be effective, they will be delivered in person, or sent by mail or e-mail addressed to the party for whom it is intended at the above-mentioned address/coordinates and will be deemed to have been received on the date of delivery. The address/coordinates of either party may be changed by notice in the manner set out in this provision.

15.2 Enurement. This Agreement shall be binding upon and enure to the benefit of the parties hereto and their respective successors and permitted assigns.

15.3 Assignment. No party shall assign this Agreement or any part thereof or any rights or obligations under this Agreement or with respect to the Research Results or Inventions without the prior written approval of the other party.

15.4 Amendments. No amendment, or variation of this Agreement shall be effective unless set forth in writing signed by a duly authorized representative of each party.

15.5 Entire Agreement. This Agreement contains the entire agreement between the parties and supersedes all prior agreements, negotiations, representations and proposals, written and oral.

15.6 **Headings.** All headings in this Agreement are inserted solely for convenience, are not part of this Agreement and do not in any way limit or amplify the terms hereof. Any reference to “days in this Agreement means calendar days, unless otherwise specified.

15.7 **Schedules.** The Schedules, including the Proposal, as incorporated by reference, form part of this Agreement.

15.8 **Further Assurances.** Each of the parties shall sign such documentation and deliver such information as may be reasonably required by the other in order to confirm and give effect to the provisions set forth in this Agreement.

15.9 **Governing Law.** This Agreement shall be interpreted and governed by the laws of the Province of Ontario and the laws of Canada applicable in such Province. Any action taken relating to this Agreement shall be commenced in the courts of the Province of Ontario.

15.10 **Counterparts and Facsimile Signatures.** This Agreement may be executed in one or more counterparts, each of which, when so executed, shall be deemed to be an original, and all of which together shall constitute one and the same agreement. This Agreement may be executed and delivered by facsimile, e-mail or other electronic means of by physical means.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

THE UNIVERSITY OF WESTERN ONTARIO

By: _____

Name: _____

Title: _____

DOMTAR INC.

By:

Name:

Title:

TRY RECYCLING

By:

Name:

Title:

GFO

By:

Name:

Title:

CPIA

By:

Name:

Title:

OGVG

By:

Name:

Title:

CHAR

By:

Name:

Title:

TITAN

By:

Name:

Title:

CITY OF LONDON

By:

Name:

Title:

A&L

By:

Name:

Title:

ONTARIO FEDERATION OF AGRICULTURE

By:

Name:

Title:

SCHEDULE “A”

- **Description of Research Projects.** The NSERC Industrial Research Chair Proposal itself, in its entirety, as applicable, is hereby incorporated into this Agreement by reference. Furthermore, one Research Project will be designed to address the interest of each Sponsor, developed by the Chair in consultation with the pertinent Sponsor. Resources allocated will be proportional to the Sponsor’s contribution and leverage.

SCHEDULE “B”

Sponsors’ Funding and In-kind Commitments

Payment terms:

The University will invoice the Sponsors for the annual amount listed below upon execution of this Agreement and annually thereafter on the anniversary of the Project start date (July 1, 2018). Invoices shall be sent to the accounts payable and/or Purchase Order contacts below. Payment will be due within 30 days of receipt of the University’s invoice.

Funding Commitments:

SPONSOR	ANNUAL CASH COMMITMENT (\$, CDN)	TOTAL (5 YR) CASH COMMITMENT (\$, CDN)	TOTAL (5 YR) IN- KIND COMMITMENT, CASH EQUIVALENT & OTHER (as taken from proposal) (\$, CDN)
DOMTAR			
TRY			
CPIA			
GFO			
OGVG			
A&L			
London	\$ 30,000	\$ 150,000	\$ 67,500
TITAN			
OFA			
CHAR			
TOTAL FOR 5 YEARS:		\$ 1,150,000	

Invoicing contacts per Sponsor: Refer to ARTICLE 15 – General Provision

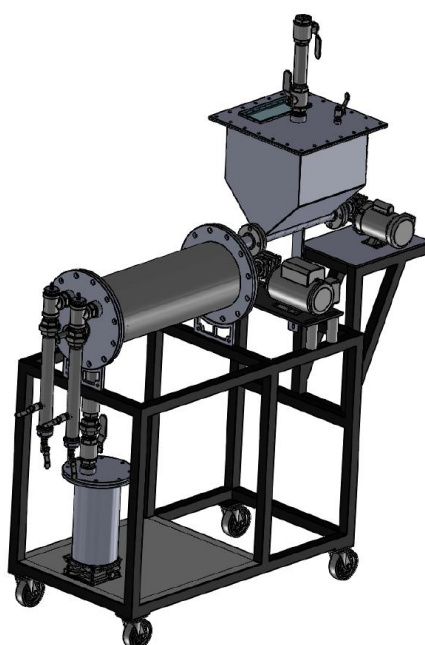
SCHEDULE "C"

Background Intellectual Property

University:

A new and novel continuous horizontal pyrolysis pilot plant technology, able to process between 3 to 20 kg/h of biomass and other organic feedstocks, consisting of an air-locked hopper, a screw feeder, a horizontal reactor vessel, a biochar collection system and a condensation train.

The horizontal reactor vessel is heated by induction and equipped with specially designed mixing paddles driven by an electric motor with adjustable alternate rotating motion, able to mix the feedstock with a bed of reacting/reacted material (biochar) retained within the horizontal reactor body by a specially designed weir over which the reacted biochar will eventually overflow and fall into a biochar cooling chamber and air locked collection vessel after having travelled the entire length of the reactor. The vapors produced exit the reactor body immediately as they are generated through two parallel filter chambers covered with a fine metallic mesh, located horizontally in the freeboard above the reactor chamber. Such parallel filters are directly connected with two downstream condensers equipped with water sprays to achieve the first level of fractional condensation of a dry bio-oil phase. Such condensers are also equipped with a backflush system able to clear independently each filter with pulses of nitrogen. The primary condensation system is followed by a secondary one, consisting of condensers cooled with chilled water. The flowrate of non-condensable gaseous effluents is monitored, samples can be withdrawn, and the main gas effluent can be flared or used for heat recovery. The entire system is flushed with nitrogen. The feeding auger and all the seals are water cooled. Temperatures are measured in several locations and the system is equipped with a pressure release safety valve. A Report of Invention has been filed.



DOMTAR CORP.: N/A

TRY RECYCLING: N/A

CPIA: N/A

GFO: N/A

OGVG: N/A

CHAR TECHNOLOGIES: N/A

A&L: N/A

City of London: N/A

TITAN: N/A

OFA: N/A

APPENDIX B

Activities and Accomplishments at the London Waste to Resources Innovation Centre

This Appendix contains details in three areas:

- Progress made in the five key Activity Areas of the London Waste to Resources Innovation Centre
- Overview of existing Memorandums of Understanding (MoUs)
- Overview of Direction of the Provincial Government (2016 to 2019)

Progress Made in the Five Key Activity Areas of the London Waste to Resources Innovation Centre

Area of Activity	#	Details
1. Research & Development Academic Research Projects and Presentations	Over 30	Students from the Faculties of: <ul style="list-style-type: none">• Engineering• Science• Social Sciences• 2 PhD projects – food waste avoidance and landfill technology• 1 PostDoc – resource recovery/WCT/disposal• Maximizing Resource Recovery from Waste Through Biogas and RNG Production, a project partially funded by the Federation of Canadian Municipalities (FCM) Green Municipal Fund with support from the Canadian Biogas Association• Request for Information for Resource Recovery Technologies; 26 responses received (2018)
2. Training, Testing & Auditing Projects/initiatives completed or in progress	7+	<ul style="list-style-type: none">• Two audits/assessments of packaging materials at the City’s Material Recovery Facility (MRF) (2015)• Establishment of an internal network of 19 internationally recognized experts from Western’s Faculties of Engineering, Science, Social Science, and the Schulich School of Medicine & Dentistry, coordinated by Dr. Berruti• Establishment of a Municipal Working Group for Mixed Waste Processing (7 Ontario municipalities)• Avoiding food waste, an emerging collaboration with Western University and input for the Middlesex London Food Policy Council (2016-2018)
3. Resource & Waste Management Knowledge Exchange Memorandums of Understanding approved	7	Further MoU details are provided after the table <ul style="list-style-type: none">• Canadian Plastic Industry of Canada (CPIA)• Resource Energy Development of Canada (RediCan)• Try Recycling• Bio-TechFar Inc• Tucker Engineering through the Hawthorne Green Key Group• University of Western Ontario (Institute of Chemicals and Fuels from Alternative Resources)• Green Shields Energy (GSE)

Area of Activity	#	Details
Memorandums of Understanding in discussion	3	
Businesses and Associations expressing interest in the LWRIC	10+	Includes several local business, Ontario based businesses and 1 European company
4. Technology Demonstrations	5+	<ul style="list-style-type: none">• Mixed waste processing at the Canada Fibres (Dongara) Advanced Waste Diversion Facility (August 2017)• Numerous site visits to see working resource recovery technologies
5. Outreach & Engagement	10+	<ul style="list-style-type: none">• FCM Sustainable Communities Conference (February 2015)• Several internal presentations by ICFAR staff to other faculties at Western University (2015-2018) and at various conferences around the world• Several City of London presentations (e.g., Advisory Committee on the Environment) and Open Houses for 60% Waste Diversion and the Environmental Assessment to expand the W12A Landfill (2017-2018)• Converting Wastes to Resources Through Sustainable Engineering Workshop, Western University (April 2016)• Resource Recovery Partnership Workshop, University of Waterloo (June 2016 & 2017)• Ministry of the Environment & Climate Change and Ministry of Economic Development, October 2017• Resource Recovery Partnership Workshop, University of Waterloo – International 2 Day event (June 2018)• Establishment of the Resource Recovery Partnership, a Canada-wide collaboration to promote and advance resource recovery and zero waste to landfill solutions (2018)
LWRIC Administration Funding opportunities being examined	7+	<ul style="list-style-type: none">• Natural Sciences and Engineering Research Council (NSERC) Collaborative Research• Mitacs• Sustainable Development Technology Canada• Federation of Canadian Municipalities• Ontario Research Fund Research Excellence Program• Ontario Centres of Excellence• Industrial Contracts

Overview of Existing Memorandums of Understanding

The City has six Memorandums of Understanding (MoUs) approved by Council:

- Canadian Plastics Industry Association (CPIA) – a working relationship to carry out research and development projects supported by grants, contracts which generate knowledge, expertise and trained personnel with a focus on valorization of waste plastic resources residues. Share waste plastic resources management expertise (policy, technology, education, sustainability frameworks) with the City, with the industry partners and Western/ICFAR. Act as a window of access to plastic industry

expertise and networking opportunities for the City, government agencies, Western/ICFAR and potential industry partners to maximize synergies of expertise, infrastructure and resources. Also, to proactively engage in conversations with the City, industry partners, government(s) and Western/ICFAR to ensure continuous review and improvement of current initiatives and development of new projects. The expiry date of this MoU is March 31, 2020.

- Resource Energy Development of Canada (RediCan) – a working relationship to undertake testing and develop data/information on the viability of the Concord Blue Reformer® advanced thermal conversion technology to be delivered and constructed by Lockheed Martin Canada to manage various types of organic feedstocks, including biomass, bio-solids, solid waste materials, including mixed solid waste, commonly known as household garbage. This will be done through research at an off-site location housing a demonstration facility or by constructing and operating a pilot-scale facility containing an advanced thermal conversion system that is designed for demonstrating the effectiveness of the process for the conversion of various organic feedstocks and waste streams. It is currently proposed that a demonstration facility would process between 50 and 75 tonnes of material per day while generating the following products: a hydrogen-rich synthetic (syn) gas that can be used as a renewable natural gas (RNG) and/or blended with natural gas, or be used to produce a variety of other forms of renewable energy and bio-products. The expiry date of this MoU is March 31, 2021.
- Bio-TechFar Inc. – a working relationship to undertake testing and research; write and present reports; develop data/information including a feedstock inventory; and work with industry, government and academic partners on the viability of its proprietary pyrolysis technology and processes to create higher value resources from biomass waste that would normally be sent to recycling and/or disposal facilities. Bio-Techfar have developed a proprietary pyrolysis technology, referred to as the BT-100/500, that has successfully converted a range of biomass materials into pyrolysis-oil and pyrolysis-char for both energy and non-energy applications. Bio-Techfar now wants to increase the technology throughput for biomass materials such as forestry residuals, agricultural residuals, yard waste and other industrial or municipal biomass materials/waste streams. The expiry date of this MoU is December 31, 2019.
- Tucker Engineering (via the former Hawthorne Green Key Group) – a working relationship designed to undertake testing and research; write and present reports; develop data/information; and work with industry, government and academic partners on the viability of its proprietary pyrolysis technology and processes to create higher value resources from waste that would normally be sent to recycling and/or disposal facilities. Hawthorne has the Canadian rights to a proprietary pyrolysis technology that has successfully converted a range of biomass materials into energy, chemicals and/or fuels, now wants to determine the viability of this technology on solid waste materials, including mixed solid waste, commonly known as household garbage. The expiry date of this MoU is June 30, 2020.
- Try Recycling Inc. – a working relationship to undertake testing and research; write and present reports; develop data/information; and work with industry, government and academic partners on the viability of a range of technologies and processes to create resources from waste that would normally be sent to disposal facilities. Try has proprietary and other expertise related to the successful conversion of a range of waste materials into products with beneficial uses, in particular, the conversion of organic wastes into compost and various construction, renovation and demolition (CR&D) wastes into beneficial products. The expiry date of this MoU is December 31, 2019.
- University of Western Ontario (Institute of Chemicals and Fuels from Alternative Resources - ICFAR) – a working relationship covering the broad sectors of solid waste management, biomass management and related sectors that produce waste materials. ICFAR is a research facility with proprietary technologies and expertise

that have contributed to the successful conversion of a range of materials into energy, chemicals and inert materials. Western has identified Environmental Sustainability and Green Energy as an area of research strength and ICFAR/Western has various research interests in the field of biomass conversion technologies and management and wishes to coordinate R&D activities, including multi-disciplinary, multi-institutional waste-to-resource initiatives, for the purpose of using the broad expertise to valorize biomass and organic wastes into marketable products at the local, regional, Canada-wide and international levels. The expiry date of this MoU is December 31, 2019.

Overview of Direction of the Provincial Government (2016 to 2019)

Waste Free Ontario Act, 2016

In November 2015, the Minister of the Environment and Climate Change (MOECC) introduced a new legislative framework for managing waste in Ontario under Bill 151, *Waste Free Ontario Act (WFOA)*. Bill 151 received Royal Assent in June 2016 and was proclaimed November 30, 2016.

Strategy for a Waste-Free Ontario: Building the Circular Economy

MOECC published the final Strategy for a Waste-Free Ontario: Building the Circular Economy in February 2017, a requirement of the WFOA, which outlines a road map for resource recovery and waste reduction for Ontario. It also:

- sets a vision and goals including interim waste diversion goals for 2020, 2030 and 2050;
- articulates key government actions to support implementation of the vision and goals; and
- identifies performance measures to measure progress towards achieving the vision and goals.

The Strategy focuses on moving Ontario towards a circular economy described as “a system where nothing is wasted and valuable materials destined for landfill are put back into the economy without negative effects on the environment.” This approach – a circular economy – has the potential to reduce greenhouse gas emissions, save and better utilize scarce resources, create jobs and create financial opportunities. To fulfil the vision, the Strategy has two visionary goals:

- a zero waste Ontario; and
- zero greenhouse gas emissions from the waste sector.

Preserving and Protecting our Environment for Future Generations: A Made-in-Ontario Environment Plan

The proposed Made-in-Ontario Environment Plan is the Provincial Government’s holistic approach to managing all the environmental aspects that it is now responsible for including “Reducing Litter and Waste in Our Communities & Keeping Our Land and Soil Clean”. Specifically on page 43, it proposes to:

- “Investigate options to recover resources from waste, such as chemical recycling or thermal treatment, which have an important role – along with reduction, reuse and recycling – in ensuring that the valuable resources in waste do not end up in landfills.
- Encourage increased recycling and new projects or technologies that recover the value of waste (such as hard to recycle materials)”.

This theme and direction has been carried into the most recent release from the province, Reducing Litter and Waste in Our Communities: Discussion Paper (March 2019) and the section titled Recover the Value of Resources.

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON APRIL 16, 2019
FROM:	KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR - ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER
SUBJECT	MEMORANDUM OF UNDERSTANDING WITH GREEN SHIELDS ENERGY AS PART OF THE LONDON WASTE TO RESOURCES INNOVATION CENTRE

RECOMMENDATION

That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, with the support of the Director, Environment, Fleet and Solid Waste, the attached proposed by-law (Appendix A) **BE INTRODUCED** at the Municipal Council meeting to be held on April 23, 2019 to:

- a) authorize and approve a Memorandum of Understanding with 9003711 Canada Inc. operating as Green Shields Energy ("GSE") with respect to advancing our joint waste to resources (waste management, diversion and/or conversion into products with beneficial uses) objectives with the mutual understanding that the combined expertise, influence and commitment are better applied together to support common goals attached as Schedule "A" to the by-law; and
- b) authorize the Mayor and the City Clerk to execute the Memorandum of Understanding authorized and approved in a), above.

PREVIOUS REPORTS PERTINENT TO THIS MATTER
--

Relevant reports that can be found at www.london.ca under City Hall (Meetings) include:

- Update and Next Steps: London Waste to Resources Innovation Centre and Green Shields Energy (October 4, 2016 meeting of the Civic Works Committee (CWC), Item #10)
- Preliminary Concept for a London Waste to Resources Innovation Centre (February 3, 2015 meeting of the CWC, Item #4)

STRATEGIC PLAN 2015-2019 AND DEVELOPMENT OF COUNCIL'S 2019-2023 STRATEGIC PLAN

Municipal Council has recognized the importance of solid waste management, climate change, other related environmental issues and innovation in its previous Strategic Plan (2015-2019) and to "Increase waste reduction, diversion, and resource recovery" and "Increase partnerships that promote collaboration, innovation, and investment" in the development of its 2019-2023 Strategic Plan for London. This work touches on three Areas of Focus:

- Building a Sustainable City
- Growing our Economy
- Leading in Public Service

BACKGROUND

PURPOSE

The purpose of this report is to provide Civic Works Committee and Council with a non-binding Memorandum of Understanding (MoU) to be signed by the City of London and Green Shields Energy (GSE). In brief, the MoU sets out the mutual intentions of the City and GSE to advance their joint waste to resources (waste management, diversion and/or conversion into products with beneficial uses) objectives.

CONTEXT

February 9, 2015 Council Direction - London Waste to Resources Innovation Centre

At its February 9, 2015 meeting, Council approved and adopted the following recommendation with respect to the London Waste to Resources Innovation Centre:

- a) *the concept of a London Waste to Resources Innovation Centre BE APPROVED IN PRINCIPLE; it being noted that the Centre would build upon the numerous innovative activities that have already occurred to date and are being planned for 2015 and 2016;*
- b) *the Civic Administration BE DIRECTED to:*
 - i) *identify potential partners, projects, resource requirements and funders;*
 - ii) *obtain initial feedback from potential partners; and,*
 - iii) *develop a scope of work for the London Waste to Resources Innovation Centre concept;*
- c) *the Civic Administration BE DIRECTED to report back with a proposed scope of work and funding plan for the London Waste to Resources Innovation Centre.*

Municipal Council’s Strategic Plan 2015-2019 (approved March 2015)

The London Waste to Resources Innovation Centre is listed as a component of London’s Strategic Plan 2015-2019 under local, regional and global innovation.

Municipal Council Approval of 60% Waste Diversion Action Plan

The 60% Waste Diversion Action Plan containing programs and initiatives to be phased in between 2019 and 2022 to achieve 60% waste diversion was approved subject to further financing considerations. The Action Plan includes an update on the progress of the long-term Resource Recovery Strategy that will be completed in 2020.

Development of Municipal Council’s Strategic Plan 2019-2023 (as of April 1, 2019, a report before the Strategic Priorities and Policies Committee)

The London Waste to Resources Innovation Centre is listed as a proposed component of London’s Strategic Plan 2019-2023 under Growing Our Economy:

- Outcome 2: London is a leader in Ontario for attracting new jobs and investments
- a) Increase partnerships that promote collaboration, innovation, and investment Growing Our Economy (GOE-06) Expand opportunities and activities through the London Waste to Resources Innovation Centre.

Civic Works Committee Agenda (April 16, 2019)

An update report and action plan for the London Waste to Resources Innovation Centre between 2018 and 2023.

Primary Goals of the London Waste to Resources Innovation Centre

The primary goals are to:

- build on the existing foundation of traditional and innovative projects to divert waste from landfill and create value added products from residues and waste;
- create a focal point (location or locations) for the ongoing examination of innovative solutions for waste reduction, resource recovery, energy recovery and/or waste conversion into value-added materials, chemicals, heat and power;
- establish partnerships and collaborations between government, academia and businesses to synergistically build on existing strengths to create opportunities to prevent waste, to create products of value from waste, and to solve existing waste management challenges; and
- be known as an innovative centre of excellence with shared facilities and resources providing leadership, implementing best practices, undertaking leading edge research, providing knowledge and support to industry, while educating and training students, researchers and postdoctoral fellows in the various fields of resource and waste management.

Direction of the Provincial Government

Waste Free Ontario Act, 2016

In November 2015, the Minister of the Environment and Climate Change (MOECC) introduced a new legislative framework for managing waste in Ontario under Bill 151, *Waste Free Ontario Act (WFOA)*. Bill 151 received Royal Assent in June 2016 and was proclaimed November 30, 2016.

Strategy for a Waste-Free Ontario: Building the Circular Economy

MOECC published the final Strategy for a Waste-Free Ontario: Building the Circular Economy in February 2017, a requirement of the WFOA, which outlines a road map for resource recovery and waste reduction for Ontario including setting a vision and interim waste diversion goals for 2020 (30%), 2030 (50%) and 2050 (80%). To fulfil the vision, the Strategy has two visionary goals; a zero waste Ontario; and zero greenhouse gas emissions from the waste sector.

Preserving and Protecting our Environment for Future Generations: A Made-in-Ontario Environment Plan

The proposed Made-in-Ontario Environment Plan is the Provincial Government's holistic approach to managing all the environmental aspects that it is now responsible for including "Reducing Litter and Waste in Our Communities & Keeping Our Land and Soil Clean". Specifically on page 43, it proposes to:

- "Investigate options to recover resources from waste, such as chemical recycling or thermal treatment, which have an important role – along with reduction, reuse and recycling – in ensuring that the valuable resources in waste do not end up in landfills.
- Encourage increased recycling and new projects or technologies that recover the value of waste (such as hard to recycle materials)".

This theme and direction has been carried into the most recent release from the province, *Reducing Litter and Waste in Our Communities: Discussion Paper* (March 2019) and the section titled *Recover the Value of Resources*.

Current and Expired MoUs

The City has six MoUs approved by Council:

- Canadian Plastic Industry of Canada (CPIA); approved March 2018 with a current expiry date of March 31, 2020;
- Resource Energy Development of Canada (RediCan); approved March 2018 with a current expiry date of March 31, 2021;
- Try Recycling; approved June 2017 with a current expiry date of December 31, 2019;
- Bio-TechFar Inc; approved June 2017 with a current expiry date of December 31, 2019;
- Tucker Engineering through the Hawthorne Green Key Group; approved June 2017 with a current expiry date of June 30, 2020; and
- University of Western Ontario (Institute of Chemicals and Fuels from Alternative Resources); approved December 2016 with a current expiry date of December 31, 2019.

One MoU has expired:

- Green Shields Energy; expired December 31, 2017. In conversation with GSE and its potential technology partners, the decision to let the previous MoU expire was a function of several matters that have either been resolved or can now be more easily addressed including:
 - A technology dispute dealing with patents and management with the previous technology provider. This dispute was resolved with the formation of a new legal entity called True Energy, the technology provider;
 - End market uncertainty with renewable natural gas (RNG) due the potential acquisition of Union Gas by Enbridge; and
 - A change in Provincial Government in 2018 that has produced a more conducive environment for resource recovery and waste conversation technologies to help significantly reduce the need to send materials to landfill and to further reduce greenhouse gas emissions.

DISCUSSION

Step 1 – Memorandum of Understanding – General Arrangement

The first step in formalizing a working relationship with GSE is to enter into a non-binding MoU. The MoU sets out the short-term objective of collaboration between the City and GSE to undertake testing and develop data/information on the viability of Hydrogen Reduction technology to manage various non-hazardous waste streams including household garbage. This will be done by constructing and operating a pilot scale facility containing a Hydrogen Reduction unit designed for demonstrating the effectiveness of the process on the conversion of various wastes and waste matrices. The facility will process 50 tonnes of material per day and is expected to significantly reduce the volume/weight of the material being processed while generating methane rich syngas commonly referred to as Renewable Natural Gas (RNG).

Complementing the technical processes is the ongoing development of the potential role for this technology to handle non-hazardous materials from the residential, institutional, commercial and industrial sectors and to contribute towards policies and programs established by the various levels of government (Municipal Provincial and Federal) as well as and other Governmental agencies outside of Canada.

The responsibilities of the City are to include:

- Assist with all approvals (e.g., Ministry of the Environment, Conservation & Parks MECP, City of London zoning, etc.)

- Provide land in the special policy area (Waste Management Resource Recovery Area) as a host site for three years with an option to renew for additional years
- Bring services (water, sanitary and hydro) to the location of the pilot scale facility
- Provide access to the boardroom room and education room in the Material Recovery Facility (MRF)
- Participate, when available, in discussions, tours and related activities
- Provide solid waste materials for waste conversion
- Assist with reporting, being available for media interviews and related matters
- Keep London Municipal Council informed

The responsibilities of GSE are to include:

- Obtain all necessary approvals and licenses
- Construct and operate the pilot scale facility and all associated costs including utilities
- Evaluate and report the results of the research and development work
- Provide overview reports quarterly to the City of London highlighting activities undertaken, key non-proprietary results and related matters noting that such reports are subject to the requirements of the *Municipal Freedom of Information and Protection of Privacy Act*

Step 2 – Formal Agreement for Demonstration Pilot Projects

The City and GSE work together to develop a formal agreement to undertake the approval, design, construction and testing and develop data/information on the viability of Hydrogen Reduction technology, contracts with funding agencies, contracts with secondary educational institutions, private companies and investors. Any Formal Agreement will follow the same approval processes as this General Arrangement and require Council approval.

ACKNOWLEDGEMENTS

This report was prepared with assistance from Mike Losee, Division Manager, Solid Waste Management. This report has followed the template for by-law approval and MoU signing approved by the City Clerk and Legal Services.

PREPARED AND SUBMITTED BY:	RECOMMENDED BY:
JAY STANFORD, M.A., M.P.A. DIRECTOR, ENVIRONMENT, FLEET & SOLID WASTE	KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER

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Appendix A A by-law to authorize and approve a Memorandum of Understanding between 9003711 Canada Inc. operating as Green Shields Energy (“GSE”), and The Corporation of the City of London and to authorize the Mayor and the City Clerk to execute the Memorandum of Understanding

 Schedule A Memorandum of Understanding

 Attachment A Overview of City of London Solid Waste Management Facilities

 Attachment B Primer – Hydrogen Reduction

- c Jeff Shields, CEO Green Shields Energy, 1316 Gainsborough Road, London, Ontario N6H 5K8

Appendix A

Bill No.
2019

By-law No. A.-

A by-law to authorize and approve a Memorandum of Understanding between 9003711 Canada Inc. operating as Green Shields Energy (“GSE”), and The Corporation of the City of London and to authorize the Mayor and the City Clerk to execute the Memorandum of Understanding.

WHEREAS section 5(3) of the *Municipal Act, 2001*, S.O. 2001, c. 25, as amended, provides that a municipal power shall be exercised by by-law;

AND WHEREAS section 9 of the *Municipal Act, 2001*, S.O. 2001, c. 25, as amended, provides that a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act;

AND WHEREAS it is deemed appropriate for The Corporation of the City of London (the “City”) to enter into a Memorandum of Understanding with 9003711 Canada Inc. operating as Green Shields Energy (“GSE”), to carry out testing and develop data/information on the viability of proprietary technology on solid waste materials, including organics, plastics, mixed solid waste, commonly known as household garbage. This will be done through research at an off-site location housing a benchscale facility and/or by constructing and operating a pilot-scale facility containing an advanced waste conversion system.

AND WHEREAS it is deemed appropriate to authorize the Mayor and the City Clerk to execute the Memorandum of Understanding on behalf of the City;

NOW THEREFORE the Municipal Council of The Corporation of the City of London enacts as follows:

1. The Memorandum of Understanding between The Corporation of the City of London and 9003711 Canada Inc. operating as GSE, attached as Schedule A to this by-law, is hereby authorized and approved.
2. The Mayor and the City Clerk are hereby authorized to execute the Memorandum of Understanding authorized and approved under section 1 of this by-law.
3. This by-law shall come into force and effect on the day it is passed.

PASSED in Open Council April 23, 2019

Ed Holder
Mayor

Catharine Saunders
City Clerk

First Reading – April 23, 2019
Second Reading – April 23, 2019
Third Reading – April 23, 2019

Schedule A

Memorandum of Understanding

Between

The Corporation of the City of London (“City”)

And

9003711 Canada Inc. operating as Green Shields Energy (“GSE”)

Whereas the City has established a special policy area in the City’s Official Plan, referred to as the Waste Management and Resource Recovery Area, that plans for the continued evolution of the W12A Landfill and nearby lands into an “Integrated Waste Management Centre” that utilizes environmentally responsible and sustainable operations and practices and achieves a high standard of compatibility with its environs and neighbours;

Whereas the remaining life expectancy of the W12A Landfill as of January 1, 2019 is approximately five years or less;

Whereas the City wishes to examine, support, conduct research and/or implement projects under the broad classification(s) of resource recovery, energy recovery and/or waste conversion within the special policy area, in other locations in London, or in collaboration with others outside of London as part of its continuous improvement system for solid waste management. The continuous improvement system is described in several public documents including City of London Continuous Improvement System for Waste Management (1997), A Road Map to Maximize Waste Diversion in London (2007) and Road Map 2.0 The Road to Increased Resource Recovery and Zero Waste (2013) and the 60% Waste Diversion Action Plan (2018);

Whereas the City wishes to pursue projects, relationships and partnerships for the purpose of innovation, creativity, best practices and excellence in solid waste management and is proposing to operate, subject to final Municipal Council approval, under a banner known as the London Waste to Resources Innovation Centre (LWRIC);

Whereas Green Shields Energy hereafter known as GSE has a broad range of operational expertise in the management of the conversion of organic feedstocks to a variety of value-added resources;

Whereas GSE, has supported the development of a proprietary technology that has successfully converted a range of materials into energy and inert materials, now wants to determine the viability of this technology on solid waste materials, including organics, plastics, mixed solid waste, commonly known as household garbage; and

Whereas the City and GSE recognize that the current framework direction for waste management and waste diversion in Ontario has been set through the *Waste Free Ontario Act, 2016*, the *Resource Recovery and Circular Economy Act, 2016*, the *Strategy for a Waste-Free Ontario: Building the Circular Economy* (February 2017), ; The proposed *Preserving and Protecting our Environment for Future Generations: A Made-in-Ontario Environment Plan* (November 2018); and *Reducing Litter and Waste in Our Communities: Discussion Paper* (March 2019).

1.0 Purpose of the Memorandum

This Memorandum of Understanding (“MoU”) is intended to set out the mutual intentions of the City and GSE to advance their joint waste conversion, resource and energy recovery objectives. The MoU is based upon the mutual understanding that the combined expertise, influence and commitment of the parties are better applied together

to support their common goals. The MoU establishes the non-legally binding framework and set of principles for enhanced and focused coordination and collaboration to support their shared interests in waste conversion and resource and energy recovery.

The parties to this MoU acknowledge that if they wish to jointly carry out specific initiatives that may arise out of this MoU, they will have to engage in further discussion and prepare necessary agreements to define, authorize and execute, among other things, each party's roles and responsibilities, resource allocation and other details.

The MoU is not an exclusive arrangement and does not restrict either party from pursuing their mandates either on their own or in collaboration with any other party.

2.0 Short Term Objective

The short term objective of the collaboration between the City and GSE is to undertake testing and develop data/information on the viability of Hydrogen Reduction technology to manage various non-hazardous waste streams including household garbage.

This will be done by constructing and operating a pilot scale facility containing a Hydrogen Reduction unit designed for demonstrating the effectiveness of the process on the conversion of various wastes and waste matrices. The facility will process 50 tonnes of material per day and is expected to significantly reduce the volume/weight of the material being processed while generating methane rich syngas commonly referred to as Renewable Natural Gas (RNG).

Complementing the technical processes is the ongoing development of the potential role for this technology to handle non-hazardous materials from the residential, institutional, commercial and industrial sectors and to contribute towards policies and programs established by the various levels of government (Municipal Provincial and Federal) as well as other Governmental agencies outside of Canada.

3.0 General Arrangement

This MoU sets out the General Arrangement between the parties that will be the basis for working together.

The responsibilities of the City are to include:

- Assist with all approvals (e.g., Ministry of the Environment, Conservation & Parks MECP, City of London zoning, etc.)
- Provide land in the special policy area (Waste Management Resource Recovery Area) as a host site for three years with an option to renew for additional years
- Bring services (water, sanitary and hydro) to the location of the pilot scale facility
- Provide access to the boardroom room and education room in the Material Recovery Facility (MRF)
- Participate, when available, in discussions, tours and related activities
- Provide solid waste materials for waste conversion
- Assist with reporting, being available for media interviews and related matters
- Keep London Municipal Council informed

The responsibilities of GSE are to include:

- Obtain all necessary approvals and licenses
- Construct and operate the pilot scale facility and all associated costs including utilities
- Evaluate and report the results of the research and development work
- Provide overview reports quarterly to the City of London highlighting activities undertaken, key non-proprietary results and related matters noting that such reports are subject to the requirements of the *Municipal Freedom of Information and Protection of Privacy Act*

4.0 Formal Agreement

The parties agree to work together to develop a formal agreement to undertake the approval, design, construction and testing and develop data/information on the viability of Hydrogen Reduction technology as outlined above.

The Formal Agreement will follow the same approval processes as this General Arrangement.

5.0 Effective Date and Duration

This MoU will come into effect upon the date it has been signed by all signatories and will remain in effect until December 31, 2022.

This MoU will be reviewed two months prior to the anniversary date and any agreed to changes added to the MoU. Substantive changes will trigger the approval process for the MoU and this determination is at the sole discretion of the City.

A participant may withdraw from this MoU by providing a sixty (60) written notice to the other parties.

This MoU is subject to approval processes required by each of the parties.

DATED this _____ day of _____.

IN WITNESS WHEREOF:

THE CORPORATION OF THE CITY OF LONDON

By:

Name: Ed Holder
Title: Mayor

By:

Name: Catharine Saunders
Title: City Clerk

I/We have authority to bind the City.

GREEN SHIELDS ENERGY

By:

Name: Jeffrey Shields
Title: President & CEO (Founder),

I/We have authority to bind the corporation.

ATTACHMENT A

OVERVIEW OF CITY OF LONDON WASTE MANAGEMENT FACILITIES (www.london.ca)

The City contributes to the health of the environment and its citizens through appropriate collection and management of garbage, recyclables, yard materials, household special waste, and other designated waste materials. This involves providing pick-up and drop-off services within London, processing and creating products of value from compostable/recyclable/reusable materials; and disposing of garbage in an environmentally responsible manner, including the ongoing monitoring and management of closed landfills and other sites producing methane.

To support these services the City owns and operates an array of Solid Waste diversion and disposal assets valued at over \$64 Million. These range from public waste and recycling bins, to drop off depots and one active landfill (W12A) and many closed landfill sites.

The City also owns a centralized Material Recovery Facility (MRF) which provides recycling services to London and several neighbouring communities. The MRF was newly constructed in 2011 and is operated and maintained by an outside contractor.

Drop off locations (Community EnviroDepots) are provided for special wastes including household special waste, yard materials, electronics, scrap metal, tires, roofing, etc. Solid Waste is responsible for maintaining these assets in serviceable condition between replacement cycles, ensuring compliance with Provincial regulations and maintaining the continuity of solid waste services to the citizens of London and other customers.

General household waste is primarily collected by the City while recycling pick-up and processing services are contracted out. The City owns and operates a fleet of garbage truck.

The W12A Landfill consists of a number of assets including landfill cells, buildings, leachate and gas collection systems and stormwater maintenance ponds. This facility operates within its Operation Plan, with additional disposal cells being brought online to accommodate waste in accordance with its Environmental Compliance Approval. Based on projected use, the current landfill will reach capacity in about 2023, at which point it will require an expansion (or other long term disposal solution) to provide the city with the space needed to meet its future needs.

The W12A buildings (inc. Site Works & Equipment) includes the roads, curbs and landscaping as well as the administration, maintenance and scale house buildings. The W12A Leachate Collection System collects and conveys leachate for treatment. This system is capable of meeting the current City's needs and is expanded as new disposal cells are constructed. The Landfill Gas Collection System collects and conveys landfill gas to the on-site landfill gas flare for destruction. This system is capable of meeting current City's needs and is expanded as new disposal cells are constructed.

On-site W12A Stormwater Management Ponds and site drainage infrastructure collect and treat surface runoff from snow and rain that impact the site. Maintenance occurs on a planned basis, with investments identified through regular inspections.

Any expansion or examination of alternatives will be undertaken as per the requirements of the Environmental Assessment Act.

Buffer land is comprised of City owned land adjacent or near the W12A Landfill that has been acquired to provide an appropriate buffer from existing operations and to provide buffering for possible future landfill expansion and resource recovery facilities. It is expected that additional land will be acquired for these purposes over the next several years.

ATTACHMENT B

PRIMER – HYDROGEN REDUCTION (details provided by Green Shields Energy)

High Level Overview of Hydrogen Reduction Technology

Hydrogen Reduction is built on a premise that in essence all organic molecules can be reduced, as they are enzymatically in nature, to form methane gas if there is an excess of hydrogen donors or electrons present. In chemistry this is best accomplished in a gas phase. In organic chemistry, gas phase chemistry is also known as plasma chemistry. All organic chemicals are known to volatilize at 440 degrees Celsius.

Hydrogen Reduction does not allow condensation reactions which form dangerous compounds such as polyaromatic hydrocarbons (PAHs) some of which are the carcinogens in cigarette smoke and the well-known environmental problems Dioxins and Furans. These chemicals are destroyed in Gas Phase Reduction and cannot form.

Condensation reactions occur when aromatic hydrocarbons or fragments of aromatic hydrocarbons are allowed to cool in an oxidizing atmosphere such as the scrubber in an energy from waste (EFW) facility. They form on the surfaces of particulates which is why EFW ash and fly ash is a problem. They also are well known to form in coal gasification forming coal tar. Other simple gasification techniques also form tar for the same reasons. However if the aromatic and partial aromatic molecules are eliminated by completely mixing every molecule with enough electrons to saturate all of the carbon bonds forming methane, there is no possibility of tar formation. This is the theory and practice of Hydrogen Reduction. Excess hydrogen gas which is the ideal reducing agent is present at every stage of the process. In the end 80% of the hydrogen is removed from the gas stream and recycled back into the reaction leaving 20% in the fuel gas.

Hydrogen is produced from the methane formed through catalyzing the water shift reaction with metal catalysts that are imbedded in the walls of the reactor. This is why moisture is left in the waste and in some cases steam is added at various points in the reaction. The method is well described in the new Canadian patent which has been published.

In Hydrogen Reduction the gas formed from all runs as been continuously analyzed and shown to be a very clean burning gas comprised of methane with about 20% hydrogen, 10% CO and 5% CO₂. Regulatory analysis has shown that benzene and monochlorobenzene have been below ppm levels as measure on a continuous basis.

The combustion power of this gas is 92% of the combustion power of natural gas. The content of hydrogen at 20% has been shown to reduce the greenhouse gas production or CO₂ by 50% after combustion.

Hydrogen Reduction Has Been Demonstrated to Destroy or Convert Many Different Non-hazardous and Hazardous Materials

Hydrogen Reduction is the result of twenty years of development beginning with the chain of events that began when Dr. Douglas J Hallett (Natural Energy Systems Inc.) invented a non-incineration process for the destruction of PCBs and other hazardous organic waste. Dr. Hallett went on to create a company that moved his patented invention from lab-scale, to pilot scale, to a commercially viable venture. In 1986 ELI Eco Logic was established. This company went on to build processing plants in Canada, the USA, Australia and Japan. Eli Eco Logic was taken public on the Toronto Stock Exchange in 1994.

The first pilot scale demonstration of the technology occurred in 1991 and involved the remediation of coal tar contaminated sediment from a “hot-spot” in Hamilton Harbour. This project received both provincial and federal support from both Environmental Canada and the Department of Defence (DoD).

The USEPA created a report through their Cincinnati lab and this then became the record of verification to match vendor claims as to efficacy. This was laborious and time consuming, but ultimately gave Eco Logic the USEPA “gold seal” of approval.

In 1994, Eco Logic was awarded the contract to build a plant for General Motors in St. Catharines, Ontario Canada.

The successful operation of plants conducting real hazardous waste destruction led to extensive evaluation by the US Army and various prime contractors within the US Defense arena for future work on various chemical inventories and wastes within their domain, domestically and internationally. Eco Logic did extensive testing with the US Army and proved that the GPR process could successfully and safely destroy chemical warfare agents, rockets, suits and packaging waste associated with these programs.

Hydrogen Reduction plants successfully treated many different types of organic wastes including chemical warfare agents, explosives, pesticides, brominated fire retardants, CFC refrigerants, HCB, and dioxins. The technology is proven suitable for the destruction of organic wastes in all matrices including soil, sediment, sludge, high-strength oils, tar, watery wastes, wood wastes, and bulk solids such as electrical transformers and capacitors, equipment casings, and drums of crystalline chemical.

Wastes that have not been thoroughly tested include mixed solid waste (household garbage), source separated organics (Green Bin) materials, mixed plastic waste and shredder fluff from automotive industry.

According to GSE, the technology has been found acceptable by NGOs such as Greenpeace and the Sierra Club as well as regulators in Canada, the U.S.A., Australia, and Japan. A paper written by Pat Costner, Senior Science Advisor for Greenpeace International dated 9 June 2004 states “Greenpeace still finds that, among those technologies regarded as commercially available, gas phase chemical reduction (GPCR) remains the only technology that meets the 1998 Greenpeace criteria.”

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON APRIL 16, 2019
FROM:	JAY STANFORD, M.A., M.P.A. DIRECTOR, ENVIRONMENT, FLEET & SOLID WASTE
SUBJECT:	ENVIRONMENTAL PROGRAMS ANNUAL OVERVIEW UPDATE

RECOMMENDATION

That on the recommendation of the Director – Environment, Fleet & Solid Waste:

- a) This report **BE RECEIVED** for information; and
- b) This report **BE FORWARDED** to the Advisory Committee on the Environment (ACE) for information.

PREVIOUS REPORTS PERTINENT TO THIS MATTER
--

Relevant reports that can be found at www.london.ca under City Hall (Meetings) include:

- Environmental Programs Updates (May 28, 2018 meeting of the Civic Works Committee (CWC), Item #2.8)

STRATEGIC PLAN 2015-2019 AND DEVELOPMENT OF COUNCIL'S 2019-2023 STRATEGIC PLAN

Municipal Council has recognized the importance of environmental and sustainability programs and projects in the previous Strategic Plan (2015-2019) and the need for a more sustainable and resilient city in the development of its 2019-2023 Strategic Plan for London. This work touches on all four Areas of Focus:

- Strengthening Our Community
- Building a Sustainable City
- Growing our Economy
- Leading in Public Service

BACKGROUND

PURPOSE

The purpose of this information report is to provide Committee and Council with a single report that provides brief overview updates on 13 key programs, projects, and activities led by or in coordination with the Environmental Programs Division. The report:

- indicates how the program or project contributes to Council's Strategic Plan;
- highlights a number of the key programs and projects currently under way or in the planning stages;
- provides key available data and observations;
- indicates how the program or project is addressing cost impacts and/or value to customers; and
- provides details that can inform the community, businesses and employees on how to get engaged and actions that can be taken.

CONTEXT

The Environmental Programs Division’s key focus is on being a central resource for environmental leadership, coordination with other service areas, and being easily accessed by the citizens and businesses of London for many projects and activities dealing primarily with the built environment.

The Division works closely with many Environmental & Engineering Services (EES) divisions as well as staff in City Planning; Neighbourhood, Children & Fire Services; Facilities; Development & Compliance; and Corporate Services.

City staff in the Environmental Programs Division apply practical municipal and private sector experience with a focus on air quality, climate change mitigation, climate change adaptation, energy conservation, active transportation (walking and cycling), transportation demand management, urban watershed management, natural landscaping, community capacity building and community engagement. Within EES, important project/program relationships and synergies exist with such areas as water conservation and wastewater treatment operations. Some Environmental Programs’ responsibilities include:

Community Environmental Action

- Implement community and business outreach and action; partnerships and capacity building
- Administer and evaluate existing environmental programs and initiatives

Environmental Programs Coordination and Management

- Respond to environmental inquiries and manage issues
- Undertake research and policy development
- Coordinate with other City of London divisions, agencies, boards & commissions on environmental and sustainability matters

Corporate Environmental Actions

- Design, implement, monitor and evaluate actions
- Undertake cost/benefit analyses and return on environmental investment

Benchmarking and Public Reporting

- Undertake comparative evaluations, analyses and public reporting on many programs.

DISCUSSION

KEY PROJECT / PROGRAM UPDATES (AT A GLANCE)

Appendix A contains a brief overview summary on the following 13 projects, programs, and initiatives undertaken between April 2018 and the end of March 2019, specifically:

1. Community Energy Action Plan
2. Corporate Energy Conservation and Demand Management (CDM) Plan
3. Bike (Cycling) Program
4. Business Travel Wise Program
5. Sustainable Mobility Initiatives – Downtown Focus
6. Climate Change Adaptation Initiatives
7. London Subwatershed Planning
8. Source Water Protection
9. Thames River Clear Water Revival
10. Active & Green Communities
11. London Environmental Network
12. CityGreen Environmental Education and Outreach
13. London Clean & Green

In Appendix A, where possible, estimated annual City expenditures and/or in-kind services from the community and business partners are noted by project. These

expenditures do not include City staff time. For in-kind services/funds offered by the community or businesses, the following scale is used:

Annual Community In-kind Hours	Annual Business In-kind Hours or Financial
Minor (less than 49 hours)	Minor (less than 24 hours and/or under \$1,000)
Moderate (50 – 99 hours)	Moderate (25 – 49 hours and/or under \$5,000)
Major (over 100 hours)	Major (over 50 hours and/or over \$5,000)

In a number of the projects, City staff time and expenditure activities are embedded as part of broader services and/or infrastructure requirements; therefore it is not possible to extract reasonable estimates from overall project or program costs.

Environmental Programs activities provide mutually-supporting benefits as well as support for major City of London initiatives. These linkages are captured in Appendix B in two figures:

- Figure 1 - Inter-Connections within Key Environmental Program Activities
- Figure 2 - Connections between Key Environmental Program Activities and Major City Initiatives

Some Highlights from 2018 (Appendix A)

- Partnered with Natural Resources Canada (NRCan) and the London Home Builders’ Association (LHBA) to be the pilot project community for the Local Energy Efficiency Partnership (LEEP) for Retrofits energy efficiency technology demonstrations.
- Completed incentive applications and received approximately \$440,000 in incentives from Hydro One, Union Gas and London Hydro for energy savings projects in water and wastewater operations.
- Completed an application and was approved to develop a bike share business case including 50% of potential capital expenditures under the Ontario Municipal Greenhouse Gas (GHG) Challenge Fund. Although the Municipal GHG Challenge Fund was cancelled, the business case was still launched.
- Completed Stage 2 of the ‘One River’ Municipal Class Environmental Assessment, providing direction on options for the dam, management of the adjacent river shoreline and park improvements at The Forks.
- Supported the London Environmental Network (LEN) in the development and upcoming launch of Green Economy London, a target-based sustainability program for businesses in London. LEN and the City of London obtained \$200,000 in funding from the London Community Foundation to support establishment of Green Economy London.
- Expanded Carolinian Canada’s annual regional “Go Wild Grow Wild” Green Expo to include the addition of a new ‘Green Living Zone’ where London’s (built) environmental partners and programs were highlighted.

Some Priorities for 2019 (Appendix A)

- Develop of the 2019-2023 Community Energy Action Plan in consultation with key community energy partners and stakeholders.
- Develop the 2019-2023 Corporate Energy CDM Plan in partnership with key City of London energy-using service areas.
- Complete the bike share business case and proposed next steps for Council.
- Implement secure bike parking solutions in downtown London.

- Complete background details and prepare a business case for collaborative sustainable mobility activities and programs focused on employers and employees in downtown London and related business areas.
- Implement Commute Ontario’s new commuter programs and incentives to Londoners and London businesses.
- Work with City Planning staff to further Climate Change Adaptation initiatives in conjunction with projects dealing with planning for sustainability and resiliency as part of the Green and Healthy City component of The London Plan.
- Support additional research for phosphorus removal technology in the Thames River watershed, which will be housed at a City facility to assist agricultural groups in reducing phosphorus at the field level.
- Support LEN in the launch and implementation of Green Economy London.
- Explore different approaches for Active & Green Communities, including multi-family residential buildings, workplaces, and daycare communities.

ACKNOWLEDGEMENTS

City staff are always grateful to work with the community, businesses and institutions and fully recognized the importance of doing more collaborative work. This report was prepared with assistance from Sneha Madur, Corporate Energy Management Engineer, Allison Miller, Transportation Demand Management Coordinator, and Greg Sandle, Environmental Outreach Coordinator.

PREPARED BY:	PREPARED BY:
PATRICK DONNELLY, M.Sc., RPP MANAGER, URBAN WATERSHED PROGRAM	JAMIE SKIMMING, P. ENG. MANAGER, AIR QUALITY
PREPARED AND RECOMMENDED BY:	REVIEWED & CONCURRED BY:
JAY STANFORD, M.A., M.P.A. DIRECTOR, ENVIRONMENT, FLEET, & SOLID WASTE	KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR - ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER

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Appendix A Environmental Programs - Key Projects and Initiatives (*At a Glance*) (April 2018 and the end of March 2019)

Appendix B Projects, Programs and Initiatives (Activity) Linkages

- c Lynne Livingstone, Managing Director, Neighbourhood, Children and Fire Services
- John Fleming, Managing Director, City Planning and City Planner
- George Kotsifas, P.Eng. Managing Director, Development and Compliance Services and Chief Building Official
- Anna Lisa Barbon, Managing Director, Corporate Services, City Treasurer and Chief Financial Officer
- Doug MacRae, P.Eng., Director, Roads & Transportation
- Scott Mathers, P.Eng., Director, Water & Wastewater

APPENDIX A

Environmental Programs - Key Projects and Initiatives (*At a Glance*)
(April 2018 and the end of March 2019)

1. Community Energy Action Plan (CEAP)	
Website	City of London – Community Energy Action Plan
Connections to Council’s Strategic Plan	Building a Sustainable City Growing Our Economy
Brief Description	<p>The CEAP was adopted by Council in July 2014, and the timeframe for the first phase of the plan was 2014-2018. In 2019, the focus will be on developing the scope of the CEAP for 2019-2023.</p> <p>The CEAP’s goals are to increase the local economic benefit of sustainable energy use and reduce GHG emissions to 15% below 1990 levels by 2020, 37% below by 2030, and 80% below by 2050.</p>
Community Engagement - levels and methods used (or to be used)	<p>Audiences – public, communities, key energy-using sectors.</p> <p>Methods – CityGreen is being used to engage the general public at public events, while Active & Green Communities engages Londoners through the community they belong to. Key energy-using sectors are engaged using a mix of workshops and other direct one-on-one discussions.</p>
Project/Program partners	London Hydro, Union Gas, Project Neutral, London Environmental Network, Green Economy London, Western University, QUEST Canada, Federation of Canadian Municipalities, Clean Air Partnership, other key energy stakeholders.
Value to Customers	In 2017, London spent about \$1.5 billion on energy, and almost 90 percent of this money left London. Since 2010, Londoners have avoided over \$500 million in energy costs through energy efficiency and conservation.
Estimated City expenditures and/or in-kind	City of London = \$40,000 Business Partners = Major Community Partners = Moderate
Key Results for April 2018 – March 2019	<p>A final report on the implementation of the 2014-2018 CEAP was presented to the CWC on April 2, 2019 (Agenda #2.6)</p> <p>Supported the London Environmental Network in the development and upcoming launch of Green Economy London, a target-based sustainability program for businesses in London.</p> <p>Worked with Project Neutral to upgrade and re-launch their carbon footprint calculator used for both CityGreen and Active & Green Communities activities.</p> <p>Completed the FCM Green Municipal Fund funded Feasibility Study: Municipal Tools for Catalyzing Net-Zero Energy Development.</p> <p>As part of the multi-municipality Community Energy Knowledge & Action Partnership (CEKAP), supported Western University’s research on the barriers to local adoption of electric vehicles.</p> <p>Participating in QUEST Canada’s Community Energy Scorecard pilot project for use in development of the 2019-2023 CEAP.</p> <div>continued</div>

1. Community Energy Action Plan (CEAP)	
	Partnered with Natural Resources Canada and the London Home Builders' Association (LHBA) be the pilot community for the Local Energy Efficiency Partnership (LEEP) for Retrofits energy efficiency technology demonstrations.
Next Steps	<p>A report on the development of the 2019-2023 CEAP was presented to the CWC on April 2, 2019 (Agenda #2.7)</p> <p>Continue to support the start-up of Green Economy London.</p> <p>Incorporate the learnings from QUEST Canada's Community Energy Scorecard pilot project in to the development of the 2019-2023 CEAP.</p> <p>Incorporate the learnings from Western's CEKAP on local EV adoption in to the development of the 2019-2023 CEAP.</p> <p>Participate in the Clean Air Partnership's Climate Action Support Centre (CASC) project studying a potential province-wide approach for a Local Improvement Charge (LIC) and Property Assessed Clean Energy (PACE) based home energy retrofit program.</p> <p>Identify opportunities to build upon outcomes from LEEP for Retrofits workshops, such as continued public education (through Home Green Home displays) as well as pilot projects (e.g., Fanshawe College's Kestrel Court Net-Zero Energy retrofit of student residential townhomes, pilot projects emerging from the CASC project, etc.)</p> <p>Work with City Planning staff to integrate the CEAP aspects into their Long-Range Planning and Sustainability activities</p>
Further information	<p>Ontario's Environment Plan</p> <p>Canada's Action on Climate Change</p> <p>Project Neutral</p>
Next CWC reports	<p>2018 community energy and greenhouse gas emissions inventory (Summer 2018)</p> <p>Draft 2019-2023 Community Energy Action Plan (Winter 2020)</p>

2. Corporate Energy Conservation and Demand Management (CDM) Plan	
Website	City of London – Corporate Energy Management Program
Connections to Council's Strategic Plan	Building a Sustainable City Leading in Public Service
Brief Description	<p>The Corporate Energy Conservation and Demand Management (CDM) Plan is a mandatory requirement of the Ontario Regulation 507/18, <i>Electricity Act – 1998 (former Green Energy Act)</i>.</p> <p>The plan has a timeframe of five years (2014-2018), and was adopted by Council in July 2014. This Plan needs to be updated every five years with next five year CDM Plan due on July 1st, 2019.</p> <p>The 2014 plan's goal is to reduce corporate energy use by 10 percent from 2014 levels by 2020, which requires a service delivery energy efficiency (energy used per Londoner) improvement of 15 percent to accommodate London's growth.</p>
Staff Engagement - levels and methods used (or to be used)	<p>Audiences – employees, key energy-using service areas.</p> <p>Methods – different employee engagement activities have been tested under the <i>Culture of Conservation</i> program; management from energy-using service areas were consulted in person to determine actions to include in the Plan.</p>
Project/Program partners	London Hydro and Union Gas (incentives); Federation of Canadian Municipalities Green Municipal Fund (GMF); Ontario Municipal GHG Challenge Fund.
Value to Customers	Since 2014 Plan implementation the corporation has accumulated \$9.8 million in cost avoidance. If the plan's goals are met, the Corporation's annual energy costs will be \$8 million lower than forecast and the Corporation's annual energy-related greenhouse gas emissions will be around 3,900 tonnes lower compared to 'business-as-usual'.
Estimated City expenditures and/or in-kind	<p>City of London = \$8,500 (excluding project capital costs) plus one time capital investment of \$31,000 on new electric vehicle (EV) chargers</p> <p>Business Partners = Major</p> <p>Community Partners = None</p> <p style="text-align: right;"><i>continued</i></p>

2. Corporate Energy Conservation and Demand Management (CDM) Plan	
Key Results for April 2018 – March 2019	<p>Reported the 2017 corporate energy and greenhouse gas emissions inventory. The Corporation has achieved its 10 percent reduction in energy use target in 2017, three years ahead of the 2020 goal, but staff expect to see increased energy use in 2018 due to colder weather. Energy efficiency improvements between 2014 and 2017 resulted in \$2.6 million per year in avoided energy costs. (see Corporate Energy website for details)</p> <p>Reported on the status of implementation of the Corporate Energy CDM Plan. (see Corporate Energy website for details)</p> <p>Found alternative approach for proceeding with fleet compressed natural gas (CNG) infrastructure in response to the loss of the Ontario Municipal GHG Challenge Fund.</p> <p>Completed incentive applications and received approximately \$440,000 in incentives from Hydro One, Union Gas and London Hydro for energy savings projects of water and wastewater operations.</p> <p>Responded to the FortisBC Renewable Natural Gas (RNG) request for expressions of interest for upgrading landfill gas to RNG for pipeline injection.</p>
Next Steps	<p>Participate in the Clean Air Partnership’s Climate Action Support Centre (CASC) project supporting municipal corporate energy management programs across Ontario.</p> <p>Develop funding strategy for energy efficiency projects.</p> <p>Implement the space heater and temperature settings policy in liaison with Facilities division for City employee locations.</p> <p>Test the use of Environmental Champions in key facilities to promote energy/environmental activities in these work areas.</p> <p>Work in coordination with Greenway Wastewater Treatment Plant staff to implement the Organic Rankine Cycle engine project.</p> <p>Increase Culture of Conservation (employee) activities for employee engagement.</p> <p>Develop the 2019-2023 Corporate Energy CDM Plan with new goals and initiatives.</p> <p>Further discussions with FortsBC and Enbridge to take place on RNG from landfill gas.</p>
Further information	Ontario Ministry of Energy - Conservation for Public Agencies
Next CWC report	2019-2013 Corporate Energy CDM Plan (Summer 2019)

3. Bike (Cycling) Program	
Websites	City of London - Cycling (updated and new content)
Connections to Council's Strategic Plan	Strengthening Our Community Building a Sustainable City Leading in Public Service
Brief Description	<p>Cycling is a key component of the City of London's Transportation Demand Management (TDM) program – specifically as part of Active Transportation promotion.</p> <p>Cycling promotion and awareness activities are closely tied to Transportation Planning & Design, Environmental & Parks Planning, Roads Operations, and Parks & Recreation Operations.</p> <p>Current cycling activities are closely tied to the London ON Bikes Cycling Master Plan (2016).</p> <p>Cycling infrastructure and relationships to Bus Rapid Transit are key to overall mobility in the city.</p>
Community Engagement - levels and methods used (or to be used)	<p>Audiences – Public, community groups, and employees.</p> <p>Methods – General promotion, social media, one-on-one meetings, presentations, and special events.</p>
Project/Program partners	Cycling Advisory Committee, Middlesex-London Health Unit, Thames Region Ecological Association, London Cycle Link, local employers, Federal Public Transit Infrastructure Fund (PTIF).
Value to Customers	<p>These activities make it easier for more Londoners to ride a bicycle for transportation.</p> <p>Better end-of-trip facilities are also being addressed, with secure bike parking and working with employers.</p>
Estimated City expenditures and/or in-kind	<p>City of London = \$25,000</p> <p>Business Partners = Moderate</p> <p>Community Partners = Major</p>
Key Results for April 2018 – March 2019	<p>City and partners hosted the second annual London Celebrates Cycling 8 day event in June 2018 working with:</p> <ul style="list-style-type: none">• Big Bike Giveaway• Boler Mountain• Byron Community Organization• Fanshawe College• London Cycle Link• London Clean & Green• Middlesex London Health Unit• MEC• Urban League <p>As part of LCC, the City held a formalized series of bike rides called London Bike Rides (June 16th). Despite the rainy start, the event drew about 200 participants for rides of 10 km, 35 km and 75 km.</p> <p><i>continued</i></p>

3. Bike (Cycling) Program	
Key Results for April 2018 – March 2019 (continued)	<p>Despite the loss of the Ontario Municipal GHG Challenge Fund, City staff developed an alternative approach for proceeding with a bike share business case. The project was launched and phase one is expected to be complete late Spring 2019.</p> <p>The bike share project included a public feedback component, primarily sought through Social Media. Feedback was received from over 700 people.</p> <p>In response to public demand for bike parking for winter cyclists, tested leaving and maintaining two bike corrals out for the winter season.</p> <p>Established a new cycling project collaboration with Fanshawe College to update London's Bike & Walk Map and create new ways to access this popular information. Students were also instrumental in creating easy-to-read maps for the London Bike Rides event in June, 2018.</p> <p>The Active & Safe Routes to School Committee (of which the City is an active member) piloted school wayfinding signage to encourage more families to walk and bike racks to encourage more students to ride.</p> <p>Supported cycling research with Western University. Results will support City cycling priorities and programming.</p> <p>A fourth bike fix-it station was installed at City Hall, allowing cyclists in the downtown area to make quick repairs to their bike.</p>
Next Steps	<p>Phase One (business case development) of bike share will be completed and findings presented to Council.</p> <p>Secure downtown bike parking will be implemented using PTIF and City funding.</p> <p>Neighbourhood Bike Parking Study will be undertaken.</p> <p>New, redesigned Bike Map and Walk Map will be finalized in partnership with Fanshawe College.</p> <p>Planning is underway for the 2019 London Celebrates Cycling event in June.</p> <p>Two more bike corrals are in production.</p> <p>Plan and/or implement other outreach components of the Cycling Master Plan.</p>
Further information	none
Next CWC report	<p>Bike Share business case (Spring 2019)</p> <p>Other bike program details to be included in Environmental Programs update report (Spring 2020)</p>

4. Business Travel Wise Program	
Website	Regional Rideshare
Connections to Council's Strategic Plan	Strengthening Our Community Building a Sustainable City Growing Our Economy
Brief Description	<p>The purpose of this program is to engage local employers in implementing programs to encourage their employees to carpool, take transit, walk or cycle to and from work. The program also facilitates more efficient work-related travel.</p> <p>In 2018, City partnered with SustainMobility on a three year Commute Ontario project, funded by the Ontario Trillium Foundation. The project builds on the Business Travel Wise Program by testing new commuter programs and incentives on a broader scale. The project is based on a successful employer engagement model in the Greater Toronto Hamilton Area (GTHA) and aims to expand this province-wide.</p> <p>It also builds on London and surrounding communities' carpool promotion, through the Regional Rideshare website. The partnership has expanded and currently includes: the counties of Huron, Middlesex, Oxford and Perth, the Cities of London, St. Thomas and Stratford, and the Town of St. Marys. Since expanding into surrounding communities, over 2,500 people have registered on Regional Rideshare, and of those 900 are active and about 150 carpools have been formed.</p>
Community Engagement - levels and methods used (or to be used)	<p>Audiences – London employers and public.</p> <p>Methods – Both the City of London and SustainMobility are playing a role in engagement. London employers continue to be engaged through direct contact from City staff, targeted invitations, and general promotion. The general public will be engaged through social media, posters, billboards, etc.</p>
Project/Program partners	Several existing employers; Pathway Intelligence (the Regional Rideshare carpool-matching web service provider), neighbouring municipalities, SustainMobility.
Value to Customers	<p>These activities make it easier for more Londoners to use options other than driving alone to/from work.</p> <p>Better end-of-trip facilities at many workplaces, which is of value to employees and customers.</p>
Estimated City expenditures and/or in-kind	<p>City of London = \$10,000</p> <p>Business Partners = Moderate</p> <p>Community Partners = Unknown</p>
Key Results for April 2018 – March 2019	<p>All existing Regional Rideshare employers received personal contact to introduce Commute Ontario program.</p> <p style="text-align: right;"><i>continued</i></p>

4. Business Travel Wise Program	
Next Steps	<p>Expand citywide promotion to employers & Londoners partnered with Commute Ontario.</p> <p>Regional Rideshare will be incorporated into upcoming work around establishing a transportation management association for downtown London.</p> <p>City of London Corporation to join Commute Ontario and lead by example.</p>
Further information	SustainMobility
Next CWC report	Next Environmental Programs update report (Spring 2020)

5. Sustainable Mobility Initiatives – Downtown Focus	
Website	None
Connections to Council's Strategic Plan	<p>Strengthening Our Community</p> <p>Building a Sustainable City</p> <p>Growing Our Economy</p> <p>Leading in Public Service</p>
Brief Description	<p>Collaborative sustainable mobility activities and programs focused on employers and employees in downtown London and related business areas can take many forms of implementation. One is a Transportation Management Association (TMA), a non-profit, member-controlled organization that provides transportation services in a particular area, such as a commercial district, mall, or industrial park. They are generally public-private partnerships, consisting primarily of area businesses with local government support. They are usually more cost effective than programs managed by individual businesses.</p>
Community Engagement - levels and methods to be used (or to be used)	<p>Audiences – downtown London employers and their employees. May also include downtown residents.</p> <p>Methods – London employers will be engaged through targeted invitations, Rapid Transit construction updates, and general promotion. Residents will be engaged through social media, posters, meetings</p>
Project/Program partners	Downtown employers; Downtown London BIA; Old East Village BIA; central London neighbourhood associations (People of Downtown, SoHo, Woodfield).
Value to Customers	<p>These activities make it easier for more Londoners to use options other than driving alone for commuting.</p> <p>Better end-of-trip facilities at many workplaces, which is of value to employees and customers.</p> <p>Will ease difficulties as the Rapid Transit system is built.</p>
Estimated City expenditures and/or in-kind	This \$150,000 project (estimated) has 50% funding through the Public Transit Infrastructure Fund (PTIF). The City's contribution of \$75,000 is approved through capital project TS5031 (Transportation Demand Management)
Key Results for April 2018 – March 2019	<p>There are no TMAs in London or the surrounding region.</p> <p>Development of the business and employee engagement processes for the central London business community.</p> <p>Concept introduced and potential geographic areas defined.</p>
Next Steps	<p>Document existing commuter and transportation situation.</p> <p>Research and provide recommendations on governance models.</p> <p>Research TMA programs and incentives from elsewhere for use in London.</p>
Further information	Smart Commute
Next CWC report	Next Environmental Programs update report (Spring 2020) and a business case (Winter 2020)

6. Climate Change Adaptation Initiatives	
Website	City of London – Adapting to Climate Change
Connections to Council's Strategic Plan	Building a Sustainable City Leading in Public Service
Brief Description	<p>Background research was completed in 2011 by Western University focusing on water resource infrastructure, modelling and IDF curves update.</p> <p>Climate Change Adaptation Phase 1: Vulnerability Assessment was completed in 2014 as an internal review led by Risk Management Division. It was designed to take action on upcoming capital projects.</p> <p>Climate Change Adaptation Phase 2: Strategy creation for EES components and collaborations using synergies with the 2019-2023 CEAP and sustainability activities within City Planning.</p>
Community Engagement - levels and methods used (or to be used)	<p>Audiences – public, communities, key educational and institutional sectors</p> <p>Methods – CityGreen (Item 12) is being used to engage the general public at public events, while Active & Green Communities (Item 10) engages Londoners through the community they belong to. Key sectors will be engaged using a mix of workshops and other direct one-on-one discussions.</p>
Project/Program partners	School Boards, MLHU, Conservation Authorities, London businesses, hospitals and educational institutions
Value to Customers	Estimates have been provided that for every \$1 spent in adaptation avoids \$4 in future costs related to climate change.
Estimated City expenditures and/or in-kind	<p>City of London = ranges with each phase</p> <p>Business Partners = Major</p> <p>Community Partners = Moderate</p>
Key Results for April 2018 – March 2019	Included adaptation concepts into capital projects (e.g. transportation, wastewater and stormwater projects); reviewed other municipal adaptation approaches (e.g., Durham, Vancouver, Toronto, Windsor) for application to London; and continued engagement with research and risk management groups active in adaptation work (e.g. Institute of Catastrophic Loss Reduction).
Next Steps	<p>Develop and implement an integrated framework for community engagement for both climate change mitigation and adaptation to help guide the development of both the 2019-2023 CEAP and Climate Change Adaptation Strategy.</p> <p>Work with London's large employers including hospitals and educational institutions to research local adaptation applications.</p> <p>Work with City Planning staff to develop the Strategy in conjunction with a "Sustainability Plan" to support implementation of the Green and Healthy City component of The London Plan.</p>
Further information	See website above
Next CWC report	General framework for community engagement for climate change mitigation and adaptation.

7. London Subwatershed Planning	
Website	City of London – Creeks and Watersheds
Connections to Council's Strategic Plan	Strengthening Our Community Building a Sustainable City
Brief Description	<p>London is divided into 17 subwatersheds categorized by their main watershed (Thames River or Kettle Creek) and by the characteristics of the urban drainage pattern (e.g., creeks and streams) in the corresponding neighbourhoods.</p> <p>Program delivery is tailored to the subwatershed issues, the infrastructure condition, and the community interest.</p> <p>The implementation of plans, updates, and strategies respond to each areas' unique characteristics. (e.g., the Coves Plan focused primarily on public access and water quality).</p> <p>High profile projects such as the 2015 London Community Foundation “Back to the River” project (a design competition for 5 km of the downtown riverfront) enabled subwatershed planning principles to be incorporated. This initiative continues in 2019 with on-going discussions related to sustainability.</p> <p>The watershed perspective is embodied in the Thames River Clear Water Revival initiative providing engagement and implementation opportunities.</p>
Community Engagement – levels and methods used (or to be used)	<p>Audiences – public, community groups, neighbourhoods, schools.</p> <p>Methods – direct delivery of materials, briefings, presentations, workshops, webpage, videos, social media interaction (Facebook and Twitter), workshops, community-led events.</p>
Project/Program partners	Upper Thames River, Lower Thames Valley, and Kettle Creek Conservation Authorities; Others are numerous and varied (e.g., Thames River Rally, Thames River Paddling Routes).
Value to Customers	<p>These initiatives provide environmental awareness, community building opportunities, and activities designed for environmental action.</p> <p>City infrastructure, specifically related to stormwater and flooding are wisely managed through these processes.</p> <p>Community implementation opportunities and environmental stewardship lead to stronger neighbourhoods and improved environmental conditions.</p>
Estimated City expenditures and/or in-kind	<p>City of London = No discrete budget - rather is contained as part of three water/wastewater infrastructure budgets</p> <p>Business Partners = Minor</p> <p>Community Partners = Major</p> <p><i>continued</i></p>

7. London Subwatershed Planning	
Key Results for April 2018 – March 2019	<p>The Friends of the Coves Subwatershed Inc. continue to fundraise and create access to the Environmentally Significant Area via trail development. Elmwood Gateway has officially opened as a trail head. The Silver Creek – East Branch that drains to the Coves, was awarded funds for a natural channel design project from the Ontario Trillium Foundation (\$150,000) and is now awaiting implementation funds.</p> <p>City of London Fish & Paddle Guide was created by Fanshawe Design students as an awareness and promotion guide for the river. The project steered by the London Urban Fishing Pilot Project had sponsors including ‘Back to the River’, fishing and paddling clubs as well as fishing tackle and paddling commercial businesses. Printed copies are available at tourism outlets and are available online.</p> <p>The ‘One River’ Municipal Class Environmental Assessment proceeded through Stage 2 providing direction on options for the dam, management of the adjacent river shoreline and park improvements at The Forks.</p> <p>Co-hosted the creation of London’s first River Festival (named The River Talks) at the Forks & Museum London. The three-day event attracted over 400 people and included First Nations, the Arts and Social Justice topics.</p>
Next Steps	<p>Continue to guide subwatershed plans, updates and strategies as per direction contained in The London Plan.</p> <p>Assist the Stormwater Engineering Service Area with Master Drainage Plans / Dingman Creek Subwatershed Pilot Projects / One River EA.</p>
Further information	<p>Friends of the Coves</p> <p>Upper Thames River Conservation Authority</p> <p>Lower Thames River Conservation Authority</p> <p>Kettle Creek Conservation Authority</p>
Next CWC report	Update reports by individual EES project managers are planned for Spring and Summer 2019

8. Source Water Protection Program	
Website	Thames - Sydenham & Region Drinking Water Source Protection Lake Erie Source Protection Region Ausable Bayfield Maitland Valley Source Protection Region
Connections to Council's Strategic Plan	Strengthening Our Community Building a Sustainable City
Brief Description	<p>Source Water Protection (SWP) - London maintains two surface water intakes to the Great Lakes via our Regional Water Supply System and local back-up wells that draw groundwater for emergency situations.</p> <p>Using provincial funds, technical work was accomplished to ensure the safety of municipal drinking water by managing water at the source, and working to ensure the long-term protection of local groundwater aquifers and water quality.</p> <p>Given regional interests in water supply and the City's location in two watersheds (Thames River and Kettle Creek), the City partners in two Regional Source Water initiatives (Thames-Sydenham Region and Lake Erie Region) and maintains an interest in a third region (Ausable Bayfield Maitland Valley).</p>
Community Engagement - levels and methods used (or to be used)	<p>Audiences – public, communities, businesses, neighbourhoods</p> <p>Methods – direct delivery of materials, briefings, presentations, workshops, webpage, social media interaction (Facebook and Twitter), workshops, community-led events, NGO-led seminars/workshops</p>
Project/Program partners	SWP Steering Committee (15 members in total with London maintaining a representative for 11 years during plan creation. Middlesex County will now provide a member representing both their interests and London during the implementation stage). Thames Sydenham Region has 3 First Nation representatives covering the interests of 8 First Nations; Upper Thames River, Lower Thames Valley, and Kettle Creek Conservation Authorities
Value to Customers	Water stewardship is the key message. This program promotes water quality in general, and specifically municipal drinking water supplies for London and surrounding watershed communities who share the Regional Water Supply infrastructure.
Estimated City expenditures and/or in-kind	City of London = \$33,000 for Risk Management Services Business Partners = Major Community Partners = Minor
Key Results for April 2018 – March 2019	<p>Previous reports to Council have documented the stages of the work leading up to the completion of the Plan including technical and assessment work (or the “scientific” work) for the two standby well fields. Policies have been prepared for the Region including London, and the Plan was approved in 2016.</p> <p>Implementation now continues utilizing Risk Management expertise at the Upper Thames River CA and education and awareness programs at the Ministry of the Environment. Conservation & Parks (MECP).</p> <p style="text-align: right;"><i>continued</i></p>

8. Source Water Protection Program	
Next Steps	Continued implementation by municipalities using land use planning tools (e.g., The London Plan) and risk management expertise. London’s back-up emergency wells are scheduled to be decommissioned in 2019, thereby reducing the associated risk and SWP implementation requirements.
Further information	Refer to the websites listed above
Next CWC report	Update reports are planned by Water Engineering for Summer 2019 to document the back-up, emergency well decommissioning process.

9. Thames River Clear Water Revival Initiative	
Website	Thames River Clear Water Revival
Connections to Council's Strategic Plan	Strengthening Our Community Building a Sustainable City Growing Our Economy
Brief Description	<p>Thames River Clear Water Revival (CWR) is a collaborative stewardship initiative to create a water management plan for the entire Thames River from headwaters to the outlet into Lake St. Clair. The previous plan for this watershed was completed in 1975.</p> <p>London benefits from the existence of the Thames River flowing through 43 km of the city for a whole host of reasons including environmental, social, and economic reasons. London is the largest municipality by geographic size and population in the Thames watershed and therefore a logical municipal leader for this effort.</p> <p>Using federal and provincial government funding focused on water quality in the Great Lakes, we are working in conjunction with our watershed partners to ensure the long-term protection and enhancement of the Thames River water quality.</p> <p>Considerable interest by First Nations has resulted in four communities being actively represented on the Steering Committee.</p>
Community Engagement - levels and methods used (or to be used)	<p>Audiences – public, communities, businesses, neighbourhoods</p> <p>Methods – Direct delivery of materials, briefings, presentations, workshops, webpage, social media interaction (Facebook and Twitter), workshops, community-led events, NGO-led seminars/workshops</p>
Project/Program partners	CWR involves a Steering Committee composed of staff from Environment Canada, three provincial ministries, two Conservation Authorities, four First Nations, and City of London. City staff currently co-chair the Committee.
Value to Customers	Water stewardship is the key message of this initiative. This program safeguards water quality in general, and specifically river water quality for London and surrounding watershed communities.
Estimated City expenditures and/or in-kind	<p>City of London = \$25,000 for general project support</p> <p>Business Partners = Major</p> <p>Community Partners = Minor</p>
Key Results for April 2018 – March 2019	<p>The multi-partnership Steering Committee created to represent the wide interest in the initiative informed the upper government Domestic Action Plan for Lake Erie as the Thames River is an identified source of Phosphorus.</p> <p>Representation on the committee remains constant including federal, provincial, First Nations, two CAs and the City.</p> <p style="text-align: right;"><i>continued</i></p>

9. Thames River Clear Water Revival Initiative	
Key Results for April 2018 – March 2019 (continued)	<p>The project manager has completed the creation of the Water Management Plan, and the website that helps to communicate the initiative to the wider public.</p> <p>Western University research housed at the Adelaide Wastewater Treatment Plant, has capitalized on the initiative to attract water quality funding for phosphorus reduction in our waterways.</p> <p>Additional research is planned for phosphorus removal technology, which will be housed at a City facility to assist agricultural groups in reducing phosphorus at the field level. This is a collaboration of Ontario Federations of Agriculture (OFA) and the Great Lakes Cities Initiative.</p> <p>First Nations engagement has increased given the ability of the communities to mobilize interest with their youth.</p>
Next Steps	Water Management Plan scheduled for final approval in Summer 2019
Further information	See website above and previous CWC report April 17 2018.
Next CWC report	Scheduled in Summer 2019 by Environmental Programs after completion of the Water Management Plan.

10. Active & Green Communities	
Websites	City of London – Active & Green Communities
Connections to Council's Strategic Plan	Building a Sustainable City Strengthening Our Community
Brief Description	<p>A community engagement pilot project addressing concerns about our environment, health, household finances, and community wellbeing.</p> <p>Two-way exchange of ideas between participating communities and the City (and its partners).</p> <p>Provides simple and convenient access to programs and information from the City of London and partners.</p> <p>Provides “test markets” for small-scale pilot projects to test new tools and ideas.</p>
Community Engagement - levels and methods used (or to be used)	<p>Audiences – public, communities, workplaces (new in 2018), non-profit organizations</p> <p>Methods – community champions, community meetings & events, informal one-on-one discussions, web-based tools (carbon footprint calculator provided by Project Neutral)</p>
Project/Program partners	NCFS, London Bridge Daycare Centres, Project Neutral
Value to Customers	<p>Residents within participating communities get quicker access to City and partner programs.</p> <p>City staff can test new program ideas at a small scale to reduce the risk associated with trying new ideas.</p>
Estimated City expenditures and/or in-kind	<p>City of London = \$20,000</p> <p>Business Partners = Moderate</p> <p>Community Partners = Major</p>
Key Results for April 2018 – March 2019	<p>Working with neighbourhood associations has had mixed results, depending upon the alignment of Active & Green Communities, the priority issues for those neighbourhoods, and their capacity to take on additional projects. City staff working on revising approach for working with neighbourhood associations.</p> <p>Developed community-scale environmental project ideas for inclusion within the Strengthening Neighbourhood Strategy's Neighbourhood Decision Making's Ideas Bank. However, none were selected in 2018.</p> <p>Working in partnership with London Bridge Daycare Centres to explore the potential for environmental outreach involving children, their parents, and employees.</p> <p>Met with Sifton Properties, who have agreed to work with City staff to explore environmental outreach opportunities at Sifton's multi-family residential locations (e.g., West 5, Berkshire). Sifton is also willing to connect City staff to other multi-family residential property owners through the London Property Management Association (LPMA).</p> <p style="text-align: right;"><i>continued</i></p>

10. Active & Green Communities	
Next Steps	<p>Work with NCFS to make greater use of their existing relationships with neighbourhood associations to identify those neighbourhoods with an interest in environmental outreach.</p> <p>Explore additional approach for Active & Green Communities with neighbourhood associations, such as, at a minimum, commitment to include community-specific environmental topics within their communication tools (e.g., newsletter, social media, or website).</p> <p>Work with Sifton Properties to develop environmental outreach activities to test at Sifton’s multi-family residential locations (e.g., West 5, Berkshire). Once activities have been delivered & evaluated, results will be presented to other multi-family residential property owners through the London Property Management Association (LPMA).</p> <p>Continue to work with London Bridge Daycare Centres to test environmental outreach involving children, their parents, and employees.</p> <p>Expand Active & Green Communities to engage directly with additional local environmental non-profits (e.g., London Electric Vehicle Association) both for shared interest in engaging Londoners as well as a “community” of people.</p> <p>Develop and test engaging Londoners through workplaces (i.e., Active & Green Workplaces), such as Lunch & Learn events as well as existing employer-led events. Explore delivery through Green Economy London once launched.</p> <p>Continue to work with Project Neutral to promote their carbon footprint tool to Londoners and explore opportunities for ongoing engagement with London households who make use of this tool.</p>
Further information	Program website noted above and NeighbourGood London
Next CWC report	Next Environmental Programs update report (Spring 2020)

11. London Environmental Network	
Website	London Environmental Network
Connections to Council's Strategic Plan	Building a Sustainable City Strengthening Our Community Leading in Public Service
Brief Description	<p>The London Environmental Network (LEN) is an environmental non-government organization (NGO) that builds strong, stable & resilient organizations so they can be more effective at creating positive change over the long term. It also acts as a hub for Londoners to learn about environmental efforts in our city and how they can get involved.</p> <p>The City of London is a Strategic Advisor to the Board of Directors.</p>
Community Engagement - levels and methods used (or to be used)	<p>Audiences – public, community groups, neighbourhoods, schools.</p> <p>Methods – direct delivery of materials, presentations, workshops, webpage, videos, social media interaction (Facebook and Twitter), workshops, community-led events, social events (Green Drinks), NGO-led seminars/workshops.</p>
Project/Program partners	LEN has grown to 45 local and regional members with direct members, volunteers and participants of over 10,000 people.
Value to Customers	<p>Facilitate collaboration between environmental organizations.</p> <p>Provide training and shared resources to make groups stronger and more effective.</p> <p>Empower member organizations to communicate their stories better and become more effective at making change.</p> <p>Be a central source for Londoners to learn about environmental groups, events and activities.</p> <p>Recruit volunteers and supporters for member organizations.</p>
Estimated City expenditures and/or in-kind	<p>City of London = \$5,000 (not including City Community Grant)</p> <p>Business Partners = Major</p> <p>Community Partners = Major</p>
Key Results for April 2018 – March 2019	<p>LEN has been working with Green Economy Canada alongside volunteers (with experience from Green Economy North in Sudbury, Sustainable Waterloo Region, and Sustainable Hamilton-Burlington) to launch Green Economy London, a target-based sustainability program for businesses in May 2019.</p> <p>Obtained \$200,000 in funding from the London Community Foundation to support establishment of Green Economy London, including hiring a Green Economy London Hub Manager.</p> <p>LEN has over 4,100 followers (almost double that of 2017) on social media and e-newsletters and promoted 245 events in 2018.</p> <p>LEN has seen growing attendance with the re-launched Green Drinks events, and has introduced event fees for cost recovery.</p> <p>Obtained not-for-profit status and formed a Board of Directors.</p>
Next Steps	May 2019 launch of Green Economy London.
Further information	London Environmental Network
Next CWC report	Next Environmental Programs update report (Spring 2020)

12. CityGreen - Enhancing Environmental Outreach and Strengthening Community Capacity	
Website	City of London CityGreen
Connections to Council's Strategic Plan	Strengthening Our Community Building a Sustainable City Leading in Public Service
Brief Description	<p>CityGreen is an environmentally focused display that delivers a key message – Working Together for Sustainability. All environmental areas (built environment, natural environment) of the City of London engage with information and staff depending on the event. The goal is to be a one-stop-shop for environmental information, knowledge, hands-on-displays, and how to take action in your own community.</p> <p>CityGreen assists other City service areas with major community outreach activities (e.g., water conservation, London ON Bikes) and assist community groups with gaining additional exposure.</p> <p>CityGreen is also the brand name for the London Hydro bill insert that advertises London's environmental programs and special events.</p> <p>CityGreen operates throughout the year at major indoor and outdoor events in London.</p>
Community Engagement - levels and methods used (or to be used)	<p>Audiences – public, community groups, businesses, business associations, schools, neighbourhoods.</p> <p>Methods – interactive displays of various sizes at existing community events (from small tabletop displays to over 3000 square foot display at the Lifestyle Home Show), outdoor festivals (mobile display trailer and tents).</p>
Project/Program partners	City of London service areas with environmentally-related programs and activities (Environmental & Engineering Services, City Planning, Neighbourhood, Children & Fire Services and Development & Compliance)
Value to Customers	<p>Through the use of eye-catching, easy-to-understand and interactive engagement materials, increase the capacity of Londoners of all ages to take action that benefits our environment, their health, and their pocketbook.</p> <p>Participation in existing and new outreach activities with a wide range of communities. (e.g., community associations, arts and cultural institutions, local employers, service clubs, and faith-based organizations)</p>
Estimated City expenditures and/or in-kind	<p>City of London = \$30,000</p> <p>Business Partners = Minor</p> <p>Community Partners = Minor</p> <p><i>continued</i></p>

12. CityGreen - Enhancing Environmental Outreach and Strengthening Community Capacity																															
Key Results for April 2018 – March 2019	<p>Londoners are now recognizing CityGreen as being a regular feature at community events. Events attended are listed below. The estimated attendance is for the entire time period that CityGreen booth was staffed. The number of people that visited the CityGreen booth for a discussion, to pick up information and/or or glance at information provided varies by event and will always be less than the estimated attendance:</p> <table><tr><th>Event</th><th>Estimated Attendance</th></tr><tr><td>2018 London Celebrates Cycling</td><td>250</td></tr><tr><td>3M Sustainability Fair</td><td>100</td></tr><tr><td>Bud Gardens “Green Game”</td><td>9,000</td></tr><tr><td>Carolinian Canada’s Go Wild Grow Wild Expo</td><td>3,000</td></tr><tr><td>Civic Engagement Fair</td><td>100</td></tr><tr><td>EnviroWestern EnviroWeek</td><td>250</td></tr><tr><td>Gathering on the Green (June and August)</td><td>3,000</td></tr><tr><td>Grickle Grass Festival</td><td>250</td></tr><tr><td>Home County Festival (daytime only)</td><td>20,000</td></tr><tr><td>LHBA Lifestyle Home Show</td><td>18,000</td></tr><tr><td>Ramadan Expo</td><td>50</td></tr><tr><td>Seedy Saturday</td><td>500</td></tr><tr><td>Sunfest (daytime only)</td><td>50,000</td></tr><tr><td>The River Talks - Thames River Summit</td><td>400</td></tr></table> <p>New engagement materials designed to improve the experience and create a message that can be more easily remembered.</p> <p>Expanded Carolinian Canada’s annual regional “Go Wild Grow Wild” Green Expo to include the addition of a new ‘Green Living Zone’ where London’s (built) environmental partners and programs were highlighted.</p> <p>Successfully engaged the public and solicited their feedback at the 2018 GWGW Green Expo and 2019 Lifestyle Home Show (about 850 and 750 respondents respectively) using a low-cost, popular incentive (desk-side blue boxes).</p> <p>Tested the use of incentives to encourage Londoners to share stories through CityGreen Stories.</p> <p>Produced 6 issues of the London Hydro bill insert titled “CityGreen” that each included several environmental topics, outlined programs and provided engagement opportunities.</p>	Event	Estimated Attendance	2018 London Celebrates Cycling	250	3M Sustainability Fair	100	Bud Gardens “Green Game”	9,000	Carolinian Canada’s Go Wild Grow Wild Expo	3,000	Civic Engagement Fair	100	EnviroWestern EnviroWeek	250	Gathering on the Green (June and August)	3,000	Grickle Grass Festival	250	Home County Festival (daytime only)	20,000	LHBA Lifestyle Home Show	18,000	Ramadan Expo	50	Seedy Saturday	500	Sunfest (daytime only)	50,000	The River Talks - Thames River Summit	400
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Next Steps	Continue to build upon and improve environmental outreach methods and tools																														
Further information	City of London – Environmental Initiatives CityGreen Stories																														
Next CWC report	Next Environmental Programs update report (Spring 2020)																														

13. London Clean & Green Program	
Website	London Clean & Green
Connections to Council's Strategic Plan	Strengthening Our Community Building a Sustainable City Leading in Public Service
Brief Description	The program started in 1996 with 30 people on a Saturday morning - it now boasts participation of between 5,000 and 10,000 people over the course of 1 months. In 2012 the program grew to include both "Clean" and "Green" activities; "cleaning" including litter and graffiti removal and "greening" being the various activities to protect and improve our environment through stewardship.
Community Engagement - levels and methods used (or to be used)	Audiences – public, community groups, businesses, business associations, schools Methods - direct delivery of materials, briefings, mass media (print, radio), presentations, webpage, social media interaction (Facebook and Twitter), community-led events
Project/Program partners	Amway, Dillon Consulting, Goodwill Industries, Joe Kools, Labatt Brewery, London Environmental Network, London Heritage Council, London Home Builders' Association, London Public Library, Miller Waste Systems, Million Tree Challenge, NeighbourGood London, ReForest London, Thames Region Ecological Association, TD, Thames River Rally, Thames Talbot Land Trust, Trails Open London, Try Recycling, Upper Thames River Conservation Authority, WinMar, Fanshawe College, Budweiser Gardens, Sifton Properties.
Value to Customers	The event coordinates activities, advertises events and provides a way for groups to engage in community building. In recent years there has been an increased focus on "cleaning" activities under the banner 12 Days of Cleaning. The goal is to make Londoners and businesses aware that there are numerous locations to drop-off items that may otherwise become litter and garbage. (i.e., a focus on preventing the creation of litter, garbage and illegal dumping).
Estimated City expenditures and/or in-kind	City of London = \$30,000 Business Partners = Major Community Partners = Major
Key Results for April 2018 – March 2019	Neighbourhood strengthening, increased awareness of our actions, the condition of our neighbourhoods and how stewardship starts with the individual. The material collected is substantial (18 to 20 tonnes on average) and provides the reminder that waste prevention starts at home and at your place of business. As noted, the London Clean & Green Program is a collaboration between individuals, community groups, businesses and the City of London. The 2018 edition marks 24 years of being in the cleaning and greening business.
Next Steps	London Clean & Green, will continue to look for opportunities to expand the collaborative messaging.
Further information	Consult the website for events, locations and activities
Next CWC report	Next Environmental Programs update report (Spring 2020)

APPENDIX B

Projects, Programs and Initiatives (Activity) Linkages

Thirteen (13) Environmental Programs activities provide mutually-supporting benefits as outlined in Figure 1, as well as support for major City of London initiatives as outlined in Figure 2.

Readers are encouraged to contact any of the following City staff should further details be required by calling 519-661-2489:

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Figure 1 - Inter-Connections within Key Environmental Program Activities

	Community Energy Action Plan	Corporate Energy CDM Plan	Bike Program	Business Travel Wise Program	Downtown Transportation Alliance	Climate Change Adaptation Strategy	London Subwatershed Planning	Source Water Protection	Thames River Clear Water Revival	Active & Green Communities	London Environmental Network	CityGreen	London Clean & Green
Community Energy Action Plan		✓	✓	✓	✓	✓				✓	✓	✓	✓
Corporate Energy CDM Plan	✓					✓							✓
Bike Program	✓	✓		✓	✓					✓	✓	✓	✓
Business Travel Wise Program	✓		✓		✓					✓	✓	✓	✓
Downtown Transportation Alliance	✓		✓	✓						✓	✓	✓	
Climate Change Adaptation Strategy	✓	✓					✓	✓	✓		✓	✓	
London Subwatershed Planning						✓		✓	✓				✓
Source Water Protection						✓	✓		✓	✓		✓	
Thames River Clear Water Revival						✓	✓	✓					
Active & Green Communities	✓		✓	✓	✓			✓			✓	✓	✓
London Environmental Network	✓		✓	✓	✓	✓				✓		✓	✓
CityGreen	✓		✓	✓	✓	✓		✓		✓	✓		✓
London Clean & Green	✓	✓	✓	✓			✓			✓	✓	✓	

Figure 2 - Connections between Key Environmental Program Activities (Columns) and Major City Initiatives (Rows)

Major City Initiatives	Community Energy Action Plan	Corporate Energy CDM Plan	Bike Program	Business Travel Wise Program	Downtown Transportation Alliance	Climate Change Adaptation Strategy	London Subwatershed Planning	Source Water Protection	Thames River Clear Water Revival	Active & Green Communities	London Environmental Network	CityGreen	London Clean & Green
60% Waste Diversion Action Plan	✓									✓	✓	✓	✓
Active & Safe Routes to School	✓		✓							✓			✓
Smart Moves Transportation Master Plan	✓		✓	✓	✓							✓	
City Planning – Long-Range Planning & Sustainability	✓		✓	✓	✓	✓	✓						
Climate Change/Severe Weather Adaptation Strategy	✓	✓				✓	✓						
Corporate Asset Management Plan	✓	✓	✓			✓							
Cycling Master Plan	✓		✓	✓	✓					✓	✓	✓	✓
Flooding Matters						✓	✓			✓		✓	
Water Conservation & Efficiency	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓
Green and Healthy City (part of The London Plan)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
London Strengthening Neighbourhoods Strategy	✓		✓		✓			✓		✓	✓	✓	✓
Parks & Recreation Master Plan			✓			✓	✓		✓				✓
Regeneration Plan for community housing	✓					✓							
Resource Recovery Strategy	✓	✓								✓	✓	✓	
Smart City Strategy	✓	✓	✓	✓	✓	✓				✓	✓		
Stormwater Management						✓	✓	✓	✓	✓		✓	
Urban Forest Strategy	✓					✓	✓	✓		✓	✓	✓	✓

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON APRIL 16, 2019
FROM:	KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	VAUXHALL WWTP FLOOD PROTECTION ADDITIONAL DEWATERING COSTS

RECOMMENDATION

That on the recommendation of the Managing Director of Environmental and Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to the construction contract for flood protection measures at Vauxhall Wastewater Treatment Plant (WWTP):

- a) the value of the engineering consulting fees for AECOM Limited **BE INCREASED** by \$75,000 including contingency, due to increased efforts related to the project extension;
- b) the value of the engineering consulting fees for Dillon Limited **BE INCREASED** by \$40,000.00 to restore contingency that had previously been reallocated; and
- c) the financing for the projects **BE APPROVED** in accordance with the “Sources of Financing Report” attached hereto as Appendix “A”.

PREVIOUS REPORTS PERTINENT TO THIS MATTER
--

- Civic Works Committee, July 17, 2018, Item 2.6 – Clean Water and Wastewater Fund Project Budget Amendments
- Civic Works Committee, May 15, 2018, Item 2.8 – Contract Award – Tender T18-38 – Vauxhall-Pottersburg Interconnection Project
- Civic Works Committee, October 24, 2017, Item 18 – Vauxhall Wastewater Treatment Plant Flood Protection Construction Tender Award
- Civic Works Committee, June 7, 2017, Item 16 – Infrastructure Canada – Phase One Investments Clean Water and Wastewater Fund – Approved Projects
- Civic Works Committee, November 29, 2016, Item 11 – Appointment of Consultants – Clean Water and Wastewater Fund Projects

2015-19 STRATEGIC PLAN

Strategic Plan

This project supports the Strategic Plan with respect to Building a Sustainable City- Robust Infrastructure and a strong healthy environment by enhancing the climate change resilience of City infrastructure.

BACKGROUND

Purpose

The purpose of this report is to seek approval to:

- increase consulting fees to AECOM and Dillon to offset increased levels of effort related to the extended contract period.

Context

Construction on site has encountered difficult groundwater conditions that have required additional efforts and time. This project has been advanced under the Clean Water and Wastewater Fund (CWWF), whereby the City received funding from the federal and provincial governments in the amount of 75% of the purchase price. This report seeks approval for the funding required to complete this project and ensure receipt of the applicable CWWF funding.

DISCUSSION

Project History

A project to provide “Climate Change Resilience” at the Vauxhall WWTP received approval under the Clean Water & Wastewater Fund (CWWF) in June 2017. The project is intended to ensure continued operation of the plant in extreme flooding events by:

- Constructing a physical flood protection barrier around the plant designed to protect the plant from a 1-in-250 year flood event; and
- Constructing a pumping station that will isolate the plant from the river and lift treated water above the river levels. This will enable the plant to continue treating wastewater regardless of the water level in the river.

This project was awarded in October 2017 and H.I.R.A. Ltd. was the successful contractor.

Construction Progress

Shortly after commencement of construction activities, it became apparent that the amount of groundwater being experienced would necessitate additional dewatering activities. The costs of additional dewatering and sheet piling consumed the available contingency, and the time taken to implement the solution incurred additional costs to the Contractor.

Acceptable costs for the delay are currently being negotiated with H.I.R.A., but will represent additional cost to the project that will need to be funded by the City.

Construction has proceeded, and the project is approximately 60% complete. At this time the project is expected to be complete prior to the expiry of the CWWF program. Staff are working to ensure that this timeline is maintained so as not to risk losing over \$3,500,000 in federal/provincial funding.

Budget Implications

Wastewater Treatment Operations has existing capital accounts intended for improvements at the Vauxhall Wastewater Treatment Plant. There are sufficient funds in these accounts to cover the additional costs for dewatering.

CONCLUSIONS

The construction of flood protection measures at Vauxhall Wastewater Treatment Plant will ensure that the facility is able to provide reliable wastewater treatment over its expected remaining life. Due to unforeseen site conditions, construction has been delayed and additional costs incurred. Staff is recommending that the approved value of the construction and engineering services contracts be increased and funds be reallocated from an existing capital account to accommodate those increases.

Acknowledgements

This report was prepared with the assistance of Kirby Oudekerk, P.Eng., Wastewater Treatment Operations Division, and Debbie Gibson, Finance and Corporate Services.

PREPARED BY:	REVIEWED BY:
GEORDIE GAULD DIVISION MANAGER WASTEWATER TREATMENT OPERATIONS	SCOTT MATHERS, MPA, P.ENG. DIRECTOR WATER, WASTEWATER AND TREATMENT
RECOMMENDED BY:	
KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER	

Attachment: Appendix “A” Sources of Financing

- cc: Anna Lisa Barbon, Managing Director, Corporate Services and City Treasurer,
Chief Financial Officer
Alan Dunbar, Manager III, Financial Planning & Policy
Jason Davies, Manager III, Financial Planning & Policy
John Millson, Senior Financial Business Administrator

Chair and Members
Civic Works Committee

April 16, 2019
(Consulting Fee Increase)

RE: Vauxhall WWTP Flood Protection additional Dewatering Costs
(Subledger FS16VX02)
Capital Project ES3099 - Pottersburg - Vauxhall Upgrades Capacity Optimization
AECOM Limited - \$75,000 (excluding H.S.T.)
Dillon Limited - \$40,000 (excluding H.S.T.)

FINANCE & CORPORATE SERVICES REPORT ON THE SOURCES OF FINANCING:

Finance & Corporate Services confirms that the cost of this project can be accommodated within the financing available for it in the Capital Works Budget and that, subject to the adoption of the recommendations of the Managing Director, Environmental & Engineering Services & City Engineer, the detailed source of financing for this project is:

SUMMARY OF ESTIMATED EXPENDITURES	Approved Budget	Committed to Date	This Submission	Balance for Future Work
Engineering	\$450,000	\$204,997	\$117,024	\$127,979
Construction	3,476,996			3,476,996
City Related Expenses	50,000			50,000
NET ESTIMATED EXPENDITURES	\$3,976,996	\$204,997	\$117,024 1)	\$3,654,975
SUMMARY OF FINANCING:				
Drawdown from Sewage Works Reserve Fund	\$3,976,996	\$204,997	\$117,024	\$3,654,975
TOTAL FINANCING	\$3,976,996	\$204,997	\$117,024	\$3,654,975

1) **Financial Note:**
Contract Price
Add: HST @13%
Total Contract Price Including Taxes
Less: HST Rebate
Net Contract Price

AECOM	DILLON	Total
\$75,000	\$40,000	\$115,000
9,750	5,200	14,950
84,750	45,200	129,950
8,430	4,496	12,926
\$76,320	\$40,704	\$117,024

JG

Jason Davies
Manager of Financial Planning & Policy

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON APRIL 16, 2019
FROM:	KELLY SCHERR, P.ENG. MANAGING DIRECTOR ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	UPPER THAMES RIVER CONSERVATION AUTHORITY AND CITY OF LONDON SCHEDULE B MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT NOTICES OF STUDY COMPLETION

RECOMMENDATION

That, on the recommendation of the Managing Director Environmental & Engineering Services and City Engineer, the following report **BE RECEIVED** for information.

PREVIOUS REPORTS PERTINENT TO THIS MATTER
--

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

Finance & Administration Committee, February 2, 2011 – Funding Agreement with UTRCA for Remediating Flood Control Works within the City

2015 – 2019 STRATEGIC PLAN

The following report supports the 2015 – 2019 Strategic Plan through the strategic focus area of Building a Sustainable City including:

- Building a Sustainable City: 1B-Manage and improve stormwater infrastructure and services; and
- Building a Sustainable City: 1E-Fund innovative ways to adopt to Climate Change.

BACKGROUND

Purpose

The Upper Thames River Conservation Authority (UTRCA) initiated and acted as the lead proponent to three Municipal Class Environmental Assessments (EAs). The purpose of these EAs was to review the feasibility and viability of supporting two of the City’s earthen dykes as well as evaluating the erosion and scour issues at the West London Dyke. The City of London was a co-proponent to the Municipal Class EA processes to offer input and ensure compatibility with municipal interests and infrastructure as it relates to flood protection within the city limits.

Context

In response to major floods in 1937, the UTRCA and City of London constructed a system of flood protection dykes along the Thames River. The dykes have protected people and properties in areas that would otherwise be at a significant risk of flooding. The Broughdale Dyke, Riverview-Evergreen Dyke, and West London Dyke are all integral elements of a larger flood control network that include other dykes, flood control dams, and a flood forecasting and warning system. In recent years, slope stability concerns have been identified at many of the dykes and the existing dykes fail to provide flood protection up to the 250 year event, which is the Regulatory Flood event for the Upper Thames watershed.

Municipal Class EA Process

An assessment of the three project areas were carried out as Schedule ‘B’ Class EAs in accordance with the Ontario Municipal Engineers Association (MEA) Municipal Class EA document (October 2000, as recently amended in 2015 & 2017), which is approved under the Ontario Environmental Assessment Act (EAA). The reports document the need and justification for the specific projects, the planning processes undertaken to select the preferred solutions, and measures to mitigate impacts. Where feasible, recommendations for the sites should be integrated within future budgets associated with river improvements or development projects in order to ensure the long-term protection of these pieces of infrastructure.

DISCUSSION

The following section provides the background, risk assessment, and preferred alternative related to the dykes assessed by the three EAs:

1. Broughdale Dyke

Background

The Broughdale Dyke is located on the south side of the Thames River between Richmond Street and Meadowdown Drive and is 710m long (Refer to figure in Appendix A). Construction of the western section of the dyke, from Raymond Avenue to Meadowdown Drive, was completed after the 1937 flood. The eastern section in Ross Park was completed in 1990.

Risk Assessment

The Broughdale dyke hazard classification is Moderate/High based on potential impacts to life and property within the Broughdale area if the dyke was to fail. The minimum Design Flood for a Moderate/High classification is the Regulatory Flood (250 year event). The Broughdale dyke currently provides protection up to the 100 year flood

event. As a result, there are 191 properties identified between the 100-year and 250 year Regulatory Flood limit that are at a higher risk of flooding.

Preferred EA Alternative

Based on the evaluation of alternative solutions, the preferred alternative is to raise and extend the dyke to protect the area from the 250-year event, including a 0.9m freeboard for climate change resiliency, and relocate the dyke between Bernard Avenue and Meadowdown Drive closer towards the floodplain. By shifting the footprint of the dyke towards the floodplain, there is no need to acquire additional property. Appropriate architectural finishes or façades will be included as part of this section of the dyke. The dyke from Bernard Avenue to Meadowdown Drive will have the existing fill removed and the alignment will be shifted towards the floodplain and reconstructed using retaining walls, engineered fill, and a flood wall to raise the dyke and restrict encroachment into the floodplain. A maintenance path will be constructed on the dyke to facilitate future inspections and maintenance works. Further, an extension to the dyke will be added and facilitated through further discussions with King's College.

The current estimates for the overall cost of this project are approximately \$7,000,000.

2. Riverview Evergreen dyke

Background

The Riverview Evergreen Dyke is approximately 250m long and is located in the central part of London. The dyke is aligned on the south side of the Thames River, bounded by the CP Rail line to the south, Wharncliffe Road to the east and the Thames River to the north and west (Refer to Appendix B).

Risk Assessment

The Riverview Evergreen Dyke hazard classification is Low/Moderate based on potential impacts to life and property within the Riverview area if the dyke were to fail. The minimum Design Flood for a Moderate/High classification is the Regulatory Flood (250 year event). The dyke currently provides protection up to the 80-year event. As a result, there are properties between the 80-year and 250 year regulatory flood limit that are at a higher risk of flooding.

Preferred EA Alternative

Based on the evaluation of alternative solutions, the preferred alternative is to repair and maintain the Riverview Evergreen dyke with future decommissioning. The preferred alternative maintains the current level of flood protection for the 80-year flood event. There is an opportunity to decommission this dyke through a long-term acquisition strategy of the 11 properties that are currently protected by the dyke. This was determined during the EA process to be significantly more cost effective than providing flood protection up to the Regulatory Flood for a limited number of properties. Until the properties are purchased, the deficiencies outlined in the 2013 Earth Dyke Stability Review would be repaired. Repairs, for example, would include the removal and relocation of trees planted on top of the dyke, removing hazard trees and overgrown vegetation, and re-grading to a more stable slope where possible.

The current estimates for the overall cost of this project are approximately \$6,000,000. This includes studies and work to date, ongoing maintenance, and long term property acquisition.

3. West London Dyke

Background

The West London Dyke is 2374m long, running along the west bank of the North Thames River from approximately Oxford Street to the Forks of the Thames, and then along the north bank of the main Thames River to the west side of the Wharncliffe Road Bridge. The dyke is the focus of major ongoing rehabilitation efforts. Over the past four phases of construction approximately 830m of this dyke have been replaced and upgraded between Blackfriars Street and Riverside Drive. In 2019, approximately 325m of the dyke, from Blackfriars Bridge to St. Patrick Street is anticipated to be replaced and upgraded

Risk Assessment

The West London Dyke Erosion Control Class EA is being undertaken to identify environmentally sensitive and sustainable solutions to address existing erosion and scour processes of the Thames River at the Ann Street and Harris Park Sites that (Refer to Appendix C), if not addressed, have the potential to undermine the foundation of the West London Dyke flood control structure.

Preferred Alternative

The recommendations for the Ann Street Site include the installation of boulder toe protection along the west bank and modification to the existing weir structure to divert flows towards the centre of the channel. The treatment would be approximately 5m wide and extend along the toe of the dyke between the existing weir and approximately 60m downstream.

The recommendations for the Harris Park Site include modification to the downstream Ministry of Natural Resources and Forestry (MNRF) Fish Weir and the addition of boulder toe protection along the west bank. The treatment would be approximately 5m wide and extend along the toe of the dyke between the existing MNRF weir and approximately 240m downstream.

The current estimates for the construction costs at the two sites are approximately \$440,000.

Public/Stakeholder Consultation

The UTRCA led the Municipal Class EA planning process and took several steps to inform stakeholders, study area residents, review agencies and Indigenous communities about the project, and to solicit comments at key stages of the study process. Consultation methods for each project file included:

- Publication of newspaper notices for all project milestones, including Notices of Study Commencement, Public Information Centre (PIC), and Study Completion.
- Placement of notices and other materials on the City's and UTRCA's websites.
- Direct mailing of project notices to stakeholders, study area residents, businesses, review agencies and Indigenous communities.
- Two Community Site Walks were organized to engage local residents early in the EA process, with an additional site walk to accommodate EEPAC members who had a scheduling conflict.
 - Broughdale Dyke – May 17th, 2019
 - Riverview Evergreen Dyke – May 31st, 2019
- A PIC for each EA to engage and obtain input from the public, review agencies, and stakeholders as follows:
 - Broughdale Dyke – June 20th, 2019 at Kings University College

- Riverview Evergreen Dyke – July 25th, 2019 at London Children's Museum
- West London Dyke Erosion Control - February 13th, 2018 at Kinsman Recreation Centre
- Individual meetings with residents/stakeholders as required or as opportunities arose.

The Notices of Completion were posted in The Londoner on February 14th and 21st, 2019 for the Broughdale Dyke and Riverview Evergreen Dyke EAs. The 30-day review public review period was between February 14th to March 19th, 2019.

The Notice of Completion was posted in The Londoner on November 29th, 2018 and December 6th 2018 for the West London Dyke EA. The 30-day review period was from December 6th 2018 to February 15th 2019.

The EA reports were available for review at the UTRCA office, Masonville Branch Library, Landon Branch Library, the City Clerk's office and on the UTRCA and City of London websites.

In order to complete the public review portion, stakeholders were encouraged to provide input and comments regarding this study during the 30-day review period. If stakeholders felt that issues had not been adequately addressed, they had the opportunity to provide written notification within the 30 day review period to the Minister of the Environment, Conservation and Parks requesting further consideration. This process is termed a "Part II Order" (formerly known as a Bump-Up Request).

No requests for a Part II Order were received, thus the recommended projects will be in a position to move forward to the design and construction stages in accordance with the recommendations within the EA studies and as funding opportunities and budgets permit. A future report to committee will identify when the recommended works will be constructed.

Project Financing

The total estimated cost of infrastructure improvements recommended by the three EAs is \$13,440,000. The UTRCA and City of London have historically offset these costs with provincial and federal funding opportunities, primarily through the Ministry of Natural Resources and Forestry (MNR) Water and Erosion Control Infrastructure (WECI) program.

The WECI program is a MNR capital cost share program that provides funding for flood or erosion control structures such as dams and dykes. This funding can only be accessed by Conservation Authorities, but can be used for infrastructure owned by municipalities in cases where the infrastructure is maintained by the CA.

The multi-year budget includes funding for the renewal of the City of London's flood and erosion control infrastructure. The multi-year budget item "ES2474 UTRCA Remediating Flood Control Works within City Limits" includes the 50% City share of WECI eligible maintenance and reconstruction works with a total of \$6,100,000 over the four year period resulting in \$12,200,000 in overall capital renewal works by 2020.

As such, the timing for dyke and dam projects are often determined by available funding opportunities and in consideration of other priorities related to flood protection capital works.

CONCLUSIONS

Three project files have been prepared to document the Municipal Class EA planning process for Schedule B projects as outlined in the Environmental Assessment Act. The EA reports outline the process which the UTRCA and City of London have undertaken to address the problems identified, and the potential solutions to be implemented. This process has involved mandatory contact with the public, Indigenous communities, and review agencies to ensure that they are aware of the project and that their concerns have been addressed, along with an evaluation of a range of alternatives leading to the project recommendations. The Notices of Completion were posted for 30 day review, and all correspondence received during this period has been appended to the final report documents.

The total estimated cost of infrastructure improvements recommended by the three EAs is \$13,440,000. The budget for constructing these works will be coordinated between the UTRCA and the City in association with provincial and federal funding opportunities.

Acknowledgements

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

SUBMITTED BY:	REVIEWED AND CONCURRED BY:
SHAWNA CHAMBERS, P.ENG. DIVISION MANAGER, STORMWATER MANAGEMENT	SCOTT MATHERS, MPA, P. ENG. DIRECTOR, WATER AND WASTEWATER
RECOMMENDED BY:	
KELLY SCHERR, P. ENG., FEC MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER	

April 4, 2019

Attach: Appendix ‘A’ – Broughdale Dyke Executive Summary
 Appendix ‘B’ – Riverview Evergreen Executive Summary
 Appendix ‘C’ – West London Dyke Erosion Control Executive Summary

cc: Fraser Brandon-Sutherland - UTRCA
 Dave Charles - UTRCA

Appendix 'A' – Broughdale Dyke EA Executive Summary

Executive Summary

1. Introduction

In response to major floods in 1937, the UTRCA and City of London has developed and maintains a system of flood protection dykes along the Thames River. The dykes have done a good job of protecting people and properties in areas that would otherwise be at significant risk of flooding. Broughdale dyke is an integral part of this larger flood control network that includes other dykes, flood control dams, and a flood forecasting and warning system. In recent years slope stability concerns have been identified at the dyke and the dyke fails to provide the necessary flood protection (250 year event) mandated by the provincial government. The relevant studies are outlined below.

The Broughdale dyke, located on the south side of the Thames River between Richmond Street and Meadowdown Drive, is 710m long (**See Figure ES1**). Construction of the western section of the dyke, from Raymond Avenue to Meadowdown Drive, was completed after the 1937 flood with the eastern section, in Ross Park, completed in 1990. The Broughdale dyke hazard classification is Moderate/High based on potential impacts to life and property within the Broughdale area if the dyke were to fail. The minimum Design Flood for a Moderate/High classification is the Regulatory Flood (250 year event). The dyke currently provides protection up to the 100 year event, putting residents of 191 properties within the 250 year regulatory flood limit at risk of flooding.

In 2011, stability and condition assessments of the Broughdale dyke identified sections of the dyke to be in poor condition with severe stability issues which require, at a minimum, reconstruction of the unstable sections to ensure public safety. The 2013 London Earth Dykes Stability Review (AECOM) assessed the stability of the Thames River Dykes and developed Preliminary Dyke Standards in the absence of Provincial standards. The long-term management of the Broughdale dyke should take these standards into account while also considering climate change adaptation. The Broughdale Dyke Flood Characterization 2D Model Report was completed in 2016 and identified very high flood hazard for the people and structures within the Broughdale Area during the 250 year event due to fast flowing and deep water. These studies indicate a need to consider repairing and raising the Broughdale dyke to provide critical flood protection for the Broughdale community.

This Class EA was carried out as a Schedule 'B' project in accordance with the Ontario Municipal Engineers Association (MEA) Municipal Class EA document (October 2000 as recently amended in 2015), which is approved under the Ontario *Environmental Assessment Act* (EAA). This report documents the need and justification for the project, the planning process undertaken to select the preferred solution, and measures to mitigate impacts.

2. Preferred Solution Project Description

Based on the evaluation of alternative solutions, the preferred alternative is:



Alternative 7 – Raise and extend the dyke to the 250 year event plus 0.9m freeboard and relocate the dyke between Bernard Avenue and Meadowdown Drive towards the flood plain


The preferred alternative provides flood protection for the 250 year flood event plus a 0.9m freeboard allowing for climate change resiliency. By shifting the footprint of the dyke towards the flood plain the need to acquire 257 Bernard Avenue is removed. **See Figure ES2.**

Ross Park

This section of the dyke will be raised approximately 1.0m at a 3:1 graded slope. Trees located on top of the dyke would be removed and relocated. This section is easily accessed and won't require a maintenance path.

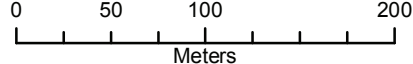






Legend

- Existing Multi Use Pathways
- Approximate Location of Existing Dyke
- Study Area



**Broughdale Dyke Stability
Municipal Class Environmental
Assessment - Schedule 'B'**

Broughdale Dyke Study Area

December 2018	1:4,000	Datum: NAD83 UTM17 Source: LIO 2016, City of London 2016
P#: 60565856	V#:	




Figure ES1

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Map location: P:\60565856 UTRCA Broughdale and Riverview Dykes EA\900-CAD_GIS\9020-929 (GIS Graphics)\EA_Report\Broughdale - Fig ES1-StudyArea.mxd
Date Saved: 12/4/2018 9:15:40 AM User Name: adamj



Location ID	Proposed Works
1	Raise dyke approximately 1.9m Construct a 3.5m access path on top of dyke Dyke slopes graded to 3:1 Remove/Relocate trees planted on dyke Raise dyke 1.0m
2	Raise dyke approximately 1.9m Construct a 3.5m access path on top of dyke Construct retaining walls along Raymond Street Monitor and remove overgrown vegetation Remove hazard trees Relocate hydro poles Raise dyke 1.5m
3	Property acquisition will not be required at 257 Bernard Street Setback dyke at 3:1 slope from existing bank Provide toe erosion protection as required Replace the existing gabion basket and railway tie retaining walls Repair slopes and regrade where possible Remove hazard trees and clear vegetation from dyke crest Raise dyke 1.5m Relocate Dyke towards the flood plain
4	Extend the dyke upstream along the Thames on Kings College property or along Medowdown Ave Earth fill dyke or flood wall 3:1 Slope preferred for earth fill dyke. Raise dyke 2.0m

UPPER THAMES RIVER
CONSERVATION AUTHORITY

Legend

- Existing Multi Use Pathways

Location of Dyke

- Section 1
- Section 2
- Section 3
- Section 4
- Section 3 (Relocated Foot Print)

050100200

Meters

Broughdale Dyke Stability
Municipal Class Environmental
Assessment - Schedule 'B'

Broughdale Dyke Recommended
Alternative Solution
Alternative 7

February
2019

1:3,000

Datum: NAD83 UTM17
Source: LIO 2016, City of
London 2016

P#: 60565856

V#:

Figure ES2

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Map location: P:\00565856 UTRCA Broughdale and Riverview Dykes EA\000-CAD_GIS\000-929 (GIS-Graphics\EA_Report\Broughdale - Fig ES2-Recommended.mxd
Date Saved: 2/19/2019 9:55:40 AM User Name: adamj)

Raymond Avenue from Ross Park to Bernard Avenue

This section of the dyke will remain in place and a sheet pile flood wall be driven down vertically through the existing structure to provide the additional 2m height above the current top of dyke. Hydro poles currently located on the dyke will need to be relocated and any hazard trees removed. An architectural façade would be placed on the exposed sheet pile to improve the aesthetics of the flood wall.

Bernard Avenue to Meadowdown Drive

This section of dyke will have the existing fill removed. The dyke alignment will be shifted towards the floodplain and reconstructed using retaining walls, engineered fill and a flood wall to raise the dyke and restrict encroachment into the flood plain. **See Figure 11** for a conceptual drawing of the alignment. A 3.5 m paved maintenance path will be constructed on the dyke to facilitate future inspections and maintenance works. The path will also form part of the Thames Valley Parkway (TVP) to connect the Broughdale Area and North London community to the Ross Park portion of the TVP.

Construction of the dyke will primarily occur from the top of the dyke to reduce the construction footprint and mitigate impacts to riparian vegetation. Any private property impacted during construction will be restored. A landscaping plan will be developed in close consultation with property owners and could include a wooden privacy fence and targeted plantings to improve privacy and aesthetics for neighbouring properties. **Figure 12** presents a conceptual cross section of the proposed realigned and reconstructed dyke through this section.

Upstream Extension to Kings College Property

Three options are being considered to extend the dyke upstream:

- Construct an earth dyke or floodwall along the top of the existing slope beside the Thames River on Kings College property and tying into high ground near the Alumni Court Residence.
- Construct a floodwall along the west boulevard of Meadowdown Drive from the Kings College entrance to Epworth Avenue.
- Raise the Kings College parking lot and soccer field to the 250-year event plus 0.9 m freeboard using clean, imported fill and restore the parking lot and soccer field.

A maintenance path along this section of the dyke is not anticipated because access can be achieved through the Kings College parking lot and soccer field or from Meadowdown Drive. The preferred option will be determined during detailed design in consultation with Kings College. Recent discussions with Kings College indicated that raising the sports field and parking lot would likely have the least long-term impacts on Kings College students and facilities.

3. Implementation Schedule

Before implementation of the preferred alternative, an appropriate source of funding for the project must be acquired. This will be a major factor dictating the implementation schedule of the proposed works. If a source of funding for the project is acquired immediately after filing this report for completion, detailed design on the slope stability works could start as early as 2020 with tender and construction starting in the spring/summer of 2022.

Staged construction could be utilized to address the more immediate stability concerns.

Detailed design will include the following items:

- Completion of an Environmental Impact Statement (EIS) for the preferred alternative presented in this report;

- Species at Risk permitting which could include a net benefit permit;
- Ongoing consultation with neighbouring property owners to determine their preference for restoration, landscaping and privacy fencing;
- Ongoing consultation with Kings College to determine the preferred option for extending the dyke upstream and to develop a design that addresses their concerns while achieving the necessary flood protection; and,
- Ongoing consultation with Oneida of the Thames and Chippewa of the Thames including a site walk with Elders and Traditional Knowledge Holders.

4. Property Requirements

The implementation of Alternative 7 will not require the acquisition of any properties. Property agreements and/or temporary easements will be required to facilitate construction. A permanent property agreement or easement with Kings College may also be required to allow for future inspections and maintenance of the dyke.

5. Consultation

As part of the Municipal Class EA planning process, several steps were undertaken to inform stakeholders, study area residents, review agencies and Indigenous communities about the project, and to solicit comments at key stages of the study process. Consultation methods included:

- Publication of newspaper notices for all project milestones, including Notices of Study Commencement, Public Information Centre (PIC), and Study Completion.
- Placement of notices and other materials on the City's website.
- Direct mailing of project notices to stakeholders, study area residents, businesses, review agencies and Indigenous communities.
- One Community Site Walk to engage local residents early in the EA process, with an additional site walk to accommodate EEPAC members who had a scheduling conflict.
- One PIC to engage and obtain input from the public, review agencies, and stakeholders.
- Individual meetings with residents/stakeholders as required or as opportunities arose.

6. Conclusion and Recommendation

The preferred solution includes the reconstruction of the earthen berm dyke, construction of retaining walls and flood walls and a maintenance path that will meet the preliminary design standards provided by the 2013 Earth Dyke Stability Review.

Considering the above, it is recommended that:

1. Following EA documentation filing and clearance, and securing appropriate funding, the recommended works proceed to the design phase including permitting/approvals; and
2. EA commitment and mitigation measures identified in **Section 8** are expanded upon during design and implementation as part of construction.

Key commitments to be implemented during detailed design include:

- Completion of an Environmental Impact Study (EIS) for the preferred alternative presented in this report;
- Species at Risk permitting which could include a net benefit permit;

- The dyke is currently located on and/or abuts neighbouring properties that will be highly sensitive to construction impacts. Ongoing and open dialogue with neighbouring properties during the design, construction and post construction phases will be critical in ensuring optimal design while managing and mitigating impacts during and after construction. This includes working with property owners to determine their preference for restoration, landscaping and privacy fencing;
- Ongoing consultation with Kings College to determine the preferred option for extending the dyke upstream and to develop a design that addresses their concerns while achieving the necessary flood protection; and,
- Ongoing consultation with Oneida of the Thames and Chippewa of the Thames including a site walk with Elders and Traditional Knowledge Holders.

Appendix 'B' –Riverview Evergreen Dyke EA Executive Summary

Executive Summary

1. Introduction

In response to major floods in 1937, the UTRCA and City of London has developed and maintains a system of flood protection dykes along the Thames River. The dykes have done a good job of protecting people and properties in areas that would otherwise be at significant risk of flooding. Riverview Evergreen Dyke is an integral part of this larger flood control network that includes other dykes, flood control dams, and a flood forecasting and warning system. In recent years slope stability concerns have been identified at the dyke and the dyke fails to provide the necessary flood protection (250 year event) mandated by the provincial government. The relevant studies are outlined below.

The Riverview Evergreen Dyke, located in the central part of London on the south side of the Thames River bounded by the CP Rail line to the south, Wharnccliffe Road to the east and the Thames River to the north and west (**See Figure ES1**) is approximately 250m long. The Riverview Evergreen Dyke hazard classification is Low/Moderate based on potential impacts to life and property within the Riverview area if the dyke were to fail. The minimum Design Flood for a Moderate/High classification is the Regulatory Flood (250 year event). The dyke currently provides protection up to the 80 year event, putting residents of 19 properties within the 250 year regulatory flood limit at risk of flooding.

In 2011, stability and condition assessments of the Riverview Evergreen Dyke identified sections of the dyke to be in poor condition with severe stability issues which require, at a minimum, reconstruction of the unstable sections to ensure public safety. The 2013 London Earth Dykes Stability Review (AECOM) assessed the stability of the Thames River Dykes and developed Preliminary Dyke Standards in the absence of Provincial standards. The long-term management of the Riverview Evergreen Dyke should take these standards into account while also considering climate change adaptation.

This Class EA was carried out as a Schedule 'B' project in accordance with the Ontario Municipal Engineers Association (MEA) Municipal Class EA document (October 2000 as recently amended in 2015), which is approved under the Ontario *Environmental Assessment Act* (EAA). This report documents the need and justification for the project, the planning process undertaken to select the preferred solution, and measures to mitigate impacts.

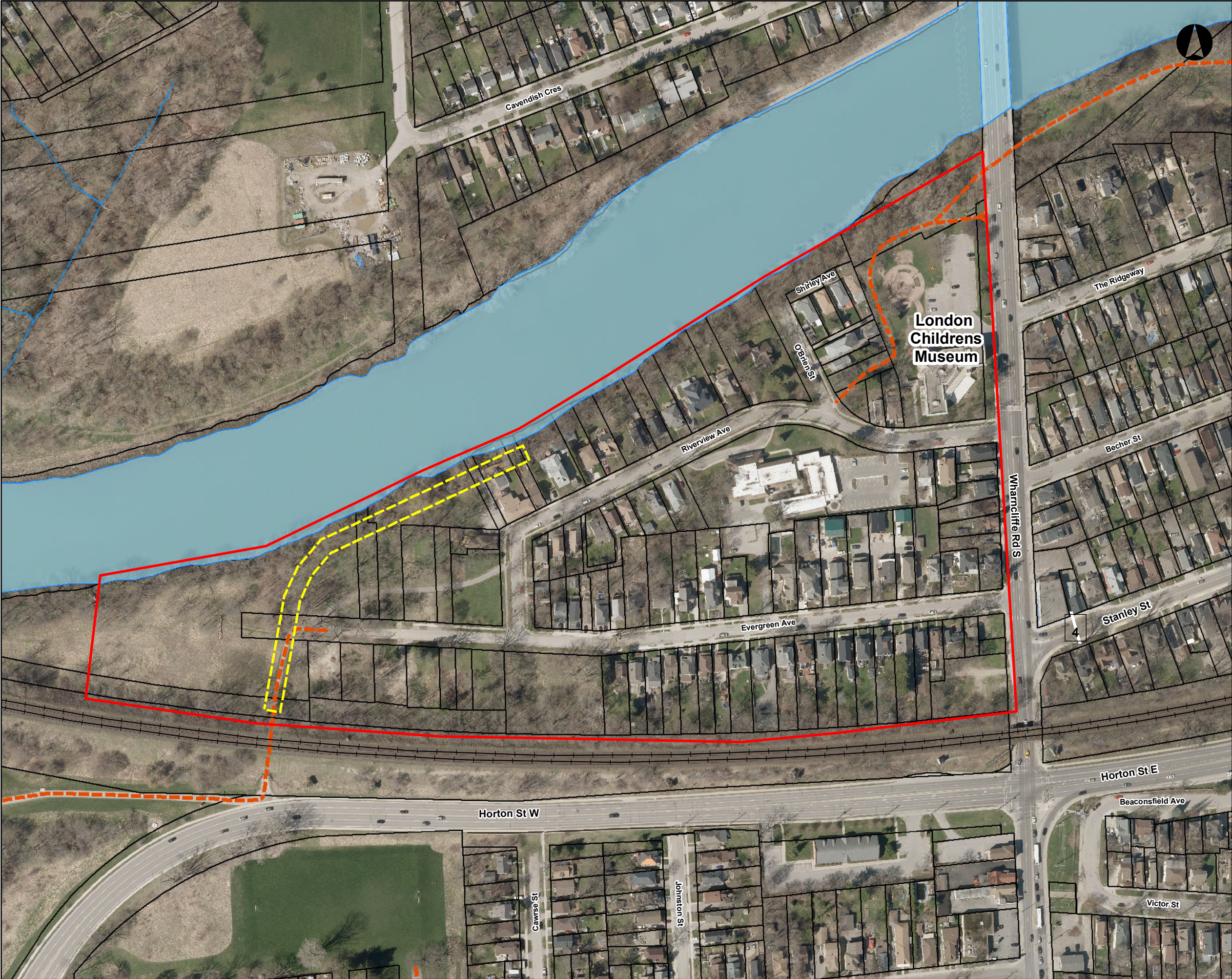
2. Preferred Solution Project Description



Based on the evaluation of alternative solutions, the preferred alternative is:


Alternative 6 – Repair and Maintain Dyke with Future Decommissioning

The preferred alternative maintains the current level of flood protection for the 80 year flood event until the properties that are protected by it can be purchased. During the interim period the deficiencies outlined in the 2013 Earth Dyke Stability Review would be repaired. Repairs would include the removal and relocation of trees planted on top of the dyke, removing hazard trees and overgrown vegetation, and regrading to a more stable slope where possible. **See Figure ES2.**





By maintaining the current level of flood protection (80 year event) this option would not protect to Regulatory Flood event, however it would maintain the current level of protection until the 11 properties that are protected by the dyke can be purchased. Once all of the properties are purchased the flood risk would be removed.

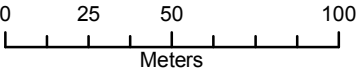






Legend

-  Railways
-  Study Area
-  Approximate Location of Existing Dyke
-  Existing Multi Use Pathways



Riverview Evergreen Dyke Stability Municipal Class Environmental Assessment - Schedule 'B'

Riverview Evergreen Dyke Study Area

December 2018	1:2,268	Datum: NAD83 UTM17 Source: LIO 2016, City of London 2016
P#: 60565856	V#:	


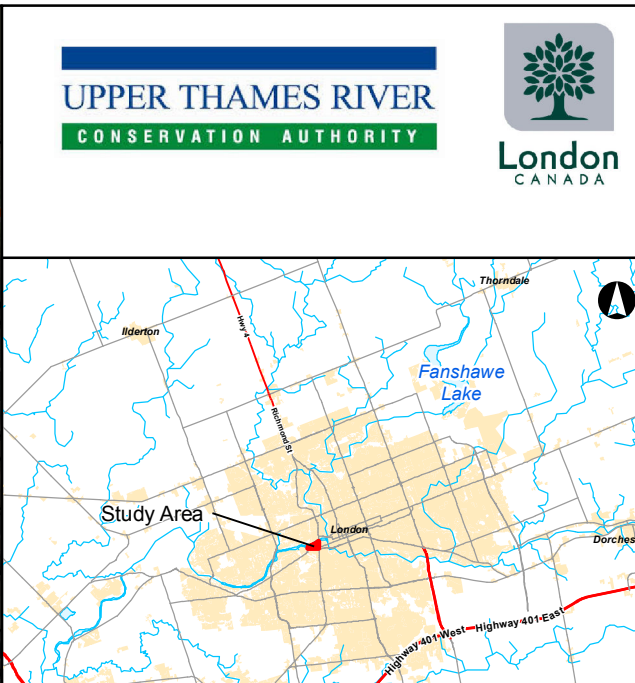
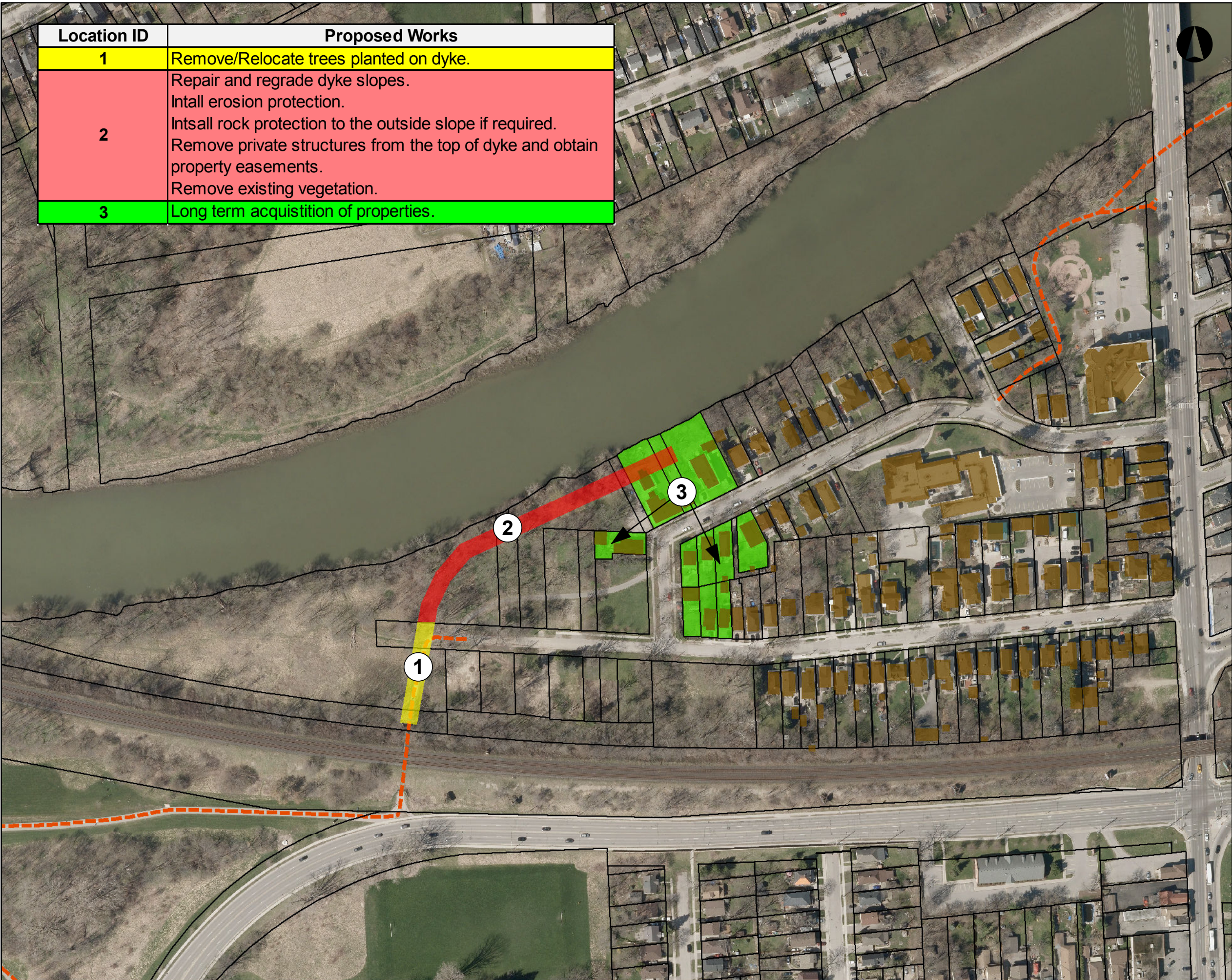


Figure ES1

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Map location: P:\60565856 UTRCA Broughdale and Riverview Dykes EA\900-CAD_GIS\9020-929 (GIS Graphics)\EA_Report\Riverview - Fig1ES-StudyArea.mxd
Date Saved: 12/17/2016 11:30:37 AM User Name: adamg

Location ID	Proposed Works
1	Remove/Relocate trees planted on dyke.
2	Repair and regrade dyke slopes. Intall erosion protection. Intsall rock protection to the outside slope if required. Remove private structures from the top of dyke and obtain property easements. Remove existing vegetation.
3	Long term acquistition of properties.



UPPER THAMES RIVER
CONSERVATION AUTHORITY

Legend

- Existing Multi Use Pathways
- Existing Buildings

Location of Dyke

- Section 1
- Section 2
- Properties to be

02550100

Meters

Riverview Evergreen Dyke Stability
Municipal Class Environmental
Assessment - Schedule 'B'

Alternative 6 –
Recommended Alternative Solution

December
2018

P#: 60565856

1:2,165

V#:

Datum: NAD83 UTM17
Source: LIO 2016, City of
London 2016

Figure ES

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Map location: P:\050565856 UTRCA Broughdale and Riverview Dykes EA\050-000-CAD_CIS\05020-929 (GIS\Graphics)\EA_Report\Riverview - Fig ES2 - Recommended Alternative Solution 7.mxd
Date Saved: 12/17/2016 11:22:06 AM User Name: adamg1

3. Implementation Schedule

Before implementation of the preferred alternative, an appropriate source of funding for the project must be acquired. This will be a major factor dictating the implementation schedule of the proposed works. If a source of funding for the project is acquired immediately after filing this report for completion, detailed design on the slope stability works could start as early as 2020 with tender and construction starting in the spring/summer of 2022.

Staged construction could be utilized to address the more immediate stability concerns.

Detailed design will include the following items:

- Completion of an Environmental Impact Statement (EIS) for the preferred alternative presented in this report;
- Species at Risk permitting which could include a net benefit permit;
- Ongoing consultation with neighbouring property owners to determine their preference for restoration, landscaping and privacy fencing; and
- Ongoing consultation with Oneida of the Thames and Chippewa of the Thames including a site walk with Elders and Traditional Knowledge Holders.

4. Property Requirements

Prior to decommissioning the Riverview Evergreen dyke acquisition of 11 properties is required. These properties would be purchased as they become available. Properties requiring acquisition are identified in **Table ES1**.

Table ES1: Property Acquisition Requirement

Properties Requiring Acquisition under Alternative 6	
15 Riverview Avenue	2 Riverview Avenue
19 Riverview Avenue	4 Riverview Avenue
17 Riverview Avenue	6 Riverview Avenue
21 Riverview Avenue	10 Riverview Avenue
23 Riverview Avenue	55 Evergreen Avenue
53 Evergreen Avenue	57 Evergreen Avenue

5. Consultation

As part of the Municipal Class EA planning process, several steps were undertaken to inform stakeholders, study area residents, review agencies and Indigenous communities about the project, and to solicit comments at key stages of the study process. Consultation methods included:

- Publication of newspaper notices for all project milestones, including Notices of Study Commencement, Public Information Centre (PIC), and Study Completion.
- Placement of notices and other materials on the City's website.
- Direct mailing of project notices to stakeholders, study area residents, businesses, review agencies and Indigenous communities.
- One Community Site Walk to engage local residents early in the EA process.
- One PIC to engage and obtain input from the public, review agencies, and stakeholders.
- Individual meetings with residents/stakeholders as required or as opportunities arose.

6. Conclusion and Recommendation

The preferred solution includes the repair and maintenance of the earthen berm dyke, until the properties within the 80 year return period boundary can be purchased.

Considering the above, it is recommended that:

1. Following EA documentation filing and clearance, and securing appropriate funding, the recommended works proceed to the design phase including permitting/approvals; and
2. EA commitment and mitigation measures identified in **Section 8** are expanded upon during design and implementation as part of construction.

The above future permitting-approvals, mitigation measures and monitoring requirements form EA commitments that will be subject to the design and construction phases.

Key commitments to be implemented during detailed design include:

- Completion of an Environmental Impact Study (EIS) for the preferred alternative presented in this report;
- Species at Risk permitting which could include a net benefit permit;
- The dyke is located on and/or abuts neighbouring properties that will be highly sensitive to construction impacts. Ongoing and open dialogue with neighbouring properties during the design, construction and post construction phases will be critical in ensuring optimal design while managing and mitigating impacts during and after construction. This includes working with property owners to determine their preference for restoration and landscaping; and
- Ongoing consultation with Oneida of the Thames and Chippewa of the Thames including a site walk with Elders and Traditional Knowledge Holders.

Appendix 'C' – West London Dyke Erosion Control EA Executive Summary

Executive Summary

Introduction

The Upper Thames River Conservation Authority (UTRCA) has retained Stantec Consulting Ltd. to undertake a Schedule B Municipal Class Environmental Assessment (Class EA) to identify preferred solutions for addressing erosion and scour conditions in two areas along the West London Dyke flood control structure: the Ann Street Site, and the Harris Park Site.

Problem Statement

The West London Dyke Erosion Control Class EA is being undertaken to identify environmentally sensitive and sustainable solutions to address existing erosion and scour processes of the Thames River at the Ann Street and Harris Park Sites that, if not addressed, have the potential to undermine the foundation of the West London Dyke flood control structure. The Class EA's recommendations should be integrated with future river improvement or development projects in order to ensure the long-term protection of this vital piece of infrastructure.

Existing Environmental Conditions

The existing socio-economic cultural, and natural environments within the two study areas were reviewed to identify potential impacts of the alternative solutions, and recommendations for mitigation.

Fluvial Geomorphology

The West London Dyke River Morphology and Scour Remediation Study (Stantec, April 2016) was undertaken to determine the degree of undermining of the dyke toe through scour surveys in the two study area locations. This information was used in the development and evaluation of alternative solutions for the current Municipal Class EA.

Alternative Solutions and Evaluation

Alternative solutions for each of the study areas included flow modification alternatives, which address the existing source of the erosion and scour processes, as well as toe protection alternatives, intended to protect the toe from further erosion processes. A qualitative evaluation was undertaken using criteria identified to address the socio-economic/cultural, natural, technical, and economic environmental components within the study areas.

Recommendations

Ann Street: The recommendations for the Ann Street Site include the installation of boulder toe protection along the west bank and modification to the existing weir structure to divert flows towards the centre of the channel as shown in Figure E.1. Sizing of boulders would be determined during detailed design, but they are expected to be larger than 600 mm. The treatment would be 5 m wide and extend along the toe of the dyke between the existing weir and approximately 60 m downstream. The 5m width is required to achieve a slope of 2.5:1. Construction costs for these recommendations are estimated at \$92,000. This estimate represents construction costs based on per unit costs for

similar projects, and does not include engineering, permitting/approvals, contract administration, or contingency. Detailed cost estimates will be updated at the time of detailed design.



Figure E.1 Ann Street Recommendations

Harris Park: The recommendations for the Harris Park Site include modification to the downstream MNRF Fish Weir and the addition of boulder toe protection along the west bank, shown on Figure E.2. The treatment would be 5 m wide and extend along the toe of the dyke between the existing MNRF weir and approximately 240 m downstream. Removing the gabions along the east bank would improve floodplain access and flow conveyance through this site and reduce scour potential; however, this has greater implications for the adjacent parkland area, and should be explored through the more rigorous public consultation and design studies currently being undertaken by the City.



Figure E.2 Harris Park Recommendations

EROSION CONTROL SCHEDULE B CLASS ENVIRONMENTAL ASSESSMENT PROJECT FILE

Construction costs are estimated at \$337,000. This cost estimate represents construction costs based on per unit costs for similar projects, and does not include engineering, permitting/approvals, contract administration, or contingency. Detailed cost estimates will be updated at the time of detailed design. Allowing this area to be a 'soft' depositional area is recommended to allow natural river processes to occur. It is not anticipated that the cut-fill balance will be achieved at this site with respect to the implementation of the boulder toe protection on its own. It should be noted that subsequent work related to the point bar should be undertaken which will involve only cut activities resulting in a net export of material. It is likely that, under final design conditions, that the cut material from the point bar would be able to be balanced (or nearly balanced) with the fill material from the implementation of the boulder toe protection.

This information should be considered in more detail within the Back to the River/One River Master Plan study currently underway.

Environmental Impacts and Mitigation

The project is located within an area that contains several sensitive natural heritage features, including species at risk, fish, and fish habitat. A number of specific mitigation, best management practices, and agency consultation have been identified to mitigate potential environmental impacts. Provided these measures are implemented, no significant impacts to environmental features are anticipated as a result of the recommended solutions.

Consultation and Class EA Filing Process

The following table documents the mandatory points of contact with the public, agency, and Indigenous Community stakeholders throughout the project. Additional stakeholder consultation is included in Appendix B.

Table E.1 Points of Contact

Point of Contact	Method of Communication and Date
Notice of Commencement including a project introduction, study area map, and project team contact information.	Mailed to study contact list (December 18, 2018)
Public Information Centre – Open house to present overview of environmental conditions, problems and opportunities, alternative solutions, and preliminary recommendations, for public review and comment.	Notice mailed to all stakeholders (January 29, 2018) Notice published in the Londoner newspaper (February 1 and 8, 2018) PIC display material posted to the UTRCA's website (http://thamesriver.on.ca/water-management/london-dyke-system/west-london-dyke/west-london-dyke-erosion-control-ea/)
February 13, 2018, 4:30-6:30pm – Kinsman Recreation Centre, 20 Granville Street, London ON	

EROSION CONTROL SCHEDULE B CLASS ENVIRONMENTAL ASSESSMENT PROJECT FILE

Notice of Completion to provide an overview of study recommendations, public review period, and Part II Order process.	Notice mailed to all stakeholders (November 28, 2018)
30-day review period – December 6, 2018 -Feb 8th, 2019 (revised)	Published in the Londoner (December 6th, 2018 and December 13, 2018) Report made available at the UTRCA website and UTRCA Watershed Conservation Centre

Closing

This Project File has been prepared to document the Municipal Class EA planning process for Schedule B projects. It outlines the process which the Upper Thames River Conservation Authority has undertaken to address the problems identified, and the potential solutions to be implemented. This process has involved mandatory contact with the public, Indigenous communities and review agencies to ensure that they are aware of the project and that their concerns have been addressed, along with an evaluation of a range of alternatives leading to the project recommendations. The Notice of Completion has been posted for 30-day review, and all correspondence received during this period will be appended to the final report in Appendix F.

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON APRIL 16, 2019
FROM:	KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	PINCOMBE DRAIN STORMWATER MANAGEMENT FACILITY #3 BUDGET ADJUSTMENT (ESSWM-PD3)

RECOMMENDATION

That on the recommendation of the Managing Director of Environmental and Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to the Pincombe Drain Stormwater Management Facility #3 (ESSWM-PD3):

- a) The budget adjustment to increase Development Charges funding for project ESSWM-PD3 **BE APPROVED** to the Pincombe Drain Stormwater Management Facility #3, with a total budget increase of \$935,200, and an overall budget total in the amount of \$3,502,200;
- b) The financing for the project **BE APPROVED** in accordance with the “Sources of Financing Report” attached hereto as Appendix “A”.

PREVIOUS REPORTS PERTINENT TO THIS MATTER
--

Civic Works Committee, December 1, 2015 – Appointment of Consulting Engineers for Design and Construction of Stormwater Management Facilities.

2015-19 STRATEGIC PLAN

The 2015-2019 Strategic Plan identifies this objective under: Building a Sustainable City: 1B – Manage and improve our wastewater infrastructure and services; and 5B – Build new wastewater infrastructure as London grows.

BACKGROUND

Purpose

To request a budget adjustment prior to tendering the Pincombe Drain Stormwater Management Facility (SWMF) #3 due to changes encountered during detailed design.

Context

The Pincombe Drain SWMF #3 is a Development Charges (DC) project that is being built in accordance with the Growth Management Implementation Strategy and Just-in-Time policy to provide stormwater servicing to the Richardson Subdivision Development in Southwest London. The SWMF is an essential component of the servicing required to facilitate 40 hectares of residential, commercial, and institutional development.

DISCUSSION

Original Project Budget

The original budget for the Pincombe Drain SWMF #3 was \$2,567,000. This high level estimate was based on average SWM facility costs using the drainage area and volume of the pond, including a 20% contingency.

Changes during Detailed Design

During detailed design, two main design changes triggered an increase to the original project budget: (1) the elevation of this facility was lowered to account for proper inlet elevations, all to meet Ministry of Environment, Conservation and Parks (MECP) and City of London Stormwater Management design requirements; and, (2) the onsite soil conditions triggered the need to install a matrix of depressurization wells (bleeder wells) during the construction of the facility.

The lowering of the facility increased the cost since it will require an additional volume of excavated soil material. Further, the geotechnical investigations encountered silty sand and silts beneath the silty clay till that can cause basal heave or distress at the bottom of the pond. To address the risk of base instability and to reduce pressures, it was recommended that a series of depressurization wells or bleeder wells be installed in a matrix on the proposed bottom of the pond prior to full excavation. This same system was used in the construction of the Fox Hollow SWM Facility #2 with great success.

Requested Budget Adjustment

This report seeks approval to adjust the budget of ESSWM-PD3 from \$2,567,000 to a total budget amount of \$3,502,200. The funding for this facility is 100% growth funded. Therefore, an additional budget amount of \$935,200 will be transferred from the Development Charges Reserve account. This facility is scheduled to be tendered as soon as practical. This request to advance the budget will facilitate an administrative award to the successful bidder and allow the project to proceed immediately to construction.

CONCLUSIONS

The new Pincombe Drain Stormwater Management Facility #3 is an essential piece of infrastructure required to provide a stormwater outlet for the Richardson Subdivision Development. The requested budget adjustment will allow for the timely construction of the facility and will provide reliable stormwater management servicing to support growth in the City.

Acknowledgements

This report was prepared with the assistance of Paul Titus, C.E.T., Stormwater Engineering.

PREPARED BY:	REVIEWED BY:
SHAWNA CHAMBERS, P.ENG., DPA DIVISION MANAGER STORMWATER ENGINEERING	SCOTT MATHERS, MPA, P.ENG. DIRECTOR WATER, WASTEWATER AND TREATMENT
RECOMMENDED BY:	
KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER	

Attachment: Appendix “A” Sources of Financing

- cc: Anna Lisa Barbon, Managing Director, Corporate Services and City Treasurer,
Chief Financial Officer
Jason Davies, Manager III, Financial Planning & Policy
Jason Senese, Manager III, Development Finance
John Millson, Senior Financial Business Administrator

APPENDIX 'A'

Chair and Members
Civic Works Committee

#19042
April 16, 2019
(Budget Adjustment)

RE: Pincombe Drain Stormwater Management Facility #3
Capital Project ESSWM-PD3 - SWM Facility Pincombe Drain No. 3
(Subledger SWM15002)

FINANCE & CORPORATE SERVICES REPORT ON THE SOURCES OF FINANCING:

Finance & Corporate Services confirms that the cost of this project cannot be accommodated within the financing available for it in the Capital Works Budget and that, subject to the adoption of the recommendations of the Managing Director, Environmental & Engineering Services & City Engineer, the detailed source of financing for this project is:

<u>ESTIMATED EXPENDITURES:</u>	<u>Approved Budget</u>	<u>Additional Requirement</u>	<u>Revised Budget</u>
Engineering	\$475,999		\$475,999
Land Purchase	626,219		626,219
Construction	1,464,782	935,200	2,399,982
NET ESTIMATED EXPENDITURES	<u>\$2,567,000</u>	<u>\$935,200</u>	<u>\$3,502,200</u>
<u>SOURCES OF FINANCING:</u>			
Drawdown from City Services - Mjr. SWM Reserve Fund (Development Charges)	\$2,091,001	\$935,200	\$3,026,201
Debenture By-law No. W.5595-40 (Serviced through City Services Mjr. SWM Reserve Fund (Development Charges))	475,999		475,999
TOTAL FINANCING	<u>\$2,567,000</u>	<u>\$935,200</u>	<u>\$3,502,200</u>

1) The additional requirement of \$935,200 is available as an additional drawdown from the City Services - Mjr. SWM Reserve Fund.

JG

Kyle Murray
Director of Financial Planning & Business Support

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON APRIL 16, 2019
FROM:	KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	CONTRACT AWARD: TENDER T19-21 COLONEL TALBOT SANITARY SEWER AND FORCEMAIN INSTALLATION

RECOMMENDATION

That on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, and subject to receipt of requisite regulatory approvals, the following actions **BE TAKEN** with respect to the award of contract for the Colonel Talbot Pumping Station Sanitary Sewer and Forcemain construction project:

- (a) the bid submitted by Omega Contractors Inc. at its tendered price of \$6,404,243.82, excluding HST, **BE ACCEPTED**; it being noted that the bid submitted by Omega Contractors Inc. was the lowest of five bids received and meets the City's specifications and requirements in all areas;
- (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 relating to this project (Tender 19-21); and
- (e) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

PREVIOUS REPORTS PERTINENT TO THIS MATTER
--

Civic Works Committee, July 17, 2018, Item 2.7 – Dingman Creek and Colonel Talbot Pumping Stations Budget Adjustments.

Civic Works Committee, February 21, 2018, Item 2.5 – Colonel Talbot Pumping Station Fee Increase.

Civic Works Committee, December 1, 2015, Item 2.8 – Appointment of Consultant for Environmental Assessment, Design and Contract Administration for the Colonel Talbot Pumping Station & Sanitary Servicing Works.

Southwest Area Sanitary Servicing Master Plan:

<http://www.london.ca/residents/Environment/EAs/Pages/SW-Area-Sanitary-Servicing-Master-Plan.aspx>

2015-2019 STRATEGIC PLAN

This project supports the 2015 – 2019 Strategic Plan through the following: 1-B Building a Sustainable City- Manage and improve our wastewater infrastructure and services; and 5-B-Build new wastewater infrastructure as London grows.

BACKGROUND

Purpose

To seek Council approval for award of a contract to Omega Contractors Inc. (Omega) on the basis of Request for Tender 19-21 for the construction of the gravity sewers and forcemains related to the Colonel Talbot pumping station.

Context

The Colonel Talbot pumping station is a critical component in the wastewater servicing strategy for southwest London. This contract represents the third of four phases of construction required to bring this facility on line.

DISCUSSION

The Colonel Talbot pumping station was identified in the Southwest Area Sanitary Servicing (SASS) Master Plan as a key component of the wastewater infrastructure serving the Southwinds, North Talbot, Bostwick and Crestwood neighbourhoods as defined by the Southwest Area Plan (SWAP).

The completion of the Colonel Talbot pumping station will allow three separate pumping stations to be removed from operation, and will greatly improve the operation of a fourth. Ultimately, this station is expected to act as a swing station, allowing flows from the southwest to be treated at either Oxford Wastewater Treatment Plant or Greenway Wastewater Treatment Plant (via Wonderland PS), depending on operating conditions at each facility. This strategy is reflective of a long-term strategy of the Wastewater Treatment Operations Division to incorporate flexible servicing operations within the system in order to maximize the effectiveness and efficiency of wastewater collection and treatment in the City of London.

Construction of the first two phases of this four-phased project are complete. The work contemplated under this contract constitutes phase three, and phase four will involve construction of the pumping station itself, to be tendered in the coming months. Work under this contract is expected to be complete by the end of 2019, with the pumping station completion expected in 2020.

Tender Summary

Tenders in response to Request for Tender T19-21 were opened on March 26, 2019. Five (5) contractors submitted tender prices as listed below, excluding HST.

CONTRACTOR		TENDER PRICE SUBMITTED
1.	Bre-Ex Construction Inc.	\$6,701,995.79
2.	CH Excavating (2013)	\$6,456,609.71
3.	J-AAR Excavating Limited	\$6,762,529.30
4.	L82 Construction Ltd.	\$6,914,964.77
5.	Omega Contractors Inc.	\$6,404,243.82

The tender estimate just prior to tender opening was \$5,900,000.00, excluding HST. All tenders include a contingency allowance of \$500,000.00.

CONCLUSIONS

Omega submitted the lowest tender price in response to Tender T19-21 and has demonstrated their ability to complete the required construction works through previously completed projects for the City of London. Award of T19-21 for the construction of the Colonel Talbot Pumping Station Sanitary Forcemain and Sewers – Contract 3 to Omega Contractors Inc. is recommended.

Acknowledgements

This report was prepared with the assistance of Kirby Oudekerk, P.Eng., of the Wastewater Treatment Operations Division.

SUBMITTED BY:	CONCURRED BY:
GEORDIE GAULD DIVISION MANAGER WASTEWATER TREATMENT OPERATIONS	SCOTT MATHERS, P. ENG. DIRECTOR, WATER AND WASTEWATER
RECOMMENDED BY:	
KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER	

Attach: Appendix ‘A’ – Sources of Financing

- c.c. John Freeman
 Chris Ginty
 Geordie Gauld
 Alan Dunbar
 Jason Davies
 Omega Contractors Inc.

Chair and Members
Civic Works Committee

RE: Colonel Talbot Sanitary Sewer and Forcemain Installation T19-21
(Subledger FS190001)
Capital Project ES2204 - Colonel Talbot Pumping Station
Capital Project ES2498 - North Talbot Sanitary Sewer Extension
Omega Contractors Inc. - \$6,404,243.82 (excluding H.S.T.)

FINANCE & CORPORATE SERVICES REPORT ON THE SOURCES OF FINANCING:

Finance & Corporate Services confirms that the cost of this project can be accommodated within the financing available for it in the Capital Works Budget and that, subject to the adoption of the recommendations of the Managing Director, Environmental & Engineering Services & City Engineer, the detailed source of financing for this project is:

SUMMARY OF ESTIMATED EXPENDITURES	Approved Budget	Revised Budget	Committed to Date	This Submission	Balance for Future Work
ES2204-Colonel Talbot Pumping Station					
Engineering	\$1,136,325	\$1,242,053	\$1,242,053		\$0
Land Acquisition	637	637	637		0
Construction	9,061,034	8,952,790	2,850,241	2,794,863	3,307,686
Construction (Southwinds P.S.)	195,000	195,000	195,000		0
Construction (PDC Portion)	2,400	2,400	2,400		0
Other City Related	2,004	4,520	4,520		0
	10,397,400	10,397,400	4,294,851	2,794,863	3,307,686
ES2498-North Talbot Sanitary Sewer Extension					
Engineering	447,306	303,658	303,658		0
Construction	3,578,448	3,722,096		3,722,096	0
	4,025,754	4,025,754	303,658	3,722,096	0
NET ESTIMATED EXPENDITURES	<u>\$14,423,154</u>	<u>\$14,423,154</u>	<u>\$4,598,509</u>	<u>\$6,516,959</u>	<u>\$3,307,686</u>

SUMMARY OF FINANCING:

ES2204-Colonel Talbot Pumping Station					
Debenture By-law No. 5593-37 (Serviced through City Services - Sewer Reserve Fund (Development Charges))	2) \$10,200,000	\$10,200,000	\$4,097,451	\$2,794,863	\$3,307,686
Other Contributions	195,000	195,000	195,000		0
Cash Recovery from Property Owners (PDC)	2,400	2,400	2,400		0
	10,397,400	10,397,400	4,294,851	2,794,863	3,307,686
ES2498-North Talbot Sanitary Sewer Extension					
Drawdown from City Services - Sewer Reserve Fund (Development Charges)	2) 4,025,754	4,025,754	303,658	3,722,096	0
TOTAL FINANCING	<u>\$14,423,154</u>	<u>\$14,423,154</u>	<u>\$4,598,509</u>	<u>\$6,516,959</u>	<u>\$3,307,686</u>

1) Financial Note:	ES2204	ES2498	Total
Contract Price	\$2,746,524	\$3,657,720	\$6,404,244
Add: HST @13%	357,048	475,504	832,552
Total Contract Price Including Taxes	3,103,572	4,133,224	7,236,796
Less: HST Rebate	308,709	411,128	719,837
Net Contract Price	<u>\$2,794,863</u>	<u>\$3,722,096</u>	<u>\$6,516,959</u>
2) Development charges have been utilized in accordance with the underlying legislation and the Development Charges Background Studies completed in 2014.			

JG

Jason Davies
Manager of Financial Planning & Policy

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON APRIL 16, 2019
FROM:	KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	AUDIBLE PEDESTRIAN PUSHBUTTON EQUIPMENT IRREGULAR RESULT

RECOMMENDATION

That on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer:

- a) The irregular bid submitted by Tacel Ltd. at its tendered price of \$215,250.00 (excluding H.S.T.) **BE ACCEPTED** in accordance with the 'Procurement of Goods and Services Policy' Section 8.10 Irregular Result, Clause b and Section 13.2 Clause b;
- b) the financing for this project **BE APPROVED** with 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 for the material to be supplied and the work to be done relating to this project (RFT19-25); and,
- e) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, as required, to give effect to these recommendations.

2015-19 STRATEGIC PLAN

The following report supports the [Strategic Plan](#) through the strategic focus areas of:

- **Strengthening Our Community** Health, safe and accessible city; and
- **Building a Sustainable City** - Convenient and connected mobility;

by improving mobility for pedestrians at signalized intersections and to address the requirements of the Accessibility for Ontarians with Disabilities Act (AODA).

PREVIOUS REPORTS PERTINENT TO THIS MATTER

For additional information, please refer to the following committee reports:

1. September 27th, 2010: Environment and Transportation Committee “Accessible Pedestrian Signals (APS) and Countdown Pedestrian Signals (CPS);
2. May 2nd, 2011: Built and Natural Environment: Accessible Pedestrian Signals – Single Source”; and
3. January 6th, 2015: Civic Works Committee “Accessible Pedestrian Signals – Single Source”.

BACKGROUND

Accessible pedestrian signals (APS) assist pedestrians with vision loss by providing locator sounds so that they can find the pushbutton. The APS further assists by providing an audible indication that acts in conjunction with the “walk” signal. During the intersection’s walk phase, the APS emits a “cuckoo” sound for east-west crossings and a “Canadian AP melody” for the north-south crossings. Samples of these sounds can be found on the City’s [web site](#).



APS equipment was first installed at the intersection of Grand Avenue and Ridout Street North in 2003 and to date APS equipment have been installed at 197 intersections which represents 49% of the network. A number of different products have been reviewed and the City has adopted the Polara Navigator equipment for use that has addressed the concerns that were generated with the other equipment.

The Polara Navigator equipment has an integrated speaker/button so that the sound is kept at sidewalk level. The equipment can also be configured to adjust the volume of the sound based on the ambient noise, which has further mitigated concerns from residents. In addition to being a reliable product, the use of a single type of APS equipment provides a consistent message to users so that each intersection operates the same. Utilizing a single type of APS equipment also reduces maintenance costs since technicians can be trained on the repair of one piece of equipment and it reduces the number of spare parts that must be kept in inventory. It should be noted that the Polara Navigator meets the Accessibility for Ontarians with Disabilities Act (AODA) requirements.

EQUIPMENT PROCUREMENT

The tender for the Purchase of Audible Pedestrian Pushbutton Equipment (RFT19-25) with three one-year renewals was issued February 19th, 2019 and closed March 7th, 2019. There were two bid takers and one bid submission. The bid submission from Tacel Ltd. is \$215,250.00 (excluding HST). The tender estimate prior to the tender opening was \$220,000.00 (excluding HST).

After consultation with the Manager of Purchasing and Supply, the decision was made to open the sole bid. It is recommended that the contract be awarded to Tacel Ltd. as an irregular result in accordance with Section 8.10 Clause b and Section 13.2 Clause b of

the Procurement of Goods and Services Policy. The bid submitted by Tacel Ltd. is within the budget for the purchase of Polara Navigator APS equipment.

CONCLUSION

The Polara Navigator equipment addresses the Accessibility for Ontarians with Disabilities Act (AODA) requirements, provides a consistent message to users and reduces maintenance costs. The Polara Navigator equipment at the 197 intersections have been performing well.

It is recommended that the single bid submitted by Tacel Ltd. be accepted; noting that it is within the approved Capital budget. These units will be used on a variety of capital improvement projects and reduce the cost of these projects when compared to purchasing the units on a per project basis. The contract includes three one-year contract renewals, which can be exercised at the sole direction of the City.

ACKNOWLEDGEMENT:

This report was prepared with the assistance of John Freeman, Manager - Purchasing and Supply.

PREPARED BY:	REVIEWED & CONCURRED BY:
SHANE MAGUIRE, P. ENG. DIVISION MANAGER, ROADWAY LIGHTING & TRAFFIC CONTROL	DOUG MACRAE, P.ENG., MPA DIRECTOR, ROADS AND TRANSPORTATION
REVIEWED & CONCURRED BY:	RECOMMENDED BY:
IAN COLLINS, CPA, CMA DIRECTOR, FINANCIAL SERVICES	KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER

March 11, 2019/sm

Y:\Shared\Administration\COMMITTEE REPORTS\Civic Works\2019\DRAFT\04-16\CWC - Accessible Pedestrian Signal Equipment (2019-04-16).docx

Attach: Appendix A - Source of Financing

cc Purchasing and Supply Division
 Tacel Ltd., 179 Bartley Dr., Unit B, Toronto, ON M4A 1E8

APPENDIX 'A'

Chair and Members
Civic Works Committee

#19044
April 16, 2019
(Award Contract)

RE: Accessible Pedestrian Signals Irregular Result
(Subledger TF190012)
Capital Project TS406718 - Traffic Signals - Mtce.
Tacel Ltd. - \$215,250.00 (excluding H.S.T.)

FINANCE & CORPORATE SERVICES REPORT ON THE SOURCE OF FINANCING:

Finance & Corporate Services confirms that the cost of this project can be accommodated within the financing available for it in the Capital Works Budget and that, subject to the adoption of the recommendations of the Managing Director, Environmental and Engineering Services and City Engineer, the detailed source of financing for this project is:

ESTIMATED EXPENDITURES	Approved Budget	Committed To Date	This Submission	Balance for Future Work
Engineering	\$920,640	\$880,927		\$39,713
Construction	3,465,304	1,913,713		1,551,591
Traffic Signals	2,248,591	990,126	219,039	1,039,426
City Related Expenses	4,106	4,106		0
NET ESTIMATED EXPENDITURES	\$6,638,641	\$3,788,872	\$219,039 1)	\$2,630,730
SOURCE OF FINANCING:				
Capital Levy	\$6,424,711	\$3,788,872	\$219,039	\$2,416,800
Drawdown from Capital Infrastructure Gap R.F.	213,930			213,930
TOTAL FINANCING	\$6,638,641	\$3,788,872	\$219,039	\$2,630,730

Financial Note:

1) Contract Price	\$215,250
Add: HST @13%	27,983
Total Contract Price Including Taxes	243,233
Less: HST Rebate	24,194
Net Contract Price	\$219,039

lp

Jason Davies
Manager of Financial Planning & Policy

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON APRIL 16, 2019
FROM:	KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	CONTRACT AWARD: TENDER NO. 19-42 ARTERIAL ROAD REHABILITATION PROJECT CONTRACT No. 2

RECOMMENDATION

That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to the award of the 2019 Arterial Road Rehabilitation Project Contract No. 2:

- (a) the bid submitted by Dufferin Construction Company at its submitted tendered price of \$5,735,706.55 (excluding HST), for the said project **BE ACCEPTED**; it being noted that the bid submitted by Dufferin Construction Company was the lowest of two (2) bids received and meets the City's specifications and requirements in all areas;
- (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 for the material to be supplied and the work to be done relating to this project (Tender 19-42); and,
- (e) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

2015-19 STRATEGIC PLAN

The following report supports the Strategic Plan through the strategic focus area of Building a Sustainable City by addressing and managing the infrastructure gap. The improvements provided by this contract will improve mobility for cyclists, transit, automobile users and pedestrians.

BACKGROUND

Purpose

This report recommends the award of a tender related to the construction contract for the rehabilitation/resurfacing of major roads in the City of London.

DISCUSSION

The City of London is responsible for a transportation system that promotes the movement of goods and services and strengthens economic growth. The road network provides mobility choices for residents and improves quality of life. Good roads promote business, create employment, provide social opportunities, improve emergency response and create markets.

The City of London has a comprehensive pavement management system that monitors and renews roads in the most cost-effective manner and forms a part of the broader Corporate Asset Management Strategy. The annual Life Cycle Program to repair and resurface main roads (arterial, primary collectors, expressways and freeways) ensures our roads remain safe and in good repair.

This is the second of two contracts through which the Major Road Network will be renewed. The road rehabilitation program is delivered through a series of contracts grouping similar works to increase competition. Pavement renewal also occurs in a coordinated manner through the infrastructure renewal contracts which include water and sewer needs.

This 2019 Arterial Road Rehabilitation No. 2 contract includes the road segments listed below and illustrated in maps in Appendix B. The following roadways will be undergoing pavement rehabilitation processes, such as mill & pave, foamed asphalt and pulverize/overlay, using funding from the approved 2019 Main Road Network Improvement Budget. The type of rehabilitation is a function of the existing pavement structure, condition and strategy. Strategy includes considerations such as desired service life. Some rehabilitations aim to create a new pavement for a long service life and others are shorter term holding strategies if a larger scope project is on the horizon.

A.	Dundas Street East-1	McCormick Boulevard to approximately 100 m west of Highbury Avenue North
B.	Dundas Street East -2	Approximately 100 m east of Highbury Avenue North to west side of Bridge over Pottersburg Creek
C.	Highbury Avenue North	Approximately 150 m south of Brydges Street to approx. 100 m south of Dundas Street East
D.	Hyde Park Road	Riverside Drive to approximately 150 m south of Oxford Street West
E.	Manning Drive	Highbury Avenue South to East City Limits
F.	Kilbourne Road	Colonel Talbot Road to Longwoods Road

Traffic Management

An essential part of the project will be communication with residents and businesses along each road segment regarding schedule, duration, expected impacts, and to introduce key project members from the contractor and the City. In general, impacts on the community and through traffic will be short in duration.

Dundas Street East-1, Dundas Street East-2, Highbury Avenue North and Hyde Park Road within the limits of this contract allow for concrete repairs and maintenance hole adjustments to be completed during daytime hours. The paving related work that entails more disruption of road users is restricted to evening and night periods to reduce traffic congestion on these arterial roadways.

Every effort is being made to ensure Londoners are aware of construction zones and traffic detours resulting from road work. Daily updates are provided through the City’s website, www.london.ca/construction with information about road closures, ongoing and upcoming projects on City streets. The social impact of this work is being mitigated through coordination and communication.

The specific communication strategies include:

- 2019 construction program media release;
- Social media (Facebook and Twitter); and
- Renew London Website (project updates, daily email to media and emergency services).

Residents are encouraged to adapt by:

- Planning commutes and using alternative routes;
- Utilizing transit (www.ltconline.ca), carpooling (www.londoncarpools.ca), riding bikes or walking; and
- Adjusting travel times to avoid peak travel times.

Tender Summary

Tenders for the 2019 Arterial Road Rehabilitation Project - Contract No.2 (Tender 19-42) were opened on Tuesday, March 19, 2019. Two contractors submitted tender prices as listed below (excluding HST).

CONTRACTOR		TENDER PRICE (SUBMITTED)	CORRECTED TENDER PRICE
1.	Dufferin Construction Company	\$5,735,706.55	---
2.	Coco Paving Inc. (London)	\$6,120,000.00	---

All tenders have been checked by the Environmental and Engineering Services Department, and no errors were found.

The tender estimate just prior to tender opening was \$6,100,000 (excluding HST). These tenders are an indication of a competitive environment considering the number of qualified local service providers, and illustrate the benefit of tendering projects early in the construction season.

There are no anticipated additional annual operating costs to the Environmental and Engineering Services Department associated with the approval of this tender.

Contract design and preparation was undertaken by City staff. Contract administration and onsite inspection services will be provided by City staff, primarily from the Construction Administration Division.

CONCLUSION

Civic Administration reviewed the tender bids and recommends Dufferin Construction Company be awarded this 2019 Arterial Road Rehabilitation Project – Contract No. 2 in the amount of \$5,735,706.55 (excluding HST). Upon Council approval and contract award, staff will confirm a schedule with the contractor and initiate a communication program for the various construction locations.

Acknowledgements

This report was prepared with assistance from Trevor Hitchon, C. Tech, Technologist II, Jane Fullick, C.E.T., Senior Technologist and Karl Grabowski, P. Eng., Transportation Design Engineer, all from the Transportation Planning and Design Division.

SUBMITTED BY:	RECOMMENDED BY:
DOUG MACRAE, P. ENG., MPA DIRECTOR, ROADS AND TRANSPORTATION	KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER

Attach: Appendix A – Source of Financing
Appendix B – Map of Locations

cc: John Freeman, Manager, Purchasing and Supply
Gary McDonald, TCA
Trevor Hitchon, Technologist II
Jane Fullick, Senior Technologist
Karl Grabowski, Transportation Design Engineer
Dufferin Construction Company, A division of CRH Canada Group Inc.,
2200 Jetstream Road, London, ON, N6A4V7

APPENDIX 'A'

Chair and Members
Civic Works Committee

#19037
April 16, 2019
(Award Contract)

RE: T19-42 Arterial Road Rehabilitation Project Contract No. 2
(Subledger RD190002)
Capital Project TS144619 - Road Network Improvements (Main)
Dufferin Construction Company - \$5,735,706.55 (excluding H.S.T.)

FINANCE & CORPORATE SERVICES REPORT ON THE SOURCE OF FINANCING:

Finance & Corporate Services confirms that the cost of this project can be accommodated within the financing available for it in the Capital Works Budget and that, subject to the adoption of the recommendations of the Managing Director, Environmental and Engineering Services and City Engineer, the detailed source of financing for this project is:

<u>ESTIMATED EXPENDITURES</u>	<u>Approved Budget</u>	<u>Revised Budget</u>	<u>Committed To Date</u>	<u>This Submission</u>	<u>Balance for Future Work</u>
Engineering	\$1,000,000	\$995,411	\$176,668		\$818,743
Construction	12,766,068	12,770,657	6,934,001	5,836,656	0
NET ESTIMATED EXPENDITURES	<u>\$13,766,068</u>	<u>\$13,766,068</u>	<u>\$7,110,669</u>	<u>\$5,836,656</u>	<u>\$818,743</u>
<u>SOURCE OF FINANCING:</u>					
Capital Levy	\$3,116,482	\$3,116,482	\$3,116,482		\$0
Federal Gas Tax	9,846,026	9,846,026	3,994,187	5,836,656	15,183
Drawdown from Capital Infrastructure Gap R.F.	803,560	803,560			803,560
TOTAL FINANCING	<u>\$13,766,068</u>	<u>\$13,766,068</u>	<u>\$7,110,669</u>	<u>\$5,836,656</u>	<u>\$818,743</u>

Financial Note:

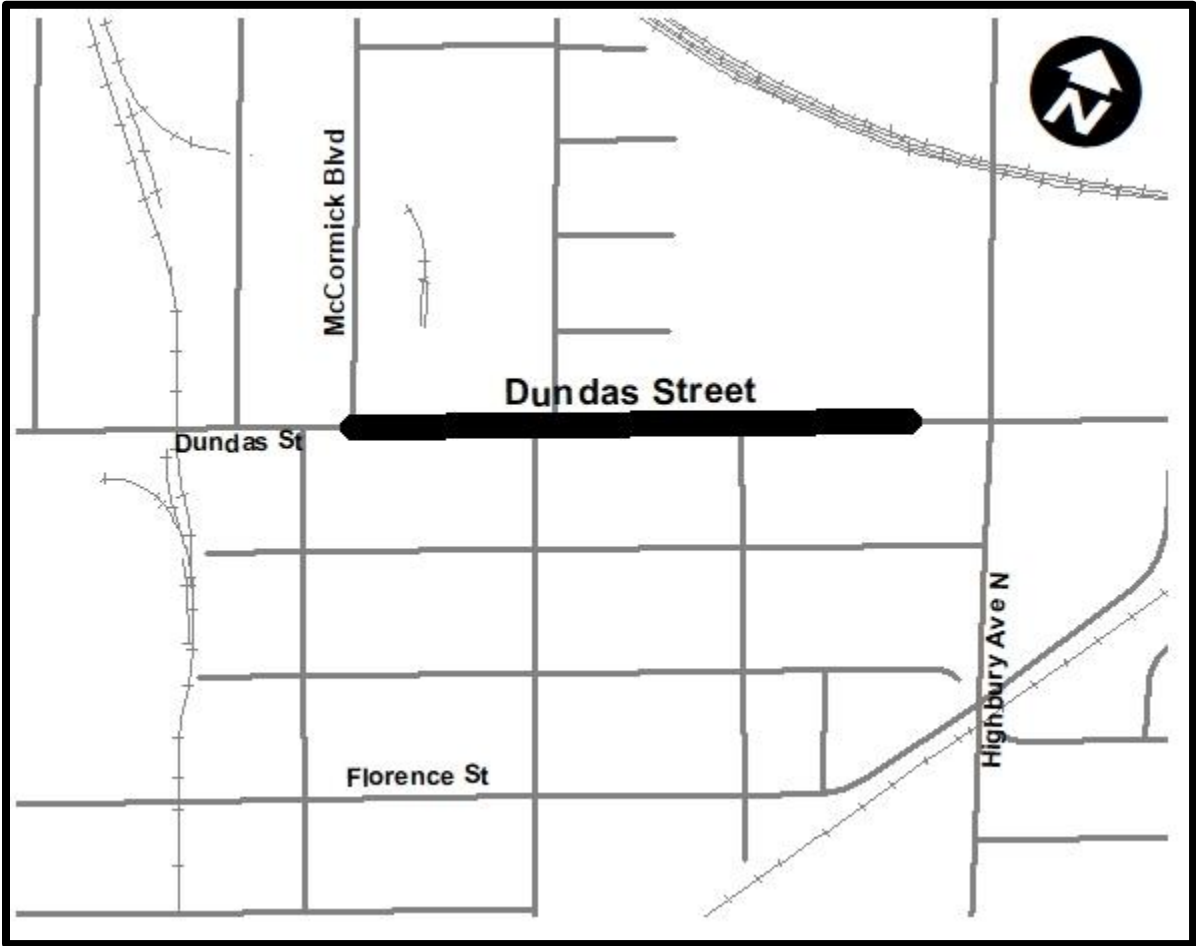
1) Contract Price	\$5,735,707
Add: HST @13%	745,642
Total Contract Price Including Taxes	6,481,349
Less: HST Rebate	644,693
Net Contract Price	<u>\$5,836,656</u>

lp

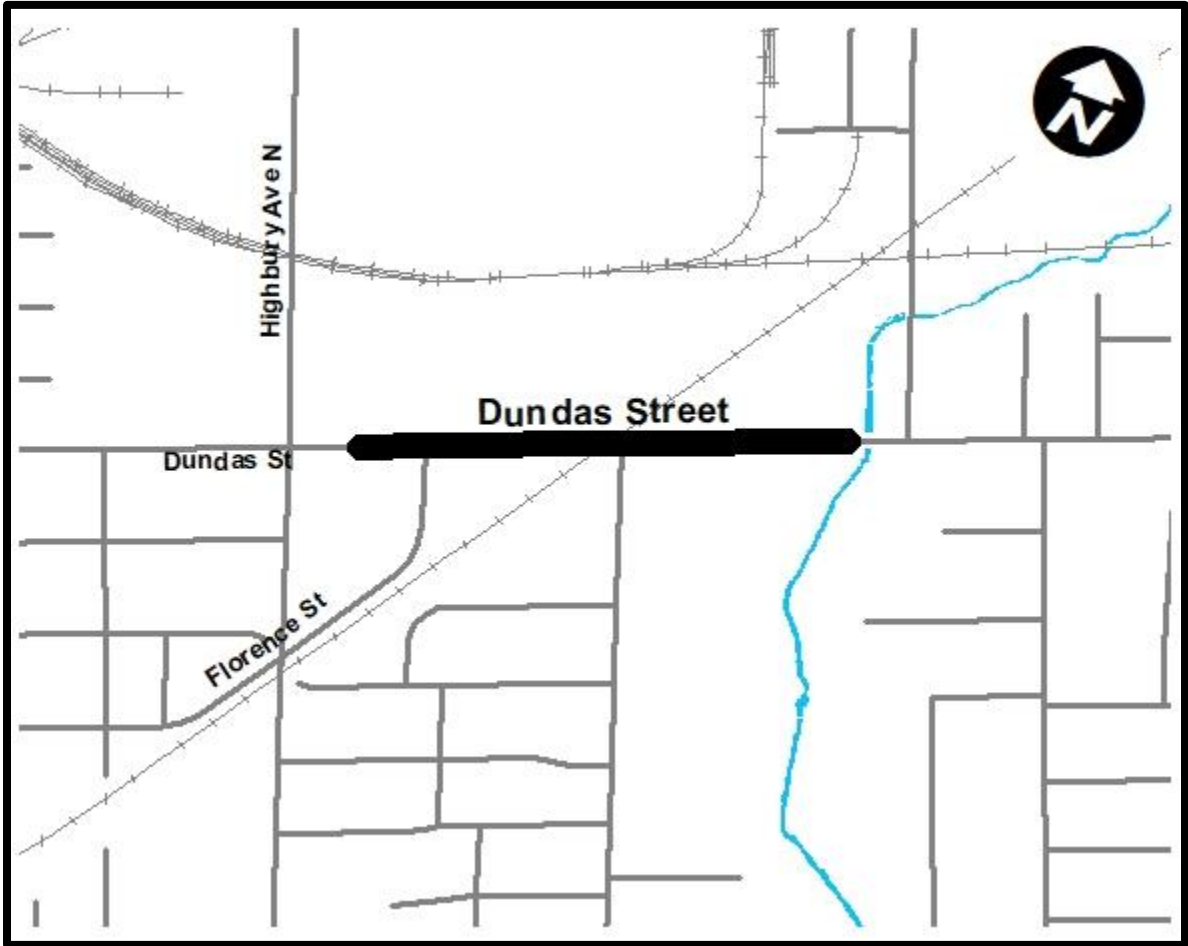
Jason Davies
Manager of Financial Planning & Policy

APPENDIX B
LOCATION MAPS

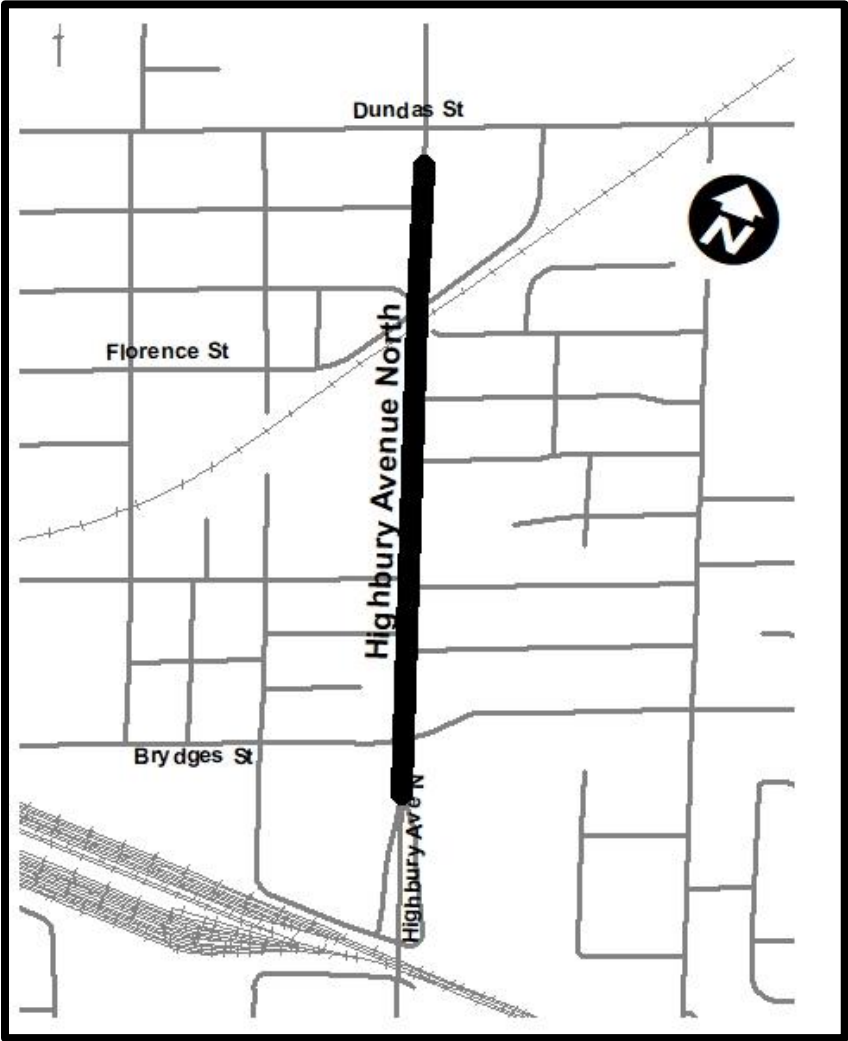
Section A – Dundas Street East-1



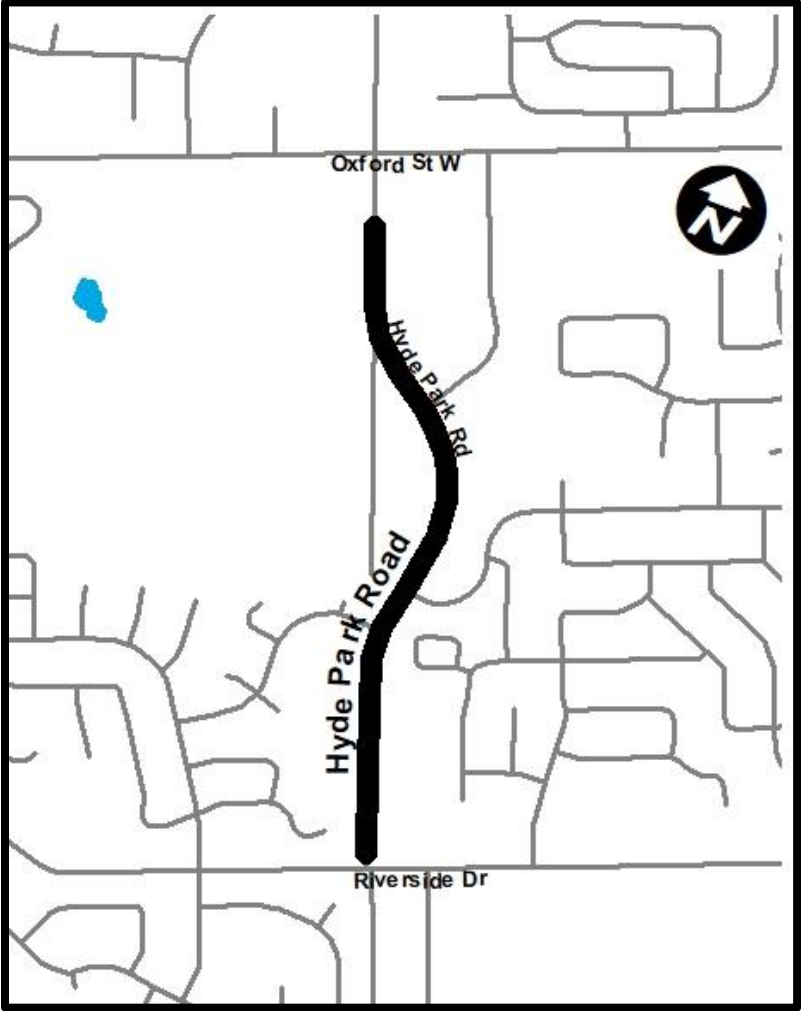
Section B – Dundas Street East-2



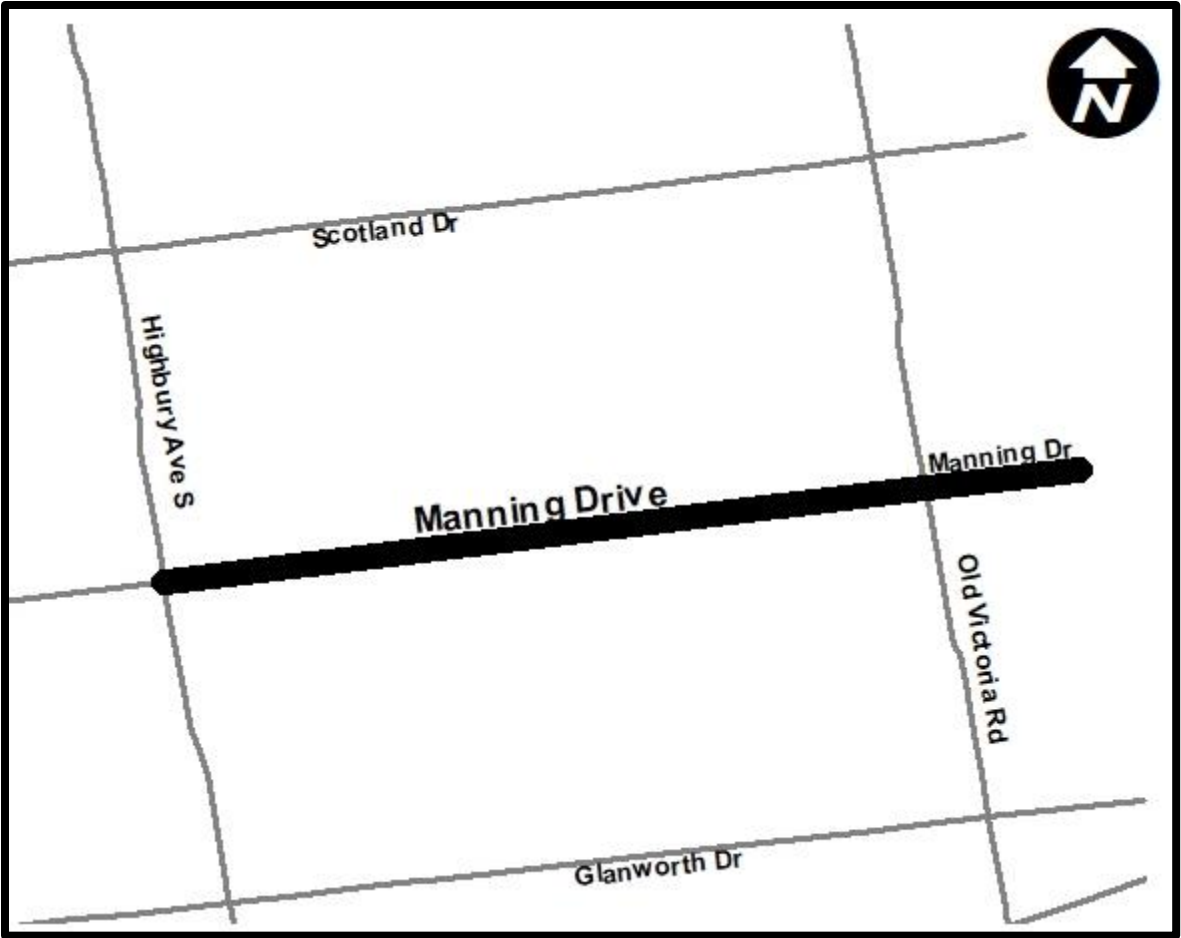
Section C – Highbury Avenue North



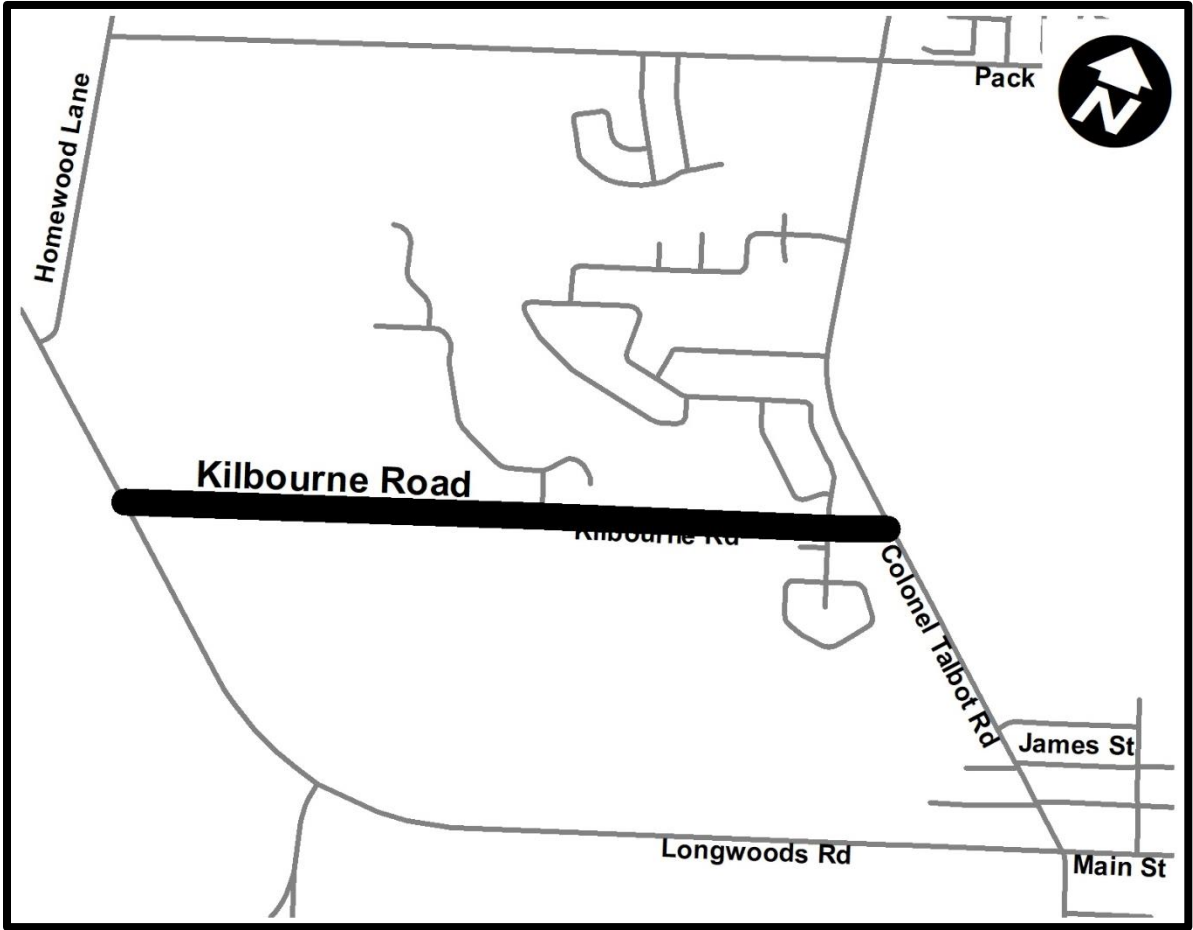
Section D – Hyde Park Road



Section E – Manning Drive



Section F – Kilbourne Road



TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON APRIL 16, 2019
FROM:	KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	CONSULTANT SUPERVISION ENGINEERING SERVICES AWARD: 2019 INFRASTRUCTURE RENEWAL PROGRAM WISTOW STREET RECONSTRUCTION PROJECT

RECOMMENDATION

That on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to the award of consulting supervision services for the 2019 Infrastructure Renewal Program Wistow Street reconstruction project:

- (a) Stantec Consulting **BE AUTHORIZED** to carry out the resident inspection and contract administration services, including geotechnical services for the said project in accordance with the estimate, on file, at an upset amount of \$294,230.20 including contingency, excluding HST, in accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy, noting that this firm completed the engineering design for this project;
- (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 approvals given herein **BE CONDITIONAL** upon the Corporation entering into a formal contract or issuing a purchase order for the work to be done; and
- (e) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

PREVIOUS REPORTS PERTINENT TO THIS MATTER
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- Appointment of Consulting Engineers, Infrastructure Renewal Program 2017-2019, Civic Works Committee, July 17, 2017, Agenda Item # 5 b) (ii)

2015-2019 STRATEGIC PLAN

The 2015 – 2019 Strategic Plan under Building a Sustainable City identifies Robust Infrastructure, more specifically to this report; 1B – Manage and improve our water, wastewater and stormwater infrastructure and services.

BACKGROUND

Purpose

This report recommends the continuation of consulting services for the reconstruction of Wistow Street from Oxford Street East to Landor Street.

A project location map is included for reference in Appendix 'B'.

Context

Wistow Street has been identified as a high priority in the infrastructure renewal program due to the poor condition of the municipal infrastructure. Most of this sewer and water infrastructure dates from the 1950s to the 1960s with a rural road cross section and no storm sewers. In addition, the Wistow Street project supports the scheduled future abandonment of the Paardeberg Sanitary Pumping Station.

Stantec was awarded the engineering design of Wistow Street in 2017.

Under the City's Administrative Approval process, if the value of a budget approved construction project is under three million dollars, tender award is managed administratively in accordance with the Procurement of Goods and Services Policy. However, the appointment of Professional Consulting services for continuation of engineering services is required to be approved by the Municipal Council for fees over \$100,000.

DISCUSSION

Stantec Consulting was awarded the detailed design fees by Council on July 25, 2017 for the Wistow Street Infrastructure Renewal Project.

The Wistow Street Infrastructure Renewal Project was tendered in February 2019 and was subsequently awarded through Administrative Approval of Tender Acceptance/Contract Award (ATTACA) in accordance with the City's Procurement of Goods and Services Policy as the value of the tender was under three million dollars. However, award of consulting supervision fees is still required to be subject to Council approval. The Wistow Street construction is scheduled to start in May 2019. Due to Stantec's knowledge and positive performance on the project, Stantec was invited to submit a proposal to carry out the contract administration and resident supervision. Stantec submitted a fee proposal of \$294,230.20 which includes a 10% contingency. Staff have reviewed the fee submission in detail considering the time allocated to each project task, along with hourly rates provided by each of the consultant's staff members. That review of assigned personnel, time per project task, and hourly rates is consistent with other infrastructure renewal program assignments of this scope and nature. The continued use of Stantec on this project for construction administration is of financial advantage to the City because Stantec has specific knowledge of the project and has undertaken work for which duplication would be required if another firm were to be selected.

In addition to the financial advantage, there are also accountability and risk reduction benefits. The City requires a professional engineer to seal all construction drawings. These "record drawings" are created based on field verification and ongoing involvement by the professional engineer. This requirement promotes consultant accountability for the design of these projects, and correspondingly, reduces the City's overall risk exposure. Consequently, the continued use of the consultant who created and sealed the design drawings is required in order to maintain this accountability process and to manage risk.

In accordance with Section 15.2 (g) of the City of London’s Procurement of Goods and Services Policy, this firm has satisfactorily completed a substantial part of the project and is recommended for award of the balance of the project. The administration recommends that Stantec Consulting be authorized to carry out the remainder of engineering services to complete this project for the provided fee estimate of \$294,230.20, excluding HST, noting the upset amount for total engineering services for the project is \$522,366.90, excluding HST. The total engineering services for this project include the design of the full length of the project, and inspection fees.

CONCLUSIONS

The use of Stantec Consulting for the remainder of engineering services for this project is in the best financial and technical interests of the City.

Acknowledgements

This report was prepared within the Wastewater and Drainage Engineering Division by Crystal McQuinn, C.E.T., Technologist II and reviewed by Kyle Chambers, P. Eng., Environmental Services Engineer.

SUBMITTED BY:	REVIEWED & CONCURRED BY:
TOM COPELAND, P. ENG. DIVISION MANAGER WATER ENGINEERING DIVISION	SCOTT MATHERS, MPA, P. ENG. DIRECTOR WATER & WASTEWATER
RECOMMENDED BY:	
KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER	

Attach: Appendix ‘A’ – Sources of Financing
 Appendix ‘B’ – Project Location Map

c.c.	Aaron Rozentals	John Freeman	Gary McDonald
	Doug MacRae	Ugo DeCandido	Stantec Consulting
	Alan Dunbar	Jason Davies	Chris Ginty

APPENDIX 'A'

#19040

April 16, 2019

Chair and Members
Civic Works Committee

(Appoint Consulting Engineer)

RE: **Supervision Engineering Services Award - 2019 Infrastructure Renewal Program**
Wistow Street Reconstruction Project
(Subledger WS18C001)
Capital Project ES246418 - Combined Sewer Separation
Capital Project EW376518 - Water Infrastructure Lifecycle Renewal
Stantec Consulting - \$294,230.20 (excluding H.S.T.)

FINANCE & CORPORATE SERVICES REPORT ON THE SOURCES OF FINANCING:

Finance & Corporate Services confirms that the cost of this project can be accommodated within the financing available for it in the Capital Works Budget and that, subject to the adoption of the recommendations of the Managing Director, Environmental & Engineering Services & City Engineer, the detailed source of financing for this project is:

SUMMARY OF ESTIMATED EXPENDITURES	Approved Budget	Committed to Date	This Submission	Balance for Future Work
<u>ES246418-Combined Sewer Separation</u>				
Engineering	\$975,000	\$626,423	\$149,704	\$198,873
Construction	3,976,320	3,338,027		638,293
Construction (PDC Portion)	44,800	44,800		0
City Related Expenses	500	101		399
	4,996,620	4,009,351	149,704	837,565
<u>EW376518-Water Infrastructure Lifecycle Renewal</u>				
Engineering	2,483,022	2,235,447	149,704	97,871
Construction	6,815,763	4,753,231		2,062,532
City Related Expenses	79,134			79,134
	9,377,919	6,988,678	149,704	2,239,537
NET ESTIMATED EXPENDITURES	<u>\$14,374,539</u>	<u>\$10,998,029</u>	<u>\$299,408</u>	<u>\$3,077,102</u>
<u>SUMMARY OF FINANCING:</u>				
<u>ES246418-Combined Sewer Separation</u>				
Capital Sewer Rates	\$1,168,000	\$1,168,000		\$0
Drawdown from Sewage Works Reserve Fund	3,783,820	2,796,551	149,704	837,565
Cash Recovery from Property Owners (PDC Portion)	44,800	44,800		0
	4,996,620	4,009,351	149,704	837,565
<u>EW376518-Water Infrastructure Lifecycle Renewal</u>				
Capital Water Rates	6,502,100	6,502,100		0
Drawdown from Capital Water Reserve Fund	2,875,819	486,578	149,704	2,239,537
	9,377,919	6,988,678	149,704	2,239,537
TOTAL FINANCING	<u>\$14,374,539</u>	<u>\$10,998,029</u>	<u>\$299,408</u>	<u>\$3,077,102</u>

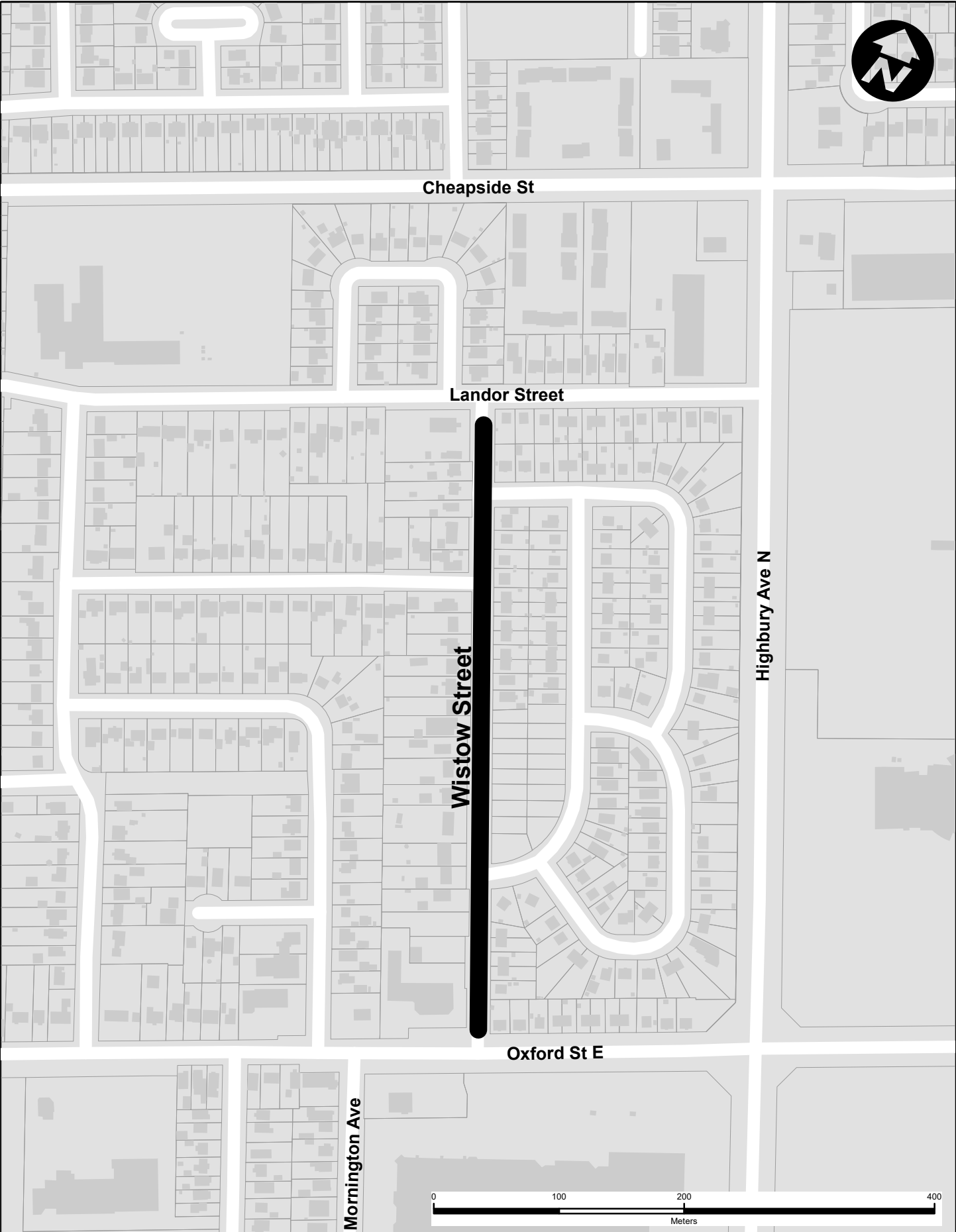
1) **Financial Note:**

	ES246418	EW376518	Total
Contract Price	\$147,115	\$147,115	\$294,230
Add: HST @13%	19,125	19,125	38,250
Total Contract Price Including Taxes	166,240	166,240	332,480
Less: HST Rebate	16,536	16,536	33,072
Net Contract Price	<u>\$149,704</u>	<u>\$149,704</u>	<u>\$299,408</u>

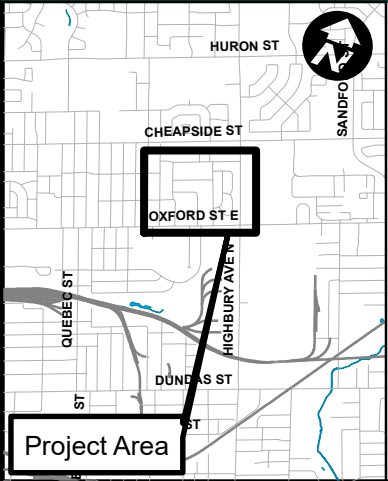
JG

Jason Davies
Manager of Financial Planning & Policy

APPENDIX 'B'



LOCATION MAP



2019 Infrastructure Renewal Program
Contract 1

Wistow Street from Oxford Street East to Landor Street

Map Produced by
the Wastewater &
Drainage Engineering
Division
February 14 2019 JB

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON APRIL 16, 2019
FROM:	KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER
SUBJECT:	COMMENTS ON ENVIRONMENTAL REGISTRY OF ONTARIO (ERO): REDUCING LITTER AND WASTE IN OUR COMMUNITIES: DISCUSSION PAPER

RECOMMENDATION

That, on the recommendation of the Managing Directors of Environmental & Engineering Services & City Engineer; the comments (Appendix B) **BE ENDORSED** and submitted to the Ministry of the Environment, Conservation and Parks' Environmental Registry of Ontario posting (013-4689) titled *Reducing Litter and Waste in Our Communities: Discussion Paper* by April 20, 2019 (ERO submission date) with any additional comments submitted following the Council meeting on April 23, 2019.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

Relevant reports that can be found at www.london.ca under City Hall (Meetings) include:

- Comments on Environmental Registry of Ontario (ERO): a Made-in-Ontario Environment Plan (January 8, 2019 meeting of the Civic Works Committee (CWC), Item #2.5)

STRATEGIC PLAN 2015-2019 AND DEVELOPMENT OF COUNCIL'S 2019-2023 STRATEGIC PLAN

Municipal Council has recognized the importance of solid waste management, climate change, other related environmental issues and innovation in its previous Strategic Plan (2015-2019) and in the development of its 2019-2023 Strategic Plan for London. This work touches on three Areas of Focus: Building a Sustainable City, Growing our Economy and Leading in Public Service

BACKGROUND

PURPOSE:

The purpose of this report is to provide Committee and Council with:

- A summary of the Ontario Ministry of the Environment, Conservation, and Parks (MECP) proposal titled, *Reducing Litter and Waste in Our Communities: Discussion Paper*, and
- The City of London's comments (Appendix B) on the proposed questions listed in the Discussion Paper.

CONTEXT:

In January 2019, the City of London submitted comments through the Environmental Registry of Ontario (ERO) on the proposed Preserving and Protecting our Environment for Future Generations: A Made-in-Ontario Environment Plan covering the following areas:

- Protecting Our Air, Lakes and Rivers

- Clean Air
- Clean Water
- Addressing Climate Change
 - Building Resilience: Helping Families and Communities Prepare
 - Continuing to do Our Share: Achieving the Paris Agreement Target
 - Make Polluters Accountable
 - Activate the Private Sector
 - Use Energy and Resources Wisely
- Doing Our Part:
 - Government Leadership
- Reducing Litter and Waste in Our Communities & Keeping Our Land and Soil Clean
 - Reduce Litter and Waste
 - Clean Soil
- Conserving Land and Greenspace

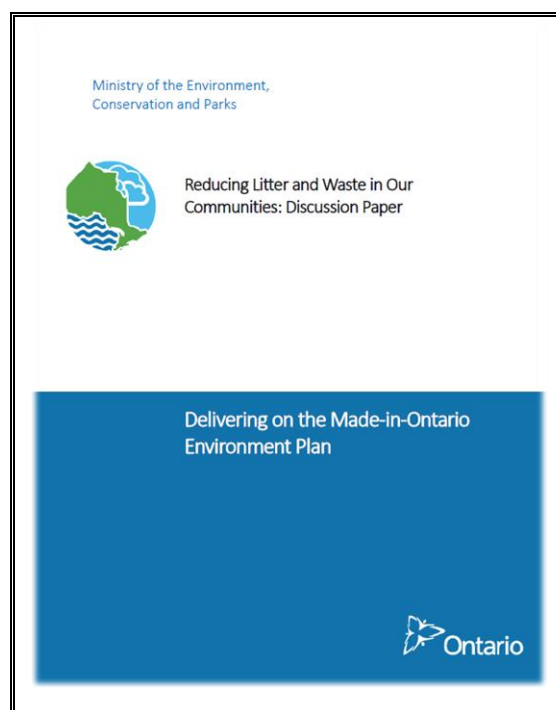
The MECP released for comment on March 6, 2019 further details on litter and waste in a document called *Reducing Litter and Waste in Our Communities: Discussion Paper*. The province has permitted a 45 day comment period closing on April 20, 2019.

DISCUSSION

The Reducing Litter and Waste in Our Communities Discussion Paper provides more details on the government's policy direction on the waste management issues outlined in its November 2018 Environment Plan. City of London comments on the Environment Plan (section: Reducing Litter and Waste in Our Communities & Keeping Our Land and Soil Clean) and how they were addressed is identified in Appendix A.

The new Discussion Paper states three broad waste management goals for the Ontario government:

1. Decrease the amount of waste going to landfill
2. Increase the province's overall diversion rate
3. Reduce greenhouse gases from the waste sector



Summary Comments

From an overall municipal perspective, it is important to recognize that this Discussion Paper includes input directly from municipalities in many areas. It also highlights the need to work closely with municipalities on current and future waste diversion and resource recovery systems. Municipal messaging is very clearly reflected throughout, including but not limited to:

- The importance of full producer responsibility and the commitment to move forward with transitioning all existing programs (with an emphasis on addressing other areas like parks and public spaces) and designating new materials. This includes shifting the financial burden of recycling from municipalities to industry.
- The need to address the industrial, commercial and institutional sectors as recycling rates lag far behind the municipal sector.

- The need to focus on more effective/efficient capture of data, statistics and performance measurements.
- Greater clarity related to the continuation of Food and Organic Waste Policy Statement and the need for further clarification on how to meet obligations. There has been no indication that the current government is stepping away from the previous direction.
- The need to address plastic waste through a multi-pronged strategy with the ultimate goal being no plastic to landfill or left on the ground or in water bodies.
- A clear understanding of the challenges municipalities have with organics management.
- A recognition of the need to address barriers to planning, infrastructure and end markets for recyclables, organics and other materials that can be diverted from landfill.
- Recognition of the need to examine a variety of resource recovery technologies that create value from materials that are difficult to recycle and/or are often sent to waste disposal or turn up as litter.
- There is a lot of discussion throughout on the need to work closely with municipalities.

The Discussion Paper is divided into a number of specific sections with questions (about 37) posed in each section:

- 2.1 Prevent and Reduce Litter in Neighbourhoods and Parks (p. 6-8)
- 2.2 Increase Opportunities for Ontarians to Reduce Waste (p. 8-12)
- 2.3 Make Producers Responsible for Their Waste (p. 12-14)
- 2.4 Reduce and Divert Food and Organic Waste (p. 14-19)
- 2.5 Reducing Plastic Waste Going into Landfills or Waterways (p. 19-21)
- 2.6 Provide Clear Rules for Compostables (p. 21-23)
- 2.7 Recover the Value of Resources (p. 23-26)
- 4.0 We Want to Hear From You (p. 29)

Comments to be submitted to the ERO for each question are contained in Appendix B. City staff are grateful for the work undertaken and shared by the Association of Municipalities of Ontario (AMO), Regional Public Works Commissioners of Ontario (RPWCO), Municipal Waste Association (MWA) and the City of Toronto acting as one entity called the Municipal 3Rs Collaborative (M3RCs). The City of London is an active member of M3RCs via RPWCO.

PREPARED BY:	PREPARED BY:
ANNE BOYD, B.A., B.E. SC. MANAGER, WASTE DIVERSION	MICHAEL LOSEE, B.SC., DIVISION MANAGER SOLID WASTE MANAGEMENT
PREPARED AND SUBMITTED BY:	RECOMMENDED BY:
JAY STANFORD, M.A, M.P.A. DIRECTOR, ENVIRONMENT, FLEET & SOLID WASTE	KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER

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Appendix A: How were City of London Previous Comments Addressed?

Appendix B: Comments to be Submitted to the ERO (#013-4689)

Appendix A

How were City of London Previous Comments Addressed?

#	Previous Comment	Were City's Comments Addressed?
1.	The City of London supports the direction in this section of the Plan. It clearly builds on years of solutions that have been implemented and actions that are still required to be implemented. The simple theme of "reduce litter and waste" has an enormous amount of complexities that require strong Provincial direction with implementation by municipalities and businesses coupled with actions by citizens and employees.	Yes, the Province produced a focused Discussion Paper as the first item to implement the Environment Plan.
2.	The City of London supports the need to reduce and divert food and organic waste from households and businesses as it generally represents 20 to 35% by weight of the residential waste stream as well as a significant component in many businesses waste streams (e.g., restaurants, food processing operations, hospitality industry, etc.).	Yes, the Province has made this a priority in the Discussion Paper for all generating sectors.
3.	The City of London supports plastic waste reduction strategies that are comprehensive and have consistency across provinces and municipalities but also recognize differences and solutions that may exist in some regions.	Yes, the Province has made plastics waste reduction, recycling and recovery a priority in the Discussion Paper.
4.	The City of London supports the goal of enhanced programs to clean up litter in communities. We welcome the opportunity to work with Provincially-sponsored programs to build long-term local leaders in this area.	Yes, the Province continues to highlight the importance of reducing litter, keeping parks and recreational areas clean.
5.	The City of London supports quick action on extended producer responsibility and shifting recycling costs to businesses that create packaging, products and printed materials. Municipalities have an important role to play in helping businesses be successful and cost effective in expanded recycling systems.	Partially, the Province has recognized the importance of extended producer responsibility for municipalities. However, it is very light on timing and implementation plans.
6.	The City of London supports exploring opportunities to recover the value of resources in waste and recommends that the Province ensures that all resource recovery options that maximize the value of unwanted materials are available for municipalities and businesses to implement. The ultimate goal is materials of value should not go to a landfill and all materials should never end up as litter or illegally dumped.	Yes, the Province has recognized the need for further discussion and assessment of new and emerging technologies to increase the value of materials that end up in landfills.
7.	The City of London encourages the Province to work with Ontario municipalities, the Ontario Waste Management Association, and the Canadian Biogas Association to develop clean fuel programs that supports both the production of renewable natural gas (RNG) from landfill gas and/or organic waste.	Yes, the Province has recognized the need for further discussion and assessment of renewable natural gas (RNG) from various materials such as organics, landfill gas, conversion technologies, etc.

Appendix B: Comments to be Submitted to the ERO (#013-4689)

The following Discussion Questions were posed in the Discussion Paper. City of London answers, comments and/or questions are listed below the Discussion paper question.

2.1 Prevent and reduce litter in neighbourhoods and parks:

1. How best can the province coordinate a day of action on litter?

Many Ontario municipalities, businesses, organizations and institutions organize litter clean events during the month of April as part of Earth Day activities. In London, many organizations and businesses are involved in the London Clean & Green Program. The province could begin by determining what is currently undertaken and how these events could be coordinated and supported through provincial direction and common messaging.

Organizing a province-wide cleanup day must not conflict with local action. Municipalities have been coordinating activities that meet their municipal needs for years. Building upon the successes versus creating something new is advisable.

2. What do you or your organization do to reduce litter and waste in our public spaces? What role should the province play to facilitate this work?

The City of London works with community organizations and businesses to raise awareness about the need to prevent litter, to plan and support cleanup events to remove litter and garbage in public spaces. The province could help through province wide promotion and information campaigns that support local actions. The province should not dictate a specific date that municipalities must use.

3. What and where are key hotspots for litter that you think should be addressed?

There are many and they are varied. In London, litter is found on boulevards, in parks, along creeks, streams and rivers.

4. How do you think litter can best be prevented in the first place? Where is access to diversion and disposal particularly limited?

Residents and businesses need to understand the financial impact of letter, illegal dumping and related poor behaviours. Littering and illegal dumping needs a supportive enforcement system whereby consequences are visible and supported by the judicial system. In addition, there are important environmental and social consequences of litter and illegal dumping. Because many impacts will be similar across Ontario, access to powerful and meaningful statistics and background details would benefit all municipalities in their messaging.

The Province should also play a legislative and enforcement role by:

- Implementing full producer responsibility for paper products and packaging (PPP) and other materials that are most often captured as litter,
- Strengthening litter and illegal dumping laws and bylaws especially related to roadside litter,
- Consider restricting or banning problematic materials or packaging or activities such as balloon releases that create litter for short-term enjoyment, and
- Review the requirements related to waste management vehicles to ensure these vehicles are not contributing to litter.

2.2 Increase opportunities for Ontarians to reduce waste:

1. How can the province best help the public participate in waste reduction and diversion activities? How can the province facilitate better diversion in lagging areas, such as multi-unit residential building?

The province needs to provide additional financial resources to municipalities to help with current reduction and diversion programs from promotion and education to support for community groups. Programs are already in place and the majority will have greater impact with more investment. The province could set up a matching program (50% funding) with municipalities and ensure that it is based on meeting objectives.

Multi-residential buildings will always require different methods to reach tenants and owners. The needs of residents living in these locations are not the same as traditional single family homes.

The province could:

- Review the Building Code to ensure multi-unit buildings are better designed to accommodate source separation and include design requirements for the safe and efficient delivery of collection services,
- Provide funding opportunities for research, innovation and infrastructure upgrades such as chute diverters that may drive resource recovery in existing buildings as well as mixed waste processing to recover resources from the waste stream,
- Lead an Ontario-wide promotion and education campaign targeted at lagging areas such as multi-unit residential buildings. Consider requiring multi-unit residential owners to provide information to residents,
- Standardize the materials collected across the province as part of the move to full producer responsibility for PPP, and
- Expand the definition of what constitutes a multi-unit residential building so that new privately serviced developments are mandated to comply with provincial direction.

2. What types of initiatives do you think would result in effective and real action on waste reduction and diversion for the IC&I sectors?

- Enforcement of existing provincial legislation and regulation,
- Establish a working relationship with municipalities to help with the dissemination of information, rationale for action and the consequences of inaction,
- Mandatory data collection and publishing of waste diversion and management statistics by IC&I sectors, and
- Recognition programs for those offering services to their employees and customers.

3. What role do you think regulation should play in driving more waste reduction and diversion efforts from the IC&I sectors?

Backdrop regulations are necessary. Waste reduction, waste diversion and/or resource recovery must be viewed as an operating business practice similar as all other business functions.

4. How can we get accurate information on waste reduction and diversion initiatives in the IC&I sectors?

Require reporting through a regulation for businesses of a certain size. If that is too cumbersome, it could be handled through requirements of processing facilities in Ontario. The latter would not be as accurate but it may be a good starting point.

5. What do you think about a province-wide program for the recovery of clothing and textiles?

For the most part, textile and clothing recovery programs are well-established in Ontario. It is imperative that any future province-wide system not impact local programs which not

only divert materials from landfill but create local employment. Estimates in London suggest that 50% of textiles and clothing are already managed without any investment by the municipality. Provincial involvement would be helpful but it must be carefully considered. It may be best undertaken on a regular basis.

2.3 Make producers responsible for their waste:

1. How do you think the Blue Box Program could best be transitioned to full producer responsibility without disrupting services to Ontario households?

Producers need to be aware of the current service levels provided in each municipal program, to ensure that existing service levels are maintained through the process of transition, and for programs once they have transitioned. This will require that Blue Box contracts are assigned from municipalities to producers. Ontarians need to be kept informed of changes, so they are better prepared for them, and understand the end goals. An informed public is also more ready to weather changes and disruptions. The Blue Box Program has a long history in Ontario, and it is essential that citizen confidence in the program is not eroded.

2. Should it transition directly to producer responsibility under the Resource Recovery and Circular Economy Act, 2016 or through a phased approach?

There are merits to both approaches, and the Minister should consider both scenarios. The proposed amended Blue Box Program Plan had envisioned a phased approach, as it appeared to be more manageable. What is key is that timelines need to be made very clear to municipalities so that they can plan budget and contract end-dates potentially. If a phased approach means that some municipalities transition before others, those municipalities that transition later are at a financial disadvantage. The readiness of municipalities to transition is dependent on contract end-dates, or existing contract language that will allow them to transition without penalty. Municipalities that are not able to transition sooner should not be penalized. This could be avoided by all municipalities sharing in the financial benefit that will occur by producers paying the full costs for transitioned programs. This would mean that as transition begins, the funding to all municipalities will increase from 50% to 100% at the same rate.

3. When do you think the transition of the Blue Box Program should be completed?

The transition should be completed no later than the end of 2023 in accordance with the timeline outlined in the Waste-free Ontario Strategy. At the very latest, the end of 2024 as noted on the timetable found in question 6.

4. What additional materials do you think should be managed through producer responsibility to maximize diversion?

In addition to designating new materials, producers need to improve how current materials are managed through increased diversion rates, sustainable end markets (e.g., plastics such as film, polystyrene foam), and measures to prevent them becoming litter (e.g., hot beverage cups, plastic bags, etc.). Producers need to be responsible for materials that also end up in landfill, on the ground and in our waterways as litter. In addition to the new materials that have been discussed to be included in diversion programs (e.g., carpet, furniture, mattresses), producers should continue to invest in research and development to identify remaining materials in the waste stream to determine if there are better options.

5. How can we make it easier for the public to determine what should and should not go in the Blue Box?

Implementing a standard, Ontario-wide list of items that can be managed in the Blue Box system would assist with this goal. This would limit the current confusion between the various municipal Blue Box programs when people move to different areas of the province.

6. How should the province implement the transition process of its existing programs to producer responsibility without interrupting service?

The City of London supports the extended producer responsibility work and transition work completed by the Association of Municipalities of Ontario (AMO), Regional Public Works Commissioners of Ontario (RPWCO), Municipal Waste Association (MWA) and the City of Toronto acting as one entity called the Municipal 3Rs Collaborative (M3RCs). The City of London is an active member of M3RCs via RPWCO. The text below has been copied from M3RCs:

It is the view of municipal governments that the Blue Box Program transition to full producer responsibility via a regulation under the RRCEA, and that the Minister initiate this process as soon as possible. This approach was outlined in a letter from AMO President, Jamie McGarvey, to Minister Phillips on March 19, 2019.

There is agreement amongst all stakeholders that the current Blue Box system is not working. It is costly for all stakeholders and, without substantive changes, these costs will continue to increase municipal budgets. Making producers fully responsible for managing the PPP that they supply into Ontario fundamentally changes this structure. Producers are best positioned to reduce waste, increase the resources that are recovered and reincorporated into the economy and enable a consistent province-wide system that makes recycling easier and more accessible.

The RRCEA ensures transparency; it focuses on outcomes over process; provides producers with flexibility in decision-making; and ensures proper oversight and enforcement. It also moves us away from a process that requires constant government intervention.

Initiating the process to a regulation as soon as possible will allow for more time for important collaboration to occur. It will provide certainty to:

- *Enable much needed investments into Ontario's recycling collection and processing infrastructure,*
- *Allow for informed business decisions between municipalities and their contractors,*
- *Enable producers to prepare to assume their future obligations,*
- *Enable producers to drive towards outcomes-based performance standards, and incentivize them to innovate their products and packaging, and*
- *Provide a schedule and framework for municipal governments, their existing service providers, producers, and their future service providers to develop interim steps that will enable a smooth transition.*

Having a schedule and framework for municipal governments will be critical to ensure that there is no disruption to services for Ontario households. Additionally, we are learning from the approach already successfully taken for used tires, and moving forward, waste electrical and electronic equipment and municipal household hazardous waste. This combination of having certainty and a well understood process with the other waste diversion programs will allow for municipal governments and producers alike to plan and mitigate against any potential disruptions to services.

Municipal governments along with other stakeholders are proposing that the Blue Box program transition to full producer responsibility under the RRCEA using a phased approach that would take approximately five years to complete. This timeline would include the development of a PPP regulation under the RRCEA, a regulatory start-up period where producers would have time to register and organize themselves and see the incremental turnover of programs from municipal governments to producers over a three-year period.

We believe this approach applies a thoughtful, stepwise transition to full producer responsibility under the RRCEA which is the ultimate destination for most stakeholders. It also avoids the unnecessary step of an amended Blue Box Program Plan.

There were many lessons learned from the amended Blue Box Program Plan process in 2017 that can be leveraged in a PPP Regulation under the RRCEA. However, we found that the legislative structure under the Waste Diversion Transition Act (WDTA), perpetuates many of the challenges stakeholders currently face with the existing program and the need for frequent government intervention.

Moving to a regulation under the RRCEA provides all stakeholders with a clear timeline within which operational and financial decisions can be made. It will also lead to a regulation with enforceable outcomes established in the public interest that provides obligated businesses with the flexibility to achieve the outcomes in the most efficient and effective manner.

In our view, the regulation should prescribe a defined transition mechanism that would allow for a municipal self-nomination process over three years with an annual cap on the amount of PPP collected that can transition. We understand that this transition mechanism is necessary to allow for change that is both orderly and balanced.

The current thinking of municipal governments to transition the Blue Box Program is below:

Proposed Step	Proposed Timeline	Description
1. <u>Initiate the Regulation</u> : Minister gives direction to the Resource Productivity & Recovery Authority (RPRA) and sets the completion date for transition to full producer responsibility	As soon as possible	<ul style="list-style-type: none"> Minister should send a letter to Stewardship Ontario (SO) and RPRA to start the transition of the Blue Box program We are suggesting the letter be sent as soon as possible and that it include two important dates to ensure adequate time and certainty for all to plan and collaborate: <ul style="list-style-type: none"> A date to start transitioning municipalities to the RRCEA (proposed Q4 2021); A date when all municipalities would be transitioned to the RRCEA (proposed Q4 2024) Provides an almost 5-year window to transition all operational and financial responsibility to producers
2. <u>Draft a Regulation</u> : Minister leads a province-wide consultation to develop a regulation for PPP under the RRCEA	Q2 2019 to end of Q3 2020	<ul style="list-style-type: none"> Given the range of stakeholders, the province should lead the consultation Key areas of discussion should include targets for recovery and accessibility, eligible sources of material (i.e. residential), designated materials, transition timeline, transition approach Changes to Regulation 101/94 would need to be considered at the same time
3. <u>Regulatory Start-up Period</u> : An appropriate amount of time is provided to register producers and potentially service providers before the regulation fully comes into force	Q4 2020 – end of Q3 2021	<ul style="list-style-type: none"> After the regulation is approved, time is required for producers to establish contracts to assume operational and financial responsibility Municipal self-nomination would begin to occur during this period

Proposed Step	Proposed Timeline	Description
<i>4. <u>Begin Transition:</u> The municipal self-nomination process would take place over three years with an annual cap on the amount of PPP collected that can transition</i>	<i>Q4 2021 – end of Q4 2024</i>	<ul style="list-style-type: none">• The proposed transition schedule would include:• First set of municipalities (up to 1/3 by tonnage of Blue Box materials) would transition between Q4 2021 and Q4 2022• Second set of municipalities (up to 2/3 by tonnage of Blue Box materials) would transition between Q4 2022 and Q4 2023• Third set of municipalities (total tonnage of Blue Box materials) would transition between Q4 2023 and Q4 2024• Municipalities that have transitioned would have O. Reg 101/94 requirements removed (as producers would not have these requirements under the RRCEA)• Producers would be required to meet targets linked to transitioned municipalities• For those municipalities not transitioned, the Blue Box Program Plan would continue with 50% funding being provided by Stewardship Ontario until transition is complete
<i>5. <u>Transition Completed:</u> At a defined date outlined in the Minister’s letter, all municipalities must transition their Blue Box programs to producers.</i>	<i>End of Q4 2024</i>	<ul style="list-style-type: none">• The PPP regulation under the RRCEA would be in place with province-wide targets and servicing in place• The Waste Diversion Transition Act would cease and all municipalities would be relieved of all Blue Box related requirements under Reg. 101/94

We think that this transition schedule would allow for the wind-up of the old Waste Diversion Act and brings the full benefits of the RRCEA into effect for all designated wastes.

With full financial and operational control, producers are best positioned to enable a consistent province-wide system that makes recycling easier and more accessible. To date, promotion and education has been up to individual municipalities who each take different items based on their own infrastructure and residents. A harmonized list of acceptable materials for the program across the Province would enable promotion efforts to be done with more scale and ensure residents know what materials can be included.

Municipal governments think this process is reasonable because the main elements of the regulation have already been discussed in some detail as part of the proposed amended Blue Box Program Amendment. This includes what paper products and packaging are designated across the province, accessibility, environmental outcomes and targets. There is a growing understanding between the various stakeholders of the issues each has and of practical solutions to address to ensure a smooth transition of the Blue Box which will lead to better outcomes for all. We are confident that any remaining issues can be addressed through the consultation.

2.4 Reduce and divert food and organic waste

1. What can be done to increase the safe rescue and donation of surplus food in Ontario?

The nature of food rescue and donation requires local systems to be in place that build confidence in all aspects. This cannot be driven by a central authority(ies). However, it does require support and direction from “head offices” with implementation occurring within municipalities. It is imperative that qualified people are engaged and understand the importance of rules, regulations and requirements of food, food handling, food storage, etc.

2. What role do you think government and industry can play in raising education and awareness on the issue of food waste?

To raise awareness and educate, the province and industry need to assist with funding programs and use established channels to help convey messages. There is no need to create new systems; rather enhance and improve upon existing systems. The province must ensure this is built into school curriculums at the provincial level.

3. Do you think the province should ban food waste? If so, how do you think a ban would be best developed and implemented?

Any consideration of food and/or organics disposal restrictions and/or ban needs to take into account the geographic and population differences in Ontario; how and why food waste is generated; where the ban would occur (from disposal, at the source, etc.). Restrictions and/or bans are best done at the provincial level. Items that need to be examined include:

- Realistic implementation timeframe – a five to ten-year period is likely required,
- Complementary push and pull mechanisms such as incentives for resource recovery; quality standards for products from organics (e.g., fertilizer and other soil amendments); streamlining of environmental approvals for processing infrastructure so other systems are in place and meeting regulations; government procurement practices (e.g. servicing and end market related); and disposal levies,
- Clear direction and consistent communication,
- Phase-in and appropriate exemptions,
- Proper oversight, monitoring for compliance and enforcement, and
- Promotion & education.

2.5 Reduce plastic waste going into landfills or waterways

1. What do you think is the most effective way to reduce the amount of plastic waste that ends up in our environment and waterways?

Reducing the amount of plastic waste that ends up in the environment and waterways requires action on both the part of producers of products utilizing plastic packaging and the consumers of those respective products. Producers of plastic packaging waste should be encouraged when designing packaging to consider ways to discourage and/or limit the potential for the package to become litter. Similarly, consumers of products that contain plastic packaging should be incentivized and discouraged through campaigns and programs to limit the potential for the plastic packaging materials associated with product purchases to become litter.

2. What role do you think the various levels of government should play in reducing plastic waste?

Whether it is plastic waste or other packaging materials, the answers are very similar. Moving to extended producer responsibility is key – shifting this responsibility to producers will create economic opportunities, incent innovation, improve our environment, and reduce the burden on Ontario’s taxpayers. Producers of plastic are in the best position to communicate directly with consumers about whether their products and packaging can be

recycled and how to best collect them. They are also best informed to invest in the recycling collection and processing system necessary and to create markets to support their end use. This means making producers directly responsible for ensuring accessibility to all Ontarians, continually improving both collection and recycling outcomes, allowing for competition to drive innovation both at the service provider and producer level, and ensuring transparency and direct accountability.

Other key items to consider include:

- Establish provincial, or even better, national targets for waste diversion and resource recovery and have consistent definitions and metrics,
- Have industry address issues related to single-use packaging and problematic materials. If they cannot produce suitable strategies, then the province or federal government should step in. The Province should work with the federal government to take targeted actions, such as fees, or recycled content requirements, to reduce the use of disposable single-use products and where appropriate, eliminate problematic plastics and plastic additives. If no action is being taken, then bans could be considered, and
- Support end market development

3. Would you support and participate in shoreline and other clean-up projects to keep our waterways and land free of plastic waste?

The City of London, organizations and businesses already do this. It is important to note that there are many materials that contribute problems, not just discarded plastics. Behaviours need to change for all materials that become litter.

4. Would a ban on single-use plastics be effective in reducing plastic waste?

No. Single use plastics should not be singled out from a ban perspective. All single use materials, regardless of material type need to have responsible management systems available. Implementing extended producer responsibility is key in this regard.

5. What are your views on reducing plastic litter through initiatives such as deposit return programs?

This should be decided by the producers. It represents a proven solution. However, it can also fragment a system.

2.6 Provide clear rules for compostables:

1. How do you think compostable products and packaging should be managed in Ontario?

Compostable products should be managed through an organics management system. The challenge is how do residents and business know when an item is compostable and another similar item is not compostable? The province needs to manage this growing dilemma with industry, facility operators and municipalities.

2. Should producers of compostable products and packaging be held responsible for the management and processing of their materials?

Yes, extended producer responsibility applies here as well. A standard for compostability and stricter requirements related to advertising are required so that property taxpayers are not burdened by companies making misleading claims. There also needs to be consistency across product/packaging categories to avoid cross-contamination between recycling and organic processing streams and to avoid consumer confusion.

3. What role do you think standards and facility approvals should play in the proper management of compostable products and packaging?

New facilities can be designed to handle these materials; however existing facilities are not designed to handle them and it will require added investment to handle them.

2.7 Recover the value of resources

1. What role do you think chemical recycling and thermal treatment should have in Ontario's approach to managing waste?

All solutions to recovering resources from materials that are typically sent to landfill or become litter should be considered. Municipalities should be engaging in solutions that meet their municipal needs. Chemical recycling, waste conversion technologies (e.g., gasification, pyrolysis, hydrogen reduction), mixed waste processing technologies and energy-from-waste (with combustion) are all technologies that can play an important role to recover the value of waste.

2. What types of waste materials do you think are best suited for thermal treatment?

- Process residuals from recycling, composting and biogas operations
- Hard to recycle or compost materials
- Unseparated garbage
- Any material where it is proven that environmental (e.g., greenhouse gas reduction), social and financial benefits are greater and more sustainable than traditional waste diversion processes

3. How can we clearly and fairly assess the benefits and drawbacks of thermal treatment?

First and foremost it is key that decision-makers, residents, technical staff, etc. have access to current information. This requires documents with up-to-date, independent and peer reviewed information being publicly available.

Next, any new technology must be considered based on local conditions and from a waste systems perspective (e.g., how feedstock for a facility is procured and delivered right through to the handling of any process residuals).

Lifecycle assessments for different technologies help to illustrate the overall environmental benefit or impact versus other technologies. This could be captured in a single document made available to all interested parties.

Thermal treatment already falls under a streamlined Environmental Assessment (EA) process. *Environmental Protection Act* studies are also required. These requirements do not need to change.

It is recognized that the Government must thoroughly review the application (and supporting documents) but the review must be completed within appropriate (shorter) timeframes. The province may need to hire more technical consultants to undertake reviews of submissions that have met submission requirements. There needs to be a commitment to review timelines. There also needs to be consequences of missed deadlines.

Community engagement is already a requirement and must not be circumvented.

4. Are there obstacles in the current regulatory requirements and approvals processes that could discourage the adoption of technologies such as chemical recycling and thermal treatment? How can we maintain air standards and waste management requirements in addressing these obstacles?

Yes there are obstacles. First and foremost, the province needs to embrace new, emerging and next generation technologies as being part of the solution.

The province needs to quickly understand how advanced resource recovery technologies work in order that they can be properly and fairly reviewed. This may mean hiring technical consultants to assist with application reviews. Information from one project (review team) must be shared with others in order that review consistency is established.

Chemical recycling, waste conversion technologies (e.g., gasification, pyrolysis, hydrogen reduction), mixed waste processing technologies and energy-from-waste (with combustion) along with aerobic composting and anaerobic digestion all need appropriate levels of environmental and technical scrutiny coupled with appropriate siting in communities. Risks need to be understood and mitigative measures established.

5. How can we best work with municipalities and stakeholders to integrate new soil reuse rules and other best practices into operations quickly, and to continue to develop innovative approaches to soil reuse and management?

Establish a working group to clearly understand the gaps that are preventing greater movement in this area, solutions to reduce the gaps, solutions to reduce risks (e.g., contamination levels), and establish standards and thresholds for use. It will be key to have different ministries at the table to ensure that there is agreement on solutions and risks.

2.8 Support competitive and sustainable end-markets

1. What changes to the approvals process do you think would best facilitate a reduction in waste going to landfills?

Developing a system of approval similar to the EASR process for known recovery processes and technologies that have readily known and quantifiable effects and/or emissions would make the approval process for these process and technologies more efficient and timely. This would allow for technology to be implemented and adapt more quickly to the changing requirements to meet diversion goals and as such reduce the potential for materials to be landfilled.

2. What type of end-markets for resources from waste do you think Ontario is best positioned for?

Ontario should not say no to any opportunity. It is a large province representing almost 40% of Canada's population. Most of that population lives along the 401/402 corridor and one to 2 hours north or south.

If resources are pooled sufficient quantities would be available to attract private sector investment. Economies of scale are essential in keeping costs low. Even a new paper processing facility is a possibility.

3. How do you think municipalities should be given more of a say in the landfill approvals process?

The province's Environmental Assessment process already provides municipalities with a very important "say." It is imperative that municipalities are involved at the start of a process and automatically placed on a stakeholder committee. This would include more than one representative from a municipality. Municipalities need to be actively involved. Smaller municipalities may require funding in order that they can be engaged.

Municipalities need to have proper zoning within its boundaries including adequate buffer areas between zones to handle items such as odour and traffic concerns.

4.0 We want to hear from you

1. Of all the initiatives detailed in this discussion paper, what do you think should be a priority for early action?

- Implementing extended producer responsibility – placing financial responsibility with those that create paper products and packaging
- Implementing food waste avoidance programs
- Increasing the amount of organics diverted from landfill
- Advancing resource recovery technologies
- Introducing lifecycle assessments into the decision-making process

2. How do you think Ontario can best maintain its competitiveness and growth while reducing the amount of waste going to landfill and litter in our communities?

- More jobs are created through waste diversion and resource recovery; therefore this is job creation.
- Economies of scale help to contain and control costs
- Reducing fragmentation in the waste management system and increase consistency in what is delivered
- Recognizing that these services have a cost and building these costs into all products and packages minimizes the impact as the percentage increase will be small.

3. How do you think we can make Ontario a leader in waste reduction and diversion once again?

The province needs to move on extended producer responsibility and removing the costs of recycling from municipalities. Municipalities will then focus on organics with technology suppliers.

The province becomes proactive with approvals as facilities are not currently available.

Finally, all plans need to build confidence in the private sector to invest money. That means politics should be removed from resource recovery and waste management as much as possible. Reversing government decisions does not build confidence.

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON APRIL 16, 2019
FROM:	GEORGE KOTSIFAS, P.ENG. MANAGING DIRECTOR, DEVELOPMENT & COMPLIANCE SERVICES & CHIEF BUILDING OFFICIAL
SUBJECT:	HURON INDUSTRIAL STORM MANAGEMENT FACILITY MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT: NOTICE OF COMPLETION

RECOMMENDATION

That, on the recommendation of the Managing Director, Development & Compliance Services & Chief Building Official, the following actions **BE TAKEN** with respect to the Huron Industrial Stormwater Management Facility Environmental Assessment:

- (a) The preferred outfall improvement alternative, executive summary attached as Appendix 'A', **BE ACCEPTED** in accordance with the Schedule 'B' Municipal Class Environmental Assessment process requirements;
- (b) A Notice of Completion **BE FILED** with the Municipal Clerk; and,
- (c) The Municipal Class Environmental Assessment Schedule 'B' project file for the Huron Industrial Stormwater Management Facility **BE PLACED** on public record for a 30-day review period.

PREVIOUS REPORTS PERTINENT TO THIS MATTER
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Civic Works Committee, January 10, 2017 – Appointment of Consulting Engineer for the Stormwater Servicing Municipal Class Environmental Assessment for the Huron Industrial Area

Civic Works Committee, October 4, 2016 – Appointment of Consulting Engineer for the Master Servicing Study for the Huron Industrial Area

2015 – 2019 STRATEGIC PLAN

The following report supports the 2015 – 2019 Strategic Plan through the strategic focus area of Building a Sustainable City including:

- Robust Infrastructure 1B – Manage and improve water, wastewater, and stormwater infrastructure.

BACKGROUND

The purpose of this report is to identify the preferred alternative for the Huron Industrial Stormwater Management Facility (Schedule 'B') Municipal Class Environmental Assessment (EA), and recommend filing the Notice of Completion for the study to initiate the statutory 30-day public review period.

The Huron Industrial Lands are generally situated around the intersection of Huron Street and the Veterans Memorial Parkway. They are bounded by the CN Rail line to the south and the Upper Thames River Conservation Authority lands to the north.

These lands, approximately 75Ha zoned as general/heavy industrial, are currently undeveloped and generally used for agriculture.

The City of London (City) recently completed the Huron Industrial Lands Master Servicing Study (MSS) to determine recommended servicing strategies for this area. The servicing recommendations for these lands were for water, sanitary, stormwater management (SWM), as well as coordinating future transportation works. Generally, the water and sanitary recommendations were minor in nature and involved extensions of the existing networks. The recommended SWM servicing strategy identified by the MSS included a regional SWM facility (SWMF) to service approximately 75Ha of future industrial lands. The general location of the SWMF and outlet were identified through the MSS, and are subject to the completion of a Schedule B Municipal Class Environmental Assessment (Class EA). This Class EA builds upon the work of the MSS to refine the layout of the SWMF and outlet location, and to assess environmental impacts and identify mitigation measures.

The catchment area for the proposed SWMF includes approximately 75Ha of City-owned land east of Clark Road. This facility will also act as the stormwater outlet to the Veterans Memorial Parkway (VMP) extension; currently under detailed design.

The only existing stormwater servicing is the poorly functioning Cameron Award Drain, a 300mm clay tile constructed in the early 1940s, that currently runs north through the middle of the study area. However, it doesn't serve the entire area, doesn't provide any treatment, and ultimate outlets into the Fanshawe Reservoir. The MSS recommended utilizing this same outlet, however, the SWMF and associated works would provide treatment and environmental benefit through new wetland creation and channel remediation.

DISCUSSION

In January 2017, the City appointed Stantec Consulting Limited (Stantec) to complete the Municipal Class Environmental Assessment (EA) for the Huron Industrial Stormwater Management Facility. The evaluation of alternative solutions was completed with consideration to social, environmental, and other technical factors.

Three stormwater drainage servicing strategy concepts were developed and assessed as part of the MSS. Alternative strategies were developed to both delineate general drainage areas and identify end-of-pipe requirements to address quantity and quality of stormwater runoff within the study area. The recommended strategy included one (1) regional SWMF to service lands north of Huron Street, with an outlet to the lower open channel reach of the Cameron Drain. A culvert, or multiple culverts, will be required to convey flows across the Veterans Memorial Parkway extension along with an open channel along the northern boundary to the SWM facility. The remaining parcel southwest of the intersection of Huron Street and the VMP would be serviced by an on-site SWMF toward the south of the property, outletting to the existing Cheapside Street storm sewer. In order to reduce the required SMWF size, the use of on-site controls were also recommended, in order to reduce the effective impervious coverage to 45%. This could be achieved through the use of rooftop storage, or through other measures such as parking lot infiltration galleries, and other Low Impact Development (LID) measures.

A Subject Lands Status Report (SLSR) was undertaken in 2016 and formed the basis of the Environmental Impact Study (EIS) that was prepared as part of EA process. A Significant Woodlot, the North Huron Woodlot, and Significant Wildlife Habitat for snapping turtles provided some of the constraints and informed the concept for the preferred alternative.

Public/Stakeholder Consultation

As part of the study, one Public Information Centre was conducted. Notifications for the meeting were published in the two weeks preceding the Public Information Centre as well as on the City's webpage. The meeting was held on April 4th, 2019 at the Upper Thames River Conservation Authority's Water Conservation Centre located at 1424 Clarke Road. Notifications of the project were also sent to applicable federal, provincial, and municipal stakeholders, and local First Nations communities.

Preferred Alternative

As part of the preferred alternative, the following concepts and work are proposed:

- Construction of one (1) new regional stormwater management facility to address stormwater quantity and quality flows;
- A new outlet from the facility to the Cameron Award Drain;
- Restoration, enhancement, and habitat improvements on portions of the Cameron Award Drain as required to accommodate the new flows and new facility;
- Construction of a two (2) enhanced grass swales to accept flows from both the proposed extension of the Veterans Memorial Parkway as well as Huron Industrial lands to the south;
- Use of on-site controls and Low Impact Development (LIDs) strategies to reduce the effective impervious coverage area to 45%;
- Use of a culvert, or multiple smaller culverts, under the VMP extension to convey flows from the west side to the new facility.

Agency Comments

The Ministry of Environment, Conservation and Parks (MECP) has been engaged and have no specific comments for the study at this point.

Environmental and Ecological Planning Advisory Committee (EEPAC) will be circulated for to provide comments on the Environmental Impact Study (EIS) report prepared during EA process.

Environmental Assessment Next Steps

The following steps will be taken to finalize the Huron Industrial Lands SWMF EA:

1. Upon Acceptance by Council, commence the 30-day review period:
 - A "Notice of Completion" will be published identifying that the study report is available for public review for the mandatory 30 calendar days at City Hall – Clerk's Office – 3rd Floor and online at:
<https://www.london.ca/residents/Environment/EAs/Pages/Huron-Industrial-Stormwater-Management-Facility-EA.aspx>
 - Stakeholders are encouraged to provide input and comments regarding this study during this time period. Should stakeholders feel that issues have not been adequately addressed, they can provide written notification within the 30-day review period to the Minister of the Environment, Conservation and Parks requesting further consideration. This process is termed a "Part II Order". Subject to no requests for a Part II Order being received, the Project File will be finalized.

2. Construct the Preferred Alternative

- It is estimated that the construction of the project will take place within the next year as part of the Industrial Land Development Strategy (ILDS) strategy and in coordination with the VMP extension project. Permits and approvals for the proposed works will be obtained at the detailed design stage from the appropriate regulatory authorities.

CONCLUSIONS

The Huron Industrial Stormwater Management Facility Environmental Assessment was undertaken to allow for the future development of the Huron Industrial Lands, a key development of the Industrial Land Development Strategy. Further it will act as an outlet for the future extension of the Veteran’s Memorial Parkway. The preferred alternative is in keeping with the City’s Strategic Plan for robust infrastructure through sustainable attenuation and treatment of stormwater from industrial lands and a major transportation linkage prior to discharge into the downstream watercourse. Staff recommend that the preferred servicing alternative identified in the EA be posted for the 30-day public review period.

SUBMITTED BY:	REVIEWED AND CONCURRED BY:
CHRIS MCINTOSH, P. ENG. MANAGER III ENGINEERING PLANNING (INDUSTRIAL LAND)	MARK HENDERSON DIRECTOR, BUSINESS LIAISON & INDUSTRIAL LAND DEVELOPMENT STRATEGY
RECOMMENDED BY:	
GEORGE KOTSIFAS, P. ENG. MANAGING DIRECTOR, DEVELOPMENT & COMPLIANCE SERVICES & CHIEF BUILDING OFFICIAL	

April 5, 2019

Attach: Appendix ‘A’ – Executive Summary

Appendix 'A' – Huron Industrial Lands SMWF EA Executive Summary

Huron Industrial Lands Stormwater Management Facility Schedule B
Municipal Class EA
Executive Summary

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1.0 Introduction

The City of London recently completed the Huron Industrial Lands Master Servicing Study (MSS) (2017) to determine recommended water, sanitary, and stormwater management (SWM) servicing for lands located in the northeast of the City. The MSS was undertaken to support the objectives of the City of London’s Industrial Land Development Strategy (ILDS 2012) to ensure an adequate supply of industrial land marketable within a range of industrial sectors.

The recommended SWM servicing strategy identified by the MSS included a regional SWM facility (SWMF) to service approximately 75 ha of future industrial lands. The general location of the SWMF and outlet were identified through the MSS, and are subject to the completion of a Schedule B Municipal Class EA (Class EA). This Class EA builds upon the work of the MSS to refine the layout of the SWMF and outlet location, and to assess environmental impacts and identify mitigation measures.

The catchment area for the proposed SWMF includes approximately 75 ha of City-owned land east of Clark Road, north and south of Huron Street and west of the CN Rail line. The future extension of the Veterans Memorial Parkway (VMP), currently under detailed design, generally runs northwest through the study area. The Cameron Drain, a 300mm clay tile drain currently runs north through the study area, conveying flows from south east of the study area northward towards the Fanshawe Reservoir. The outlet recommended within the MSS is located north of the catchment area, within the lower reaches of Cameron Drain north of the Fanshawe Conservation Area access road.

The study area is shown on Figure 1.

2.0 Class EA Phase 1 Problem/Opportunity Statement

The following Problem/Opportunity Statement was developed for the Huron Industrial SWMF Class EA:

The City of London currently lacks a sufficient supply of serviced, shovel-ready industrial land. In order to prepare for potential economic development opportunities as recommended in the City of London’s Industrial Land Development Strategy (ILDS), the Huron Industrial Lands Master Servicing Strategy was completed in 2018 (MSS) to identify recommended water, sanitary, and SWM servicing solutions to address future development of the study area. In order to implement the SWMF and associated outlet as recommended in the 2017 MSS, a Schedule B Municipal Class EA is required in order to develop site-specific implementation considerations to reduce net impacts to the surrounding environmental features and functions. The Huron Industrial Lands SWMF Class EA is being undertaken to develop an environmentally sensitive and sustainable implementation plan that encourages public, agency, and Indigenous Community input.



3.0 Phase 2 - Existing Conditions

3.1 SOCIO-ECONOMIC

Within the London Plan, the subject site includes Light Industrial, Heavy Industrial, and Environmental Review Place Types (London Plan Map 1). Similarly, within the 1989 Official Plan, land use designations include Light Industrial, General Industrial, and Environmental Review.

Lands within the study area are currently owned by the City of London, and there are currently no active development proposals. While the precise form of development on the site is not currently known, a preliminary land use concept has been developed, and is shown on Figure 2.

3.2 CULTURAL ENVIRONMENT

Stage 1 and 2 archaeological assessments were conducted for the Huron Industrial Lands study area. Potentially significant archaeological resources were identified in certain locations for which Stage 3 and 4 assessments were conducted. All reports have been submitted to the Ministry of Tourism Culture and Sport for review, and all reports were found to be consistent with the Ministry's 2011 Standards and Guidelines for Consultant Archaeologists. Based on the assessments, no further archaeological fieldwork is required within the study area.

The checklist for Evaluating the Potential for Built Heritage Resources and Cultural Heritage Landscapes provided by the MTCS was completed for the Huron Industrial Lands Study Area. In completing the checklist, various resources were consulted including the City of London's Inventory of Cultural Heritage Resources (2006), and the Ontario Heritage Trust. Based on the results of the checklist, the area has low-potential for built heritage or cultural heritage landscapes on the property, and no further assessment is required.

3.3 NATURAL ENVIRONMENT

Portions of the Huron Industrial Lands study area are designated as Environmental Review in the City's Official Plan. A Subject Lands Status Report (SLSR) (AECOM 2016) has been completed for the subject lands in accordance with the policies of the Official Plan. The SLSR identified features including the North Huron Significant Woodland (evaluated in accordance with the City of London's *Guideline Document for Evaluation of Ecologically Significant Woodlands*) and Snapping Turtle (Significant Wildlife Habitat – MAM2 community). With respect to the Significant Woodlot and Significant Wildlife Habitat (Snapping Turtle) features, the following environmental constraints were identified and have been carried through the evaluation of servicing options within the MSS and current Class EA:

- It is recommended that the placement of infrastructure be located outside of the Significant Woodland. For proposed infrastructure within the study area, an Environmental Impact Study must be completed in accordance with the City of London's 'Guidelines for the Preparation and Review of Environmental Impact Statements (EIS)'.
- The upper reach of the Cameron Award Drain currently maintains flows to the MAM2 wetland communities located within the Significant Woodland. Flows should be maintained to preserve the Significant Wildlife Habitat for Snapping Turtle located in the MAM2 community.



The SLSR also contained a number of recommendations for additional investigations, which have been carried forward into the scope of the Environmental Impact Study (EIS) currently being completed by AECOM. An Issues Scoping Meeting was held on September 27, 2018 including representatives from the City of London, UTRCA, AECOM, and Stantec. An interim constraints analysis was undertaken which included Ecological Land Classification, Bat Cavity Searches, Species at Risk Habitat Assessment, Significant Wildlife Habitat Assessment, Aquatic Habitat Assessment, and a Preliminary Tree Assessment.

A summary of the environmental constraints is included in the memo found in Appendix B. These constraints have been used to refine the SWMF concept and specific mitigation measures will be identified to protect adjacent significant features.

4.0 Phase 2 – Alternative Solutions and Recommendations

Three stormwater drainage servicing strategy concepts were developed and assessed as part of the MSS. Alternative strategies were developed to both delineate general drainage areas and identify end-of-pipe requirements to address quantity and quality of stormwater runoff within the study area. The recommended strategy included one (1) regional SWMF to service lands north of Huron Street, with an outlet to the Cameron Drain requiring an easement through UTRCA lands. A culvert or multiple culverts would be required to convey flows across the Veterans Memorial Parkway extension along with an open channel along the northern boundary to the SWM facility. The remaining parcel southwest of the intersection of Huron Street and the VMP would be serviced by an on-site SWMF toward the south of the property, outletting to the existing Cheapside Street storm sewer. On-site controls were also recommended in order to reduce the required SWMF size. The preferred SWM strategy identified within the MSS is shown on Figure 3.

In order to refine the recommendations of the MSS with respect to the Regional SWMF and develop a preferred concept for the SWMF, the following alternatives were reviewed:

- **Alternative 1. Do Nothing** – No quality or quantity control of stormwater runoff from the future development areas.
- **Alternative 2. All quality and quantity control for the entire catchment provided within the SWM Facility.**
- **Alternative 3. SWM Facility along with on-site controls to provide quality and quantity controls for the catchment area.** Considering the future land use, we've identified a target that would reduce the impervious coverage to 45% through the use of on-site controls. This could be achieved through the use of rooftop storage, or through other measures such as parking lot infiltration galleries, and other Low Impact Development measures.

4.1.1 Evaluation and Preliminary Recommendations

Based on an assessment of these solutions with respect to their impacts to the socio-economic, natural, technical, and economic environments, **Alternative 3** is being carried forward, and a conceptual design for the SWMF and associated outlet are being developed. The Preliminary Preferred Concept is shown on Figure 4.



5.0 Phase 2 Consultation

A stakeholder contact list has been prepared for the study which includes relevant provincial and local agencies, Indigenous communities, and properties located within 120m of the Huron Industrial Lands study area.

An open house Public Information Centre (PIC) was held April 4th, 2019, between 4:30-6:30pm at the Upper Thames River Watershed Conservation Centre (1424 Clarke Road, London). The PIC was held to provide background information on the study including the recommendations of the Master Servicing Strategy, environmental inventories, as well as the preliminary recommended SWMF concept for public and stakeholder review and comment. Additional follow-up is also being undertaken with identified Indigenous Communities to provide opportunities for information sharing and to identify any questions or concerns with respect to the project.

The study team has also been working closely with the Upper Thames River Conservation Authority (UTRCA) to address specific concerns associated with the proposed SWMF and associated outlet.

6.0 Closing and Next Steps

The preferred SWMF concept has been developed to minimize impacts to significant natural features and functions, and an EIS is being completed to identify site specific mitigation requirements. The Huron Industrial SWMF Class EA Project File will be made available for the statutory 30-day public review period, and provided no Part II Orders are received during the review period, the City will proceed with detailed design and construction.



**Huron Industrial Lands Stormwater Management Facility Schedule B
Municipal Class EA
Executive Summary**

APPENDIX A – FIGURES

Figure 1 – Study Area

Figure 2 – Future Development Concept

Figure 3 – Preferred SWM Strategy (Master Servicing Study)

Figure 4 – Preferred SWMF Concept



**Huron Industrial Lands Stormwater Management Facility Schedule B
Municipal Class EA
Executive Summary**

APPENDIX B – Environmental Constraints



**Huron Industrial Lands Stormwater Management Facility Schedule B
Municipal Class EA
Executive Summary**

APPENDIX A – FIGURES

Figure 1 – Study Area

Figure 2 – Future Development Concept

Figure 3 – Preferred SWM Strategy (Master Servicing Study)

Figure 4 – Preferred SWMF Concept



Liability Note:

The Contractor shall verify and be responsible for all dimensions. DO NOT SCALE. All dimensions are approximate and may vary without notice. Stantec is not responsible for any errors or omissions in this report.

Legend



Huron Industrial Lands
Study Area

Client/Project

CITY OF LONDON

HURON INDUSTRIAL LANDS

London, ON Canada

Title

Location Plan

Scale

40 0 80m

Project No.

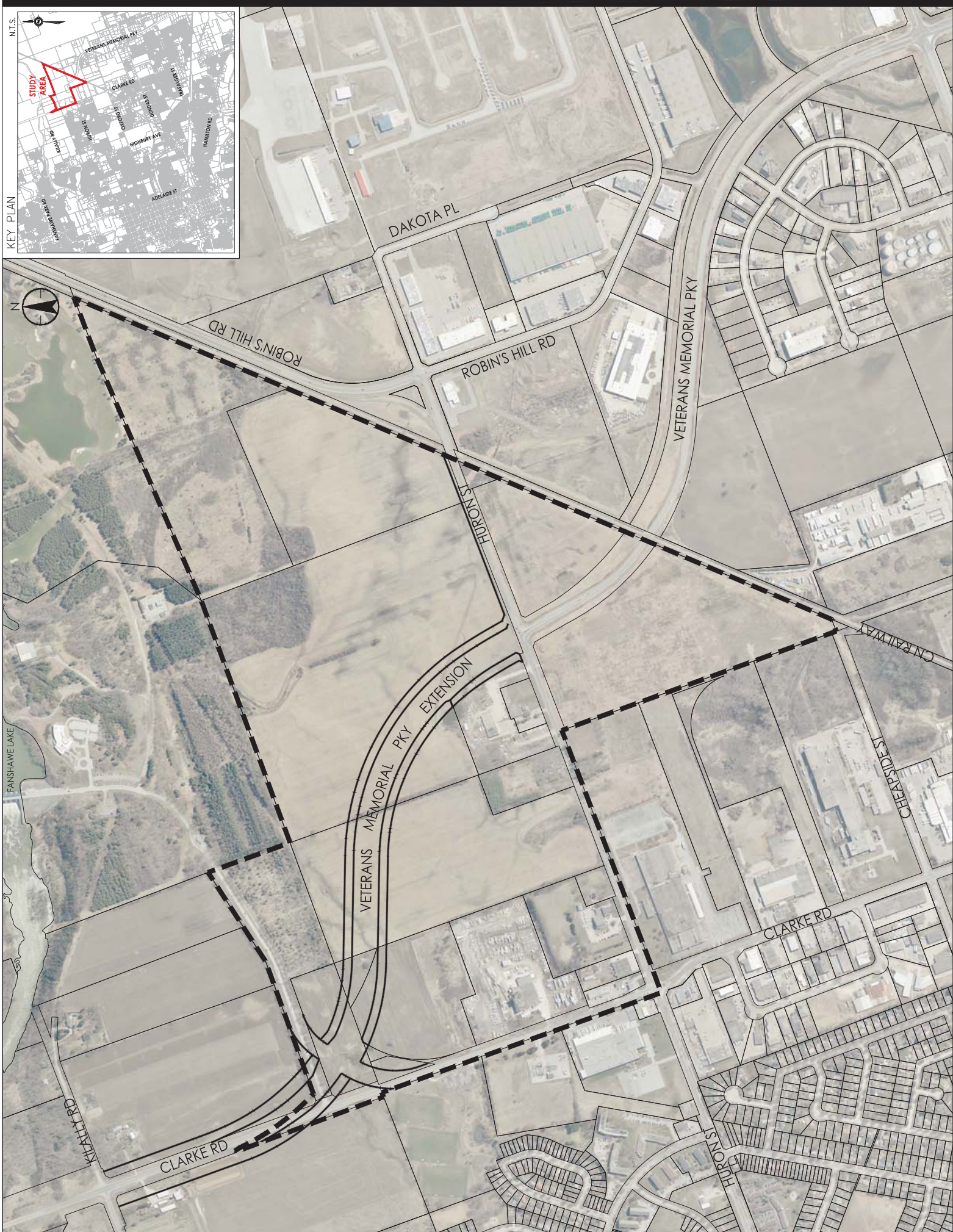
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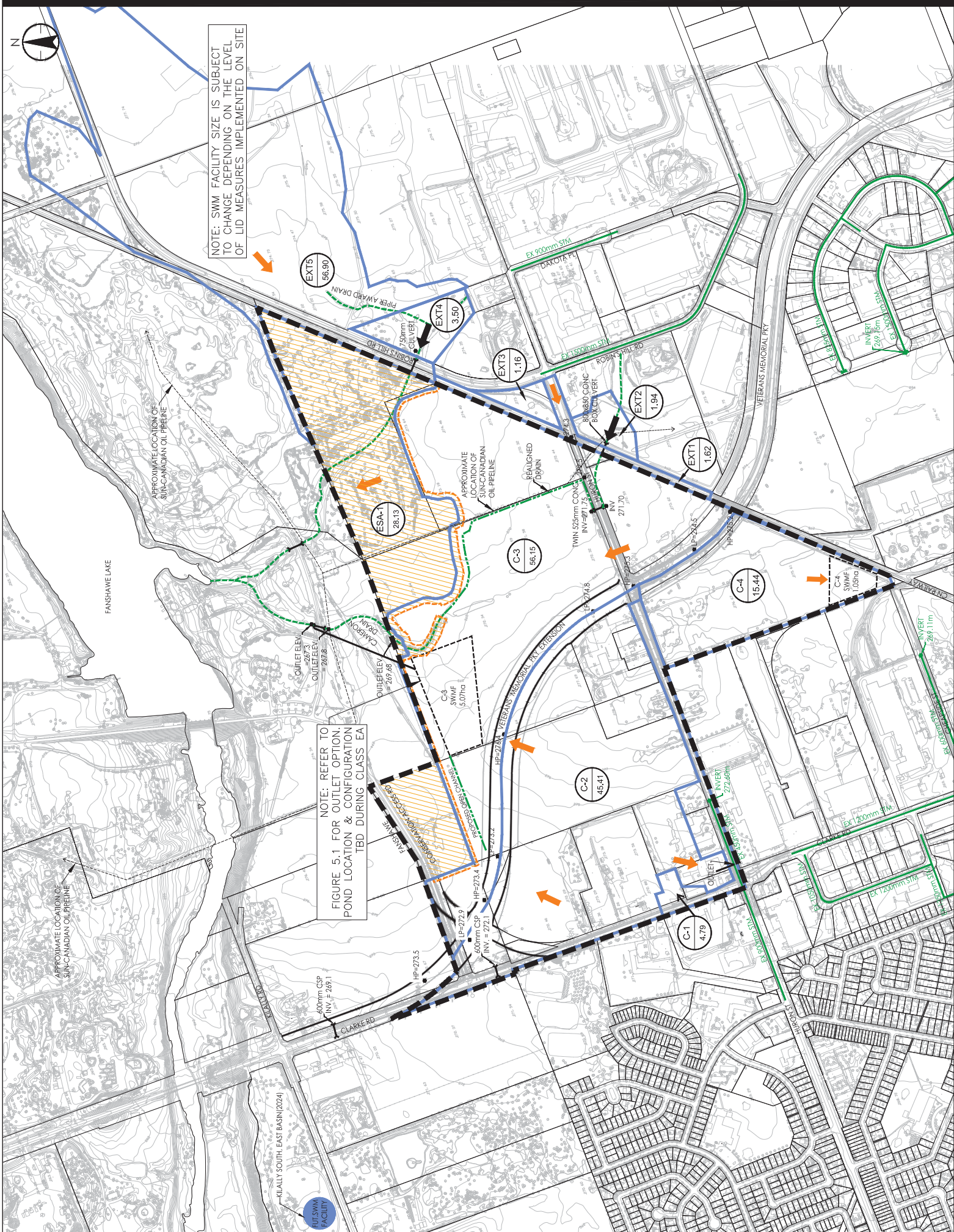
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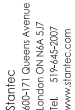
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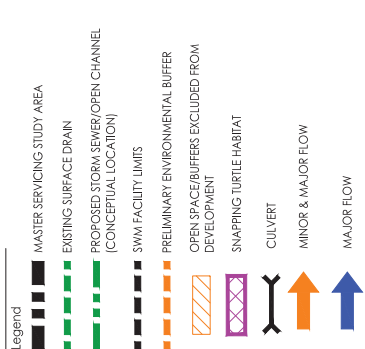
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Client/Project
CITY OF LONDON

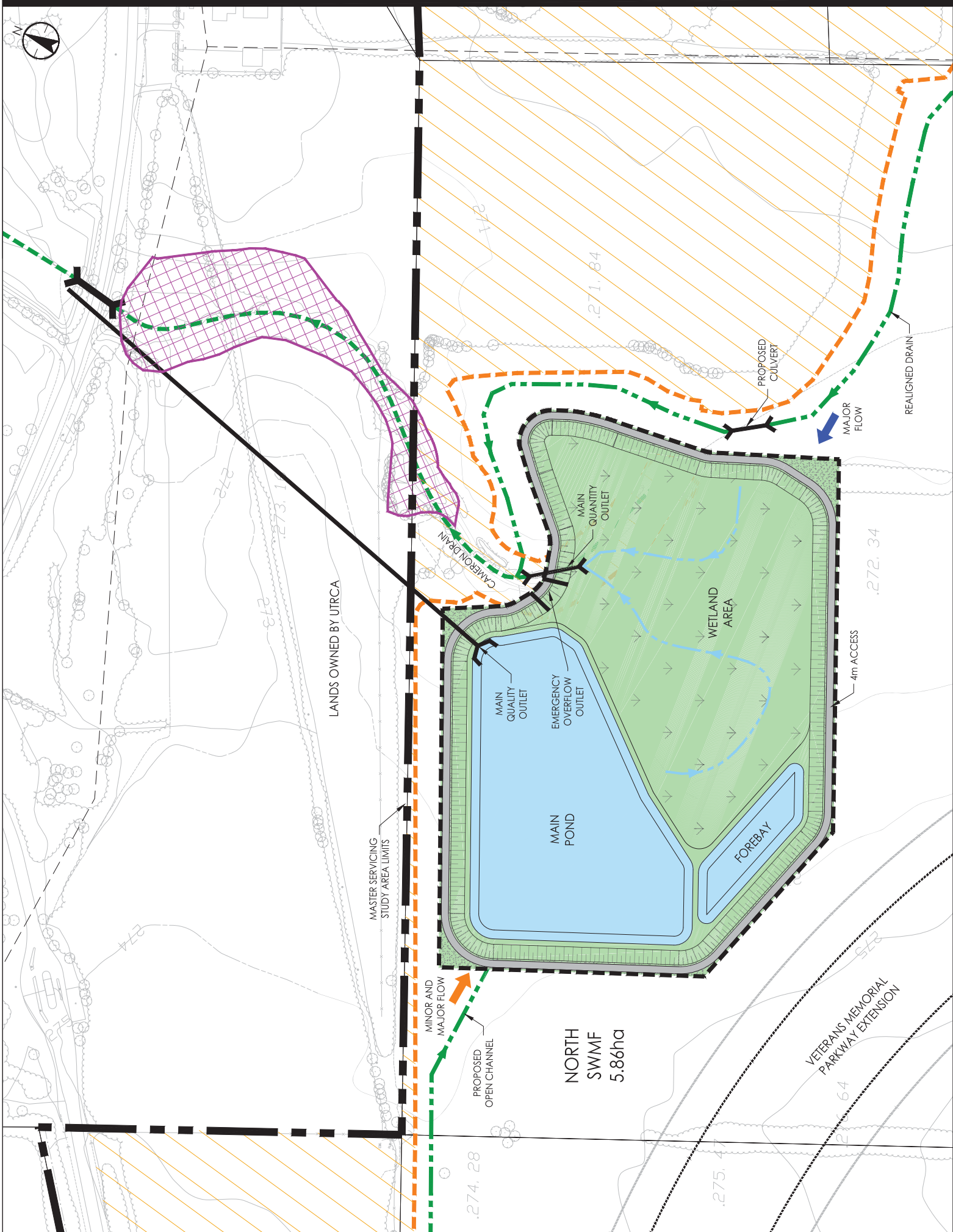
HURON INDUSTRIAL LANDS

London, ON Canada

Title:

FIGURE 4
Recommended SWMF Concept

Project No. 16143392	Scale 10 0 20m
Drawing No.	Sheet Revision 0



**Huron Industrial Lands Stormwater Management Facility Schedule B
Municipal Class EA
Executive Summary**

APPENDIX B – Environmental Constraints



To: Chris McIntosh, City of London
Adam Kristoferson, Stantec
Stephanie Bergman, Stantec

cc: Gary Epp, AECOM
Jessica Walker, AECOM
Ian Burnett, AECOM

Date: February 26, 2019
Project #: 60596951
From: Nataliya Simonova
Andrew Aberdein

Memorandum

Subject: North Huron Industrial Lands – Summary of Preliminary Constraints Related to the Proposed Stormwater Management Facility and Outlet to the Cameron Drain

1. Introduction

AECOM was retained by the City of London to complete an Environmental Impact Study (EIS) for the proposed North Huron Industrial Lands stormwater management (SWM) facility. This memorandum provides a summary of preliminary environmental constraints based on field investigations completed within the Subject Lands Status Report (SLSR) (AECOM 2016) as well as supplemental field investigations completed in 2018 and 2019.

The proposed SWM facility includes a main quality outlet north of Griffith Street just west of Cameron Award Drain and a main quantity outlet located 300 m upstream (south) of Griffith Street where it would directly outlet from the proposed wetland area. The proposed SWM facility is shown on **Figure 1** attached.

2. Field Investigations

Ecological surveys were focused along the Cameron Award Drain and associated riparian habitats to determine potential environmental constraints relating to the location of the proposed outlet locations. The following investigations were undertaken within the study area during field work conducted on October 25, 2018 and February 5, 2019:

- Ecological Land Classification (ELC) as per the *Ecological Land Classification for Southern Ontario Manual* (Lee *et al.*, 1998) to identify or refine previously identified vegetation communities.
- A bat habitat assessment which included bat cavity searches within woodland areas;
- Species at Risk (SAR) habitat assessment;
- Significant Wildlife Habitat (SWH) was assessed throughout the site;
- Aquatic habitat assessments were conducted on Cameron Award Drain;
- Preliminary Tree Assessment.

3. Existing Conditions

The following section provides a summary of existing conditions based on field investigations completed as described above.

Ecological Land Classification

Seven (7) ELC communities were identified and delineated during field investigations and included a mix of forest, swamp, marsh and meadow communities. **Table 1** below summaries the ELC communities identified adjacent to Cameron Award Drain during site investigations.

Table 1. ELC Communities within the Study Area

Code	Description
CUM1-1	Dry-Moist Old Field Meadow Type
FOD6-5	Fresh-Moist Sugar Maple Hardwood Deciduous Forest Type
FOD4	Dry Fresh Deciduous Forest Ecosite
FOD6-5	Fresh-Moist Sugar Maple Hardwood Deciduous Forest Type
SWD3-2	Silver Maple Mineral deciduous Swamp Type
SWD4-1	Willow Mineral Deciduous Swamp Type
MAM2-2	Reed-canary Grass Mineral Meadow Marsh

Bat Cavity Searches

A bat habitat assessment was completed within the treed communities adjacent to Cameron Award drain. The assessment identified twenty-nine (29) bat cavity trees within the Silver Maple Mineral Deciduous Swamp (SWD3-2) and adjacent Fresh-Moist Sugar Maple Hardwood Deciduous Forest Type (FOD6-5). The location of bat cavity trees can be found on **Figure 1 and Figure 1a**. These communities have been identified as potential SAR Bat habitat as well as Candidate Bat Maternity Roosting Habitat (SWH).

Species at Risk Habitat Assessment

Ecologists conducted a Species at Risk (SAR) habitat assessment during site investigations which included noting potential SAR habitat within the study area. ELC communities identified north of Griffith Street have the potential to provide habitat for SAR, including listed SAR bats, which are known to occur with vicinity of the study area. ELC communities delineated north of Griffith Street have the potential to provide suitable habitat for other SAR known within the area. No aquatic SAR were identified within Cameron Award Drain during the background review or observed on site during preliminary field investigations. A full SAR screening will be provided in the EIS.

Significant Wildlife Habitat Assessment

A Significant Wildlife Habitat Screening (SWH) was completed as part of the SLSR (AECOM 2016) with supplemental field investigations completed in 2018 and 2019 to document any changes in existing conditions. Based on the findings present in the SLSR (AECOM 2016), the meadow marsh community identified adjacent to Cameron Award Drain provides confirmed Significant Wildlife Habitat for snapping turtle (*Chelydra serpentina*). Candidate SWH, including Bat Maternity Roosting habitat, is present within treed communities adjacent to the Cameron Award Drain. A full description of Candidate and Confirmed SWH will be provided in the EIS.

Aquatic Habitat Assessments

Ecologists conducted aquatic habitat assessments for Cameron Award Drain at the proposed outlet locations for the North Huron Industrial Lands SWMF. Cameron Award Drain at the location of the proposed main quality outlet downstream of Griffith Street consisted of a permanent, natural watercourse with surrounding land use of deciduous swamp and forest associated with the UTRCA lands. Gravel and sand substrates were present at and immediately downstream of the location of the confluence of the proposed main quality outlet with Cameron Award Drain. These substrates provide spawning habitat for small bodied fish species identified within Cameron Award Drain from UTRCA fish sampling records obtained during the background review. Documented species within the Cameron Award Drain are considered abundant and have widespread distributions in southern Ontario. Watercress, an indicator of groundwater upwelling, was also documented in Cameron Award Drain further downstream of Griffith Street on October 28, 2018, but none was observed within the proximity of the proposed outlet location.

Cameron Award Drain upstream of Griffith Street at the location of the proposed main quantity outlet consisted of a permanent, channelized watercourse with surrounding land use of cultural meadow bordering the watercourse and agricultural land beyond. The reach of Cameron Award Drain upstream of the proposed outlet location was observed to be intermittent on October 28, 2018. No critical spawning habitat or groundwater indicators were observed in Cameron Award Drain at the proposed main quantity outlet location.

Preliminary Tree Assessment

During the site visit completed on February 5, 2019, a preliminary assessment of impacts to trees was completed at the proposed outlet locations. During investigations, an arborist noted potential constraints as it related to trees. A full tree inventory will be completed at the detailed design stage to capture all trees within the area of impact.

4. Summary of Environmental Constraints

Based on the findings of field investigations completed to date, the following section outlines the environmental constraints requiring considerations for the proposed North Huron Industrial Lands SWM facility.

Area 1 – This area contains numerous large crack willows (*Salix fragilis*) which were identified as potential bat cavity trees (See **Figure 1**). These cavity trees provide potential SAR bat habitat as well as candidate Bat Maternity Roosting Habitat (SWH). Tree removal within this area should be avoided and construction of the proposed outlet at this location should occur outside of the Tree Protection Zones (TPZ) to avoid impacts which may negatively affect the health of the tree. In addition, the proposed outlet should be positioned in such a way that outflow avoids erosion of the tree's root zones. The spawning substrate present within Cameron Award Drain adjacent to the proposed location of the main quality outlet does not present a substantial constraint to the proposed location of the outlet; however, proposed work should be restricted to outside the high water mark (top of bank) and an erosion and sediment control plan implemented during construction. In addition, an appropriate flow mitigation structure should be incorporated into the outflow design and the confluence angled such that degradation of aquatic habitat within Cameron Award Drain is mitigated.

Area 2 – Two large dead trees were observed within this area and pose a high hazard risk to any future work within the vicinity. The proposed installation of the outlet will result in an increase in ground vibrations and pedestrian traffic within the area which may result in higher level of risk. It is recommended that hazard trees within this area be removed prior to commencing any work.

Area 3 – The confirmed SWH for snapping turtle identified within the meadow marsh community and candidate SAR/SWH bat habitat identified within the deciduous swamp community adjacent to Cameron Award Drain downstream of the proposed main quantity outlet do not pose a constraint to the proposed location of the outlet; however, all proposed work should be restricted to outside the SWH boundary and continuous flow within Cameron Award Drain required to support this community should be maintained.

No environmental constraints posed by aquatic habitat features were identified at the proposed location of the main quantity outlet; however, realignment and other potential in-water work within the high water mark may require authorization under the Fisheries Act and a request for review from Fisheries and Oceans Canada (DFO). Fish collection and relocation may also be required and should be conducted within the appropriate fisheries timing window to be determined pending consultation with the Ministry of Natural Resources and Forestry (MNRF). Maintenance of an open channel and continuous downstream flow is recommended to protect the Snapping Turtle SWH and fish and aquatic habitat features downstream within Cameron Award Drain.

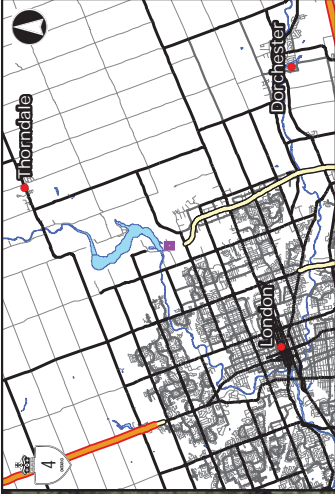
Given no aquatic SAR have been documented within Cameron Award Drain, aquatic SAR habitat protection is not expected to impose a constraint on the proposed locations of the outlets; however, the list of protected species under the Endangered Species Act (ESA) and Species at Risk Act (SARA) is regularly updated and should be reviewed during the EIS phase.

On **Figure 1a** we have indicated our recommended outlet location based on the above-noted constraints. This area i. avoids the large willow trees adjacent to and on the west side of the watercourse, ii. Reduces potential impacts to bat cavity trees (although it may require removal of one bat cavity tree), iii. reduces the need to remove significant vegetation, and iv. allows for discharge to the Cameron Drain without impinging directly on the drain and thereby affecting fish habitat.

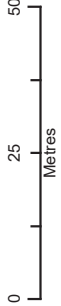
The outlet structure should be designed to reduce erosion impacts to the watercourse, minimize loss of existing natural vegetation and habitat, and should include naturalization methods.

5. References

- Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig, and S. McMurry. (1998). *Ecological Land Classification for Southern Ontario: First Approximation and its Application*. Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Transfer Branch. SCSS Field Guide FG-02.
- Ministry of Natural Resources and Forestry (MNRF). (2015). *Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E*. Ontario MNRF Southern Region Resources Section: Peterborough, ON.



- Legend**
- Spawning Habitat
 - Bat Cavity Tree
 - Tree Protection Zone (TPZ)
 - Watercourse
 - Proposed Culverts
 - Parcels
 - Significant Wildlife Habitat - Snapping Turtle Habitat
 - Significant Woodland Designation
 - Preliminary Buffers
 - Recommended Outlet Location



North Huron Industrial Lands

Preliminary Constraints

Feb 26, 2019	1:1,000	Datum: NAD83 UTM zone 17N Source: MHRP, MMAH, AECOM, City of London Image: ERSI	
P#: 60596951	* when printed 11"x17"	V#: 001	
AECOM		Figure 1a	

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DRAFT

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON APRIL 16, 2019
FROM:	KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR - ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER
SUBJECT	COOPERATIVE PURCHASE TENDER AWARD SUPPLY AND DELIVERY OF DIESEL, BIODIESEL AND GASOLINE ELGIN, MIDDLESEX, OXFORD PURCHASING (EMOP) CO-OPERATIVE

RECOMMENDATION

That, on the recommendation of the Managing Director, Environmental and Engineering Services & City Engineer, the following actions **BE TAKEN** with respect to the supply and delivery of diesel, biodiesel and gasoline:

- a) Fleet Services and Purchasing and Supply **BE AUTHORIZED** to continue as a member of the Elgin, Middlesex, Oxford Purchasing (EMOP) Cooperative for the supply and delivery of diesel, Biodiesel and Gasoline;
- b) The recommendation **BE ACCEPTED** from the London Transit Commission to EMOP members for the Supply and Delivery of Diesel, Biodiesel and Gasoline be awarded to Suncor/Petro Canada, 2489 North Sheridan Way Mississauga, Ontario L5K 1A8 for five (5) years with two(2) one(1) year option terms;
- c) That the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this award; and
- d) The approval given herein **BE CONDITIONAL** upon the Corporation entering into a formal contract or issuing a purchase order relating to the subject matter of this approval.

PREVIOUS REPORTS PERTINENT TO THIS MATTER
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Relevant reports that can be found at www.london.ca under City Hall (Meetings) include:

- Tender 14-53 Supply and Delivery of Diesel, Biodiesel and Gasoline (Elgin, Middlesex, Oxford Purchasing Cooperative), April 7, 2014 meeting of the CWC, Item #5

STRATEGIC PLAN 2015-2019 AND DEVELOPMENT OF COUNCIL'S 2019-2023 STRATEGIC PLAN

Municipal Council has recognized the importance of cooperative procurement, fleet services, climate change, lowering costs in its previous Strategic Plan (2015-2019) and in the in the development of its 2019-2023 Strategic Plan for London. This work touches on:

Strong and Healthy Environment

Reduce fuel use through innovation and research – Green Fleet Strategies

Growing our Economy – Local, regional and global Innovation

Lead the development of new ways for resource optimization to keep operating costs low

BACKGROUND

Purpose

This report is to seek committee and Council approval to proceed with a Cooperative Purchasing strategy for the Supply and Delivery of Diesel Fuel, Biodiesel and Gasoline.

The primary purpose of this strategy and resulting contract is to ensure the supply and delivery of fuel to four major operational centres (Adelaide, Bathurst, Exeter Road Operations Centre and Oxford) and also to 35+ satellite small tank locations like Municipal Golf Courses, W12A Landfill, Dearness, Wastewater Facilities, Pumping Stations and various generator locations.

Context

The City of London is a member of the Elgin/Middlesex/Oxford Purchasing (EMOP) Co-operative. The London Transit Commission is also a member and leads this particular tender due to the size of its fuel purchase. The fuel supply and delivery contract is a critical piece of service delivery for the City’s municipal fleet as well as for shared services fuel customers in EMS, Fire, Police, Tourism London and the London Public Library.

DISCUSSION

Regular Unleaded Ethanol, Biodiesel (B5), Diesel #2 Clear and Diesel #2 Colored represent the majority of City of London fuel requirements. Other fuels include Biodiesel grades B2 and B10. Biodiesel (B5) continues to be used in the warmer months at the Exeter Road Operation Centre (EROC). The total quantity of fuel purchased in 2018 was 3,235,144 litres.

As the CNG fuel switching initiative evolves over the next 5-7 years this will decrease the quantity of diesel fuel consumed over time however the transition will be gradual as more CNG trucks are put into service and should not drastically affect the bulk pricing quoted for EMOP customers.

The current fuel provider is Dowler Karn/ESSO. A similar process was undertaken in 2014 and all EMOP members selected this firm to work with. Suncor/Petro Canada have been the EMOP fuel vendor in the past and there should not be any significant transitional issues.

In 2018, the City of London spent slightly over \$3.3 million across all types of fuel and for all customers. It is worth noting the City’s fuel price changes each day based on the London Rack price (e.g., the price that is set each business day and effective the next day). This approach is used to help obtain the lowest possible costs on a volume basis and to reduce the amount of speculation that would have to occur if a fixed price approach were used (i.e., higher costs would be quoted).

Purchasing Process

Step 1

A Request for Tender (RFT) for the Supply and Delivery of Diesel Fuel, Biodiesel and Gasoline was issued by London Transit Commission (LTC) on behalf of the participating members of EMOP. The diesel, biodiesel and gasoline requirements for the City and all EMOP members have been included in the tender call. The RFT closed on March 15, 2019.

All bidders were asked to:

- Use a published London Rack Price (B5 is set based on Toronto Rack Price)
- Offer a discount from the London Rack Price (B5 discount from Toronto Rack Price)
- Add a transportation charge per/litre for each location (e.g., a set location in London), and
- Whether the price would be based on a weekly average or a spot buy.

There were six (6) submissions received. All were compliant. After evaluation by the LTC purchasing team the bid from Suncor/Petro Canada was recommended as the low compliant bid. The LTC tender award recommendation letter is attached in Appendix #1.

Step 2

In accordance with clause 14.4 (g) and 21.1 of our Procurement of Goods and Services Policy, the City of London can exercise this cooperative buying process for items such as our fuel supply and delivery needs based on the following conditions.

14.4(g) "It is advantageous to the City to acquire the goods from a supplier pursuant to the procurement process conducted by another public body".

21.1 "Cooperative Purchasing"

(a) The City may participate with other government agencies or public authorities in cooperative purchasing where it is in the best interest of the City to do so.

b) The decision to participate in cooperative purchasing agreements will be made by the Manager of Purchasing and Supply.

c) The individual policies of the government agencies or public authorities participating in the cooperative bid are to be the accepted by-law for that particular competitive bid.

Fleet Services and Purchasing and Supply concurs with the LTC recommendation to award the fuel supply and delivery contact to Suncor/Petro Canada for a five (5) year period commencing May 1, 2019 and expiring on April 30, 2024 with renewal options available upon mutual agreement of all parties.

For comparative purposes, the recommended contract with Suncor/Petro Canada provides for a 0.0475 \$/litre discount per litre from the London rack pricing (Toronto rack for B5) for all fuel types to all City of London locations. The existing contract offers mixed discounts ranging from 0.0220 \$/litre to as low as 0.0200 \$/litre at major sites. Therefore the discount being offered per litre is greater than 2.5 cents lower than the existing contract in most cases.

The Suncor/Petro Canada delivery charge varies based on the location of each site, but generally the delivery costs of the recommended bid range from as low as 0.0033 \$/litre at the largest high volume operational centres to 0.1475 \$/litre for small (1000 litre) pumping station tank locations. In the existing fuel contract the cost for delivery is also a range with major sites being 0.0045 \$/litre to as much as 0.0200\$/litre delivery to smaller low volume sites. Therefore the delivery charges to major sites are less in the new contract however will be more expensive for the remote low volume locations.

Upon entering into a contract, EMOP members will co-operatively share the benefits of this agreement, but will separately administer their own procurement approvals as per their individual policies.

Financial Impact

In 2018 the total expenditure for fuel for municipal vehicles, equipment and shared

services fuel customers was \$3,304,262. In 2019, the forecasted budget is \$3,486,032; about a 5% increase. This increase however is based on expected higher prices for the fuel itself and increased volume, not a result of this contract.

The recommended bid by Suncor/Petro Canada offers a greater rack price volume discount and in most major site delivery locations a reduced fuel delivery upcharge than our existing contract with Dowler Karn/Esso.

This contract maximizes economies of scale by consolidating the City’s purchasing power with other EMOP partners. This contract locks in rack price discounts, delivery charges, and stabilizes our fuel supply. This contract does not guarantee fuel pricing during the contract period only the reduction from daily rack price and the delivery charges. The fuel budget is managed as part of the overall fleet budget and is calculated based on experience and fuel data analysis. Fuel costs are billed to each service area on a per vehicle basis for their fuel use as part of their internal rental rate.

Shared services customers like EMS, Fire, Police (diesel fleet) are billed on a per use basis at the average monthly pump price set by fleet that includes overhead costs and administration and is reconciled each month. There are no penalties for consuming less fuel and fuel conservation is strongly encouraged by Fleet Services to its customer base.

In the event that the price of fuel fluctuates above budget in any year, a fuel reserve fund has been built over the last three years to insulate and mitigate the City’s risk of significant fuel price fluctuations.

CONCLUSION

Based on the discussion and analysis above, Fleet Services in conjunction with Purchasing and Supply is recommending the City’s continued involvement in the EMOP Cooperative. In addition, Fleet Services and Purchasing and Supply recommend acceptance of the LTC tender recommendation for fuel supply and delivery to be awarded to Suncor/ Petro Canada for the next five (5) years with two (2) additional one (1) year extension options.

Suncor/Petro Canada pricing formula is based on the average London Rack Price, less applicable discount, plus a delivery charge by location. HST is extra.

The EMOP Cooperative purchasing agreement for this type of contract has been very advantageous for the City of London and the City’s shared services fuel partners through reduced administration, providing volume discounts, shared delivery options and maximizing economy of scale.

Acknowledgements

This report was prepared with input from Barrie Galloway Manager Fleet Maintenance and Sarah Denomy Procurement Officer, Purchasing and Supply. Acknowledgement also to Tracey Moulton - Purchasing Officer LTC.

SUBMITTED BY:	REVIEWED & CONCURRED BY

MIKE BUSHBY, BA DIVISION MANAGER, FLEET & OPERATIONAL SERVICES	JAY STANFORD, MA, MPA DIRECTOR, ENVIRONMENT, FLEET & SOLID WASTE
RECOMMENDED BY:	
KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER	

Appendix A – LTC London Transit Commission – Fuel Tender Recommendation Letter

Appendix A

LTC London Transit Commission – Fuel Tender Recommendation Letter



March 28, 2019

Fuel Tender – Closed March 15, 2019

All Participating EMOP Members

A Request for Tender for the supply and delivery of Diesel Fuel and Gasoline was issued by LTC on behalf of the participating members of EMOP in accordance with established procedures and closed on March 15, 2019.

As specified in our document, we reserve the right to accept or reject any and all bids, also the right to accept other than the lowest bid and also the right to award the bid submission in whole or in part.

The term of the contract is for a 5 year period commencing May 1, 2019 and expiring on April 30, 2024 with 2 – 1 year renewal options available upon mutual agreement of all parties.

All bidders were asked to use a published London Rack Price and offer a discount from that price plus a transportation charge per liter for each location and whether the price would be based on a weekly average or a spot buy.

There were 6 submissions received, all were compliant.

I have attached the signed Suncor Submission and a spreadsheet summarizing the bids.

LTC has accepted and will award our requirements to Suncor/Petro Canada.

Based on the submissions, it is recommended that all members accept the submission from Suncor/Petro Canada for your respective requirements. Of course, it is your responsibility to accept or reject any bid and to award the contract to whoever offers you the best deal. Please let me know by April 5th if you have accepted the new contract price or rejected. I will send a contact list out to all EMOP locations that have accepted the new contract pricing.

Thank you

A handwritten signature in blue ink that reads 'Tracy Moulton'.

Tracy Moulton

Purchasing

Phone: 519-451-1340 Ext 315

Fax: 519-451-4411

Email: tmoulton@londontransit.ca

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON APRIL 16, 2019
FROM:	KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	PUBLIC LANE POLICY REVIEW

RECOMMENDATION

That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, no action **BE TAKEN** with respect to the City of London’s public lane policies it being noted that current lane policies and practices adequately protect the interests of both neighbourhoods and the City yet are flexible enough to accommodate individual property owners.

PREVIOUS REPORTS PERTINENT TO THIS MATTER
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- Environment and Transportation Committee – January 14, 2008 – Public Lane Maintenance Policy
- Community and Neighbourhoods Committee – January 18th, 2011 – Marmora Lanes Closing

2015-19 STRATEGIC PLAN

The following report supports the Strategic Plan through the strategic focus area of Strengthening Our Community by facilitating inclusive and engaged neighbourhoods.

BACKGROUND

At the September 28th, 2018 Civic Works Committee, the following resolution was approved:

That staff BE REQUESTED to report back to the appropriate standing committee with respect to the current process, and potential improvements, with respect to unassumed laneways, and the request for delegation from M. Koch Denomme BE APPROVED and BE REFERRED to the meeting when this matter will be considered (4.3/13/CWC).

Purpose

This report reviews the City’s public lane policies and how they are applied in practice. In order to provide proper context to the complex issues surrounding lanes, a brief overview is provided.

Origin of Lanes

Public lanes in the City were created by Registered Plans of Subdivision dating from the 1800's to early 1900's and were intended to provide horse drawn carriage access to rear yards where carriage sheds were typically located. Lanes essentially disappeared from Registered Plans after the 1920's when cars became the predominant mode of transportation and street-facing driveways were the norm. The transition to street-facing driveways has resulted in roughly half of the lanes in the City no longer being traveled and thus have fallen into disuse.

It should be noted that public lanes are distinct from private rights-of-way (ROWs). Private ROWs may have the appearance of public lanes, but ROWs are strictly a private property matter for which the City has no jurisdiction over and which the public has no legal right to use. To illustrate this point, almost all downtown "alleys" are private ROW's – there are almost no public lanes in the downtown area.

Lane Ownership

Historically, lanes were considered to be privately owned (so-called "Survey Lanes") until the 1920 Surveys Act was amended to provide that lanes shown on Registered Plans were deemed to be public lanes owned by the local municipality. Much later in the 1980's, a Provincial Court Judge ruled that the 1920 Surveys Act provision was intended to be retroactive and that all lanes shown on Registered Plans of subdivision were to be considered public lanes owned by the municipality. As a result of this decision, municipalities in Ontario, including London, have accepted that they are the legal owners of public lanes within their municipality.

Lanes are Public Highway

The Municipal Act, S.O. 2001 c.25, S.26 provides that all lanes shown on a registered plan of subdivision are deemed to be "public highway", a powerful common law attribute which provides the general public, and particularly the abutting land owners, with the right to use lanes to access their properties. Removing or limiting public highway rights can generally only be done by court order or municipal Bylaw.

An important attribute of a public highway is that the *Real Property Limitations Act, R.S.O. 1990* provides the City with protection from claims of adverse possession (so-called "squatters rights") due to long-term occupation of lanes. This has played an important role in the City's lane policies and practices.

Even if lanes are no longer traveled, lanes still exist and retain their public highway status unless and until they have been legally closed. Lanes that have fallen into disuse could conceivably be re-opened for travel at any time.

Lanes are Not Assumed for Maintenance

"Assumption" is process whereby the City formally assumes responsibility for maintenance of a public highway for the benefit of the traveling public. Once assumed, the City is legally responsible for maintaining a highway (i.e. street, road, sidewalks etc.) in accordance with Provincial minimum maintenance standards. Lanes in the City have never been legally assumed for maintenance by the City of London and therefore do not fall under this criteria.

DISCUSSION

Traveled Lane Maintenance

Lanes have never been assumed for maintenance partly because most were historically considered to be privately owned and partly because their physical nature make formal assumption difficult or impractical. Most lanes have not been properly engineered or built to a standard that can be effectively maintained by modern equipment used by the City. Lanes are typically narrow often with right-angle bends that cannot be easily navigated without encroaching onto and possibly damaging private property. Lanes are often burdened by encroachments, making them difficult to traverse and there is insufficient room for snow storage which makes standard snow ploughing difficult or impossible, thus requiring expensive snow removal services.

Notwithstanding that lanes have never been assumed by the City, in 2008 the City passed the Lane Maintenance Bylaw A.-6168-43. It calls for limited maintenance of traveled lanes such as pothole filling and/or grading upon request and where practically possible, but the Bylaw stops well short of full-fledged assumption for many of the practical reasons previously noted. The Bylaw was carefully designed to provide a modest but achievable level of lane maintenance that addresses the largest portion of complaints from the public, but at nominal cost. By all accounts, this goal has been achieved. Unfortunately, and mainly due to the practical maintenance problems lanes present, there are no additional maintenance options that the City can offer without significant cost implications or by raising risk-management concerns.

Therefore no changes to the City's lane maintenance Bylaw is recommended.

Lane Closings and Disposition

The City's lane closing policies are stringent as they are designed to protect the interests of both neighbourhoods and the City:

- Since lanes typically serve properties within an entire block, any proposed closing must take into account how it would affect the neighbourhood rather than just be considered from an individual property owner's perspective no matter how compelling the case for closing may be. This is why permanent lane closings generally require the consent of all the affected property owners within the block.
- The closing policy necessitates closing the entire lane in a block to avoid land locking issues created by piecemeal lane closings. If sections of lanes can be isolated without affecting the larger neighbourhood, such partial closings can be considered for closing.
- Although the City has the right to unilaterally close lanes by Bylaw, if an abutting owner can demonstrate their property rights have been injuriously affected by the closing, the City puts itself at risk of being sued for damages.
- Closed lanes must also be disposed of; there is no benefit to only closing a lane as public highway – it must also be disposed of by being transferred to (presumably) the abutting property owner(s). Although Municipal Council has the power to close an entire lane in a block by Bylaw, the City cannot forcibly convey the lane to unwilling property owners. This is a major impediment to any potential lane closing program whether subsidized by the City or not.

All of these principles and issues are reflected in the City's current lane closing policy. It is important to note that these concerns apply even if the lane is not traveled; the

potential for future use must be taken into consideration when permanently closing a lane.

Although the City's lane closing policies are regimented to ensure protection for both neighborhoods and the City, special situations can always be brought forward to Municipal Council for determination. A good example of this occurred in 2011, when the City received a petition from the large majority of property owners living on Marmora Street which requested the City "do away" with the untraveled lanes behind their properties for many of the same reasons that led to this report. Council supported the petition and directed Civic Administration to make special accommodations in order to help ensure the successful closing and disposition of the lanes. Accordingly, the City agreed to sell the lanes to each property owner for nominal cost of one dollar rather than fair market value, and the City arranged for the services of an Ontario Land Surveyor to provide the required reference plan for a cost of \$500 per property owner, a fraction of what such a survey would normally cost. (A reference plan is a mandatory requirement when severing property.) The City also agreed to add the costs, where requested, to property owners' taxes for a 10-year no-interest scheduled payback.

Despite these extraordinary accommodations, in the end less than half of the property owners were willing to accept any portion of the lane or give their written consent to the closing. A small number property owners vehemently objected to the closing and others would only provide consent subject to unsupportable conditions. As a result, the application had to be abandoned. This experience illustrates the difficulty in obtaining the wide-spread cooperation needed to dispose of lanes even under relatively favorable conditions. Other municipalities have experienced similar challenges.

No changes to the current lane closing policies are recommended.

Untraveled Lane Challenges

Due to the challenges related to the closing and disposing of lanes, it is no surprise that of the roughly 400 lanes in the City approximately half are no longer traveled. Many have fallen into various states of disuse and neglect. Regrettably, this situation can lead to a host of problems ranging from uncontrolled noxious weeds, sites of illegal garbage dumping and refuse collection to the creation of havens for undesirable social or even criminal behaviour. Such problems are not new, however, considering that lanes have existed in all states and forms for over a century.

What is known is that these problems cannot be solved by the City assuming responsibility for the lanes. Similarly, reporting criminal behaviour to the Police may not yield the desired results simply because lanes cannot be monitored continually twenty-four hours per day, seven days a week. Previously, property owner concerns have been resolved by adjacent property owners simply taking over and occupying the untraveled lane. This has been done unilaterally and/or in co-operation with neighbors and has involved extending fences to enclose the lane.

Since such occupations are contrary to the Streets Bylaw, the City cannot grant permission or condone such action, however taking over and occupying vacant lanes appears to be an effective method for property owners who are desirous of eliminating vacant lane problems that may affect the use and enjoyment of their own property. The City's practice in the face of such quiet occupation has generally been to take no action provided other municipal By-laws are otherwise observed.

It should be noted that by not taking action against such "informal occupations", the City does not risk losing ownership or control of lanes regardless of the length of occupation and there is nothing preventing the lane from being opened in the future if needed. The practice of occupying untraveled lanes is commonplace and widespread across Ontario, and indicates that property owners have found this to be a satisfactory solution to

combating vacant lane problems.

To be clear, if a property owner chooses to fence in and occupy an untraveled lane, they do so at their own risk and expense and implicitly accept that they are responsible for removing the fence and any obstructions should the City or another property owner wish to use the lane for its originally intended purpose.

There is also an option for a property owner to enter into a license agreement with the City to temporarily occupy an untraveled lane. Such license agreements typically involve an annual fee, require the property owner to carry insurance and contain a termination clause permitting the City to end the agreement at any time. In London, however, no property owner has ever availed them self of this option, no doubt because “informal occupations” are less onerous from a paperwork perspective yet achieve similar results.

Finally, it must not be forgotten that the simplest solution available to property owners combatting vacant lane problems is to simply erect a privacy fence along their own property line. Privacy fences are widely used in neighbourhoods to protect properties and provide privacy and they are just as effective at separating properties from vacant lanes as they are at separating neighboring properties.

Notwithstanding the challenges surrounding vacant lanes, the current policies and practices provide property owners with sufficient options to enable them to deal with vacant lane problems as they deem appropriate. Therefore no changes to the City’s policies are needed in regards to vacant lanes.

Lanes in Other Municipalities

The challenges that lanes present are not unique to London. Although some municipalities have formally assumed certain traveled lanes, particularly in the downtown areas (there are essentially no public lanes in downtown London, only privately owned alleyways), many municipalities only provide limited surface maintenance similar to what London offers. The problems resulting from untraveled lanes are also common, which often has resulted in the abutting owners taking over and occupying lanes as has been done in London. Although some municipalities require encroachment agreements in these instances, enforcement is not a priority. A few municipalities have adopted or are considering a subsidized program to dispose of untraveled lanes to the abutting property owners. Unfortunately, their experience mirrors that of London’s, in that it is nearly impossible to achieve a 100% disposition rate even when the closing process is subsidized, which inevitably leads to the problem of lane fragmentation. In summary, none of the other municipalities’ experiences are particularly instructive, as London’s lane policies are, broadly speaking, typical compared to other municipalities in Ontario.

CONCLUSION

The City’s lane closing policies are designed to serve and protect neighbourhood interests as well as the City’s interests, which must take precedent over individual property owners’ wishes. Although most lane maintenance is left to the abutting owners to deal with as they deem appropriate, the City does offer limited surface maintenance on an as-requested basis which appears to satisfy most property owners that rely on lanes. Where untraveled lanes lead to problems for abutting property owners and a permanent closing is not possible, there are options available to the property owners who are free to choose which is best for them.

When considered together, the City’s lane policies and practices meet the needs of most Londoners and therefore no changes are recommended, it being noted that special situations can always be brought to Council for appropriate resolution.

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

April, 2019

cc: M. Koch Denomme























5
PIRE
SCOTT'S

























From: Michelle Koch

Sent: Monday, September 17, 2018 8:25 AM

To: van Holst, Michael <mvanholst@london.ca>; PEC <pec@london.ca>

Subject: Unattended alley ways

Good Morning,

My name is Michelle Koch Denomme and I have resided at 24 Redan Street since 1996. This is a charming little street that has had its ups and downs. There is an unattended fire lane that runs north to south behind my house. This unattended lane has been the source of problems from the day I moved in.

Approximately 9 years a fellow neighbour and myself began a petition to have this alley way closed. We were successful in getting city permission to do so but because of a bylaw it fell through. Apparently it was all or nothing with all the neighbours on each side of the alley having to agree to the closure plus being willing to move fences and assume property. Some of the neighbours closer the Nelson street exit decided the lane was not a problem. Due to a city bylaw we were unable to move forward with the sale of the land.

I am here to let you know it most certainly is a problem. It is unmaintained by the city and has become overgrown with weeds and trees. This makes it a perfect haven for drug use, prostitution and squatting. The situation has been exacerbated by the rampant use of drugs in the past few years. There are many children that live in this neighbourhood. It is frustrating to have my child constantly coming to me saying "Mommy, there's someone in the alley behind our house again"

The area behind my house is strewn with garbage. It is littered with used condoms, dime bags and discarded needles. This is a hazard to every one. Not only does this occur but also prostitution occurs and other activity.

For example, in the last month alone I have witnessed not only drug use, but men receiving fellatio from women, intercourse, and most recently a gentleman lying on the ground with his pants around his ankles masturbating. These occurrences happen in broad daylight! There are also many other activities that occur at night.

Directly behind my house I have removed dirty mattresses, furniture, and sleeping bags. This is not an environment I want my child to see or grow up in.

I implore you to change the bylaw and allow for closure of this alley way. This is the only way this behaviour will stop. It is apparent the City of London has forgotten about this end of town and chooses to focus on other areas. I have been in contact with my city councilor to help get forward movement on this motion. If not the entire alley closed I would at least like to have the area closed close to Hamilton Road. I am more than willing to assume the property and move my fence so the alley is no longer passable.

This is city owned property that is not being maintained by the city. It is extremely frustrating to see and hear this behaviour ever day. I want my child and the other children of this neighbour to be able to play in the own backyards without fear of needles, discarded condoms and other items. One hundred years ago this was meant to be a fire lane. In today's society there is no way a fire truck would ever be able to get to through the alley to serve the purpose it was originally intended for.

Thank You
Michelle Koch Denomme
24 Redan Street,
London, ONtario
N5Z1Y8

Have Faith and Trust that things will work out in the End

THE OPT-IN GREEN BIN SERVICE

Dear Colleagues,

In order to implement a faster, more cost-effective and friendlier roll out for green bins I am suggesting that the city offer an opt-in, paid green bin service for those who wish to participate. The many advantages are outlined below.

SPEED

The proposed green bin program is anticipated to take effect in 2021 while an opt-in program could potentially be in operation this year. Participants would receive a green bin plus weekly service from Tuesday to Friday on the same day every week.

NO UNUSED BINS

There are approximately 125,000 homes to which the curbside green bin service could apply but it is expected that 40% to 50% of the people will not participate. Since bins cost \$40-\$70 each, the immediate savings of an opt-in program will be about \$3 million because we won't have to cover the cost of bins that will never be used.

LOWER TAXES

The operating cost for the Mandatory Green Bin program is expected to be about an extra \$5 million per year which will be added to the tax levy. By having a paid service, there is no additional tax burden.

REVENUE GENERATION

Though cost recovery is the goal, the program may generate a surplus that can be used to fund additional green projects.

ORGANIC GROWTH

The opt-in program is voluntary and should grow as people see their neighbours participating and desire to try it themselves. This is superior to coercion.

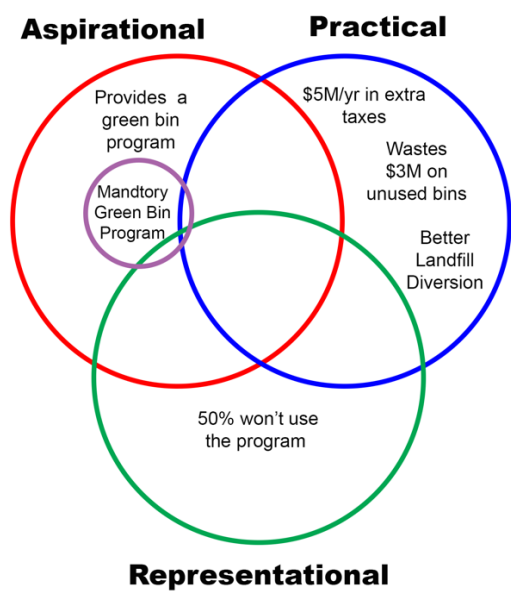
NO REDUNCANCY

Some residents don't need green bins because they use digesters to deal with organic waste.

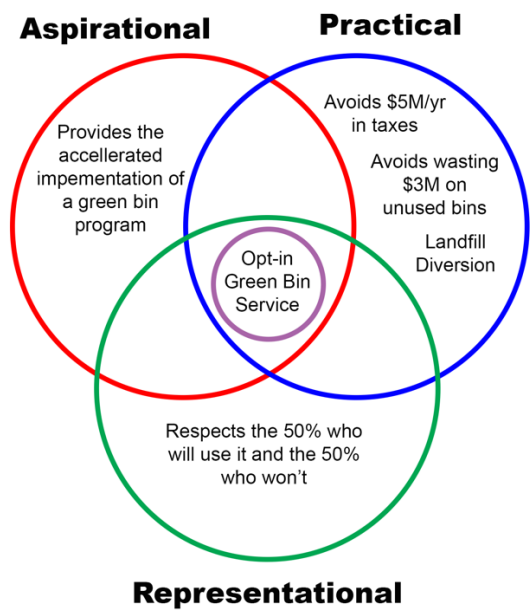
BALANCED

The program is a better balance of political considerations.

Mandatory Green Bin Program



Opt-in Green Bin Service



Despite being voluntary, the service will still have to be provided for all parts of the city so there will need to be a minimum opt-in threshold and a cost recovery strategy that allows for lower prices as more residents participate.

Committed residents have told me they would be willing to pay \$150 per year (\$3/week) for the service and If the minimum participation is 15% or 18,000 households, that would raise \$2.7 million dollars which should enough to operate the program. As participation approaches the 60% mark, prices could be reduced to around \$65.

For these reasons, I request that you support the following motion:

That staff prepare the financial and technical details necessary to implement an opt-in green bin program.

Sincerely,

Michael van Holst