

# Civic Works Committee

## Report

4th Meeting of the Civic Works Committee  
February 20, 2019

PRESENT: Councillors P. Squire (Chair), M. van Holst, S. Lewis, S. Lehman, E. Pelozza

ABSENT: Mayor E. Holder

ALSO PRESENT: Councillors J. Helmer and P. Van Meerbergen; J. Fleming, G. Gauld, A. Giesen, P. Kavcic, D. Huggins, D. MacRae, S. Maguire, B. O'Hagan, D. Popadic, S. Mathers, A. Rozentals, C. Saunders, P. Shack, J. Simon, J. Stanford, S. Spring and B. Westlake-Power

The meeting was called to order at 4:00 PM.

**1. Disclosures of Pecuniary Interest**

That it BE NOTED that no pecuniary interests were disclosed.

**2. Consent**

Moved by: S. Lehman  
Seconded by: E. Pelozza

That items 2.2, 2.3, 2.6-2.11, BE APPROVED.

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

Absent: (1): E. Holder

**Motion Passed (5 to 0)**

**2.2 2018 External Audit of London's Drinking Water Quality Management System and 2018 Management Review**

Moved by: S. Lehman  
Seconded by: E. Pelozza

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the staff report dated February 20, 2019 related to the 2018 external audit of London's Drinking Water Quality Management System, and the subsequent 2018 Management Review meeting, BE RECEIVED for information. (2019-E13)

**Motion Passed**

**2.3 2018 Drinking Water Annual Report and Summary Report for the City of London Distribution System**

Moved by: S. Lehman  
Seconded by: E. Pelozza

That, on the recommendation of the Director, Water & Wastewater, the 2018 Drinking Water Annual Report and Summary Report for the City of London Distribution System BE RECEIVED for information. (2019-E13)

**Motion Passed**

2.6 Endorsement of Updated Operational Plan for the Elgin-Middlesex Pumping Station (London Portion)

Moved by: S. Lehman  
Seconded by: E. Pelozza

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the updated Operational Plan for the Elgin-Middlesex Pumping Station (London Portion) BE ENDORSED as per the requirements of the *Safe Drinking Water Act, 2002*. (2019-E08)

**Motion Passed**

2.7 Contract Award - Tender No. RFT 19-02 - 2019 Infrastructure Renewal Program - Egerton Street, Brydges Street and Pine Street - Phase 2 Reconstruction Project

Moved by: S. Lehman  
Seconded by: E. Pelozza

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 contract for the 2019 Infrastructure Renewal Program Egerton Street Phase 2 Reconstruction Project:

- a) the bid submitted by Bre-Ex Construction Inc at its tendered price of \$5,723,375.76, excluding HST, BE ACCEPTED; it being noted that the bid submitted by Bre-Ex Construction Inc was the lowest of seven bids received and meets the City's specifications and requirements in all areas;
- b) Archibald, Gray and McKay Engineering Ltd. (AGM) 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 \$429,880.00, 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 proposed by-law as appended to the staff report dated February 20, 2019 BE INTRODUCED at the Municipal Council meeting to be held on March 5, 2019, for the purpose of amending the Traffic and Parking By-law (PS-113);
- d) the financing for this project BE APPROVED as set out in the Sources of Financing Report as appended to the staff report dated February 20, 2019;
- e) the Civic Administration BE AUTHORIZED to undertake all the administrative acts that are necessary in connection with this project;
- f) 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 RFT19-02); and

g) 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**

2.8 Contract Award Tender - No. RFT 19-13 - 2019 Infrastructure Renewal Program - Cavendish Crescent and Mount Pleasant Avenue - Phase 2 Reconstruction Project

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

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 Cavendish Phase 2 Reconstruction Project:

- a) the bid submitted by Bre-Ex Construction Inc. at its tendered price of \$4,214,630.88, excluding HST, BE ACCEPTED; it being noted that the bid submitted by Bre-Ex Construction Inc. was the lowest of seven bids received and meets the City's specifications and requirements in all areas;
- b) Spriet Associates 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 \$287,944.80, 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 proposed by-law as appended to the staff report dated February 20, 2019 BE INTRODUCED at the Municipal Council meeting to be held on March 5, 2019, for the purpose of amending the Traffic and Parking By-law (PS-113);
- d) the financing for this project BE APPROVED as set out in the Sources of Financing Report as appended to the staff report dated February 20, 2019;
- e) the Civic Administration BE AUTHORIZED to undertake all the administrative acts that are necessary in connection with this project;
- f) 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 RFT19-13); and
- g) 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**

2.9 Sole Source Award - Acoustic Fiber Optic Monitoring Contract - Project No. EW3538

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

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions be taken with respect to the Acoustic Fiber Optic (AFO) Monitoring Contract:

- a) the contract value for Pure Technologies Ltd., 3rd Floor, 705-11 Avenue SW, Calgary, Alberta, T2R 0E3, BE APPROVED, in accordance with section 14.3 (c) of The Corporation of the City of London's Procurement of Goods and Services Policy, in the amount of \$150,922.00 (excluding HST) for 2019 to continuously monitor 15.86 km of the City's most critical watermains;
- b) the financing for this project BE APPROVED from current available budget as set out in the Sources of Financing Report as appended to the staff report dated February 20, 2019;
- c) the Civic Administration BE AUTHORIZED to undertake all the administrative acts that are necessary in connection with this project;
- d) the Mayor and the City Clerk BE AUTHORIZED to execute any contract or other documents, if required, to give effect to these recommendations.(2019-E03)

**Motion Passed**

2.10 Amendments to the Traffic and Parking By-Law

Moved by: S. Lehman  
 Seconded by: E. Pelozza

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 February 20, 2019 BE INTRODUCED at the Municipal Council meeting to be held on March 5, 2019, for the purpose of amending the Traffic and Parking By-law (PS-113). (2019-T08)

**Motion Passed**

2.11 2019 Annual New Sidewalk Program

Moved by: S. Lehman  
 Seconded by: E. Pelozza

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the sidewalk candidates proposed for the 2019 Annual New Sidewalk Program in the staff report dated February 20, 2019, BE ENDORSED for implementation in 2019. (2019-T04)

**Motion Passed**

2.1 Southdale Road West and Wickerson Road Improvements Environmental Study Report

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 Southdale Road West / Wickerson Road Improvements Environmental Assessment:

- a) Southdale Road West / Wickerson Road Improvements Environmental Study Report BE ACCEPTED;
- b) a Notice of Study Completion for the Project BE FILED with the Municipal Clerk; and

c) the Environmental Study Report BE PLACED on the public record for a 30 day review period. (2019-E05)

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

Absent: (1): E. Holder

**Motion Passed (5 to 0)**

2.4 Contract Award - Tender No. 19-15 - 2019 Infrastructure Renewal Program - Downtown Sewer Separation Phase 2 Project

Moved by: S. Lewis

Seconded by: E. Pelozza

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 Downtown Sewer Separation Phase 2 Project:

- a) the bid submitted by J-AAR Excavating Limited (J-AAR) at its tendered price of \$6,812,793.33, excluding HST, for the 2019 Infrastructure Renewal Program, Downtown Sewer Separation Phase 2 project, BE ACCEPTED; it being noted that the bid submitted by J-AAR Excavating Limited was the lowest of eight bids received and meets the City's specifications and requirements in all areas;
- b) AECOM Canada Ltd. (AECOM), 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 \$420,299.00, excluding HST, in accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy;
- c) the financing for this project BE APPROVED as set out in the Sources of Financing Report as appended to the staff report dated February 20, 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 19-15); and
- g) 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)

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

Absent: (1): E. Holder

**Motion Passed (5 to 0)**

2.5 Agreement Extension with Trojan Technologies for the Use of the Decommissioned Westminster Wastewater Plant

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 proposed By-law as appended to the staff report dated February 20, 2019 BE INTRODUCED at the Municipal Council Meeting of March 5, 2019 to:

- a) approve the Amending Agreement with Trojan Technologies; and,
- b) authorize the Mayor and the City Clerk to execute the Agreement extension. (2019-E03)

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

Absent: (1): E. Holder

**Motion Passed (5 to 0)**

#### 2.12 Red Light Camera Program 2018 Annual Report

Moved by: S. Lewis

Seconded by: E. Pelosa

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the 2018 Annual Report for the Red Light Camera Program dated February 20, 2019 BE RECEIVED for information, in support of Vision Zero London. (2019-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

None.

### 4. Items for Direction

#### 4.1 Street Light Local Improvements Process

Moved by: S. Lewis

Seconded by: M. van Holst

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, an annual New Street Light Local Improvement Program with a 50% cost sharing, 100% City and 1/3 property owner with abutting property owners BE CONSIDERED alongside other investment priorities in the upcoming 2020-2023 multi-year budget process. (2019-T01)

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

Absent: (1): E. Holder

**Motion Passed (5 to 0)**

#### 4.2 Downtown OEV East - West Bikeway Corridor Evaluation

Moved by: S. Lewis

Seconded by: S. Lehman

That the following actions be taken with respect to implementation of cycling infrastructure:

- a) the temporary bike lane for King Street, scheduled for installation in 2019, BE DEFERRED until such time as the Municipal Council has made decisions regarding the rapid transit project, pending the above-noted Council decisions related to transit projects, the matter of temporary King

Street bike lane be brought back to the Civic Works Committee for additional consideration; and,

b) the matter of the Downtown OEV East-West Bikeway BE REFERRED back to the staff in order to have further consultation related to a viable Dundas Street corridor solution;

it being noted that the Civic Works Committee received the attached presentations from:

- P. Kavcic, Transportation Design Engineer
- J. Pastorius, Manager, Old East Village BIA
- D. Hall, Executive Director, London Cycle Link
- G. Gallacher, Board Chair, LDBA-verbal presentation

**Motion Passed**

Voting Record:

Moved by: S. Lewis

Seconded by: S. Lehman

That D. Hall, J. Pastorius and G. Gallacher BE GRANTED delegation status.

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

Absent: (1): E. Holder

**Motion Passed (5 to 0)**

Moved by: S. Lewis

Seconded by: S. Lehman

That the temporary bike lane for King Street, scheduled for installation in 2019, BE DEFERRED until such time as the Municipal Council has made decisions regarding the rapid transit project, pending the above-noted Council decisions related to transit projects, the matter of temporary King Street bike lane be brought back to the Civic Works Committee for additional consideration.

Yeas: (4): P. Squire, S. Lewis, S. Lehman, and E. Pelosa

Nays: (1): M. van Holst

Absent: (1): E. Holder

**Motion Passed (4 to 1)**

Moved by: S. Lewis

Seconded by: S. Lehman

That the matter of the Downtown OEV East-West Bikeway BE REFERRED back to the staff in order to have further consultation related to a viable Dundas Street corridor solution.

Yeas: (3): S. Lewis, S. Lehman, and E. Peloz

Nays: (2): P. Squire, and M. van Holst

Absent: (1): E. Holder

**Motion Passed (3 to 2)**

**5. Deferred Matters/Additional Business**

5.1 Deferred Matters List

Moved by: S. Lewis

Seconded by: E. Peloz

That it BE NOTED that the Deferred Matters List as amended, was received.

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

Absent: (1): E. Holder

**Motion Passed (5 to 0)**

**6. Confidential (Enclosed for Members Only)**

6.1 Solicitor-Client Privileged Advice / Litigation/Potential Litigation

Moved by: E. Peloz

Seconded by: S. Lehman

That the Civic Works Committee convene, In Closed Session at 6:58 PM, for the purpose of considering: a matter that pertains to litigation or potential litigation and advice that is subject to solicitor-client privilege, including communications necessary for the purpose and directions and instructions to officers and employees or agents of the municipality regarding properties located on Birchwood Drive and Meadowvale Drive.

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

Absent: (1): E. Holder

**Motion Passed (5 to 0)**

The Civic Works Committee convenes, In Closed Session from 6:58 PM to 7:05 PM.

6.2 (ADDED) Solicitor-Client Privilege Advice

Moved by: S. Lewis

Seconded by: S. Lehman

That the Civic Works Committee convene In Closed Session at 5:46 PM for the purpose of considering: a matter subject to solicitor-client privilege, including communications necessary for that purpose, as it relates to the implementation of King Street Cycling Improvements, including the tendering process.

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

**Motion Passed (5 to 0)**

The Civic Works Committee convenes, In Closed Session from 5:46 PM to 6:08 PM.

**7. Adjournment**

The meeting adjourned at 7:06 PM

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON FEBRUARY 20, 2019</b>
<b>FROM:</b>	<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>SOUTHDALE ROAD WEST AND WICKERSON ROAD IMPROVEMENTS ENVIRONMENTAL STUDY REPORT</b>

<b>RECOMMENDATION</b>
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That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to the Southdale Road West / Wickerson Road Improvements Environmental Assessment:

- (a) Southdale Road West / Wickerson Road Improvements Environmental Study Report **BE ACCEPTED**;
- (b) A Notice of Study Completion for the Project **BE FILED** with the Municipal Clerk; and
- (c) The Environmental Study Report **BE PLACED** on the public record for a 30 day review period.

<b>PREVIOUS REPORTS PERTINENT TO THIS MATTER</b>
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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 DC Background Study.
- Civic Works Committee – August 25, 2014 – Southdale Road and Boler Road Intersection Improvements Environmental Assessment Appointment of Consulting Engineer.
- Civic Works Committee – July 18, 2016 – Environmental Assessment Appointment of Consulting Engineer.

<b>COUNCIL'S 2015-19 STRATEGIC PLAN</b>
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The following report supports the Strategic Plan through the strategic focus area of *Building a Sustainable City* by implementing and enhancing safe and convenient mobility choices for transit, automobile users, pedestrians, and cyclists through the vertical alignment changes to provide increased safety for all users.

## BACKGROUND

### Purpose

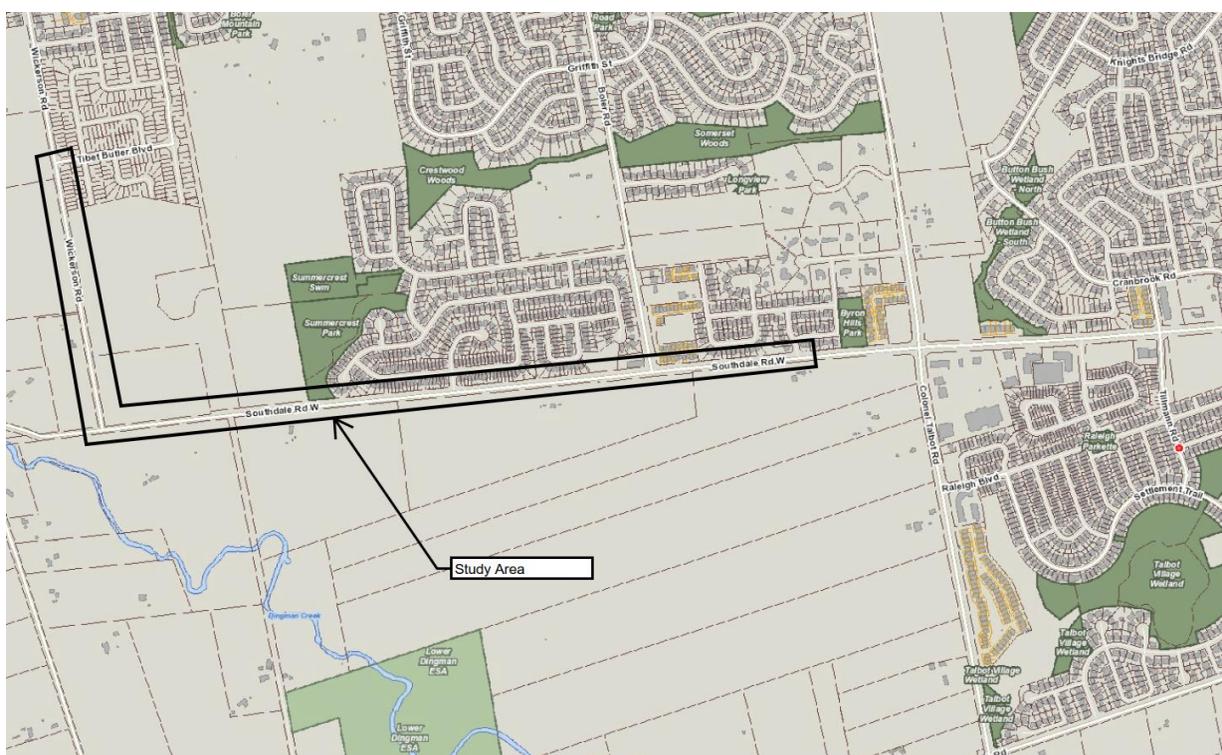
This report provides Committee and Council with an overview of the Municipal Class Environmental Assessment (EA) for the Southdale Road West from Boler Road to Wickerson Road, including a portion of Wickerson Road north of Southdale Road West, and seeks approval to finalize the study. The completed Environmental Study Report (ESR) documents the EA process undertaken.

### Background

Due to rising traffic volumes, developments in the area, and increasing safety concerns, the City identified a need for improvements along the Southdale Road West corridor, which included the portion of Wickerson Road. More recently, the City's Cycling Master Plan, The London Plan and the 2030 Transportation Master Plan show the importance of improvements to the Southdale Road West corridor for all modes of transportation to better and more safely connect the city's transportation network. An EA is required due to the anticipated impacts associated with reconstructing the road to address the current substandard conditions.

The Southdale Road West / Wickerson Road Improvements Class EA was carried out in accordance with Schedule 'C' of the Municipal Class Environmental Assessment (Class EA) document. The Class EA process is approved under the Ontario Environmental Assessment Act and outlines the process whereby municipalities can comply with the requirements of the Act.

The Class EA study has satisfied the requirements of the Ontario Environmental Assessment Act by providing a comprehensive, environmentally sound planning process with public participation, and facilitating dialogue with parties representing a number of diverse interests. This ESR documents the decision making process carried out during the Southdale Road West / Wickerson Road Improvements Class EA Study. See below Figure 1.0 which illustrates the study area.



**Figure 1.0 – Southdale Road West and Wickerson Road Improvements EA Study Area**

Within the study area, Southdale Road West is 1.7 km of two-lane arterial roadway extending from approximately 430m east of Boler Road to Wickerson Road in the west. Also included in the study area is Wickerson Road which is 650m of two-lane secondary collector extending from Southdale Road west at the southern limit to approximately 150m south of Tibet Butler Boulevard. The study area includes four intersections Southdale Road West/Byronhills Drive, Southdale Road West/Boler Road, Southdale Road West/Bramblewood Place, and Southdale Road West/Wickerson Road. Southdale Road West throughout the study area is characterized by steep slopes up to approximately 11% both in and out of vertical crests and sags and restricted sight lines. The current posted speed along Southdale Road West is 60 km/hr east of Boler Road and 50 km/hr west of Boler Road, with Wickerson Road being 60 km/hr. The surrounding area is predominantly rural with significant grades and localized woodlots. Improvements to the road are necessary as traffic volumes are increasing with surrounding development.

The EA identifies solutions to improve Southdale Road West. The proposed vertical alignment of Southdale Road West will allow for improved sightlines, operations, maintenance, and overall safety to meet the mobility and accessibility needs of all users. The project will allow for safer usage by emergency services, vehicular users, cyclists, and pedestrian's where service is currently limited by road geometrics.

### **The London Plan**

The London Plan, which encompasses the objectives and policies for the City's short and long-term physical land development, classifies this portion of Southdale Road West as a Rural Thoroughfare. The land use surrounding this portion of Southdale Road West is primarily Green Space, Environmental Review lands, and Neighbourhoods. The London Plan classifies this portion of Wickerson Road as a Neighbourhood Connector, with the surround land use being the same as Southdale Road West.

The Rural Thoroughfare street classification places a priority on through movement of vehicles, farm equipment and freight/goods, and withholds a quality of standard of urban design. The Neighbourhood Connector street classification places a priority on pedestrians, move low to medium volumes of cycle, transit and vehicle movements, minimize width of vehicle zone, very high-quality pedestrian realm, and very high standard of urban design.

### **2030 Transportation Master Plan (2013)**

One of the five "Smart Moves" that form the basis of the TMP is a More Strategic Program of Road Network Improvements. There is a greater emphasis in this TMP on transit, active transportation, travel demand management, and safety. The City's approach to defining the need for road network improvements has become more strategic. This approach is consistent with the City's objective to facilitate an increase to transit and active transportation modal shares from current levels. The City's approach also explicitly recognizes that road improvements will be required for different purposes, including safety.

## DISCUSSION

### **Project Description**

The ESR documents the process followed to determine the recommended undertaking and the environmentally significant aspects of the planning, design, and construction of the proposed improvements. It describes the problem being addressed, the existing social, natural and cultural environmental considerations, planning and design alternatives that were considered and a description of the recommended alternative.

The ESR also identifies environmental effects and proposed mitigation measures, commitments to further work and consultation associated with the implementation of the project. A copy of the Executive Summary for the ESR is contained in *Appendix A*.

### **Planning and Analysis of Alternatives**

Phase I of the Municipal Class EA (MCEA) process involved the identification of the problem and opportunity statement. It was determined that significant improvements are required to the grade and cross-section of Southdale Road West and Wickerson Road. The study is assessing the need for traffic operations and safety improvements, access modifications and pedestrian and cyclist friendly design features on the two roads.

Phase 2 of the MCEA process involved identifying alternative solutions (planning alternatives) to address the problem/opportunity statement.

The following two alternative solutions were examined in relation to the geometric deficiency on Southdale and Wickerson Road:

- Alternative 1 – Do Nothing
- Alternative 2 – Improvements to Southdale Road West and Wickerson Road to meet minimum design Standards.
  - Sub-Alternative 1 – vertical and cross section reconstruction to meet design standards on the existing horizontal alignment
  - Sub-Alternative 2 – horizontal realignment of Southdale Road West and Wickerson Road outside of the current footprint of the roadway. This alternative would also include vertical and cross section reconstruction to meet design standards.

Following consultation with agencies and the public, the preferred planning solution was selected as Alternative 2 – Sub-Alternative 1, vertical and cross-section reconstruction to meet design standards on the existing horizontal alignment.

Key factors for Alternative 2 – Sub-Alternative 1 being selected as the preferred planning solution include the following:

- Meet's the City's minimum road design standards;
- Improves safety;
- Provides opportunities for active mobility;
- Improves drainage and can accommodate other planned servicing improvements; and
- Has minimized impacts on natural heritage features, existing land uses, and archaeological resources through thorough mitigation measures.

## Design Alternatives

Phase 3 of the MCEA process involves the development and evaluation of alternative design concepts. The main outcome in this phase of the study was developing road cross-sections and layout concepts for the recommended planning solution.

Identification of the land requirements for this project was a key outcome to identify appropriate mitigation measures such as minimizing cultural, socio-economic and environmental impacts, while still meeting the City's design standards.

In addition to the city and national design guidelines, the following factors were considered in the development of alternative designs:

- Design options through the corridors were constrained due to existing grades and slopes. Centreline grades were restricted to 6% excluding vertical curves for similar reasons.
- The centreline alignment is proposed to be maintained on the existing horizontal alignment to have minimized impacts on natural heritage features, existing lane uses and archaeological resources.

After reviewing design options, six feasible alternative design options were developed and analyzed using the design criteria, and are as follows:

- Rural vs. Urban Cross-Section
  - Urban section was chosen to minimize footprint and manage stormwater.
- Cut Slopes in Constrained Areas
  - Options included: retaining walls and slopes of varying inclination.
  - Vertical slopes at 2 horizontal : 1 vertical slopes were chosen to minimize cost, simplify construction, provide a more natural appearance and provide additional area for replanting on slopes with no significant increase in impacts to trees or vegetation.
- Fill Slopes in Constrained Areas
  - Options included: retaining walls and slopes of varying inclination
  - Steeper reinforced slopes at 1 horizontal : 1 vertical were chosen to minimize the footprint, provide a more natural appearance and minimize the length of the culvert.
- Profile Optimization
  - Options included: standard (6% max) and substandard (8%) grades.
  - Profile was chosen to meet standards for arterial roads, manage cuts/fills and minimize driveway impacts.
  - It was also determined that there was no significant benefit by increasing grades to 8% which would have more negative impacts.
- Stormwater Management
  - Storm sewers and low impact development (LID) stormwater solutions will be implemented to manage stormwater.
- Active Transportation
  - Sidewalks will be provided on the north side of Southdale Road and the east side of Wickerson Road. Multi-use trail to be implemented per Cycling Master Plan and on-street bike lanes to be provided on Southdale Road.

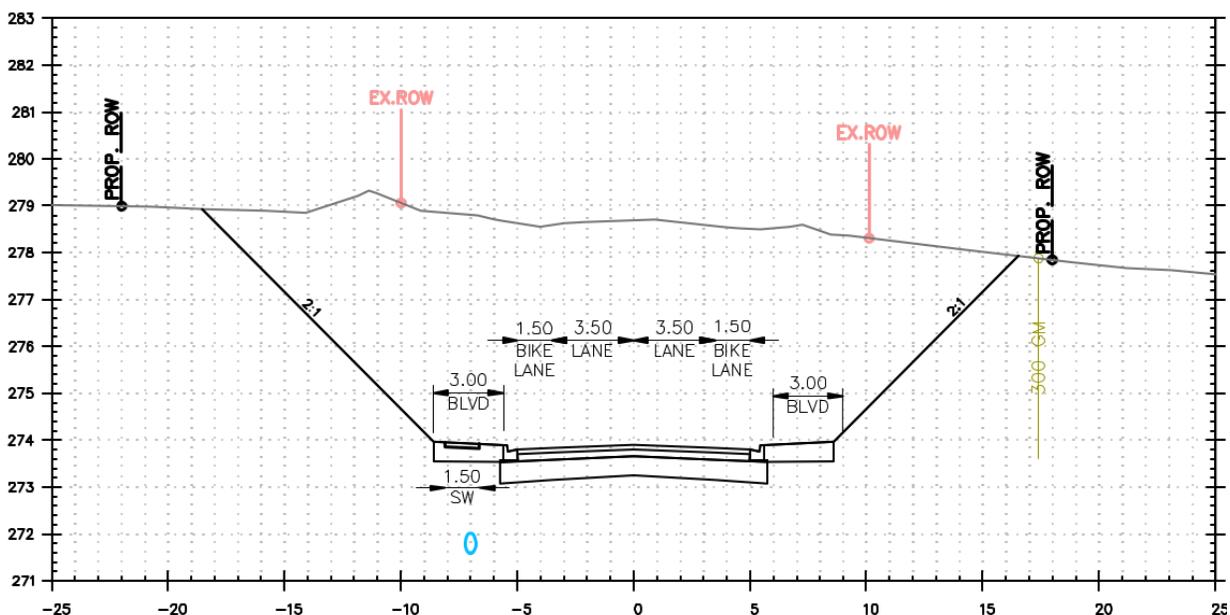
## Recommended Alternative

It is recommended to proceed with Alternative 2 – Sub-Alternative 1, vertical and cross-section reconstruction to meet design standards on the existing horizontal alignment with the following design criteria:

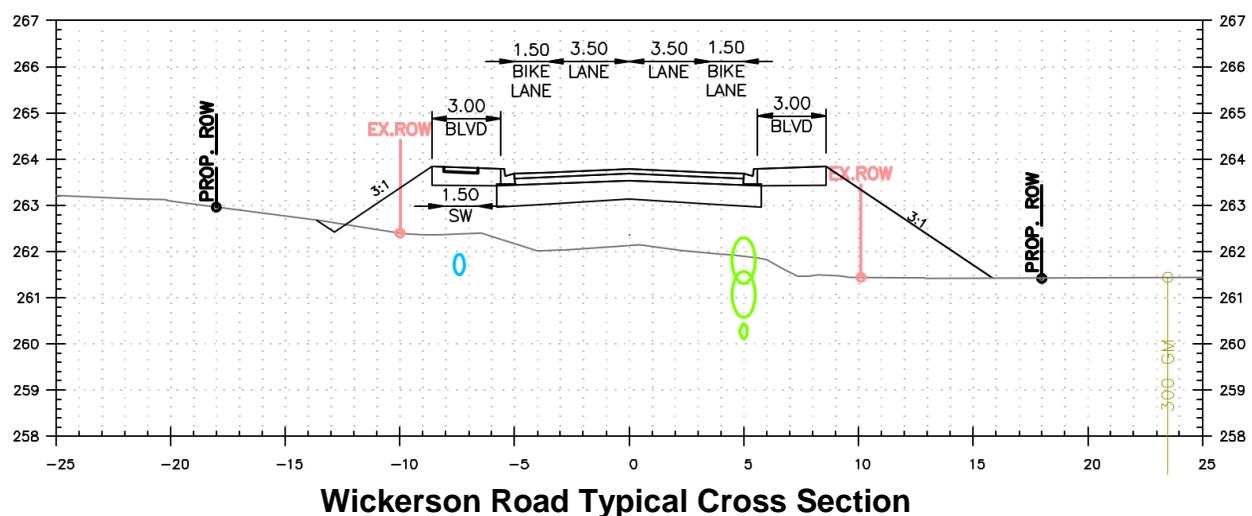
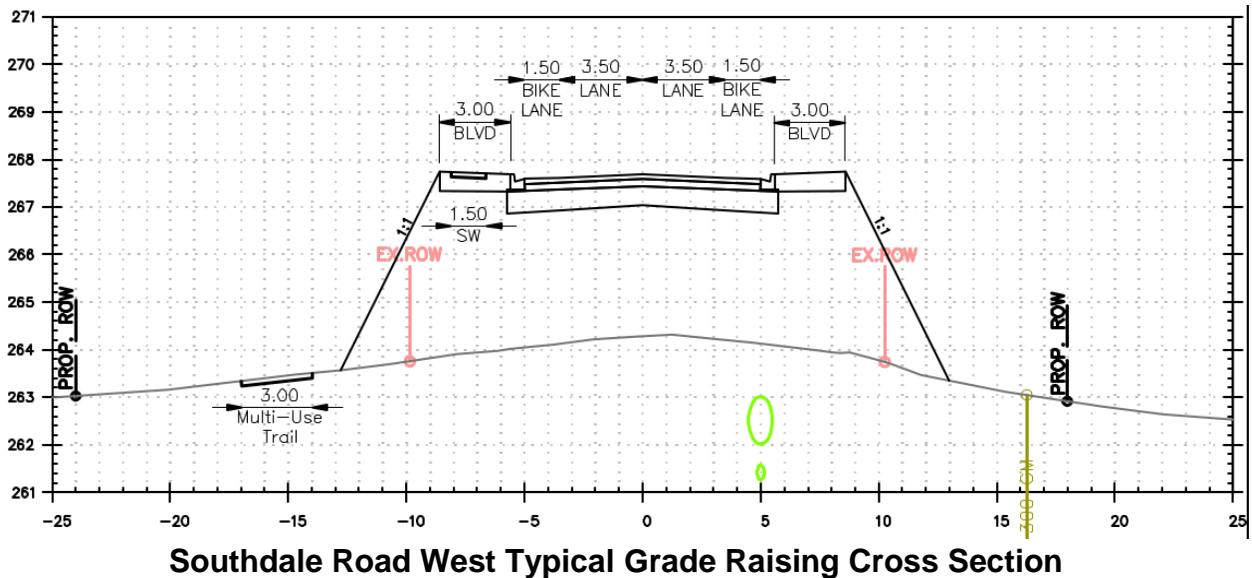
- urban cross-section;
- slightly steeper cut slopes of typical inclination (2 horizontal : 1 vertical);
- steeper fill slopes requiring reinforcement on Southdale Road to minimize footprint and impacts to the natural environment;
- longitudinal profile meeting arterial road standards;
- storm sewers and LID stormwater solutions;
- a sidewalk; and,
- a multi-use path.

The preferred design best addresses the project problem statement based on the detailed evaluation and feedback received from the public. Factors such as impacts of archaeological potential, built heritage resources, existing vegetation, property, and existing sightline and safety issues as well as opportunities for active transportation guided the evaluation.

The design solution, as illustrated in the following figures, involves the vertical realignment of Southdale Road, west of Boler Road, and Wickerson Road, north of Southdale Road. This will result in a flatter road with improved operations throughout both corridors. Improvements of the urban cross-section include standard lane widths, bike lanes, sidewalk, and a multi-use path to accommodate pedestrians and cyclists. Future consideration and accommodation will be given to connections of cycling infrastructure in the entire area.



**Southdale Road West Typical Grade Lowering Cross Section**



Additional design components such as intersection design and current driveway intersections were considered.

As mentioned above, four intersections exist within the study area. Three intersection designs were compared: unsignalized intersection, signalized intersection, and roundabout. Based on the intersection design evaluation, unsignalized intersections were recommended due both the current and projected traffic volumes not warranting signalization under the studied horizon.

Existing driveways along these two corridors connect to the roadway at locations where sight lines are limited along Southdale Road.

The Southdale Road West / Wickerson Road Improvements project is situated within a rural area adjacent to significant woodlots. The natural environment was considered in the evaluations throughout the study. The selected alternative provides an opportunity to improve roadway operations while minimizing impacts to the natural environment by retaining the existing alignment. The focus of the design options was how to best minimize impacts to trees and the natural environment.

### Public and Agency Consultation

Consultation was a key component of this Class EA study in order to provide an opportunity for stakeholder groups and the public to gain an understanding of the study process and provide feedback. The consultation plan was organized around key study milestones, including the two Public Information Centres (PIC's), stakeholder engagement and participation of technical review/regulatory agencies. The key stakeholders included residence, interested public, agencies, Indigenous Communities and those who may be affected by the project.

A Notice of Study Commencement was issued in November 2016. The study team received correspondence from the public and agencies indicating their interest in the study and requesting to be kept informed.

Public Information Centre No. 1 was held on March 3, 2017 to present the study, including information on existing conditions, alternative planning solutions, evaluation criteria and design considerations. It served as an opportunity for the public to review the project information, ask questions, and provide input to the members of the study team.

Public Information Centre No. 2 was held on May 31, 2018 as an opportunity for attendees to review the impact of the road improvement options on the social, cultural, economic, and natural environments as well as review the preliminary preferred design.

Agencies and stakeholders were notified at study milestones and during specific phases of the study which required an information update pertaining to them. In addition to formal public events, the project team conducted in-person meetings with stakeholders and agencies as requested and required. Presentations were made to the City of London Environmental and Ecological Planning Advisory Committee (EEPAC), Cycling Advisory Committee (CAC) and Transportation Advisory Committee (TAC) throughout the project.

In general all agencies and stakeholders understand the need for roadway improvements but some had concerns regarding natural heritage impacts and protection for future growth of the corridor. Mitigation of potential impacts involves the avoidance or minimization of potential impacts through good design, construction practices and / or restoration and enhancement activities. If mitigation is not possible then compensation is possible to achieve a no net-impact for particular natural heritage features. Detailed mitigation measures will be finalized in consultation with impacted property owners, City and UTRCA, as part of detailed design. Recommended construction mitigation measures will include:

- Detailed tree survey completed during Detailed Design and a tree preservation plan be prepared with the goal of minimizing impacts to trees,
- Edge Management and Compensation Planting Plan to reduce impacts to remaining woodland community by improving the vegetative buffer along the newly created woodland edge, and
- Compensation plantings of native trees based on the number of removals required to facilitate road improvements.

## **IMPLEMENTATION**

### **Construction Staging**

Construction is currently scheduled to begin as early as possible and potentially in 2020. However, this is subject to property acquisition and budget availability. Utility relocations, property acquisitions and tree clearing will be completed prior to construction.

The construction is expected to take two years due to the extent of the project area, and the large amount of cut and fill required. Road closures will be required for portions of this project due to the significant grade adjustments. Network traffic management and a communications plan will be developed during detailed design to inform road users, outline detours during closures and instruct local traffic movement. Access to residential properties will be maintained during construction.

<b>FINANCIAL CONSIDERATIONS</b>
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### Preliminary Cost Estimates

The estimated total project cost associated with the proposed improvements, including engineering, roadway construction, earthworks, stormwater management, watermain works, traffic signal/illumination, utility relocations, landscaping, staging, and other project costs is approximately \$12.8 M. An additional investment of \$2.0 M for coordinated watermain and sanitary sewer lifecycle renewal will benefit from project efficiencies. A detailed cost breakdown is shown below.

Item	Estimated Cost (2019 \$)
<b>Transportation Improvements</b>	
Roadworks and Earthworks	4,700,000
Storm Sewers	2,500,000
Traffic Signals and Illumination	500,000
Miscellaneous	700,000
Utility Relocation (10%)	800,000
<b>Sub-total</b>	<b>9,200,000</b>
Property Acquisition	390,000
Contingency (20%)	1,840,000
Engineering and Consulting (15%)	1,380,000
<b>Total Preliminary Cost Estimate</b>	<b>12,810,000</b>
<b>Lifecycle Renewal Cost Estimate</b>	
Sanitary Sewers	--
Watermain	1,500,000
<b>Sub-total</b>	<b>1,500,000</b>
Contingency (20%)	300,000
Engineering and Consulting (15%)	225,000
<b>Total Preliminary Cost Estimate</b>	<b>2,025,000</b>

The current 2014 Development Charges Background Study includes a cost estimate of \$9.4 M. This estimate was based on 2014 dollars, limited project information and made assumptions based on speculated grading impacts and construction staging which have implications on schedule. The completion of this EA provides a more informed cost estimate for this unique project that will be used to inform the 2019 Development Charge Background Study development and enable better long-term financial planning. The final cost of the project will be influenced through detailed design, as mitigation measures are fully developed.

## CONCLUSION

Improvements to the Southdale Road West and Wickerson Road corridors are necessary to bring the roads up to current design standards to accommodate increasing traffic volumes due to surrounding development. A Municipal Class Environmental Assessment (EA) was undertaken to confirm the detailed preferred solution to proceed in coordination with the required corridor improvements. The ESR is ready for final public review.

The Southdale Road West and Wickerson Road Class EA Study was carried out in accordance with Schedule 'C' of the Municipal Class Environmental Assessment process.

Two alternative planning solutions were developed and assessed against their ability to reasonably address the above problems and opportunities. The preferred planning solution improves safety with compliance with current design standards, promotes active transportation, increase level of services for emergency service and maintenance vehicles and minimizes impacts on the natural environment.

Six alternative design concepts were developed and evaluated based on factors such as impact on areas of archaeological potential, built heritage resources, vegetation and existing natural environmental features, property, landscaping, cut/fill volumes, utilities, and opportunities for active transportation. The impact of these factors was similar between all six alternative design features. The recommended design will reconstruct to improved design standards along the existing horizontal alignment. The reconstruction will include storm sewers and LIDs, sidewalks and multi-use path. This was selected as it best addresses the project problem statement based on detailed evaluation and feedback received from the public while minimizing impacts as much as feasible. Coordinated watermain and sanitary sewer renewal will also be undertaken with the project.

Consultation was a key component of this study. The Class EA was prepared with input from agencies, utilities, emergency service providers, property owners in proximity to the study and Indigenous Communities.

Pending Council approval, a Notice of Study Completion will be filed, and the ESR will be placed on public record for a 30-day review period. Stakeholders and the public are encouraged to provide input and comments regarding the study during this time period. Should the public and stakeholders feel that the EA process has not been adequately addressed, they may request a Part II Order to the Minister of the Environment within the 30-day review period per MOECP instructions on their website.

The project will be implemented as soon as possible. It may be possible to begin the construction of the Southdale Road West and Wickerson Road improvements in 2020. However, this is subject to property acquisition and approvals timings.

**Acknowledgements**

This report was prepared with assistance from Sam Shannon, C.E.T., Technologist II, and Ted Koza, P. Eng., of the Transportation Planning and Design Division.

<b>PREPARED BY:</b>	<b>RECOMMENDED BY:</b>
<b>DOUG MACRAE, P. ENG., MPA DIVISION MANAGER TRANSPORTATION PLANNING AND DESIGN</b>	<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER</b>

Attach: Appendix A – Environmental Study Report Executive Summary

c: Brian Huston, Dillon Consulting

## Appendix A Environmental Study Report Executive Summary

### Executive Summary

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#### Introduction

The City of London (the “City”) retained Dillon Consulting Limited (Dillon) to complete a Municipal Class Environmental Assessment (EA) for improvements to Southdale Road West and Wickerson Road from approximately 430 m east of Boler Road to approximately 650 m north of the Wickerson Road/Southdale Road West intersection (the “project”). Completed as a Schedule “C” project under the Municipal Class Environmental Assessment process (October 2000, as amended in 2007, 2011 and 2015) (MCEA), the project assessed the need for road improvements including vertical and horizontal alignment changes to both Southdale Road West and Wickerson Road.

#### Problem/Opportunity Statement

The following Problem/Opportunity Statement was developed as part of Phase 1 of the Class EA process. The statement is based on an overview of planning, engineering and environmental conditions potentially affected by the proposed corridor improvements.

Improvements to the profile and cross-section of Southdale Road West and Wickerson Road are required to meet design standards. Both roads will be improved to a two-lane standard, with the inclusion of active transportation and storm water management measures, and will require grading beyond the existing ROW.

The improvements will be planned and designed to:

- Be consistent with The London Plan, Cycling Master Plan and the 2030 Smart Moves Transportation Master Plan
- Take advantage of opportunities to provide a clear edge between the urban and rural areas of the City
- Incorporate required infrastructure and make provision for future infrastructure, where feasible
- Avoid or minimize impacts on the surrounding neighbourhoods and the Lower Dingman Corridor ESA
- Improve access/safety for properties adjacent to corridor.

#### Public and Agency Consultation

A Notice of Commencement was issued for the project in November 2016. The City received a total of four comments from the Notice of Commencement. Comments were primarily related to requests to be kept informed and requests that natural environment features in the Study Area be given careful consideration throughout the project.

Public Information Centre (PIC) 1 was held on March 3, 2017, at the Byron Optimist Community Centre.

The purpose of PIC 1 was to obtain public and agency input on existing conditions, the problem and opportunity statement and alternative solutions for the corridor. A total of 21 people attended the PIC



and 14 written submissions were received following the PIC. In general, most of the PIC 1 attendees were supportive of the project. Concerns were raised regarding impacts to natural heritage features throughout the corridor and road safety concerns based on the existing profile of Southdale Road West.

PIC 2 was held on May 31, 2018, at the Byron United Church. The purpose of the second PIC was to present the preferred design for the corridor. A total of 23 people attended the PIC and six written submissions were received following the event. Comments received primarily related to the extent of natural heritage impacts and suggestions on ways to further minimize impacts from tree removals. Additionally, several residents along Southdale Road West raised concerns regarding pedestrian crossings of Southdale Road at Byron Hills Drive.

Throughout the project several meetings were held with directly impacted landowners to discuss site specific impacts, including potential tree removals and grading impacts. Several landowners have concerns regarding tree removals and impacts to the natural heritage system.

Presentations were made to the City of London Environmental and Ecological Planning Advisory Committee (EEPAC), Cycling Advisory Committee (CAC) and Transportation Advisory Committee (TAC) throughout the project. Comments were received from EEPAC and CAC for the project. In general all committees understand the need for roadway improvements but had concerns regarding natural heritage impacts and protection for future growth of the corridor.

### **Alternative Solutions**

Along with the “Do nothing” alternative, two alternative solutions were developed for the project:

- No improvements to Southdale Road West and Wickerson Road. Roads would remain in the same condition with no improvements (Do Nothing)
- Improvements to Southdale Road West and Wickerson Road to meet minimum design standards
  - Alternative 1 – vertical and cross section reconstruction to meet design standards on the existing horizontal alignment
  - Alternative 2 – horizontal realignment of Southdale Road West and Wickerson Road outside of the current footprint of the roadway. This alternative would also include vertical and cross section reconstruction to meet design standards.

### **Preferred Alternative**

Alternative 1 is recommended as the preferred solution as it can meet the City’s minimum road design standards, improve safety, provide opportunities for active mobility, improve drainage and accommodate other planned servicing improvements. Although it will have some impacts on natural heritage features, existing land uses, and archaeological resources, the impacts will be minimized by through appropriate mitigation measures during construction and compensation measures where necessary.



## Design Options

Several design options were developed for the preferred alternative. As the selected alternative provides an opportunity to improve roadway operations with some impact to the natural environment, the focus of design options was to best minimize impacts to trees and the natural environment. The following design options were developed:

- Cross Section Type:
  - Rural (wide shoulders and roadside ditches)
  - Urban (curb and gutter and sewer system)
- Cut slopes in constrained areas:
  - Retaining walls
  - Reinforced slopes (1:1)
  - Standard 2:1 slopes with no reinforcement
- Fill slope at culvert in valley
  - Retaining walls
  - Reinforced slopes (1:1)
  - Standard 2:1 slopes with no reinforcement
- Profile optimization
  - Standard maximum roadway grade (6%)
  - Substandard roadway grade (8%)
- Stormwater Management (i.e., addition of storm sewers and low impact developments)
  - No improvements
  - Include Improvements
- Active Transportation (i.e., sidewalks, multi-use trails, cycling infrastructure)
  - No improvements
  - Include Improvements.

## *Comparative Evaluation of Design Options*

Dillon evaluated each of the design options. The selected option for each is provided in **Table E1**.



**Table E1: Design Option Evaluation Results**

<b>Design Option</b>	<b>Selected Option</b>	<b>Evaluation Factors</b>
Cross Section	Urban	Minimizes footprint of roadway and while managing stormwater runoff
Cut slopes in constrained areas	2:1 slopes	Minimizes construction and maintenance costs, simplifies construction, provides a more natural appearance and provides an additional area for replanting on slopes
Fill slope at culvert in valley	Reinforced 1:1 slopes	Minimizes footprint, provides a more natural appearance than retaining walls and minimizes length of culvert
Profile optimization	Standard Maximum (6%)	Standard maximum meets arterial road standards, manages cut/fills and minimizes impacts to driveways. No significant benefit in steepening slopes to non-standard 8% profile
Stormwater Management	Improvements	Can be implemented to better manage stormwater runoff without impacting footprint of roadway, meet stormwater management and avoid downstream impacts
Active Transportation	Improvements	Sidewalks to be provided for connectivity to existing infrastructure. Multi-use trail and on-street bike lanes to be provided per cycling master plan

**Preferred Design**

The preferred plan and profiles are shown in **Appendix C**. Design features include:

- Significant profile upgrades to Southdale Road West to meet design standards
- Vertical profile improvements on Wickerson Road to meet design speed standards
- Horizontal alignment shift of Wickerson Road approximately 5 m to the east to better align with adjacent roadway improvements completed as part of ongoing development work north of the project Study Area
- Southdale Road West and Wickerson Road will be updated to an urban cross section to minimize footprint impacts and manage stormwater runoff
- Installation of sidewalks on the east side of Wickerson Road and north side of Southdale Road West within the project limits and on the south side of Southdale Road West between Colonel Talbot Road and Boler Road
- Extension of the existing multi-use trail on north side of Southdale Road West from Bramblewood place to the existing Boler Mountain Access Road
- Installation of on road bike lanes along Southdale Road West
- Construction of a new 450 mm watermain on Wickerson Road and on Southdale Road West between Wickerson Road and Boler Road
- Installation of low impact development features to control stormwater including:
  - Oversized stormwater storage pipes, along with infiltration pipes located below them



- A raingarden infiltration or bio retention cell facility located on the south side of the intersection of Southdale and Wickerson to mimic or enhance the existing infiltration rates
- Oil Grit Separators will be used to pre-treat the flow to these infiltration measures
- New illumination will be provided within the project limits.

### **Recommendations for Mitigation of Potential Impacts**

Mitigation involves the avoidance or minimization of potential impacts through good design, construction practices and/or restoration and enhancement activities. If mitigation is not possible then compensation is possible to achieve a no net-impact for particular natural heritage features. Detailed mitigation measures will be finalized in consultation with the City and UTRCA, if necessary, as part of Detailed Design. Mitigation measures may include:

- Development of environmental concerns and commitments for the construction period
- Invasive Species Management Plan
- Edge Management and Compensation Plan
- Wetland Offsetting
- Erosion and Sediment Control Plan
- Wildlife Impact Mitigation Plan
- Stormwater Management Plan
- Environmental Monitoring Plan.

### **Construction Timing and Traffic Management During Construction**

Construction is currently scheduled to begin in 2020, subject to budget availability and property acquisition. Utility relocations, property acquisitions and tree clearing will be completed prior to construction.

A Traffic Management Plan will be developed during Detailed Design and will outline detours during closures for local traffic movements. Road closures will be required. Access to residential properties will be maintained during construction.

### **Preliminary Cost Estimate**

As shown in **Table E2**, the preliminary construction cost estimate for the proposed corridor improvements to Southdale Road West and Wickerson Road, including the City's share of utility relocations (but excluding property cost), is approximately \$14.9 Million.



Table E2: Preliminary Construction Cost Estimate

Item	Estimated Cost
Roadworks and Earthworks	\$ 4,700,000
Sanitary Sewers and Appurtenances	--
Storm Sewers and Appurtenances	\$2,500,000
Watermains and Appurtenances	\$1,500,000
Traffic Signals and Illumination	\$500,000
Miscellaneous	\$700,000
Utility Relocations	\$800,000
<b>Sub-total</b>	<b>\$10,700,000</b>
Contingency (20%)	\$2,140,000
Engineering and Consulting (15%)	\$1,605,000
Property Acquisition	\$390,000
<b>TOTAL PRELIMINARY COST ESTIMATE</b>	<b>\$14,825,000</b>



<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING OF FEBRUARY 20, 2019</b>
<b>FROM:</b>	<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL &amp; ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>2018 EXTERNAL AUDIT OF LONDON'S DRINKING WATER QUALITY MANAGEMENT SYSTEM AND 2018 MANAGEMENT REVIEW</b>

**RECOMMENDATION**

That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, the following report on the 2018 external audit of London's Drinking Water Quality Management System, and the subsequent 2018 Management Review meeting, **BE RECEIVED** for information.

**PREVIOUS REPORTS PERTINENT TO THIS MATTER**

[2016 External Audit of London's Drinking Water Quality Management System and 2016 Management Review, Civic Works Committee, November 1, 2016, Agenda Item #9](#)

[2017 External Audit of London's Drinking Water Quality Management System and 2016 Management Review, Civic Works Committee, December 4, 2017, Agenda Item #9](#)

**2015 – 2019 STRATEGIC PLAN**

The following report supports the 2015 – 2019 Strategic Plan through the strategic focus area of *Leading in Public Service*, through open, accountable, and responsive government, and providing excellent service delivery.

**BACKGROUND**

**Purpose**

Ontario's Safe Drinking Water Act, 2002, requires that operators of municipal drinking water systems conduct annual management reviews that evaluate the continuing suitability, adequacy, and effectiveness of their Quality Management System. The results of these reviews are required to be reported to the system owner.

This report satisfies that regulatory requirement and provides a summary of the June, 2018 external off-site surveillance audit completed on London's drinking water quality management system.

**Context**

Quality Management Systems (QMSs) can be defined as sets of interrelated elements (e.g. policies and procedures) that direct and control the way a facility operates with regard to quality. A QMS is a way of formally ensuring that an organization is consistently in control of the quality of the product or services that it supplies.

Following the Walkerton tragedy of May 2000, Justice Dennis O'Connor recommended that Ontario "*should initiate the development of a drinking water quality management standard for Ontario.*" A provincial Drinking Water Quality Management Standard (DWQMS) was therefore developed, which combined elements of existing ISO 9001 and HACCP standards. Through the Municipal Drinking Water Licensing Program, the Ontario government requires that municipal drinking water systems be operated by

“accredited Operating Authorities”. Accreditation is achieved by implementing Quality Management Systems that meet the requirements of the DWQMS.

The City of London’s Water Engineering and Water Operations Divisions form the accredited Operating Authority for London’s drinking-water system. Accreditation is maintained through successful external audits, which are performed annually by one of two auditing firms approved by the Province of Ontario. These external audits take the form of On-Site Verification Audits, which are performed every three years, and Off-Site Surveillance Audits which are performed in the intervening years. In June, 2018, an Off-Site Surveillance Audit was conducted on London’s Drinking Water Quality Management System by SAI Global Assurance Services.

Section 19 of the *Safe Drinking Water Act, 2012* imposes a statutory standard of care on the “owner of a municipal drinking water system, and every person who, on behalf of the municipality, oversees the accredited operating authority of the system or exercises decision-making authority over the system”. In recommending the Standard of Care provision, Justice O’Connor stated that “*the fact that a municipality has an accredited operating agency will do much to satisfy the standard of care.*”

## DISCUSSION

Following the 2018 off-site surveillance audit, SAI Global reported that “*The overall effectiveness of The Corporation of the City of London’s Quality Management System is considered effective*” and recommended “*Maintenance of existing accreditation*”.

If the auditors find instances where the water system is not being operated according to the approved Operational Plan, then these are reported as either major or minor non-conformances. When non-conformances are identified in an audit report, the water system operators are required to submit Non-conformance Reports to the auditor, detailing the root cause of the non-conformance, the action taken to correct the incident and contain the problem, and the systemic (long term) corrective action(s) planned or taken to eliminate the root cause to prevent recurrence.

In addition to instances of non-conformance, auditors also draw upon their expertise and experience to report Opportunities for Improvement (OFIs), which are suggestions as to how the Operational Plan might be improved.

There were no non-conformances identified in the 2018 audit report. Three opportunities for improvement were identified as follows:

- There is an opportunity to:
  - i. clarify the Operating Authority of the Municipality of Middlesex Centre Distribution System; Middlesex Centre assumed operation 1-Nov-2016; and
  - ii. consider providing context within QMS-06 regarding the decommissioning of the Fanshawe and Hyde Park wells, as previous versions of QMS-06 identified their use in the event of long-term interruption of LHPWSS (i.e. why is this no longer a concern?).
- There is an opportunity to clarify the quarterly sampling locations within the City of London Water Supply Sampling Locations Map. Green icons (un-numbered / additional locations not identified in the legend or within the Quarterly tab of the Water Supply Sampling Schedule) are identified north of Baseline Rd (between Wharncliffe and Ridout) and on Richmond St (south of the Thames River).
- Ensure results of Management Review are communicated to the Owner in their entirety. A review of consumer feedback was completed 14-Dec-2017, after the initial Management Review results were communicated 12-Dec-2017.

On November 27, 2018, the Top Management team of the accredited Operating Authority for London’s water system (the Director - Water and Wastewater, and the Division Managers of Water Engineering and Water Operations) held the annual Management Review for London’s Drinking Water Quality Management System. The results of the Management Review are summarized in Appendix ‘A’.

<b>CONCLUSIONS</b>
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In June, 2018, an off-site surveillance audit was completed for the quality management system of London’s drinking water system. The auditor reported that *“The overall effectiveness of the Corporation of the City of London’s Quality Management System is considered effective”* and recommended *“Maintenance of existing accreditation”*. There were no non-conformances identified by the auditor.

<b>PREPARED BY:</b>	<b>REVIEWED &amp; CONCURRED BY:</b>
<b>JOHN SIMON, P. ENG. DIVISION MANAGER WATER OPERATIONS</b>	<b>SCOTT MATHERS, P. ENG. MPA DIRECTOR, WATER AND WASTEWATER</b>
<b>RECOMMENDED BY:</b>	
<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR ENVIRONMENTAL &amp; ENGINEERING SERVICES AND CITY ENGINEER</b>	

Attachment: Appendix ‘A’ – Report on QMS to Council

CC: Martin Hayward – City Manager  
 Aaron Rozentals – Division Manager, Water Engineering  
 Dan Huggins – Water Quality Manager

## APPENDIX 'A'

### Report on QMS to Council

Management Review Meeting of November 27, 2018

<b>RESULTS OF MANAGEMENT REVIEW</b>	
Summary of Management Review	<p>The 2018 Management Review meeting was held between 12:30 pm and 3:00 pm on November 27, 2018. The meeting was attended by Scott Mathers, Director – Water and Wastewater, Aaron Rozentals, Division Manager – Water Engineering, John Simon, Division Manager – Water Operations, and Dan Huggins, Water Quality Manager and QMS Representative. The agenda items discussed were, a) Incidents of regulatory non-compliance, b) Incidents of adverse drinking water tests, c) Deviations from critical control point limits and response actions, d) Efficacy of the risk assessment process, e) Results of audits (internal and external), f) Results of relevant emergency response testing, g) Operational performance, h) Drinking water quality trends, i) Follow-up action items from previous management reviews, j) Status of management action items identified between reviews, k) Changes that could affect the QMS, l) Summary of consumer feedback, m) Resources needed to maintain the QMS, n) Results of the infrastructure review, o) Operational Plan currency, content and updates, p) Summary of staff suggestions, and q) New Business - Other issues that impact on the quality management system.</p>
Issues Identified	<ol style="list-style-type: none"><li>1) The April, 2018 Internal Audit of the QMS identified two non-conformances and four opportunities for improvement. The June, 2018 Off-Site Surveillance Audit of the QMS identified no non-conformances and three opportunities for improvement.</li><li>2) With respect to ongoing chlorination control issues at the Springbank Reservoirs, a consultant was engaged to study other control options, such as inflow chlorination rather than just outflow chlorination. The proposed changes will be reviewed and, if feasible, implemented in Spring 2019.</li><li>3) The need to establish the design Hydraulic Grade Line in the Southeast Pressure Zone through commissioning of the new PRVs and control changes at SERPS was discussed.</li><li>4) Further work is needed to determine best methods to filter and extract consumer feedback data from the new Customer Relations Management (CRM) system.</li></ol>

Decisions Made / Action Items	<ol style="list-style-type: none"><li>1) Dan Huggins reported that the Non-conformances had been corrected and the Opportunities for Improvement were addressed.</li><li>2) Dan Huggins to work with the consultant and oversee implementation of the proposed improvements.</li><li>3) Aaron Rozentals to set meetings regarding this project beginning in the first quarter of 2019.</li><li>4) John Simon to continue reviewing the ability of the CRM system to record and address consumer feedback.</li></ol>
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<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON FEBRUARY 20, 2019</b>
<b>FROM:</b>	<b>KELLY SCHERR, P.ENG. MANAGING DIRECTOR ENVIRONMENTAL &amp; ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>2018 DRINKING WATER ANNUAL REPORT AND SUMMARY REPORT FOR THE CITY OF LONDON DISTRIBUTION SYSTEM</b>

**RECOMMENDATION**

That, on the recommendation of the Director, Water & Wastewater, the 2018 Drinking Water Annual Report and Summary Report for the City of London Distribution System **BE RECEIVED** for information.

**PREVIOUS REPORTS PERTINENT TO THIS MATTER**

- [“2017 Drinking Water Annual Report and Summary Report for the City of London Distribution System”](#) presented to CWC on February 21, 2018. Agenda Item #4;

**2015 – 2019 STRATEGIC PLAN**

The 2015 – 2019 Strategic Plan identifies this objective under *Strengthening Our Community: 5(J) – Help Londoners understand how we provide safe drinking water.*

**BACKGROUND**

**Purpose**

The purpose of this report is to satisfy the regulatory requirement to ensure that an Annual Report and a Summary Report for the City of London Distribution System is prepared and endorsed by Council.

**Context**

Ontario Regulation 170/03 (Drinking Water Systems) of the Safe Drinking Water Act requires the owner of a municipal drinking water system to ensure that an Annual Report and a Summary Report be prepared, covering the period of January 1 through to December 31 of the previous year. The report attached as Appendix ‘A’ – “City of London 2018 Drinking Water Summary Report” meets all of the statutory requirements.

**DISCUSSION**

Ontario Regulation 170/03 (Drinking Water Systems) requires that an Annual Report contain the following information:

- A brief description of the drinking water system, including a list of water treatment chemicals used by the system;
- A summary of the results of required tests;
- A summary of any adverse test results reported and corrective actions taken; and
- A description of any major expenses incurred to install, repair or replace required equipment.

O. Reg. 170/03 further stipulates that:

- a) The Owner shall ensure that a copy of the Annual Report is given without charge to every person who requests a copy;

- b) Effective steps are taken to advise users of water from the system that copies of the Annual Report are available, without charge, and of how a copy may be obtained;
- c) The Owner of a large municipal residential system serving more than 10,000 people is required to post a copy of the Annual Report to the municipality's website; and,
- d) A Summary Report is to be prepared and presented to the members of the Municipal Council by no later than March 31 of the following year.

Ontario Regulation 170/03 (Drinking Water Systems) requires that a Summary Report contain the following information:

- A list of any regulatory requirements applicable to the system that were not met at any time during the period covered by the report, the duration of the failure, and the measures that were taken to correct the failure; and,
- A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows and compared to the rated capacity of the system.

Due to the large number of pages, the 2018 Drinking Water Summary Report for the City of London Distribution System has been provided to members of Council in electronic format, with the 2018 Annual Report attached as an appendix. The Summary Report (without appendices) is attached as Appendix 'A' to this report.

The Elgin-Middlesex Pumping Station (EMPS) is jointly owned by the City of St. Thomas, the Town of Aylmer, and the City of London, and is operated by the Ontario Clean Water Agency (OCWA). The Annual Report for the EMPS (London portion) was not yet available at the time of writing this report. Therefore, it will be provided to members of Council under separate memo prior to the reporting deadline of February 28, 2019.

<b>SUMMARY</b>
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Receipt of Appendix 'A' of this report by members of Council fulfils the reporting requirements of O. Reg. 170/03, Schedule 22. The 2018 Drinking Water Summary Report is available to members of the public through the Water Engineering Division (8<sup>th</sup> Floor, City Hall), and will be posted on the City's website.

**Acknowledgements:**

This report has been prepared with input from Scott Koshowski, P. Eng. - Environmental Services Engineer, and Dan Huggins - Water Quality Manager, both in Water Operations Division.

<b>PREPARED BY:</b>	<b>RECOMMENDED BY:</b>
<b>JOHN SIMON, P.ENG. DIVISION MANAGER, WATER OPERATIONS</b>	<b>SCOTT MATHERS, P.ENG. DIRECTOR – WATER &amp; WASTEWATER</b>
<b>CONCURRED BY:</b>	
<b>KELLY SCHERR, P.ENG. MANAGING DIRECTOR – ENVIRONMENTAL &amp; ENGINEERING SERVICES &amp; CITY ENGINEER</b>	

Appendix 'A' – City of London 2018 Drinking Water Summary Report

c.c. Cathy Saunders - City Clerk  
John Simon – Division Manager – Water Operations  
Aaron Rozentals - Division Manager – Water Engineering  
Andrew Henry – Director – Regional Water Supply  
Dan Huggins - Water Quality Manager  
Dr. Christopher Mackie, Medical Officer of Health and Chief Executive Officer –  
Middlesex-London Health Unit

## APPENDIX 'A'

## CITY OF LONDON 2018 DRINKING WATER SUMMARY REPORT

System Name: City of London Distribution System

Mailing Address: Corporation of the City of London  
P.O. Box 5035, 300 Dufferin Ave.  
London, ON N6A 4L9



**System Rating:** Water Distribution Subsystem Class IV  
Water Treatment Subsystem Class II  
Average Day Demand: 129.244 MLD  
Peak Day Demand: 170.735 MLD (June 17, 2018)  
Population Served: 385,000 (approx.)  
Source Water: Surface Water (Lake Huron, Lake Erie)  
Drinking Water System Number: 260004917  
Municipal Drinking Water Licence: 006-101

**CONTACT INFO:**

Owner:  
Corporation of the City of London  
300 Dufferin Avenue, London, Ontario N6A 4L9  
Contact: Mr. John Simon, P.Eng. Division Manager Water  
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## **Reporting Requirements**

Ontario Regulation 170/03 requires that municipalities prepare a Summary Report for their drinking-water system for the preceding calendar year and submit it to the members of the Municipal Council by March 31 of each year. This report, presented to Municipal Council's Civic Works Committee on February 20, 2019 fulfills that requirement.

O. Reg 170/03 also requires the preparation of an Annual Report on the operation of the drinking-water system to be made available to members of the public.

Before February 28, 2019, a copy of the 2018 Annual Report and Summary Report for the City of London's water works will be provided to the local office of the Ministry of the Environment, Conservation and Parks (MECP) as a courtesy for information purposes.

The Elgin-Middlesex Pumping Station (EMPS) is jointly owned by the St. Thomas Secondary Water Supply System, the Aylmer Secondary Water Supply System, and the City of London. EMPS is operated by the Ontario Clean Water Agency (OCWA). As required, the Annual Report for the EMPS (London portion) is attached as an appendix to this report for members of Council.

## **Water Budget**

The approved 2016-2019 operating and capital budgets represent financial sustainability for Londoners, whereby annual rate increases are approximately the average of the Consumer Price Index (CPI) and the Non-Residential Building Construction Price Index (NRBCPI). The 2016-2019 water operating and capital budgets support four core business objectives:

- Compliance
- Financial Management
- Customer Service
- Best Management Practices

The total Water budget for 2018 was \$78.0 million, which includes long term infrastructure improvements. The Water Budget helps maintain London's Advantage of a safe, clean and secure water supply. The Water Service Area remains proactive in initiatives to ensure that this service continues to meet the demands and expectations of customers. Existing infrastructure requires ongoing renewal (replacement and rehabilitation) activities to manage the infrastructure gap, ensuring that future generations are not faced with a water system that is failing, unreliable, and expensive to maintain.

## **Notable Initiatives**

### ***Bulk Water System Replacement***

The City of London has 8 bulk water filling station locations that allow commercial, residential, and bulk water contractors to obtain bulk water. These 8 locations are the only authorized locations where bulk filling is allowed in the City, and are situated and designed to help minimize the risk and attempts of theft of water from fire hydrants.

The previous system was over 12 years old, and antiquated given current technology. It required customers to go directly to City Hall to add value to their prepaid "smart card" so that they could then go to a bulk water station to obtain water. There was no reporting capabilities for customers, and consumption data had to be manually downloaded from each station, making it very basic and labour intensive.

In 2017, the City of London issued and awarded an RFP for a new system. In spring of 2018 the new system was installed and has been very successful, and well received. Our customers can now add value to their account any time of day by logging in, and have numerous reporting abilities to enhance their business functionality, providing the

“who, when and where” for water takings.

City staff now have the ability to easily report water consumption at each station, who is taking water, when the water is taken, and how much, right from the office environment. More importantly, the ability to transmit messages to various stations for users to see (for example, in the event a station needs to be closed for maintenance), or alternatively, shut down a station remotely so that water taking can be temporarily halted at that location. However, the biggest benefit has been the ability to assist our customers in real time when they encounter difficulties. We can see what is going on at any given station 24/7 without needing to go onsite. This major customer service improvement has invaluable.

### ***Water Meter Replacement Program***

In 2008, assessment of London’s long term water meter and meter reading strategy involved investigation and evaluation of alternatives ranging from the “status quo” to implementation of the highest “state of the art system”. Evaluation criteria included review of London Hydro’s “Smart Metering” and meter upgrade requirements, the current relationship between London Hydro and the City, customer care and service, ease of implementation, capital cost, operating costs, meter readability, system reliability, system needs and benefits. Upon completion of the evaluation, the City opted for the Itron Encoder Receiver Transmitter (ERT) based radio read system as it best met our needs for meter reading, customer service, capital cost, minimized operating cost, and utilized existing encoder meter infrastructure, allowing for a more cost effective upgrade. This technology retained the option and opportunity to expand on meter data gathering, or to merge into an Advanced Metering Infrastructure (AMI) system in the future.

Starting in 2009, the City implemented the Water Meter Replacement Program, in which 10,000 to 12,000 water meters were to be targeted for replacement each year, over a ten year period, in order to complete the transition from a manual walk-by meter reading system to a full radio-read drive-by meter reading system. Other benefits of this meter replacement program would be the virtual elimination of estimated monthly meter reads for customers, increased customer service, and less disruption to customers for meter reading as there would no longer be the need to entry the premises or yards of customers to obtain the readings.

As of the end of 2018, the Water Meter Replacement Program has been completed, with nearly all of our 118,000 water meters being converted over to radio read meters, with the exception of less than 300 difficult-to-access accounts. London Hydro, our contracted water meter reading and billing contractor, initiated full drive-by meter reading for the City of London water meters in January 2019.

### ***Downtown Leak Detection Fixed Network***

The City consists of over 1,600 km of water main and associated hydrants, water service connections, and other appurtenances. London experiences, on average, 120 water main breaks a year, although the last several years have been below this. London’s water loss level is relatively low (less than 10%; or an internationally recognized Infrastructure Leakage Index (ILI) factor of around 2.0), placing us amongst the best municipalities in North America.

Permanent leakage monitoring is a practice that has been popular in Europe and the Middle East for numerous years. Recently, it has been gaining popularity in North America, and London had been considering it for several years. In 2018, the Water Service Area deployed Acoustic Leak Loggers on our metallic watermains in the core downtown area. They log noise levels nightly (during a quiet period), and through automatic software analysis of this data the system provides the probability of leakage based on the level and consistency of the noise. If a high leak probability is found, the data is correlated and the leak location is pin-pointed. The data is displayed on a map, and colour codes depict the probability and locations of leaks. All of this is done prior to anyone going out to the field to investigate.

To date, this system has pin-pointed with high accuracy 1 watermain break, and 9 leaks

(on services, hydrants or valves). The early detection of these failures allowed repair efforts to be coordinated as non-emergency events during normal working hours, minimizing both the financial, and public impact.

## **Sampling & Water Quality Monitoring**

In 2018, the MECP required large municipal drinking water systems to test for 70 different organic, inorganic and chemical parameters. The City of London's water sampling regime includes monthly testing for microbiological indicators and chlorine residuals from 57 standard locations across the City, as well as nearly 2,350 random grab samples. Analysis is also performed for up to 117 parameters, including organics, inorganics, chemicals, pesticides and metals at 13 standard locations around the City. This level of testing far exceeds the MECP's minimum sampling requirements.

London also has 10 locations throughout the City where continuous in-line sampling of chlorine residual and pH is monitored. Staff also perform approximately 4,000 additional chlorine tests each year related to construction and maintenance activities. All of these efforts help ensure that the water within the distribution system is always of high quality and completely safe to consume.

### **2018 Water Quality Sampling Summary**

Parameter	Ontario Maximum Acceptable Concentration (MAC)	Units	Lab's Method Detection Limit (MDL)	Measured Concentrations	MAC Exceedance (Y/N)
				2018	
<b>REGULATED INORGANICS</b>					
Antimony	6	ug/L	0.02	<b>0.11 - 0.16</b>	No
Arsenic	25	ug/L	0.2	<b>0.3 - 0.4</b>	No
Barium	1000	ug/L	0.02	<b>13.8 - 22.1</b>	No
Boron	5000	ug/L	2	<b>15 - 23</b>	No
Cadmium	5	ug/L	0.003	<b>0.047 - 0.073</b>	No
Chromium	50	ug/L	0.03	<b>0.09 - 0.16</b>	No
Fluoride	1.5	mg/L	0.06	<b>0.13 - 0.87</b>	No
Free Chlorine Residual	--	mg/L		<b>0.1 - 3.00</b>	No
Lead	10	ug/L	0.01	<b>&lt;MDL</b>	No
Mercury	1	ug/L	0.01	<b>0.02 - 0.03</b>	No
Selenium	10	ug/L	0.04	<b>0.13 - 0.18</b>	No
Sodium	*20	mg/L	0.01	<b>8.52 - 17.2</b>	No
Uranium	20	ug/L	0.002	<b>0.029 - 0.056</b>	No

Parameter	Ontario Maximum Acceptable Concentration (MAC)	Units	Lab's Method Detection Limit (MDL)	Measured Concentrations	MAC Exceedance (Y/N)
				2018	
<b>REGULATED ORGANICS</b>					
Atrazine	--	ug/L	0.01	0.01 - 0.05	No
Atrazine + N-dealkylated metabolites	5	ug/L	0.01	0.02 - 0.07	No
De-ethylated Atrazine	--	ug/L	0.01	<MDL	No
Azinphos-methyl	20	ug/L	0.05	<MDL	No
Benzene	5	ug/L	0.32	<MDL	No
Benzo(a)pyrene	0.01	ug/L	0.004	<MDL	No
Bromoxynil	5	ug/L	0.33	<MDL	No
Carbaryl	90	ug/L	0.05	<MDL	No
Carbofuran	90	ug/L	0.01	<MDL	No
Carbon tetrachloride	5	ug/L	0.16	<MDL	No
Chlorpyrifos	90	ug/L	0.02	<MDL	No
Diazinon	20	ug/L	0.02	<MDL	No
Dicamba	120	ug/L	0.2	<MDL	No
1,2-Dichlorobenzene	200	ug/L	0.41	<MDL	No
1,4-Dichlorobenzene	5	ug/L	0.36	<MDL	No
1,2-Dichloroethane	5	ug/L	0.35	<MDL	No
Dichloromethane	50	ug/L	0.35	<MDL	No
2,4-dichlorophenol	900	ug/L	0.15	<MDL	No
2,4-dichlorophenoxyacetic acid (2,4-D)	100	ug/L	0.19	<MDL	No
Diclofop-methyl	9	ug/L	0.4	<MDL	No
Dimethoate	20	ug/L	0.03	<MDL	No
Diquat	70	ug/L	1	<MDL	No
Diuron	150	ug/L	0.03	<MDL	No
Glyphosate	280	ug/L	1	<MDL	No
Malathion	190	ug/L	0.02	<MDL	No
MCPA	--	mg/L	0.00012	<MDL	No

Parameter	Ontario Maximum Acceptable Concentration (MAC)	Units	Lab's Method Detection Limit (MDL)	Measured Concentrations	MAC Exceedance (Y/N)
				<MDL	
<b>REGULATED ORGANICS CON'T</b>					
Metolachlor	50	ug/L	0.01	<MDL	No
Metribuzin	80	ug/L	0.02	<MDL	No
Monochlorobenzene	80	ug/L	0.3	<MDL	No
Paraquat	10	ug/L	1	<MDL	No
Pentachlorophenol	--	ug/L	0.15	<MDL	No
Phorate	2	ug/L	0.01	<MDL	No
Picloram	190	ug/L	1	<MDL	No
Polychlorinated Biphenyls (PCBs)	3	ug/L	0.04	<MDL	No
Prometryne	1	ug/L	0.03	<MDL	No
Simazine	10	ug/L	0.01	<MDL	No
Terbufos	1	ug/L	0.01	<MDL	No
2,3,4,6-tetrachlorophenol	100	ug/L	0.2	<MDL	No
Triallate	230	ug/L	0.01	<MDL	No
Trichloroethylene	50	ug/L	0.44	<MDL	No
2,4,6-trichlorophenol	5	ug/L	0.25	<MDL	No
Trifluralin	45	ug/L	0.02	<MDL	No
Vinyl Chloride	2	ug/L	0.17	<MDL	No

Parameter	Ontario Maximum Acceptable Concentration (MAC)	Units	Lab's Method Detection Limit (MDL)	Measured Concentrations	MAC Exceedance (Y/N)
				2018	
<b>NON-REGULATED INORGANICS/ORGANICS</b>					
Alkalinity	--	mg/L as CaCO3	2	79 - 93	No
Aluminum	--	ug/L	0.3	20.2 - 38.6	No
Ammonia+Ammonium (N)	--	mg/L	0.04	<MDL	No
Calcium	--	mg/L	0.01	27.1 - 34.4	No
Chloride	--	mg/L	0.04	8.8 - 19	No
Cobalt	--	ug/L	0.004	0.021 - 0.057	No
Colour	--	TCU	3	<MDL	No
Conductivity	--	uS/cm	2	224 - 300	No
Copper	--	ug/L	0.02	0.71 - 1.44	No
Cyanide	0.2	mg/L	0.002	<MDL	No
1,1-Dichloroethylene (vinylidene chloride)	14	ug/L	0.33	<MDL	No
Dissolved Organic Carbon	--	mg/L	1	1 - 2	No
Ethylbenzene	--	ug/L	0.33	<MDL	No
Hardness	--	mg/L as CaCO3	0.05	99.9 - 122	No
Iron	--	ug/L	7	<MDL	No
Langelier's Index	--	#N/A	--	<MDL	No
Magnesium	--	mg/L	0.001	7.82 - 8.77	No
Manganese	--	ug/L	0.01	<MDL	No
Nickel	--	ug/L	0.1	0.1 - 0.4	No
Nitrogen-Kjeldahl (N)	--	mg/L	0.05	0.06 - 0.09	No
Organic Nitrogen	--	mg/L	0.05	0.05 - 0.07	No
pH	--	no unit	0.05	7.85 - 8.07	No
Phosphorus	--	mg/L	0.003	<MDL	No
Potassium	--	mg/L	0.003	0.99 - 1.7	No

Parameter	Ontario Maximum Acceptable Concentration (MAC)	Units	Lab's Method Detection Limit (MDL)	Measured Concentrations	MAC Exceedance (Y/N)
				<MDL	
<b>NON-REGULATED INORGANICS/ORGANICS CONT</b>					
Silicon	--	ug/L	20	503 - 822	No
Silicon; reactive silicate	--	mg/L	0.02	1.17 - 1.4	No
Silver	--	ug/L	0.002	0.002 - 0.007	No
Solids (Total Dissolved)	--	mg/L	30	131 - 163	No
Sulphate	--	mg/L	0.04	24 - 33	No
Sulphide	--	mg/L	0.006	<MDL	No
Surr 1,2-Dichloroethane-d4	--	Surr Rec %	--	101 - 103	No
Surr 4-Bromofluorobenzene	--	Surr Rec %	--	93	No
Surr Decachlorobiphenyl	--	%	--	88 - 93	No
Tetrachloroethylene (perchloroethylene)	30	ug/L	0.35	<MDL	No
Toluene	--	ug/L	0.36	<MDL	No
Total Chlorine-Field	--	mg/L	--	0.8 - 1.18	No
2,4,5-TP (Silvex)	--	ug/L	0.18	<MDL	No
Turbidity	1	NTU	0.1	0.24 - 0.38	No
Xylene (Total)	--	ug/L	0.43	<MDL	No
m/p-xylene	--	ug/L	0.43	<MDL	No
o-xylene	--	ug/L	0.17	<MDL	No
Zinc	--	ug/L	2	1 - 2	No

Parameter	Ontario Maximum Acceptable Concentration (MAC)	Units	Lab's Method Detection Limit (MDL)	Measured Concentrations	MAC Exceedance (Y/N)
				2018	
<b>TRIHALOMETHANES &amp; HALOACETIC ACIDS</b>					
Total Haloacetic Acids	--	ug/L	5.3	5.3 - 28.7	No
Dibromoacetic Acid	--	ug/L	2.9	<MDL	No
Dichloroacetic Acid	--	ug/L	4.7	4.9 - 20.1	No
Monobromoacetic acid	--	ug/L	2.9	<MDL	No
Monochloroacetic Acid	--	ug/L	4.7	<MDL	No
Trichloroacetic Acid	--	ug/L	5.3	5.3 - 12.9	No
Trihalomethanes (total)	--	ug/L	0.37	17 - 51	No
Bromodichloromethane	--	ug/L	0.26	5.6 - 12	No
Bromoform	--	ug/L	0.34	0.34 - 0.41	No
Chloroform	--	ug/L	0.29	8.9 - 33	No
Dibromochloromethane	--	ug/L	0.37	2 - 4.7	No

Parameter	Ontario Maximum Acceptable Concentration (MAC)	Units	Lab's Method Detection Limit (MDL)	Measured Concentrations	MAC Exceedance (Y/N)
				2018	
<b>NITRATES</b>					
Nitrate (as nitrogen)	--	mg/L	0.006	0.105 - 0.826	No
Nitrate + Nitrite (as nitrogen)	--	mg/L	0.006	0.105 - 0.826	No
Nitrite (as nitrogen)	--	mg/L	0.003	0.005 - 1.7	No

Parameter	Ontario Maximum Acceptable Concentration (MAC)	Units	Lab's Method Detection Limit (MDL)	Measured Concentrations	MAC Exceedance (Y/N)
				2018	
<b>MICROBIOLOGICAL</b>					
E. coli	0	cfu/100 mL	0	0 - 0	No
Total Coliform	0	cfu/100 mL	0	0 - 16	Yes
Heterotrophic Plate Count	N/A	cfu/1 mL	10	10 - 900	No

In 2018, there were eight (8) adverse microbiological results out of 2,347 samples taken. All involved the detection of Total Coliform bacteria (ranging from 1 to 16 cfu/100 mL). In each case, staff implemented the mandatory adverse response procedure, which included notifying the MECP and the Middlesex-London Health Unit, and immediately re-sampled at each location. The re-sample results revealed no adverse indicators.

In all instances it is highly unlikely that there were 'actual' water quality issues at these sites, as all adverse samples were identified as having free chlorine residuals which were well above the minimum acceptable level at the time of the sampling (ranging between 0.30 to 1.11 mg/L). E. coli and Coliform bacteria cannot survive in chlorinated water; therefore, it is suspected that post-sampling contamination occurred. The re-sampling results support this conclusion. The microbiological testing procedure is extremely sensitive; accidental sample contamination can occur through operator or laboratory error, despite the specific procedures and precautions being adhered to while processing samples.

## **System Statistics and Major Events**

During the period from January 1, 2018 through to December 31, 2018 a total of 47,501,265,000 litres of water were purchased, at a cost of more than \$25,665,000, from the Joint Water Boards and subsequently pumped into London via the Arva

Pumping Station and EMPS. Average day demand was 129,244,000 litres. Peak day consumption of 170,735,000 litres occurred on June 17, 2018.

A summary of system pumpage can be found starting on page 32. The data includes monthly average and maximum daily flows. These values are also compared to the rated flow rate capacities identified in London's Municipal Drinking Water Licence. There were no occurrences of flow rate exceedance during the specified time period.

Listed below are some 2018 statistics for the City of London Distribution System:

<b>Approximate Replacement Value of Drinking Water System</b>	<b>\$4,500,000,000</b>
<b>Number of Pumping Stations</b>	<b>8</b>
<b>Number of Fire Hydrants</b>	<b>9,455</b>
<b>Number of Watermain Valves</b>	<b>13,629</b>
<b>Total Number of Water Services</b>	<b>116,211</b>
<b>Length of Watermain</b>	<b>1,601 km</b>
<b>Number of Watermain Breaks</b>	<b>98</b>
<b>Number of Water Service Leaks</b>	<b>228</b>

### **Municipalities Receiving London Water**

In the Municipality of Middlesex Centre, the villages of Arva, Ballymote, and Delaware continued to receive their drinking water under contract from the City of London during 2018. The Municipality of Middlesex Centre has been provided a copy of the Annual Report as per O. Reg 170/03.

Several residences within Central Elgin also continued to receive drinking water from the transmission watermain that supplies the City of London from the EMPS. For this reason, Central Elgin has also been provided a copy of the report.

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON FEBRUARY 20, 2019</b>
<b>FROM:</b>	<b>KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL &amp; ENGINEERING SERVICES &amp; CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>CONTRACT AWARD: TENDER NO. 19-15 2019 INFRASTRUCTURE RENEWAL PROGRAM DOWNTOWN SEWER SEPARATION PHASE 2 PROJECT</b>

<b>RECOMMENDATION</b>
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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 Downtown Sewer Separation Phase 2 Project:

- (a) the bid submitted by J-AAR Excavating Limited (J-AAR) at its tendered price of \$6,812,793.33, excluding HST, for the 2019 Infrastructure Renewal Program, Downtown Sewer Separation Phase 2 project, **BE ACCEPTED**; it being noted that the bid submitted by J-AAR Excavating Limited was the lowest of eight bids received and meets the City's specifications and requirements in all areas;
- (b) AECOM Canada Ltd. (AECOM), **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 \$420,299.00, excluding HST, in accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy;
- (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 19-15); and
- (g) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

<b>PREVIOUS REPORTS PERTINENT TO THIS MATTER</b>
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- Civic Works Committee - June 19, 2018- Agenda Item # 2.8 - Appointment of Consulting Engineers – 2019-2020 Infrastructure Renewal Program
- Civic Works Committee - March 19, 2018 - Agenda Item # 2.5 - Contract Award: Tender No. 18-04 - 2018 Infrastructure Renewal Program - York Street Sewer Separation Phase 1 Project
- Civic Works Committee - November 29, 2016 - Agenda Item #17 - RFP 16-49 Irregular Bid, Engineering Services for the City Centre Servicing Strategy

- Civic Works Committee – September 26, 2017 – Agenda Item #14 – Domestic Action Plan (DAP): London – Proposal Update
- Civic Works Committee - November 21, 2017 - Agenda Item # 7 - Pollution Prevention and Control Plan Update

## 2015-2019 STRATEGIC PLAN

The 2015 – 2019 Strategic Plan identifies several initiatives that affect the downtown. Projects, such as downtown sewer separation, contribute to the Strategic Plan in the Growing Our Economy and Building a Sustainable City. These projects support the plan by facilitating urban regeneration through investment in London’s downtown as the heart of our City. A healthier Thames River will also be a positive outcome through improvements to our water, wastewater and stormwater infrastructure and services.

## BACKGROUND

### Purpose

This report recommends award of a tender to a contractor and continuation of consulting services for the sewer separation and reconstruction of:

- York Street from Talbot Street to Clarence Street; and
- Talbot Street from York Street to King Street.

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

### Context

York Street (Thames River to Colborne Street), King Street (Richmond Street to Colborne Street), Talbot Street (King Street to CN Railway tracks), Richmond Street (Dundas Street to York Street), Clarence Street (Dundas Street to York Street), and Wellington Street (Dundas Street to York Street) are served by combined sewers that are some of the first sewers built in the city, with construction dates going back as far as 1853. Combined sewers were designed to collect all flows, including sanitary sewage and storm runoff, in the same pipe and convey it to a treatment plant. They are remnants of early sewer infrastructure and were typically designed to overflow to nearby watercourses during high flows. Combined sewers are no longer permitted to be constructed in Ontario. All new sewers must be separate sanitary sewer and storm sewers. Construction of separate storm and sanitary sewers effectively reduces the volume of storm drainage diverted to the sanitary sewer system and reduces/prevents sewer system overflows to the Thames River. Separated systems also reduce the cost of treating wastewater flows since stormwater is not directed to treatment plants.

This project is the second phase to allow for the separation of some 20 blocks of combined sewers in the downtown core. With the many changes occurring downtown, including intensified growth, it is time to replace these combined sewers with a new separated system that will have the capacity to not only service existing and new growth, but also significantly reduce overflows to the Thames River.

## DISCUSSION

### Project Description

This Infrastructure Renewal project includes the second of nine phases of sewer separation in the downtown core, as highlighted in the City Centre Servicing Strategy. This project includes York Street from the Talbot Street to Clarence Street, as well as Talbot Street from York Street to King Street, and will generally involve:

- Replacement of existing combined sewers with new sanitary and storm sewer, including private drain connections;
- New watermain and individual water services; and,
- Full road reconstruction back to its current configuration, including new asphalt, curb and gutter and sidewalks.

Infrastructure replacement needs have been coordinated within Environmental and Engineering Services for efficient use of funds during construction. The project budget has been included in the approved 2019 Wastewater and Treatment, Water and Transportation Capital Works Budgets.

This project also includes work by four utility partners (London Hydro, Bell, Rogers and Start). This coordinated effort addresses existing utility needs and upgrades for downtown intensification. The work identified by the four utility partners, to be funded by them, was included within the City's tender for this project.

This project was identified as a key short-term priority to mitigate the impacts of existing sewer system overflows in the City's Pollution Prevention and Control Plan. This project will include the relocation of an existing sewer system overflow located at the intersection of York Street and Richmond Street.

The City Centre Servicing Strategy has identified a total of nine phases of downtown sewer separation, as shown in the figure provided in Appendix 'C'. This project is the second phase of downtown sewer separation and will provide the storm sewer outlet for the subsequent phases.

Construction of the Downtown Sewer Separation Phase 2 is intended to be completed in late 2019. Construction will commence in April of 2019 following the JUNO Awards.

A full road closure is planned for this project, and this pattern will hold for the other future downtown sewer separation phases, for the following reasons:

- To allow the contractor to work in a safer environment with less distractions.
- To avoid unforeseen full road closures caused by poor soils, underground infrastructure issues, Ministry of Labour orders, etc. These unscheduled road closures would likely cause confusion and driver frustration.
- To reduce the amount of time to complete the project. Closing the road will allow the contractor to work in a more efficient and unrestricted manner thus allowing the project to be completed and the road reopened more quickly.
- To avoid the time and cost of building and removing temporary road surfaces and traffic signals.

In order to minimize the impact on the general public, local businesses and residents it is generally proposed to undertake the Downtown Sewer Separation Phase 2 project in stages as follows:

- Stage 1 – York Street, just east of Talbot Street to just west of Richmond Street

- Stage 2 – York Street and Richmond Street intersection
- Stage 3 – York Street, just east of Richmond Street to just west of Clarence Street
- Stage 4 – Talbot Street, from York Street to King Street, including the King Street intersection. This stage can commence only after the Stage 2 work on York Street has been completed, Richmond Street intersection reopened and work on Stage 3 has commenced.

It should be noted that the breaking down of the construction into stages has the advantage of minimizing the inconvenience to the general public, local businesses and residents. Staging was coordinated with the consideration of the other upcoming scheduled downtown work.

### Public Consultation

A project update meeting was held on December 6, 2018, for all owners and residents within and immediately bordering the project area to address questions and concerns. Regular project consultation has also occurred with the local property owners and businesses, including VIA Rail and Downtown London. The proposed staging of construction was communicated to property owners and businesses to identify alternate business vehicle access and pedestrians and traffic impacts.

The City is committed to providing access for all business and residents during construction. This includes access to the VIA Rail train station.

### Domestic Action Plan

One of the municipal actions identified in the City of London’s Domestic Action Plan (DAP) for Phosphorus Reduction is combined sewer replacement. The DAP states,

*“The City of London will accelerate plans to separate combined sewers, including the design and construction of necessary stormwater outlets, with the target of separating 80 per cent (17 kilometres) of its combined sewer system by 2025.”*

This target for combined sewer replacement is contingent on federal and provincial funding. The Downtown Sewer Separation Phase 2 project achieves the removal of approximately 500 m of combined sewer, as the City continues to work towards achieving its DAP targets. The following table provides the length of combined sewer replacement achieved for this project in relation to the DAP targets.

<b>2016 – 2025 Combined Sewer DAP Target (km)</b>	<b>Prior DAP Combined Sewer Removed/Separated (km)</b>	<b>This Project – Combined Sewer Removed/Separated (km)</b>	<b>Remaining Combined Sewer (km) to achieve target</b>
17 km	5.4 km	0.5 km	11 km

The length of combined sewer remaining, indicated in the above table, accounts for the 50 metres of combined sewer to be replaced as part of the Egerton Street, Brydges Street and Pine Street Phase 2 project, which is also on the current Civic Works Committee agenda.

### Service Replacement

Sanitary, storm and water services will be replaced up to the property line as part of this project, at no cost to the property owner.

The City will replace the sanitary private drain connection (PDC) up to the property line as part of this project. A storm PDC will also be provided for selected properties up to the property line as part of this project. The property owners may elect to replace their private side sanitary or storm connection at their own cost. As part of this project, property owners are being advised to separate their roof and surface drainage from their sanitary plumbing, if they have not already done so, to comply with the City of London’s Drainage By-Law (WM-4), Part 4 Discharges into Public Sewage Works, section 4.1 Prohibited discharges – sanitary sewers states:

*“No person shall permit storm water sewage from their property to be discharged into a sanitary sewer”.*

The City would see great benefit from achieving a complete separation of flows from both the public and private sides. These benefits include a reduced amount of surface water sent to the wastewater treatment plant during low flow events, which ultimately reduces treatment costs. Dundas Street property owners were required to demonstrate that their building roof and property yard drainage were separated from their sanitary plumbing in advance of Dundas Place construction. Downtown Sewer Separation Phase 1 and Phase 2 property owners have been informed of the need to separate their internal plumbing and will be given a timeframe of three years to comply with the City’s Drainage By-Law, following the completion of this project.

The water service connection will also be replaced to the property line and selected properties will have their metal water service replaced up to the water meter as part of this project.

### **Tender Summary**

Tenders for the 2019 Infrastructure Renewal Program Downtown Sewer Separation Project were posted on January 16, 2019. Eight contractors submitted tender prices as listed below, excluding HST.

<b>CONTRACTOR</b>		<b>TENDER PRICE SUBMITTED</b>
1.	J-AAR Excavating Limited	\$6,812,793.33
2.	Sierra Infrastructure Inc.	\$7,025,536.25
3.	Bre-Ex Construction Incorporated	\$7,296,218.23
4.	Blue-Con Construction	\$7,365,557.46
5.	CH Excavating (2013)	\$7,372,915.25
6.	Omega Contractors Incorporated	\$7,601,991.79
7.	Amico Infrastructures (Oxford) Incorporated	\$7,957,435.10
8.	L-82 Construction Limited	\$7,976,825.68

All tenders have been checked by the Environmental and Engineering Services Department and AECOM. No mathematical errors were found. The results of the tendering process indicate a competitive process. The tender estimate prior to tender opening was \$7,315,103.00, excluding HST. All tenders include a contingency allowance of \$700,000.00.

## Consulting Services

AECOM was awarded the detailed design of the Downtown Sewer Separation Phase 2 project by Council on June 26, 2018. Due to the consultant's knowledge and positive performance on the detailed design, the consultant was invited to submit a proposal to carry out the contract administration and resident supervision for this project. Staff have reviewed the fee submission, including 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 was consistent with other Infrastructure Renewal Program assignments of similar scope.

The continued use of AECOM on this project for construction administration is of financial advantage to the City because the firm has specific knowledge of the project, and has undertaken work for which duplication would be required if another firm were to be selected.

The City's construction administration requirement for the creation of record drawings following construction requires the reviewing professional engineer to seal the drawings based on field verification and ongoing involvement. This requirement promotes consultant accountability for the design. Consequently, the continued use of the consultant who created and sealed the design drawings is required in order 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, civic administration is recommending that AECOM be authorized to carry out the remainder of engineering services, as construction administrators, and complete this project for a fee estimate of \$420,299.00, excluding HST. These fees are associated with the construction contract administration and resident supervision services to ensure that the City receives the product specified and associated value. The approval of this work will bring the total engineering services for this project to \$789,328.00, excluding HST, between 2018 and 2019.

## Operating Budget Impacts

Additional annual sewer, water and transportation operating costs attributed to new infrastructure installation are summarized in the following table.

<b>DIVISION</b>	<b>RATIONALE</b>	<b>ANNUAL OPERATIONAL COST INCREASE</b>
Sewer Operations	Additional 450 m of storm sewer and an oil/grit separator	\$700
Water Operations	Additional two valves	\$200
Transportation Operations	No change from existing road surface and lane configuration	\$0
<b>Total</b>		<b>\$900</b>

## CONCLUSIONS

Civic Administration has reviewed the tender bids and recommends J-AAR Excavating Limited be awarded the construction contact for Downtown Sewer Separation Phase 2 – York and Talbot.

AECOM has demonstrated an understanding of the City's requirements for this project, and it is recommended that this firm continue as the consulting engineer for the purpose

of contract administration and resident supervision services, as it is in the best financial and technical interests of the City.

**Acknowledgements**

This report was prepared with assistance from Yan Clavet, C.E.T., Technologist II and Marcy McKillop, P. Eng., Environmental Services Engineer, in the Wastewater and Drainage Engineering Division.

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

February 8, 2019

MM/yc

Attach: Appendix 'A' – Sources of Financing  
 Appendix 'B' – Location Map  
 Appendix 'C' – Phases of Downtown Sewer Separation

c.c.	Scott Mathers	John Freeman	Gary McDonald
	Doug MacRae	Ugo DeCandido	Alan Dunbar
	Jason Davies	Chris Ginty	AECOM
	J-AAR Excavating Limited	London Hydro	Bell Canada
	Rogers Communication	Start Communications	

## APPENDIX 'A'

#19015

Chair and Members  
Civic Works CommitteeFebruary 20, 2019  
(Award Contract)

RE: 2019 Infrastructure Renewal Program - Tender No. 19-15  
 Downtown Sewer Separation Phase 2 Project  
 (Subledger WS19C001)  
 Capital Project ES246419 - Combined Sewer Separation  
 Capital Project ES3083 - Infill & Intensification Corridors  
 Capital Project ES5146 - Infill & Intensification Nodes Sanitary Sewer Servicing  
 Capital Project ES5428 - Infill & Intensification Nodes Storm Sewer Servicing  
 Capital Project EW378719 - Main Replacement with Major Roadworks  
 Capital Project TS144619 - Road Networks Improvements (Main)  
 Capital Project TS512318 - Street Light Maintenance  
 J-AAR Excavating Limited - \$6,812,793.33 (excluding H.S.T.)  
 AECOM Canada Ltd. - \$420,299.00 (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:

<b>SUMMARY OF ESTIMATED EXPENDITURES</b>	<b>Approved Budget</b>	<b>Revised Budget</b>	<b>Committed to Date</b>	<b>This Submission</b>	<b>Balance for Future Work</b>
<b>ES246419-Combined Sewer Separation</b>					
Engineering	\$150,484	\$150,484		\$124,175	\$26,309
Engineering - Utilities Share	2)	40,769		40,769	0
Construction	2,549,516	2,549,516	1,424,640	1,124,876	0
Construction - Utilities Share	2)	659,601		659,601	0
	2,700,000	3,400,370	1,424,640	1,949,421	26,309
<b>ES3083-Infill &amp; Intensification Corridors</b>					
Engineering	112,667	112,667	112,667		0
Construction	1,496,897	1,496,897	1,337,455	32,025	127,417
	1,609,564	1,609,564	1,450,122	32,025	127,417
<b>ES5146-Infill &amp; Intensification Nodes San.Swr. Serv.</b>					
Construction	789,075	789,075		460,077	328,998
<b>ES5428-Infill &amp; Intensification Nodes Storm Swr. Serv.</b>					
Construction	3,445,725	3,445,725		1,431,183	2,014,542
<b>EW378719-Main Repl with Mir. Roadworks</b>					
Engineering	184,736	184,736		124,174	60,562
Construction	2,615,264	2,615,264	1,004,637	1,610,627	0
	2,800,000	2,800,000	1,004,637	1,734,801	60,562
<b>TS144619-Road Networks Improvements</b>					
Engineering	1,000,000	1,000,000	52,494	124,174	823,332
Construction	12,766,068	12,766,068	703,861	1,381,618	10,680,589
	13,766,068	13,766,068	756,355	1,505,792	11,503,921
<b>TS512318-Street Light Maintenance</b>					
Engineering	194,984	207,990	194,303	13,687	0
Construction	2,054,093	2,041,088	406,187	221,082	1,413,819
Traffic Lights	171,449	171,448	171,448		0
	2,420,526	2,420,526	771,938	234,769	1,413,819
<b>NET ESTIMATED EXPENDITURES</b>	<b>\$27,530,958</b>	<b>\$28,231,328</b>	<b>\$5,407,692</b>	<b>\$7,348,068</b>	<b>\$15,475,568</b>
<b>SUMMARY OF FINANCING:</b>					
<b>ES246419-Combined Sewer Separation</b>					
Capital Sewer Rates	\$2,346,000	\$2,346,000	\$1,424,640	\$921,360	\$0
Drawdown from Sewage Works Reserve Fund	354,000	354,000		327,691	26,309
Contribution from Utility companies	2)	700,370		700,370	0
	2,700,000	3,400,370	1,424,640	1,949,421	26,309
<b>ES3083-Infill &amp; Intensification Corridors</b>					
Drawdown from Sewage Works Reserve Fund	172,349	172,349	155,276	3,429	13,644
Drawdown from City Services - Sewers Reserve Fund (Development Charges)	3)	1,437,215	1,294,846	28,596	113,773
	1,609,564	1,609,564	1,450,122	32,025	127,417
<b>ES5146-Infill &amp; Intensification Nodes San.Swr. Serv.</b>					
Drawdown from Sewage Works Reserve Fund	118,505	118,505		69,095	49,410
Drawdown from City Services - Sewers Reserve Fund (Development Charges)	3)	670,570		390,982	279,588
	789,075	789,075	0	460,077	328,998
<b>ES5428-Infill &amp; Intensification Nodes Storm Swr. Serv.</b>					
Drawdown from Sewage Works Reserve Fund	241,225	241,225		100,193	141,032
Drawdown from City Services - SWM Reserve Fund (Development Charges)	3)	3,204,500		1,330,990	1,873,510
	3,445,725	3,445,725	0	1,431,183	2,014,542
<b>EW378719-Main Repl with Mir. Roadworks</b>					
Capital Water Rates	2,800,000	2,800,000	1,004,637	1,734,801	60,562
<b>TS144619-Road Networks Improvements</b>					
Capital Levy	3,116,482	3,116,482	756,355	1,505,792	854,335
Drawdown from Capital Infrastructure Gap R.F.	803,560	803,560			803,560
Federal Gas Tax	9,846,026	9,846,026			9,846,026
	13,766,068	13,766,068	756,355	1,505,792	11,503,921
<b>TS512318-Street Light Maintenance</b>					
Capital Levy	2,353,561	2,353,561	771,938	234,769	1,346,854
Drawdown from Capital Infrastructure Gap R.F.	66,965	66,965			66,965
	2,420,526	2,420,526	771,938	234,769	1,413,819
<b>TOTAL FINANCING</b>	<b>\$27,530,958</b>	<b>\$28,231,328</b>	<b>\$5,407,692</b>	<b>\$7,348,068</b>	<b>\$15,475,568</b>

APPENDIX 'A'

#19015

Chair and Members  
Civic Works Committee

February 20, 2019  
(Award Contract)

**RE: 2019 Infrastructure Renewal Program - Tender No. 19-15**  
**Downtown Sewer Separation Phase 2 Project**  
**(Subledger WS19C001)**  
**Capital Project ES246419 - Combined Sewer Separation**  
**Capital Project ES3083 - Infill & Intensification Corridors**  
**Capital Project ES5146 - Infill & Intensification Nodes Sanitary Sewer Servicing**  
**Capital Project ES5428 - Infill & Intensification Nodes Storm Sewer Servicing**  
**Capital Project EW378719 - Main Replacement with Major Roadworks**  
**Capital Project TS144619 - Road Networks Improvements (Main)**  
**Capital Project TS512318 - Street Light Maintenance**  
**J-AAR Excavating Limited - \$6,812,793.33 (excluding H.S.T.)**  
**AECOM Canada Ltd. - \$420,299.00 (excluding H.S.T.)**

1) <b>Financial Note: (CONSTRUCTION)</b>	<b>Utilities</b>				
	<b>ES246419</b>	<b>ES246419</b>	<b>ES3083</b>	<b>ES5146</b>	<b>ES5428</b>
Contract Price	\$1,105,421	\$659,601	\$31,471	\$452,120	\$1,406,430
Add: HST @13%	143,705		4,091	58,776	182,836
Total Contract Price Including Taxes	1,249,126	659,601	35,562	510,896	1,589,266
Less: HST Rebate	124,250		3,537	50,819	158,083
Net Contract Price	\$1,124,876	\$659,601	\$32,025	\$460,077	\$1,431,183

<b>Financial Note (CONSTRUCTION continued)</b>					<b>CONSTRUCTION</b>
	<b>EW378719</b>	<b>TS144619</b>	<b>TS512318</b>	<b>TOTAL</b>	
Contract Price	\$1,582,770	\$1,357,722	\$217,258	<b>\$6,812,793</b>	
Add: HST @13%	205,760	176,504	28,244	799,916	
Total Contract Price Including Taxes	1,788,530	1,534,226	245,502	7,612,709	
Less: HST Rebate	177,903	152,608	24,420	691,620	
Net Contract Price	\$1,610,627	\$1,381,618	\$221,082	<b>\$6,921,089</b>	

<b>Financial Note: (ENGINEERING)</b>	<b>Utilities</b>				
	<b>ES246419</b>	<b>ES246419</b>	<b>EW378719</b>	<b>TS144619</b>	<b>TS512318</b>
Contract Price	\$122,027	\$40,769	\$122,027	\$122,026	\$13,450
Add: HST @13%	15,864		15,864	15,863	1,749
Total Contract Price Including Taxes	137,891	40,769	137,891	137,889	15,199
Less: HST Rebate	13,716		13,717	13,715	1,512
Net Contract Price	\$124,175	\$40,769	\$124,174	\$124,174	\$13,687

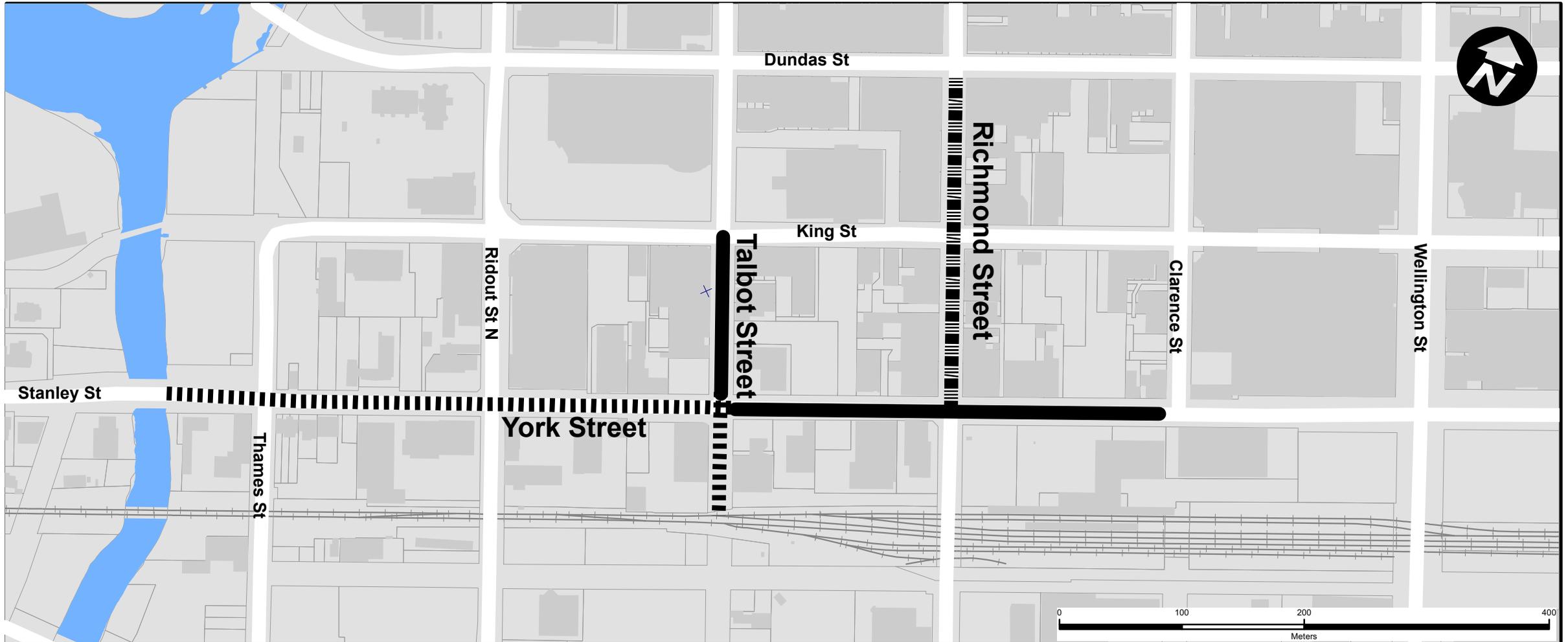
<b>Financial Note: (ENGINEERING continued)</b>						<b>ENGINEERING</b>
						<b>TOTAL</b>
Contract Price						<b>\$420,299</b>
Add: HST @13%						49,340
Total Contract Price Including Taxes						469,639
Less: HST Rebate						42,660
Net Contract Price						<b>\$426,979</b>

**TOTAL CONSTRUCTION & ENGINEERING** **\$7,348,068**

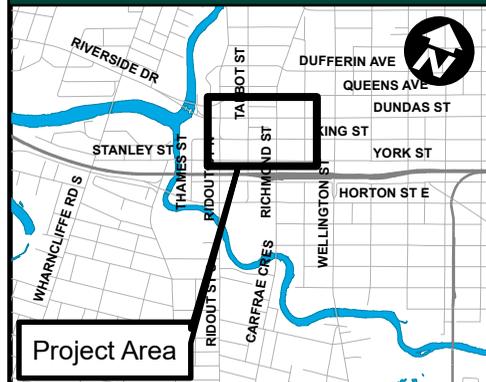
- 2) London Hydro, Start Communications, Bell Canada and Rogers Communications have confirmed the approval of their contribution towards this project. The expenditures have increased to accommodate their contributions.
- 3) Development charges have been utilized in accordance with the underlying legislation and the Development Charges Background Studies completed in 2014.
- 4) Additional annual sewer, water and transportation operating costs attributed to new infrastructure installation are as follows; Sewer Operations - \$700, Water Operations - \$200 and Transportation Operations - \$0.

JG

Jason Davies  
Manager of Financial Planning & Policy



### LOCATION MAP



## Downtown Sewer Separation Phase 2

York Street from Talbot Street to Clarence Street  
 Talbot Street from York Street to King Street

### Phase and Construction Year

- Phase 1 (2018)
- Phase 2 (2019)
- Phase 3 (2020)

Map Produced by  
 the Wastewater &  
 Drainage Engineering  
 Division

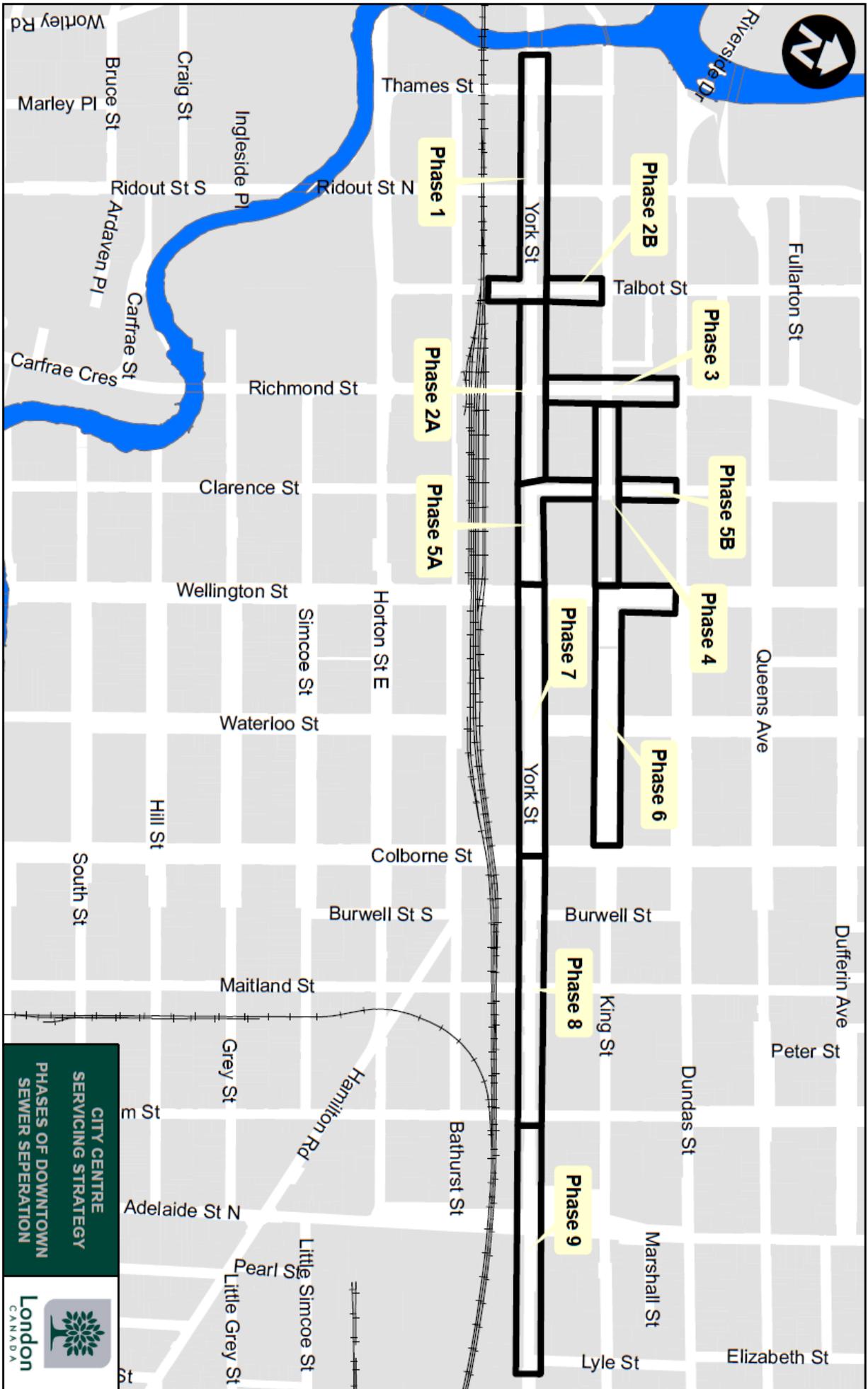
January 29 2018 JB



**London**  
 CANADA

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 London, Ontario  
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[www.London.ca](http://www.London.ca)

Appendix 'C'



<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON FEBRUARY 20, 2019</b>
<b>FROM:</b>	<b>KELLY SCHERR, P.ENG. MANAGING DIRECTOR ENVIRONMENTAL &amp; ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>AGREEMENT EXTENSION WITH TROJAN TECHNOLOGIES FOR THE USE OF THE DECOMMISSIONED WESTMINSTER WASTEWATER PLANT</b>

**RECOMMENDATION**

That, on the recommendation of the Managing Director Environmental & Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to extending the agreement with Trojan Technologies to use the Westminster Treatment plant,

- (a) The Amending Agreement (attached) between the City of London and Trojan Technologies of London **BE APPROVED**; and
- (b) The proposed By-law (attached) **BE INTRODUCED** at the Municipal Council Meeting of March 5, 2019 to approve the Amending Agreement with Trojan Technologies, and to authorize the Mayor and Clerk to execute the Agreement extension.

**PREVIOUS REPORTS PERTINENT TO THIS MATTER**

Civic Works Committee, April 17, 2018, - Southern Ontario Water Consortium London Wastewater Facility: Support for Local Water Research and Development

Civic Works Committee, September 22, 2014 - UV Disinfection Equipment Parts & Service-Single Source

Built and Natural Environment Committee, July 18, 2011 – An Agreement to Use the Decommissioned Westminster Wastewater Treatment Plant for Research and Development and Testing

**BACKGROUND**

**Purpose**

The purpose of this report is to amend an agreement with Trojan Technologies (Trojan) of London to use the City's Westminster Wastewater Treatment Plant (WWTP) for testing until 2038. This will allow Trojan to make investments in the facility to support testing beyond the original 2021 timeframe.

**Context**

The Environmental and Engineering Services Department has been a long supporter of water and wastewater industry research. This support includes facilitating technology demonstration projects at various City owned facilities. Since April 2018 a new model has been in place to facilitate water related research that meets the intent of the 2015 – 2019 Strategic Plan. The current strategic plan includes a strategy to assist businesses with commercialization to help grow London's economy. The City has partnered with London Economic Development Corporation, Southern Ontario Water Consortium, Western University and major industries to achieve this objective.

Trojan is a London based world leader in ultraviolet (UV) disinfection technology for the water and wastewater industries. Trojan has used the City's decommissioned Westminster WWTP for testing since 2011 and would like access to the facility beyond the initial 10 year period. In return for use of the facility Trojan provides \$30,000 of free service on the City's UV disinfection systems and supplies parts at a 30% discount

<b>DISCUSSION</b>
-------------------

The City's Westminster WWTP was acquired as part of the 1993 annexation and has since been decommissioned. The Westminster WWTP has been used by Trojan through an agreement with the City since 2011. The site provides them with a local facility they can modify as needed to test prototype equipment. Trojan has requested that the current agreement be extended to 2038. Extending the agreement will allow them to justify making a larger investment in the site. Through the extension of this agreement the City retains ownership of the facility and will continue to receive \$30,000 in annual UV system maintenance and a 30% discount on parts. Trojan is responsible for maintaining the site and buildings with the City retaining the option to terminate the agreement with one year notice.

Use of this facility is part of the City's ongoing relationship with Trojan Technologies that also includes use of the Southern Ontario Water Consortium London Wastewater Facility housed at the Greenway Wastewater Treatment Plant. Our partnership with Trojan Technologies provides many benefits including helping to move forward technological enhancements in the international water industry, creating a positive reuse for an unutilized corporate asset, and supporting a major local employer.

<b>CONCLUSIONS</b>
--------------------

It is recommended that Council approve the extension of this agreement to 2038 with Trojan Technologies as the City has no long term plans for this site and it has proven valuable to Trojan as a testing facility.

**Acknowledgements**

This document has been prepared with the assistance of Kirby Oudekerk, P.Eng., Environmental Services Engineer in the Wastewater Treatment Operations Division.

<b>SUBMITTED BY:</b>	<b>REVIEWED AND CONCURRED BY:</b>
<b>GEORDIE GAULD DIVISION MANAGER, WASTEWATER TREATMENT OPERATIONS</b>	<b>SCOTT MATHERS, MPA, P. ENG. DIRECTOR, WATER AND WASTEWATER</b>
<b>RECOMMENDED BY:</b>	
<b>KELLY SCHERR, P. ENG., FEC MANAGING DIRECTOR, ENVIRONMENTAL &amp; ENGINEERING SERVICES &amp; CITY ENGINEER</b>	

February 7, 2019

Attach: Appendix "A" – Amending Agreement By-law  
Appendix "B"- Amending Agreement  
Appendix "C"-Original Agreement

cc. Allan Archer-Trojan Technologies  
Michele Butlin-Legal and Corporate Services  
John Freeman  
Gary McDonald  
Alan Dunbar  
Jason Davies

# Appendix “A” – Amending Agreement By-Law

Bill No.

By-law No.

A By-law to authorize an Amending the Agreement between The Corporation of the City of London and Trojan Technologies and to authorize the Mayor and 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* 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 expedient for The Corporation of the City of London (the “City”) to amend an agreement with Trojan Technologies Group ULC (the “Agreement”);

AND WHEREAS it is appropriate to authorize the Mayor and 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 attached as Schedule “A” to this By-law, being an Agreement between the City and Trojan Technologies Group ULC. is hereby AUTHORIZED AND APPROVED.
2. The Mayor and City Clerk are 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 , 2019

Ed Holder  
Mayor

Catharine Saunders  
City Clerk

First reading -  
Second reading –  
Third reading –

Appendix "B"

THIS AMENDING AGREEMENT made this \_\_\_\_ day of \_\_\_\_\_.

BETWEEN:

THE CORPORATION OF THE CITY OF LONDON

(hereinafter the "City")

-and-

TROJAN TECHNOLOGIES

(hereinafter "Trojan")

WHEREAS the City owns and operates a water pollution control plant at Westminster Pollution Control Plant (the "Westminster PCP") located at 3225 Dingman Drive, London, Ontario.

AND WHEREAS Trojan has requested permission to maintain an ultra-violet testing facility at Westminster PCP (the "W-Facility") for the purposes of conducting research and development projects within the Westminster PCP and the City is agreeable to permitting Trojan to operate the W-Facility as set out herein rent-free, provided Trojan agrees to pay the utility and other costs associated with the operation;

AND WHEREAS the City and Trojan entered into an Agreement on August 31, 2011 ("Agreement") for a term of ten (10) years;

AND WHEREAS the parties wish to amend the Agreement to extend the term of the Agreement;

NOW THEREFORE THE AMENDING AGREEMENT WITNESSETH THAT in consideration of the mutual covenants and agreements set forth, the parties covenant and agree, to and with each other, as follows:

1. Sub article 1(b) of the Agreement is deleted and replaced with the following:

"Permit Trojan to operate the W-Facility at Westminster PCP for a term of twenty (20) years, commencing upon execution of this agreement (the "Term"). Trojan shall have unfettered discretion to cease operating the W-Facility any time prior to the expiration of the Term if it so chooses, in which case this agreement shall be terminated and all rights and obligations relating thereto shall be as if the said term had expired;"

IN WITNESS OF WHICH the parties have executed this agreement the day and year first above written.

The Corporation of the City of London

Trojan Technologies

\_\_\_\_\_

\_\_\_\_\_

Mayor

I have the authority to bind the Corporation

\_\_\_\_\_

City Clerk

Agenda Item #	Page #

## Appendix "C" - Original Agreement

THIS AGREEMENT is made the [Enter Day] day of [Enter Month] year [Enter Year]

BETWEEN:

**Corporation of the City of London**  
(hereinafter the "City")

and

**Trojan Technologies**  
(hereinafter "Trojan")

WHEREAS the City owns and operates a water pollution control plant at Westminster Pollution Control Plant (the "Westminster PCP") located at 3225 Dingman Drive, London, Ontario.

AND WHEREAS Trojan has requested permission to maintain an ultra-violet testing facility at Westminster PCP (the "W-Facility") for the purpose of conducting research and development projects within the Westminster PCP and the City is agreeable to permitting Trojan to operate the W-Facility as set out herein rent-free, provided Trojan agrees to pay the utility and other costs associated with their operation;

NOW THEREFORE in consideration of the mutual covenants and agreements to be kept and performed on the part of the parties, the City and Trojan covenant and agree as follow:

1. The City shall:

- a. Permit Trojan in its absolute discretion to modify Westminster PCP for the W-Facility within the boundaries of Westminster PCP as shown in figure 1 on Schedule A; as it sees fit; including without limitation to upgrade the main electrical feed to building; install new electrical distribution service for Trojan's testing requirements; install waterline(s); sewer-line(s) and allow access to the current building for Trojan usage;
- b. Permit Trojan to operate the W-Facility at Westminster PCP for a term of (10) years, commencing upon execution of this agreement (the "Term"). Trojan shall have unfettered discretion to cease operating the W-Facility any time prior to the expiration of the

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Term if it so chooses, in which case this agreement shall be terminated and all rights and obligations relating thereto shall be as if the said term had expired;

- c. Invoice Trojan monthly for actual hydro usage in relation to W-Facility;
- d. Grant permission for Trojan to access appropriate drainage on City property to dispose of test water, from time to time, as necessary;
- e. Provide a minimum of 1 year notice to Trojan if the W-Facility needs to be removed from the Westminster PCP for any reason;
- f. Permit Trojan to change locks at Westminster so Trojan is the only key holder for the site and grant Trojan an exclusive access to the Westminster PCP; notify Trojan in the event the City requires site access and have Trojan employee to accompany City employee during any such access **[Note: this is for due diligence for intellectual property]**
- g. Grant to Trojan the rights and benefits set out above without requiring rent or other compensation other than that which is specifically set out herein.

2. Trojan shall:

- a. Install a new main hydro meter and assume all charges for hydro for Westminster PCP as facility currently operates only using electricity to operate sump pump, 120 volt outlets, overhead lighting and heating;
- b. Promptly pay for actual hydro usage related to the W-Facility (invoiced monthly);
- c. On expiry of this agreement, remove all of the test equipment and associated infrastructure promptly;
- d. Respond in timely manner to accommodate City requests to visit site;
- e. Provide, free of charge, up to \$30,000 worth of personnel hours annually from its service department for maintenance of City's ultra-violet disinfection equipment;
- f. Permit the City to directly purchase parts at 30% discount off Trojan's list price during the Term of this Agreement;
- e. At its own expense, obtain and maintain during the term of this Agreement, and promptly provide evidence of:
  - i. Comprehensive general liability (CGL) on an occurrence basis for an amount not less than Five Million (\$5,000,000) dollars and shall include City as an additional insured with respect to Trojan's

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operations, acts and omissions relating to its obligations under this Agreement, including without limitation the supply, care, handling, use or disposal of any raw material brought by Trojan onto the Westminster PCP site; such CGL insurance policy to include non-owned automobile liability, personal injury, broad form property damage, contractual liability, owners' and contractors' protective, products and completed operations, contingent employers liability, cross liability and severability of interest clauses;

- ii. Automobile liability insurance for an amount not less than Two Million (\$2,000,000) dollars on forms meeting statutory requirements covering all owned or leased vehicles used in any manner in connection with the performance of the terms of this Agreement.
- iii. The policies shown above will not be cancelled or permitted to lapse unless the insurer or Trojan notifies the City in writing at least thirty (30) days prior to the effective date of cancellation or expiry. London reserves the right to request such higher limits of insurance or other types of policies appropriate to the work as the City may reasonably require.
- iv. Trojan agrees to provide evidence of continued insurance from insurer(s) licensed to operate in Canada once annually in a form acceptable to the City at each policy renewal date for the duration of the contract.

3. Other terms to be observed by and between the parties:

- a. Amendments to the terms of this agreement must be in written form and approved by both parties in writing.
- b. The W-Facility together with all associated Trojan infrastructure and equipment, including but not limited to UV disinfection equipment, piping, pumps, flow meters, valves, gates, building covering structure and all electrical wiring and conduits from main plant are the property of Trojan. Trojan shall have the right to remove all of its equipment and infrastructure at any time.
- c. Nothing herein contained shall be deemed or construed as creating a relationship of principal and agent, lessor and lessee, a partnership or a joint venture between the parties, nor shall any other action or provision contained herein be deemed to create any relationship between the parties other than an arm's length business transaction. Trojan is an independent contractor.
- d. Trojan shall defend, indemnify and hold harmless the City and its members of council, officers, employees and agents from and against claims, loss, liability, suits and damages for personal injury or damage to

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property (the "Loss"), including fees caused in whole or in part by the negligent acts, errors or omissions (hereinafter "Wrongful Act") of Trojan or anyone for whose acts it is responsible at law.

- e In the event that both Trojan and the City have each committed a Wrongful Act which contributes to the aforementioned Loss, then each party shall be responsible for the Loss in the same proportion as that party's contribution to the Loss.
  - f In the event of legal action brought by either party against the other to enforce any of the obligations hereunder or arising out of any dispute concerning the terms and conditions hereby created, the unsuccessful party shall pay the prevailing party such reasonable amount for fees, costs and expenses, including attorney's fees, as may be set by the court – or the actual costs incurred by the prevailing party if the dispute does not reach final judgment.
4. This Agreement shall be for a term of ten (10) years, unless it is terminated sooner by the parties in accordance with the terms of this Agreement, commencing upon execution of this Agreement.
  5. Upon expiry or other termination of this Agreement Trojan will no longer be required to pay for hydro or any other charges at W-Facility, upon Trojan's vacating the W-Facility and paying to the City any amounts previously invoiced but unpaid in relation to hydro, Trojan shall owe no further obligations to the City hereunder with respect to the W-Facility.
  6. This agreement shall be binding upon the parties, their successors and assigns. This is the entire agreement.
  7. This agreement is governed by and will be construed in accordance with the laws of the Province of Ontario, Canada and each party hereby attorns to the non-exclusive jurisdiction of the courts of Ontario with respect to any claims or disputes arising under, out of or in connection with this agreement or the subject matter hereof.

IN WITNESS OF WHICH the parties have executed this agreement the day and year first above written. We have authority to bind the parties here to.

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\_\_\_\_\_  
The Corporation of the City of  
London  
Name:

\_\_\_\_\_  
Signature:

\_\_\_\_\_  
Date:

\_\_\_\_\_  
Trojan Technologies  
Name:

\_\_\_\_\_  
Signature:

\_\_\_\_\_  
Date:

**SCHEDULE A**



**Figure 1. Municipal Address 3225 Dingman DR, London, ON**

**Roll number 080004015600000**

**CON 4 E PT LOT 17**

**REG 4.02AC 726.00FR D**

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING OF FEBRUARY 20, 2019</b>
<b>FROM:</b>	<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL &amp; ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>ENDORSEMENT OF UPDATED OPERATIONAL PLAN FOR THE ELGIN-MIDDLESEX PUMPING STATION (LONDON PORTION)</b>

**RECOMMENDATION**

That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, the updated Operational Plan for the Elgin-Middlesex Pumping Station (London Portion) **BE ENDORSED** as per the requirements of the Safe Drinking Water Act, 2002.

**PREVIOUS REPORTS PERTINENT TO THIS MATTER**

[Endorsement of Operational Plan for the Elgin-Middlesex Pumping Station, Dec 8, 2008, Environment and Transportation Committee, Agenda Item #3](#)

[Endorsement Of New Operational Plan For The Elgin-Middlesex Pumping Station \(London Portion\), November 25, 2013, Civic Works Committee, Agenda Item #5](#)

[Services Agreement Between Partner Municipalities and The Ontario Clean Water Agency for Contracted Operations at the Elgin-Middlesex Pumping Station, May 24, 2017, Civic Works Committee, Agenda Item #2](#)

**2015 – 2019 STRATEGIC PLAN**

The following report supports the 2015 – 2019 Strategic Plan through the strategic focus area of *Leading in Public Service*, through open, accountable, and responsive government, and providing excellent service delivery.

**BACKGROUND**

**Purpose**

The following report has been submitted to committee in order to comply with the Safe Drinking Water Act, 2002, which requires that the Owner (City Council) endorse a water system’s Operational Plan. This Operational Plan covers only a portion of the water system servicing the City of London known as the Elgin-Middlesex Pumping Station (London Portion). This Pumping station is operated by Ontario Clean Water Agency (OCWA). A copy of the Operational Plan will be hand-delivered to each Councillor.

**Context**

Ontario’s Municipal Drinking Water Licensing Program requires municipalities to develop and maintain Quality Management Systems (QMSs) that conform to the 21 elements of Ontario’s Drinking-Water Quality Management Standard (DWQMS). The QMS must be documented in an Operational Plan, which details the organizational structure, policies, procedures, processes, and resources needed to implement and maintain the QMS. Each Operational Plan must be endorsed by the owner of the water system as per the Safe Drinking Water Act, 2002.

Previous versions of the Operational Plan for the Elgin-Middlesex Pumping Station

(London Portion) were endorsed by London City Council in 2008 and 2013.

<b>DISCUSSION</b>
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The Elgin-Middlesex Pumping Station facility is located approximately 10 km south of London. Ownership of Elgin-Middlesex Pumping Station is shared between the City of London, the City of St. Thomas, and the Town of Aylmer. Within the facility, the City of London owns three pumps and a surge tank which supply London with water from the Elgin Area Primary Water Supply System. Although City of London staff operate all other components of London’s water system, the operation of the Elgin-Middlesex Pumping Station facility has been contracted to the Ontario Clean Water Agency (OCWA).

In 2018, the government of Ontario released updates to Ontario’s Drinking-Water Quality Management Standard. Accordingly, OCWA has updated the Operational Plan for the EMPS (London Portion).

This Operational Plan has been reviewed by City staff, and will continue to be the subject of yearly audits through Ontario’s Municipal Drinking Water Licensing Program.

<b>CONCLUSIONS</b>
--------------------

The Ontario Clean Water Agency (OCWA) is the contracted operating authority for the Elgin-Middlesex Pumping Station (London Portion). Under Ontario’s Municipal Drinking Water Licensing Program, OCWA has updated the accompanying Operation Plan for the EMPS (London Portion) to reflect recent updates to Ontario’s Drinking-Water Quality Management Standard (DWQMS). This plan has been reviewed by City of London staff. As per the requirements of the Safe Drinking Water Act, 2002, the Operational Plan must be endorsed by the Owner of the London Water System, the Corporation of the City of London.

<b>PREPARED BY:</b>  	<b>REVIEWED &amp; CONCURRED BY:</b>  
<b>JOHN SIMON, P. ENG. DIVISION MANAGER WATER OPERATIONS</b>	<b>SCOTT MATHERS, P. ENG. MPA DIRECTOR, WATER AND WASTEWATER</b>
<b>RECOMMENDED BY:</b>  	
<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR ENVIRONMENTAL &amp; ENGINEERING SERVICES AND CITY ENGINEER</b>	

CC: Aaron Rozentals – Division Manager, Water Engineering  
Dan Huggins – Water Quality Manager

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON FEBRUARY 20, 2019</b>
<b>FROM:</b>	<b>KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>CONTRACT AWARD: TENDER NO. RFT 19-02 2019 INFRASTRUCTURE RENEWAL PROGRAM EGERTON STREET, BRYDGES STREET AND PINE STREET PHASE 2 RECONSTRUCTION PROJECT</b>

<b>RECOMMENDATION</b>
-----------------------

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 contract for the 2019 Infrastructure Renewal Program Egerton Street Phase 2 reconstruction project:

- (a) the bid submitted by Bre-Ex Construction Inc at its tendered price of \$5,723,375.76, excluding HST, **BE ACCEPTED**; it being noted that the bid submitted by Bre-Ex Construction Inc was the lowest of seven bids received and meets the City's specifications and requirements in all areas;
- (b) Archibald, Gray and McKay Engineering Ltd. (AGM) **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 \$429,880.00, 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) 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 March 5, 2019, for the purpose of amending the Traffic and Parking By-law (PS-113);
- (d) the financing for this project **BE APPROVED** as set out in the Sources of Financing Report attached, hereto, as Appendix 'A';
- (e) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this project;
- (f) 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 RFT19-02); and
- (g) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

<b>PREVIOUS REPORTS PERTINENT TO THIS MATTER</b>
--

- Appointment of Consulting Engineers, Infrastructure Renewal Program 2015-2016, Civic Works Committee, May 26, 2014.

- Contract Award: Tender No. 18-03 – 2018 Infrastructure Renewal Program – Egerton Street and King Street Phase 1 Reconstruction Project, Civic Works Committee, March 19, 2018.
- Appointment of Consulting Engineers, Infrastructure Renewal Program 2017-2019, Civic Works Committee, July 17, 2017.

## 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 tender to a Bre-Ex Construction Inc, and continuation of consulting services to AGM for the reconstruction of:

- Egerton Street from 80m north of Brydges Street (CN tracks) to 20m south of Ormsby Street;
- Brydges Street from Egerton Street to Douglas Court; and
- Pine Street from Egerton Street to Oak Street.

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

The Traffic and Parking By-law (PS-113) (Appendix ‘D’) requires amendments including the elimination of on-street parking on the east side of Egerton Street to accommodate the construction of bicycle lanes as part of the 2019 construction project.

### Context

Egerton Street, Brydges Street and Pine Street have each been identified as a high priority in the infrastructure renewal program due to the poor condition of the municipal infrastructure. Most of this infrastructure including the historical Egerton double trunk sewer dates from the 1900s to the 1920s and has reached the end of its life expectancy. This project is the second phase of three overall phases of infrastructure renewal along Egerton Street.

## DISCUSSION

The Egerton Street, Brydges Street, and Pine Street infrastructure renewal project includes the following improvements:

- installation of sanitary sewers and Private Drain Connections (PDCs) where requested;
- installation of storm sewers and PDCs where requested;
- installation of watermain and individual water services to property line where applicable;
- full road reconstruction including new asphalt, curb and gutter, and sidewalk; and
- inclusion of underground works by Bell Canada who has infrastructure needs.

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

- removal of on-street parking on the east side of Egerton Street; and
- new on-road bicycle lanes on both sides of Egerton Street.

The combined sewer on Brydges Street will be removed and replaced with separate sanitary and storm sewers as part of this project. In addition, five sanitary sewer overflows on Egerton Street will be removed. There are two watermains on this project, one of which is 1900s cast iron with potential lead services, and the other which is 1967 concrete pressure pipe. These two watermains will be consolidated into a single watermain.

The Traffic and Parking Bylaw (PS-113) have the following proposed amendments to accommodate bicycle lanes on Egerton Street:

- Designate bicycle lanes on the east and west sides of Egerton Street from Dundas Street to Brydges Street.
- Designate bicycle lanes as per the Cycling Master Plan on both sides of Egerton Street from Brydges Street to Ormsby Street.
- The current on-street parking on the east side of Egerton Street from 61 m south of Pine Street to Ormsby Street should be replaced with “No Parking Anytime” to provide parking restrictions within the proposed bicycle lane.

The Egerton Street bicycle lane maps with proposed changes are included in Appendix ‘C’.

Infrastructure replacement needs have been coordinated within the Environmental and Engineering Services Department. The funding for this project comes from the approved 2019 Wastewater and Treatment, Water, and Transportation Capital Works Budgets.

### **Domestic Action Plan**

One of the municipal actions identified in the City of London’s Domestic Action Plan for Phosphorus Reduction is combined sewer replacement. The plan states,

*“The City of London will accelerate plans to separate combined sewers, including the design and construction of necessary stormwater outlets, with the target of separating 80 per cent (17 kilometres) of its combined sewer system by 2025.”*

This target for combined sewer replacement is contingent on federal and provincial funding. The reconstruction of Brydges Street removes 50 meters of combined sewer. The following table summarizes the length of combined sewer replacement achieved for this project in relation to the Lake Eire Acton Plan targets.

<b>2016 – 2025 Combined Sewer DAP Target (km)</b>	<b>Prior DAP Combined Sewer Removed/Separated (km)</b>	<b>This Project – Combined Sewer Removed/Separated (km)</b>	<b>Remaining Combined Sewer (km) to achieve target</b>
17 km	5.4 km	0.05 km	11 km

The length of combined sewer remaining, indicated in the above table, accounts for the 500 metres of combined sewer to be replaced as part of the Downtown Sewer Separation Phase 2 project, which is also on the current Civic Works Committee agenda.

## Public Consultation

A project update meeting was held on November 26, 2018, for all owners and residents within and immediately bordering the project area to address questions and concerns. This meeting was attended by a few property and business owners with no significant concerns noted. Staff have been informed of a number of residents with special needs that will be accommodated throughout this construction contract. Communication has been taking place with all the business owners and contact information has been collected to ensure that communication can continue throughout the project.

## Service Replacement

In conjunction with the construction of this project, the City is administering the PDC subsidy program, which allows property owners within the project's 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 Egerton Street, Brydges Street and Pine Street Phase 2 reconstruction project were opened on January 23, 2019. Seven (7) contractors submitted tender prices as listed below, excluding HST.

<b>CONTRACTOR</b>		<b>TENDER PRICE SUBMITTED</b>
1.	Bre-Ex Construction Incorporated	\$5,723,375.76
2.	Blue Con Construction	\$6,197,978.70
3.	Sierra Infrastructure Inc	\$6,250,350.30
4.	J-AAR Excavating Limited	\$6,277,019.24
5.	CH Excavating (2013)	\$6,396,279.96
6.	Omega Contractors Inc.	\$6,496,218.96
7.	Amico Infrastructure (Oxford) Inc.	\$6,728,580.96

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

The tender estimate just prior to tender opening was \$6,188,000.00, excluding HST. All tenders include a contingency allowance of \$400,000.00.

## Operating Budget Impacts

Additional annual sewer, water, and transportation operating costs attributed to new infrastructure installation are summarized in the following table.

Division	Rationale	Operational Cost Increase
Sewer Operations	Additional 100 metres of storm sewer	\$200
Water Operations	No additional increase in water services or total length of watermain	\$0
Transportation Operations	Road maintenance cost (As per Table 8 and 10 of the London ON Bikes report.)	\$9,180 – \$10,860
Total		\$9,380 - \$11,060

## Consulting Services

AGM was awarded the detailed design for phase 2 by Council on July 25, 2017. Due to the consultant's knowledge and positive performance on the project, the consultant was invited to submit a proposal to carry out the contract administration and resident supervision. AGM submitted a proposal which included an upset limit of \$429,880.00. This proposal contains 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 AGM on this project for construction administration is of financial advantage to the City because AGM 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, AGM has satisfactorily completed a substantial part of the project and is recommended for award of the balance of the project. The administration recommends that AGM be authorized to carry out the remainder of engineering services to complete this Egerton Phase 2 project for the provided fee estimate of \$429,880.00 excluding HST, noting the upset amount for total engineering services for both Egerton Phase 1 and 2 Engineering Design and Supervision fees is \$1,716,617.00, excluding HST, spread over 2014-2019. It is noted that a third phase on Egerton is planned for 2020 construction which is anticipated to be awarded to AGM.

**CONCLUSIONS**

Award of the 2019 Infrastructure Renewal Program, Egerton Street, Brydges Street, Pine Street Phase 2 reconstruction project to Bre-Ex Construction Inc. will allow the project objectives to be met within the available budget and schedule.

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

Amendments are required to Schedule 2 (No Parking) and to Schedule 9.1 (Reserved Lanes) to address the on street parking removal and bicycle lane additions.

**Acknowledgements**

This report was prepared within the Wastewater and Drainage Engineering Division by Doug Law, C.E.T., Senior Technologist and Doug Bolton C.E.T., Senior Technologist and Shane Maguire P. Eng Division Manager of the Roadway Lighting and Traffic Control Division and reviewed by Kyle Chambers, P. Eng., Environmental Services Engineer.

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

Attach:      Appendix 'A' – Sources of Financing  
                  Appendix 'B' – Project Location Map  
                  Appendix 'C' – Parking/Bike Lane Maps  
                  Appendix 'D' – Parking By-law Amendments

c.c.	Aaron Rozentals	John Freeman	Gary McDonald
	Doug MacRae	Ugo DeCandido	Bell Canada
	Bre-Ex Construction Inc	AGM	Alan Dunbar
	Jason Davies	Chris Ginty	

## APPENDIX 'A'

#19014

Chair and Members  
Civic Works CommitteeFebruary 20, 2019  
(Award Contract)

RE: 2019 Infrastructure Renewal Program - RFT 19-02  
 Egerton Street, Brydges Street and Pine Street - Phase 2 Reconstruction Project  
 (Subledger WS18C00A)  
 Capital Project ES241419 - Sewer Infrastructure Lifecycle Renewal  
 Capital Project ES246419 - Combined Sewer Separation  
 Capital Project EW376518 - Water Infrastructure Lifecycle Renewal  
 Capital Project EW378719 - Main Replacement with Major Roadworks  
 Capital Project TS144619 - Road Networks Improvements (Main)  
 Capital Project TS173919 - Cycling Facilities  
 Bre Ex Construction Inc. - \$5,723,375.76 (excluding H.S.T.)  
 Archibald, Gray and McKay Engineering Ltd. - \$429,880.00 (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:

<b>SUMMARY OF ESTIMATED EXPENDITURES</b>	<b>Approved Budget</b>	<b>Revised Budget</b>	<b>Committed to Date</b>	<b>This Submission</b>	<b>Balance for Future Work</b>
<b>ES241419-Sewer Infra. Lifecycle Renewal</b>					
Engineering	\$2,500,000	\$2,500,000	\$263,712	\$244,970	\$1,991,318
Construction	10,858,000	10,858,000	3,855,913	871,992	6,130,095
Construction (Bell) 2)	113,060	416,020	113,060	302,960	0
Construction (PDC Portion) 3)		38,000		38,000	0
City Related Expenses	20,000	20,000			20,000
	<u>13,491,060</u>	<u>13,832,020</u>	<u>4,232,685</u>	<u>1,457,922</u>	<u>8,141,413</u>
<b>ES246419-Combined Sewer Separation</b>					
Engineering	1,000,000	1,000,000			1,000,000
Construction	1,700,000	1,700,000		1,424,640	275,360
	<u>2,700,000</u>	<u>2,700,000</u>	<u>0</u>	<u>1,424,640</u>	<u>1,275,360</u>
<b>EW376518-Water Infrastructure Lifecycle Renewal</b>					
Engineering	2,483,022	2,483,022	2,104,214	131,233	247,575
Construction	6,815,763	6,815,763	2,796,921	1,348,083	2,670,759
City Related Expenses	79,134	79,134			79,134
	<u>9,377,919</u>	<u>9,377,919</u>	<u>4,901,135</u>	<u>1,479,316</u>	<u>2,997,468</u>
<b>EW378719-Main Repl with Mjr. Roadworks</b>					
Engineering	300,000	300,000			300,000
Construction	2,500,000	2,500,000		1,004,637	1,495,363
	<u>2,800,000</u>	<u>2,800,000</u>	<u>0</u>	<u>1,004,637</u>	<u>1,795,363</u>
<b>TS144619-Road Networks Improvements (Main)</b>					
Engineering	1,000,000	1,000,000		52,494	947,506
Construction	12,766,068	12,766,068		703,861	12,062,207
	<u>13,766,068</u>	<u>13,766,068</u>	<u>0</u>	<u>756,355</u>	<u>13,009,713</u>
<b>TS173919-Cycling Facilities</b>					
Engineering	100,000	100,000		8,749	91,251
Construction	682,850	682,850		124,602	558,248
	<u>782,850</u>	<u>782,850</u>	<u>0</u>	<u>133,351</u>	<u>649,499</u>
<b>NET ESTIMATED EXPENDITURES</b>	<b><u>\$42,917,897</u></b>	<b><u>\$43,258,857</u></b>	<b><u>\$9,133,820</u></b>	<b><u>\$6,256,221</u></b> 1)	<b><u>\$27,868,816</u></b>
<b>SUMMARY OF FINANCING:</b>					
<b>ES241419-Sewer Infra. Lifecycle Renewal</b>					
Capital Sewer Rates	\$8,978,000	\$8,978,000	\$4,119,625	\$1,116,962	\$3,741,413
Federal Gas Tax	4,400,000	4,400,000			4,400,000
Other Contributions (Bell) 2)	113,060	416,020	113,060	302,960	0
Cash Recovery from Property Owners (PDC Portion) 3)		38,000		38,000	0
	<u>13,491,060</u>	<u>13,832,020</u>	<u>4,232,685</u>	<u>1,457,922</u>	<u>8,141,413</u>
<b>ES246419-Combined Sewer Separation</b>					
Capital Sewer Rates	2,346,000	2,346,000		1,424,640	921,360
Drawdown from Sewage Works Reserve Fund	354,000	354,000			354,000
	<u>2,700,000</u>	<u>2,700,000</u>	<u>0</u>	<u>1,424,640</u>	<u>1,275,360</u>
<b>EW376518-Water Infrastructure Lifecycle Renewal</b>					
Capital Water Rates	6,502,100	6,502,100	4,901,135	1,479,316	121,649
Drawdown from Capital Water Reserve Fund	2,875,819	2,875,819			2,875,819
	<u>9,377,919</u>	<u>9,377,919</u>	<u>4,901,135</u>	<u>1,479,316</u>	<u>2,997,468</u>
<b>EW378719-Main Repl with Mjr. Roadworks</b>					
Capital Water Rates	2,800,000	2,800,000		1,004,637	1,795,363
<b>TS144619-Road Networks Improvements (Main)</b>					
Capital Levy	3,116,482	3,116,482		756,355	2,360,127
Drawdown from Capital Infrastructure Gap R.F.	803,560	803,560			803,560
Federal Gas Tax	9,846,026	9,846,026			9,846,026
	<u>13,766,068</u>	<u>13,766,068</u>	<u>0</u>	<u>756,355</u>	<u>13,009,713</u>
<b>TS173919-Cycling Facilities</b>					
Capital Levy	391,425	391,425		133,351	258,074
Drawdown from City Services Roads Reserve Fund 4) (Development Charges)	391,425	391,425			391,425
	<u>782,850</u>	<u>782,850</u>	<u>0</u>	<u>133,351</u>	<u>649,499</u>
<b>TOTAL FINANCING</b>	<b><u>\$42,917,897</u></b>	<b><u>\$43,258,857</u></b>	<b><u>\$9,133,820</u></b>	<b><u>\$6,256,221</u></b>	<b><u>\$27,868,816</u></b>

APPENDIX 'A'

#19014

Chair and Members  
Civic Works Committee

February 20, 2019  
(Award Contract)

**RE: 2019 Infrastructure Renewal Program - RFT 19-02**  
**Egerton Street, Brydges Street and Pine Street - Phase 2 Reconstruction Project**  
**(Subledger WS18C00A)**  
**Capital Project ES241419 - Sewer Infrastructure Lifecycle Renewal**  
**Capital Project ES246419 - Combined Sewer Separation**  
**Capital Project EW376518 - Water Infrastructure Lifecycle Renewal**  
**Capital Project EW378719 - Main Replacement with Major Roadworks**  
**Capital Project TS144619 - Road Networks Improvements (Main)**  
**Capital Project TS173919 - Cycling Facilities**  
**Bre Ex Construction Inc. - \$5,723,375.76 (excluding H.S.T.)**  
**Archibald, Gray and McKay Engineering Ltd. - \$429,880.00 (excluding H.S.T.)**

1) <b>Financial Note: (CONSTRUCTION)</b>	(Includes PDC's)	Bell			
	ES241419	ES241419	ES246419	EW376518	ES378719
Contract Price	\$894,253	\$302,960	\$1,400,000	\$1,324,767	\$987,261
Add: HST @13%	116,253		182,000	172,220	128,344
Total Contract Price Including Taxes	1,010,506	302,960	1,582,000	1,496,987	1,115,605
Less: HST Rebate	100,514		157,360	148,904	110,968
Net Contract Price	<u>\$909,992</u>	<u>\$302,960</u>	<u>\$1,424,640</u>	<u>\$1,348,083</u>	<u>\$1,004,637</u>

**Financial Note (CONSTRUCTION continued)**

	TS144619	TS173919	CONSTRUCTION TOTAL
Contract Price	\$691,688	\$122,447	\$5,723,376
Add: HST @13%	89,919	15,918	704,654
Total Contract Price Including Taxes	781,607	138,365	6,428,030
Less: HST Rebate	77,746	13,763	609,255
Net Contract Price	<u>\$703,861</u>	<u>\$124,602</u>	<u>\$5,818,775</u>

**Financial Note: (ENGINEERING)**

	ES241419	EW376518	TS144619	TS173919	ENGINEERING TOTAL
Contract Price	\$240,733	\$128,964	\$51,586	\$8,597	\$429,880
Add: HST @13%	31,295	16,765	6,706	1,118	55,884
Total Contract Price Including Taxes	272,028	145,729	58,292	9,715	485,764
Less: HST Rebate	27,058	14,496	5,798	966	48,318
Net Contract Price	<u>\$244,970</u>	<u>\$131,233</u>	<u>\$52,494</u>	<u>\$8,749</u>	<u>\$437,446</u>

**TOTAL CONSTRUCTION & ENGINEERING**

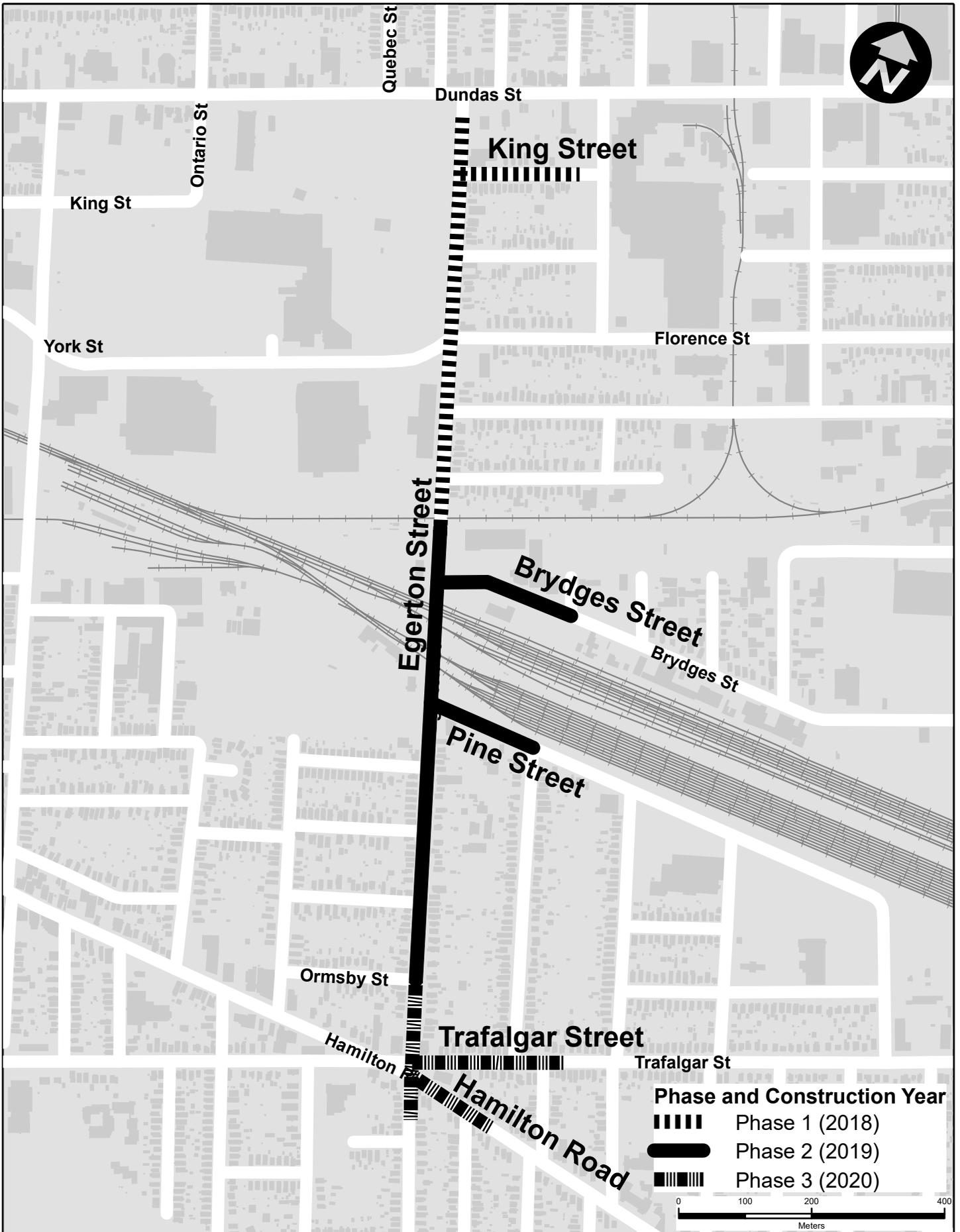
**\$6,256,221**

- 2) Bell Canada has confirmed the approval of their contribution towards this project. The expenditures have increased to accommodate their contribution.
- 3) The expenditures have increased to accommodate the PDC (Private Drain Connections) funding towards this project.
- 4) Development charges have been utilized in accordance with the underlying legislation and the Development Charges Background Studies completed in 2014.
- 5) Additional annual sewer, water and transportation operating costs attributed to new infrastructure installation are as follows; Sewer Operations - \$200, Water Operations - \$0 and Transportation Operations - \$9,180 - \$10,860.

JG

\_\_\_\_\_  
 Jason Davies  
 Manager of Financial Planning & Policy

APPENDIX 'B'



LOCATION MAP



**2019 Infrastructure Renewal Program  
Contract 10**

Egerton Street from Via Rail to Ormsby Street  
Brydges Street from Egerton Street to Douglas Street  
Pine Street from Egerton Street to Oak Street

Map Produced by  
the Wastewater &  
Drainage Engineering  
Division

January 29 2018 JB



**London  
CANADA**

300 Dufferin Avenue,  
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Appendix C

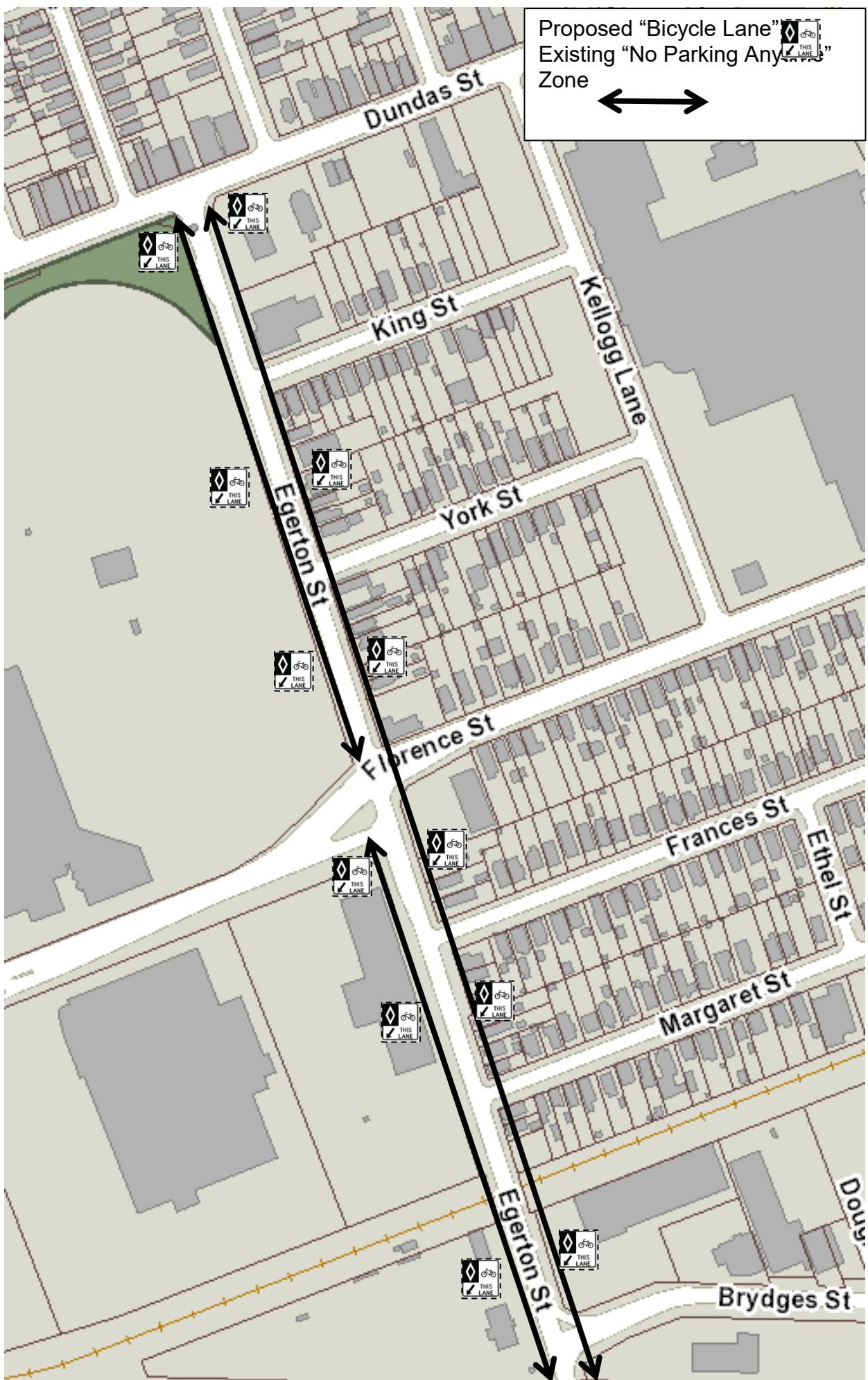


Figure 1: Egerton Street (2018 Phase 1)

Appendix C - continued

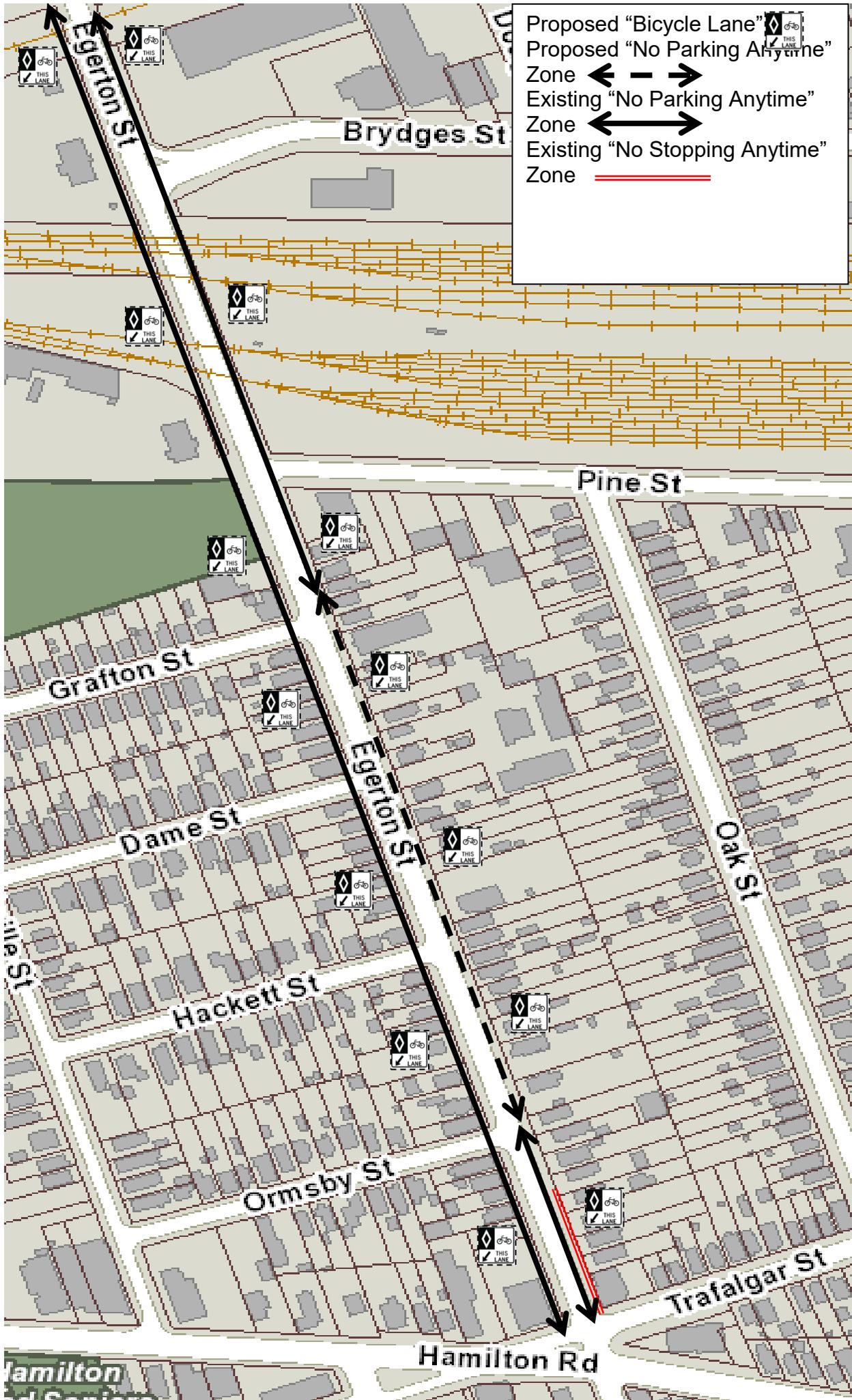


Figure 2: Egerton Street (2019 Phase 2)

## APPENDIX D

### 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

#### **No Parking**

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

Egerton Street	East	Dundas Street	A point 61 m south of Pine Street	Anytime
Egerton Street	East	Ormsby Street	Thames River	Anytime

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

Egerton Street	East	Dundas Street	Thames River	Anytime
----------------	------	---------------	--------------	---------

#### **Reserved Lanes**

Schedule 9.1 (Reserved Lanes) of the PS-113 By-law is hereby amended by **adding** the following rows:

Egerton Street	32 m south of Ormsby Street to Dundas Street	1 <sup>st</sup> lane from east	Anytime	Northbound	Bicycle
Egerton Street	Dundas Street to 32 m south of Ormsby Street	1 <sup>st</sup> lane from west	Anytime	Southbound	Bicycle

This by-law comes into force on October 31, 2019.

PASSED in Open Council on March 5, 2019

Ed Holder, Mayor

Catharine Saunders, City Clerk

First Reading – March 5, 2019

Second Reading – March 5, 2019

Third Reading – March 5, 2019

: Proposed Traffic and Parking By-Law Amendments

cc. City Solicitor's Office  
Parking Office

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON FEBRUARY 20, 2019</b>
<b>FROM:</b>	<b>KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>CONTRACT AWARD: TENDER NO. RFT 19-13 2019 INFRASTRUCTURE RENEWAL PROGRAM CAVENDISH CRESCENT AND MOUNT PLEASANT AVENUE PHASE 2 RECONSTRUCTION PROJECT</b>

<b>RECOMMENDATION</b>
-----------------------

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 Cavendish Phase 2 reconstruction project:

- (a) the bid submitted by Bre-Ex Construction Inc. at its tendered price of \$4,214,630.88, excluding HST, **BE ACCEPTED**; it being noted that the bid submitted by Bre-Ex Construction Inc. was the lowest of seven bids received and meets the City's specifications and requirements in all areas;
- (b) Spriet Associates **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 \$287,944.80, 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) That on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the attached proposed by-law (Appendix 'D') **BE INTRODUCED** at the Municipal Council meeting to be held on March 5, 2019, for the purpose of amending the Traffic and Parking By-law (PS-113).
- (d) the financing for this project **BE APPROVED** as set out in the Sources of Financing Report attached, hereto, as Appendix 'A';
- (e) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this project;
- (f) 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 RFT19-13); and
- (g) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

<b>PREVIOUS REPORTS PERTINENT TO THIS MATTER</b>
--

- Appointment of Consulting Engineers, Infrastructure Renewal Program 2017-2018, Civic Works Committee, June 8, 2016, Agenda Item # 4
- Appointment of Consulting Engineers, Infrastructure Renewal Program, Civic Works Committee, June 19, 2018, Agenda Item #2.8 b)

## 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 tender to a Bre-Ex Construction Inc., and continuation of consulting services by Spriet Associates for the reconstruction of:

- Cavendish Crescent from Wyatt Street to Riverside Drive; and
- Mount Pleasant Avenue from Riverside Drive to Charles Street.

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

### Context

Cavendish Crescent and Mount Pleasant Avenue have each 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 the 1920s to the 1950s. The watermain on this project is pre 1900s cast iron. This is the second phase of a three phase construction project.

## DISCUSSION

The Cavendish Crescent and Mount Pleasant Avenue (Cavendish Phase 2) infrastructure renewal project includes the following improvements:

- installation of trunk sanitary sewers including Private Drain Connections (PDCs) where requested;
- installation of trunk storm sewers including PDCs where requested;
- installation of watermain and individual water services to property line where applicable;
- full road reconstruction including new asphalt, curb and gutter, and sidewalk; and
- inclusion of underground works by Bell Canada.

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

- new sidewalk on the west side of Cavendish Crescent, south of Walnut Street; and
- addition of on-street parking on the west side of Cavendish Crescent, south of Walnut Street.

It is noted that this project will include a scheduled seven day road closure on Riverside Drive at Cavendish Crescent for the installation of trunk storm sewers and trunk sanitary sewers. This work is anticipated to occur in early summer.

The Traffic and Parking By-law (PS-113) requires amendments (Appendix ‘D’) to on street parking as part of the 2019 construction project. The following amendments are proposed:

- Cavendish Crescent will implement a '2 Hour limit 8:00 a.m. to 6:00 p.m. Monday to Friday' zone on the west side of Cavendish Crescent adjacent to Cavendish Park from 140 m south of Walnut Street to 20 m south of Walnut Street.

A review of the existing 'No Parking Anytime' signs and the Schedule 2 'No Parking' By-law revealed some omissions and typographical errors which requires correction so that the existing and planned parking signs and regulations match the by-law.

Infrastructure replacement needs have been coordinated within the Environmental and Engineering Services Department. The funding for this project comes from the approved 2019 Wastewater and Treatment, Water, and Transportation Capital Works Budgets.

### **Public Consultation**

A project update meeting was held on November 27, 2018 for all owners and residents within and immediately bordering the project area to address questions and concerns. This meeting was attend by a few property owners and school representatives. Residents inquired about the timing and duration of the Riverside Drive closure along with other project specifics concerning their property but were generally satisfied. Staff have been informed of a number of residents with special needs that will be accommodated throughout this construction contract.

### **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 Cavendish Crescent Phase 2 reconstruction project were opened on January 25, 2019. Seven (7) contractors submitted tender prices as listed below, excluding HST.

<b>CONTRACTOR</b>		<b>TENDER PRICE SUBMITTED</b>
1.	Bre-Ex Construction Incorporated	\$4,214,630.88
2.	CH Excavating (2013)	\$4,334,726.24
3.	L82 Construction Limited	\$4,459,875.69
4.	Omega Contractors Incorporated	\$4,715,448.59
5.	Birnam Excavating Ltd.	\$4,771,285.68
6.	Blue-Con Construction	\$5,414,955.19
7.	Sierra Infrastructure Inc	\$5,465,179.25

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

The tender estimate just prior to tender opening was \$5,178,841.00, excluding HST. All tenders include a contingency allowance of \$400,000.00.

Additional annual transportation operating costs of \$153.00 are identified for new sidewalk installation. There are no additional operating costs associated with Water Operations or Sewer Operations.

### **Consulting Services**

Spriet Associates was awarded the detailed design design fees by Council on June 14, 2016 and June 26, 2018. Due to the consultant's knowledge and positive performance on the project, Spriet Associates was invited to submit a proposal to carry out the contract administration and resident supervision. Spriet submitted a fee proposal of \$287,944.80 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 Spriet on this project for construction administration is of financial advantage to the City because Spriet 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 Spriet Associates be authorized to carry out the remainder of engineering services to complete this project for the provided fee estimate of \$287,944.80, excluding HST, noting the upset amount for total engineering services for the project is \$1,189,626.22, excluding HST. The total engineering services for this project include the design of the full length of the multiphase project, inspection fees for Phase 1 and inspection fees for Phase 2.

**CONCLUSIONS**

Award of the 2019 Infrastructure Renewal Program, Cavendish Crescent Phase 2 reconstruction project to Bre-Ex Construction Inc. will allow the project objectives to be met within the available budget and schedule.

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

Amendments are required to the Traffic and Parking By-law to allow parking along the east side of Cavendish Park.

**Acknowledgements**

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

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

Attach:      Appendix 'A' – Sources of Financing  
                  Appendix 'B' – Project Location Map  
                  Appendix 'C' – Parking Changes Map  
                  Appendix 'D' – Traffic and Parking By-law

c.c.    Aaron Rozentals Doug MacRae Bre-Ex Construction Inc. Jason Davies Parking Office	John Freeman Ugo DeCandido Spriet Associates Chris Ginty	Gary McDonald Bell Canada Alan Dunbar City Colicitor's Office
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APPENDIX 'A'

#19013

Chair and Members  
Civic Works Committee

February 20, 2019  
(Award Contract)

**RE: 2019 Infrastructure Renewal Program - RFT 19-13**  
**Cavendish Crescent and Mount Pleasant Avenue Phase 2 Reconstruction Project**  
**(Subledger WS19C008)**  
**Capital Project ES241419 - Sewer Infrastructure Lifecycle Renewal**  
**Capital Project EW376518 - Water Infrastructure Lifecycle Renewal**  
**Capital Project EW378718 - Main Replacement with Major Roadworks**  
**Bre-Ex Construction Inc. - \$4,214,630.88 (excluding H.S.T.)**  
**Spriet Associates - \$287,944.80 (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:

<b>SUMMARY OF ESTIMATED EXPENDITURES</b>	<b>Approved Budget</b>	<b>Revised Budget</b>	<b>Committed to Date</b>	<b>This Submission</b>	<b>Balance for Future Work</b>
<b>ES241419-Sewer Infra. Lifecycle Renewal</b>					
Engineering	\$2,500,000	\$2,500,000		\$263,712	\$2,236,288
Construction	10,858,000	10,858,000		3,855,912	7,002,088
Construction (Bell)	2)	113,060		113,060	0
City Related Expenses	20,000	20,000			20,000
	<u>13,378,000</u>	<u>13,491,060</u>	<u>0</u>	<u>4,232,684</u>	<u>9,258,376</u>
<b>EW376518-Water Infra. Lifecycle Renewal</b>					
Engineering	2,483,022	2,483,022	2,074,913	29,301	378,808
Construction	6,815,763	6,815,763	2,796,921		4,018,842
City Related Expenses	79,134	79,134			79,134
	<u>9,377,919</u>	<u>9,377,919</u>	<u>4,871,834</u>	<u>29,301</u>	<u>4,476,784</u>
<b>EW378718-Main Repl. with Major Roadworks</b>					
Engineering	432,144	432,144	432,144		0
Construction	3,817,856	3,817,856	2,009,044	317,846	1,490,966
Construction (London Hydro)	136,396	136,396	136,396		0
Construction (Rygar Apt. Development)	21,300	21,300	21,300		0
	<u>4,407,696</u>	<u>4,407,696</u>	<u>2,598,884</u>	<u>317,846</u>	<u>1,490,966</u>
<b>NET ESTIMATED EXPENDITURES</b>	<b><u>\$27,163,615</u></b>	<b><u>\$27,276,675</u></b>	<b><u>\$7,470,718</u></b>	<b><u>\$4,579,831</u></b> 1)	<b><u>\$15,226,126</u></b>

**SUMMARY OF FINANCING:**

<b>ES241419-Sewer Infra. Lifecycle Renewal</b>					
Capital Sewer Rates	\$8,978,000	\$8,978,000		\$4,119,624	\$4,858,376
Federal Gas Tax	4,400,000	4,400,000			4,400,000
Other Contributions (Bell)	2)	113,060		113,060	0
	<u>13,378,000</u>	<u>13,491,060</u>	<u>0</u>	<u>4,232,684</u>	<u>9,258,376</u>
<b>EW376518-Water Infra. Lifecycle Renewal</b>					
Capital Water Rates	6,502,100	6,502,100	4,871,834	29,301	1,600,965
Drawdown from Capital Water Reserve Fund	2,875,819	2,875,819			2,875,819
	<u>9,377,919</u>	<u>9,377,919</u>	<u>4,871,834</u>	<u>29,301</u>	<u>4,476,784</u>
<b>EW378718-Main Repl. with Major Roadworks</b>					
Capital Water Rates	3,110,000	3,110,000	2,441,188	317,846	350,966
Drawdown from Capital Water Reserve Fund	1,140,000	1,140,000			1,140,000
Other Contributions (London Hydro)	136,396	136,396	136,396		0
Other Contributions (Rygar Apt. Development)	21,300	21,300	21,300		0
	<u>4,407,696</u>	<u>4,407,696</u>	<u>2,598,884</u>	<u>317,846</u>	<u>1,490,966</u>
<b>TOTAL FINANCING</b>	<b><u>\$27,163,615</u></b>	<b><u>\$27,276,675</u></b>	<b><u>\$7,470,718</u></b>	<b><u>\$4,579,831</u></b>	<b><u>\$15,226,126</u></b>

1) **Financial Note: (CONSTRUCTION)**

	<b>ES241419</b>	<b>Bell ES241419</b>	<b>EW378718</b>	<b>Construction Total</b>
Contract Price	\$3,789,222	\$113,060	\$312,349	\$4,214,631
Add: HST @13%	492,599		40,605	533,204
Total Contract Price Including Taxes	4,281,821	113,060	352,954	4,747,835
Less: HST Rebate	425,909		35,108	461,017
Net Contract Price	<u>\$3,855,912</u>	<u>\$113,060</u>	<u>\$317,846</u>	<u>\$4,286,818</u>

**Financial Note: (ENGINEERING)**

	<b>ES241419</b>	<b>EW376518</b>	<b>Engineering Total</b>
Contract Price	\$259,150	\$28,795	\$287,945
Add: HST @13%	33,690	3,743	37,433
Total Contract Price Including Taxes	292,840	32,538	325,378
Less: HST Rebate	29,128	3,237	32,365
Net Contract Price	<u>\$263,712</u>	<u>\$29,301</u>	<u>\$293,013</u>

**TOTAL CONSTRUCTION & ENGINEERING**

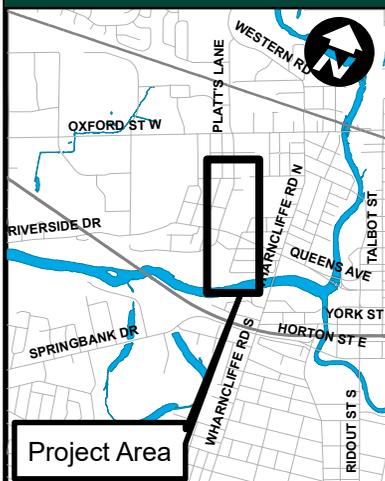
**\$4,579,831**

- 2) Bell has confirmed the approval of their contribution towards this project. The expenditures have increased to accommodate their contributions.
- 3) Additional annual transportation operating costs of \$153.00 are identified for new sidewalk installation. There are no additional operating costs associated with Water Operations or Sewer Operations

APPENDIX 'B'



LOCATION MAP



**2019 Infrastructure Renewal Program  
Contract 9**

Cavendish Crescent from Wyatt Street  
to Mount Pleasant Avenue  
Mount Pleasant Avenue from Cavendish Crescent  
to Charles Street

Map Produced by  
the Wastewater &  
Drainage Engineering  
Division

January 29 2018 JB



**London**  
CANADA

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**APPENDIX 'C' – PARKING CHANGES MAP**

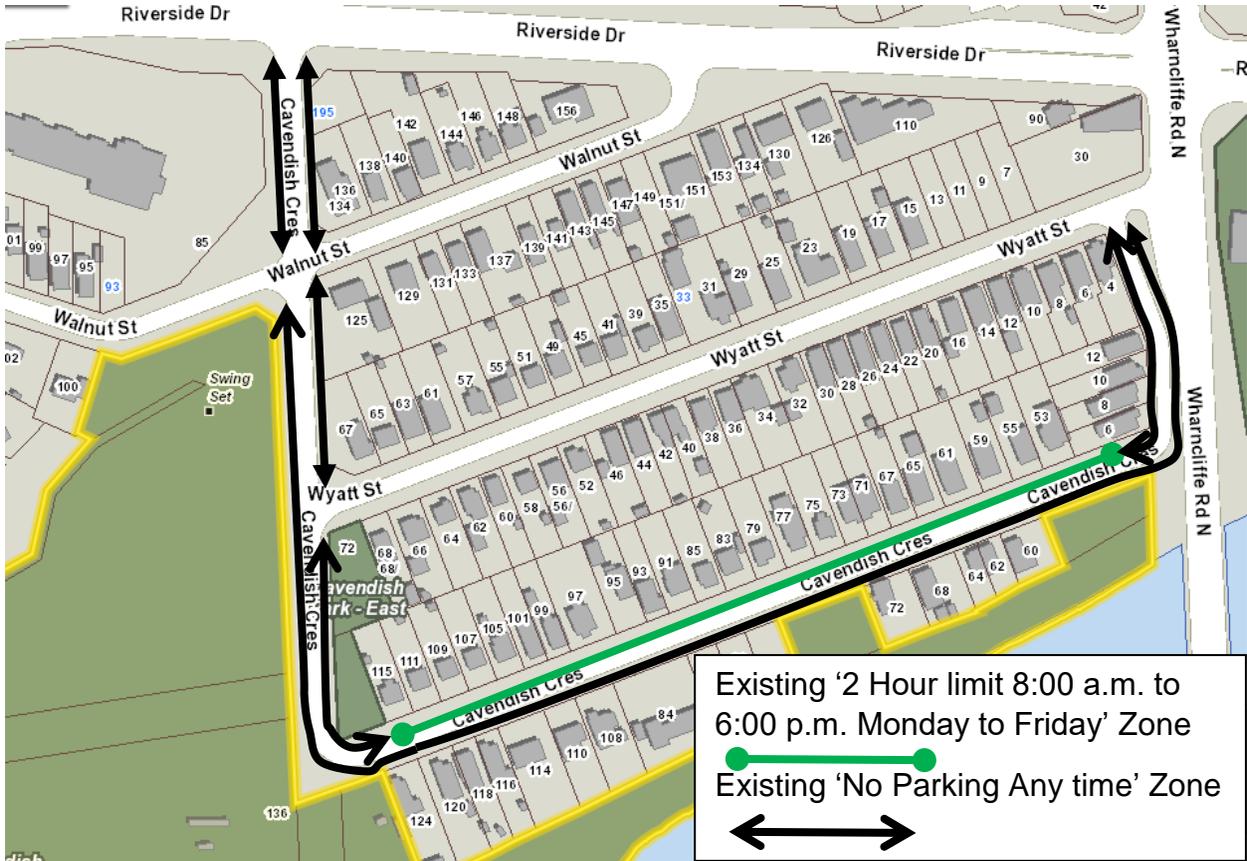


Figure 1: Cavendish Crescent Existing Parking Regulations

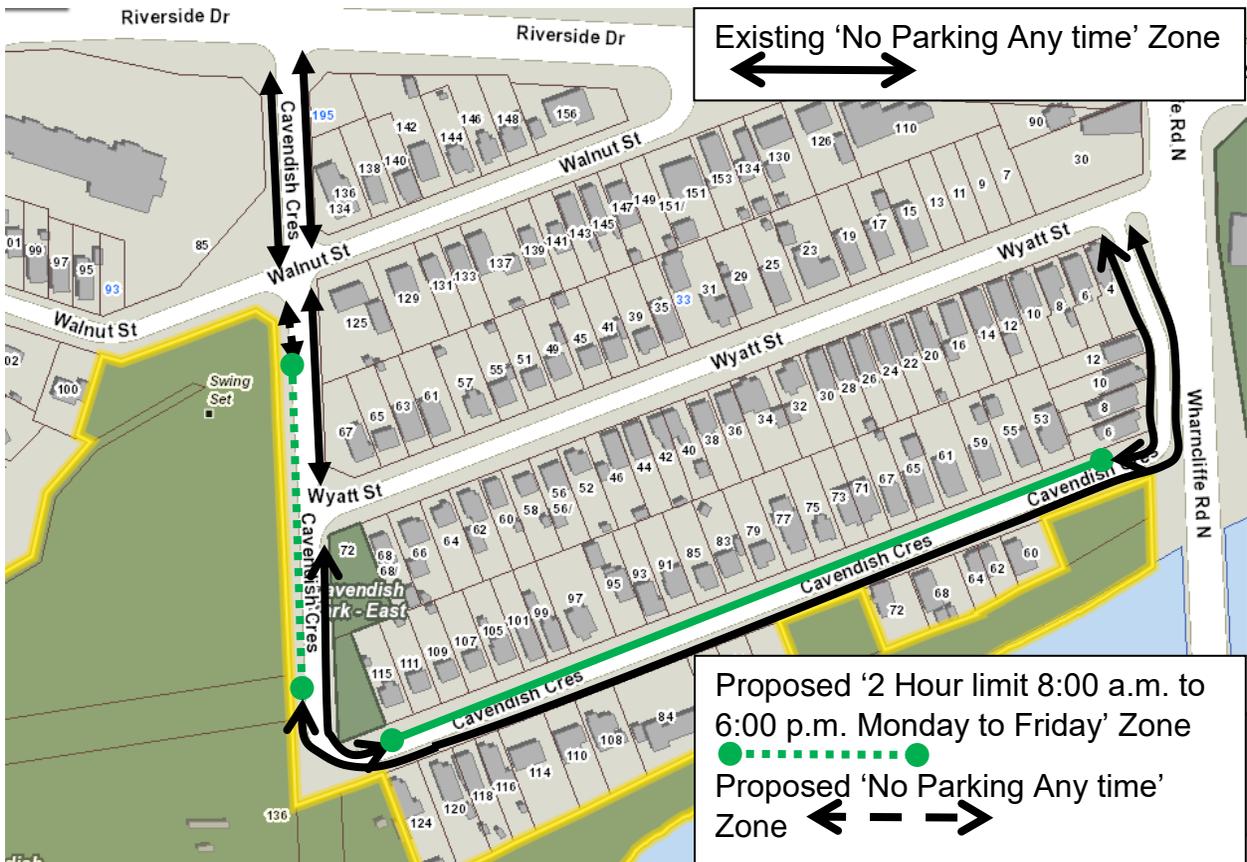


Figure 2: Cavendish Crescent Proposed Parking Regulations

Amendments are required to Schedule 2 (No Parking) and Schedule 6 (Limited Parking) to address the above changes.

**APPENDIX D**

**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

**No Parking**

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

Cavendish Crescent	East Wyatt	Street	A point 80 m south of said street	Anytime
Cavendish Crescent	East & South	Wyatt Street (east intersection)	210 m south of said street	Anytime

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

Cavendish Crescent (east intersection)	West	Wyatt Street	A point 80 m south of said street	Anytime
Cavendish Crescent	East, South & West	Wyatt Street (east intersection)	395 m south of said street	Anytime

**Limited Parking**

Schedule 6 (Limited Parking) of the PS-113 By-law is hereby amended by **adding** the following rows:

Cavendish Crescent	West	A point 140 m south of Walnut Street to a point 20 m south of Walnut Street	8:00 a.m. to 6:00 p.m.	2 Hour limit Except Saturdays
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This by-law comes into force and effect on the day it is passed.

PASSED in Open Council on March 5, 2019

Ed Holder, Mayor

Catharine Saunders, City Clerk

First Reading – March 5, 2019  
Second Reading – March 5, 2019  
Third Reading – March 5, 2019

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON FEBRUARY 20, 2019</b>
<b>FROM:</b>	<b>KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>SOLE SOURCE AWARD ACOUSTIC FIBER OPTIC MONITORING CONTRACT PROJECT No. EW3538</b>

<b>RECOMMENDATION</b>
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That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to the Acoustic Fiber Optic (AFO) Monitoring Contract:

- (a) The contract value for Pure Technologies Ltd., 3rd Floor, 705-11 Avenue SW, Calgary, Alberta, T2R 0E3, **BE APPROVED**, in accordance with section 14.3 (c) of the Corporation of the City of London's Procurement of Goods and Services Policy, in the amount of \$150,922.00 (excluding HST) for 2019 to continuously monitor 15.86 km of the City's most critical watermains;
- (b) The financing for this project **BE APPROVED** from current available budget 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 Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

<b>PREVIOUS REPORTS PERTINENT TO THIS MATTER</b>
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- Sole Source: Concrete Pressure Pipe Inspection – Fiber Optic Installation, April 14, 2010, Board of Control
- Sole Source Award: Acoustic Fiber Optic Monitoring Contract, February 21, 2017, Civic Works Committee
- Sole Source Award: Acoustic Fiber Optic Monitoring Contract, February 6, 2018, Civic Works Committee

<b>2015-2019 STRATEGIC PLAN</b>
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This report supports the Strategic Plan in the following areas:

- Building a Sustainable City: robust infrastructure; strong and healthy environment; responsible growth.
- Leading in Public Service: innovative and supportive organizational practices.

## BACKGROUND

### Purpose

This report recommends the approval of a one-year acoustic fiber optic (AFO) monitoring contract required to continuously monitor the condition of the City's most critical watermains from the Arva Pumping Station to the Springbank Reservoirs.

### Context

In 2010, the City began installing acoustic fiber optic cable, developed by Pure Technologies, inside its most critical large-diameter watermain which links the Arva Pumping Station to the Springbank Reservoirs. To date, approximately 16 km of acoustic fibre optic cable has been installed at an approximate capital cost of \$3M. This proprietary technology allows the City to monitor the condition of this watermain in order to defer capital costs related to replacement and to reduce the social and economic risks of a watermain break.

Pure Technologies provides real-time monitoring of the City's critical water infrastructure. When a problem is detected, Pure Technologies emails City staff with the relevant information on the location and severity of the issue. Should the detected problem constitute an emergency, Pure Technologies will directly call the City's water emergency number. This Pure Technologies monitoring data has allowed the City to proactively replace compromised water pipeline well before a catastrophic failure occurs, reducing both costs and impacts to the public.

## DISCUSSION

### Monitoring Results

In 2017, this monitoring system identified a number of wire breaks in the Arva-Huron pipeline which links the Arva Pumping Station to the Springbank Reservoirs. This information prompted a more invasive inspection of the critical section. The inspection confirmed the pipe was distressed and at risk of failure. Staff used this information to plan and schedule the pipe's replacement. This proactive planning also allowed staff to operationally plan for the pipe to be out of service during replacement. A sudden break in this large main would have cost significantly more to repair and would have caused more disruption compared to the preventative replacement that was completed. The preventative replacement was a proactive step made possible by the AFO monitoring system.

### 2019 Monitoring Program Extension

Pure Technologies has proposed a contract to continue to provide monitoring services in accordance with the following fee schedule:

Period	Length (m)	Base (\$)	Unit Rate (\$/m/year)	Warranty (\$)	Total Fee (\$)
2019	15,858	10,000	7.31	25,000	150,922

The warranty component of the contract covers all materials associated with the AFO monitoring system. In 2015, a component of the system was replaced under the warranty. Had the warranty not been in place, the cost to replace this component alone would have been \$75,000. Further, should the City decide to install more AFO in the water distribution system before the proposed contract expires, the same unit rate for the additional AFO would apply and the contract would be amended.

## Contract Procurement

Section 14.3 (c) of the Procurement of Goods and Services Policy allows a procurement to be conducted using a sole source if the service is unique to one supplier with no alternative or substitution. As the AFO monitoring system owned by the City is proprietary in nature, Pure Technologies is the only firm that is able to provide the required monitoring services.

<b>CONCLUSIONS</b>
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It is proposed that Pure Technologies be retained, in accordance with Section 14.3 (c) (Sole Source) of the Procurement of Goods and Services Policy, to continue to provide AFO monitoring services of the City's most critical watermain. The proprietary equipment required to undertake this task is already in place in the water distribution system, and it is Pure Technologies' unique proprietary system that is needed to provide the City with this monitoring service.

### Acknowledgements

This report was prepared by Michelle Morris, E.I.T., of the Water Engineering Division.

<b>PREPARED BY:</b>	<b>REVIEWED &amp; CONCURRED BY:</b>
<b>AARON ROZENTALS, P. ENG. DIVISION MANAGER, WATER ENGINEERING</b>	<b>SCOTT MATHERS, P. ENG. MPA DIRECTOR, WATER AND WASTEWATER</b>
<b>RECOMMENDED BY:</b>	
<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER</b>	

February 7, 2019

Attach: Appendix 'A' – Sources of Financing

CC. John Freeman – City of London  
Gary McDonald – City of London  
Michelle Morris, E.I.T. – City of London

**APPENDIX 'A'**

**#19012**

Chair and Members  
Civic Works Committee

February 20, 2019  
(Award Contract)

**RE: Sole Source Award - Acoustic Fiber Optic Monitoring Contract  
(Subledger NT19EW05)  
Capital Project EW3538 - CPP AFO Monitoring Program  
Pure Technologies Ltd. - \$150,922.00 (excluding H.S.T.)**

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**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:

<b><u>ESTIMATED EXPENDITURES</u></b>	<b><u>Approved Budget</u></b>	<b><u>Committed To Date</u></b>	<b><u>This Submission</u></b>	<b><u>Balance for Future Work</u></b>
Engineering	\$641,414	\$381,236	\$153,578	\$106,600
City Related Expenses	658,586	612,164		46,422
<b>NET ESTIMATED EXPENDITURES</b>	<b><u>\$1,300,000</u></b>	<b><u>\$993,400</u></b>	<b><u>\$153,578</u></b> 1)	<b><u>\$153,022</u></b>
<b><u>SOURCE OF FINANCING:</u></b>				
Capital Water Rates	\$1,300,000	\$993,400	\$153,578	\$153,022
<b>TOTAL FINANCING</b>	<b><u>\$1,300,000</u></b>	<b><u>\$993,400</u></b>	<b><u>\$153,578</u></b>	<b><u>\$153,022</u></b>

**Financial Note:**

1) Contract Price	\$150,922
Add: HST @13%	19,620
Total Contract Price Including Taxes	<u>170,542</u>
Less: HST Rebate	16,964
Net Contract Price	<b><u>\$153,578</u></b>

JG

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Jason Davies  
Manager of Financial Planning & Policy

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON FEBRUARY 20, 2019</b>
<b>FROM:</b>	<b>KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>AMENDMENTS TO THE TRAFFIC AND PARKING BY-LAW</b>

<b>RECOMMENDATION</b>
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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 March 5, 2019, for the purpose of amending the Traffic and Parking By-law (PS-113).

<b>2015-19 STRATEGIC PLAN</b>
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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.

<b>BACKGROUND</b>
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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**

Charlotte Street

A review of the Schedule 1 'No Stopping Anytime' revealed that the west side of Charlotte Street from Dundas Street to Lorne Avenue is mistakenly listed as 'No Stopping' and should be removed. The east side is designated as 'No Parking Anytime' from Dundas Street to Princess Avenue. Charlotte Street is 7.3 m wide and would allow for on-street parking on the west side except for during the annual 'No Parking Anytime' restrictions associated with the Western Fair.

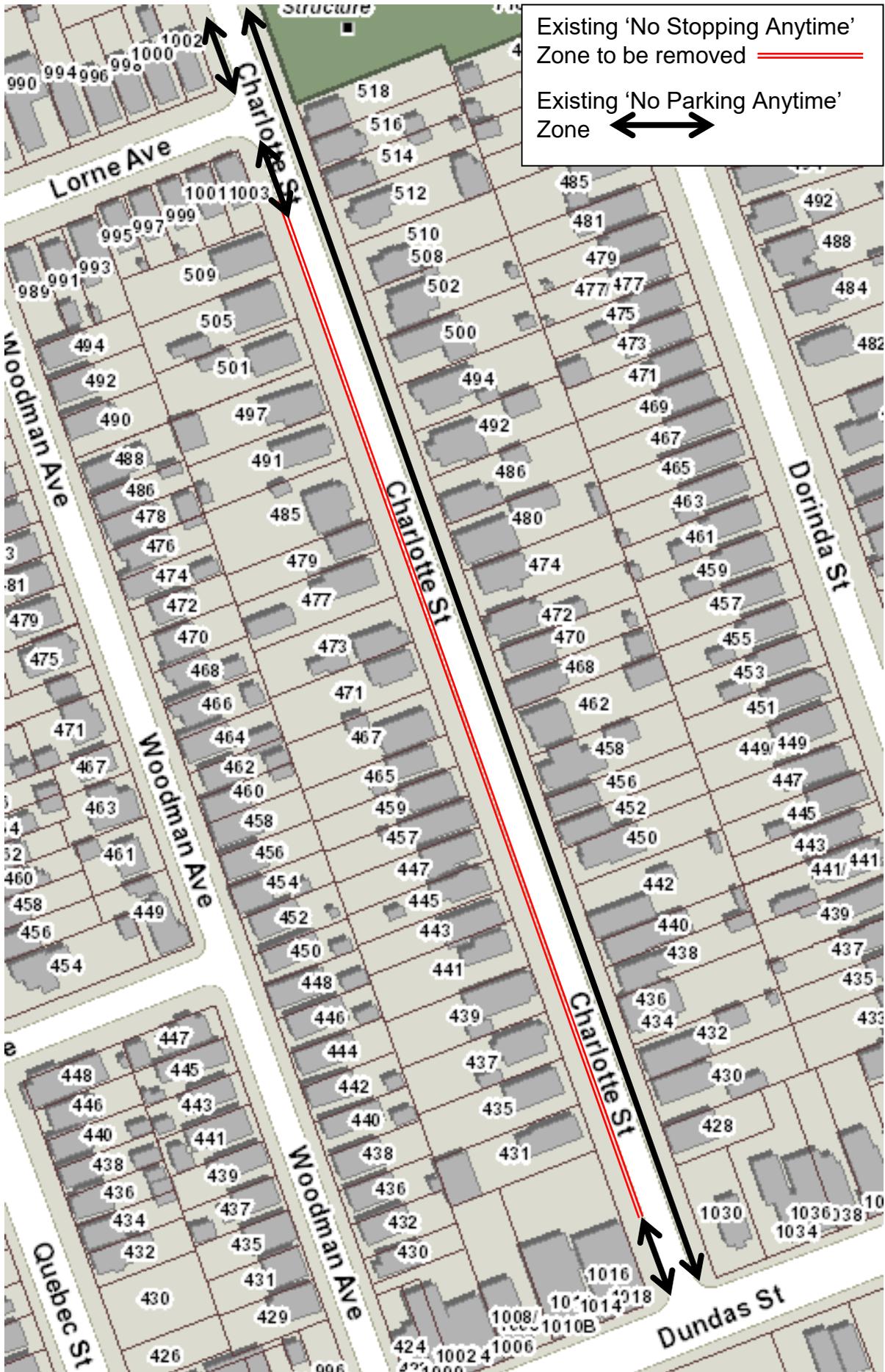


Figure 1: Charlotte Street

Duchess Avenue

At the request of a caregiver, St. Mary's Catholic School and Southwestern Ontario Student Transportation Services (Transportation Services), a review was conducted of the existing 'No Stopping', 'No Parking', 'School Bus Loading' zones and available on-street parking zones to determine if they were appropriate for the needs of those dropping off and picking up students, school buses and area property owners.

Transportation Services has reduced the number of buses serving St. Mary's from five to three, which allows for smaller 'No Stopping' and 'School Bus Loading' zones. Other changes were identified to better address the needs of all users. Figure 2a below shows the existing parking regulations and Figure 2b shows the proposed parking regulations. These changes will provide for an additional 47 m of unrestricted parking.

These changes will allow for more available on-street parking for the drop-off and pick-up students, as well as allowing for more parking opportunities for those attending the school and church for various functions and for area property owners and their guests.



Figure 2a: Duchess Avenue Existing Regulations

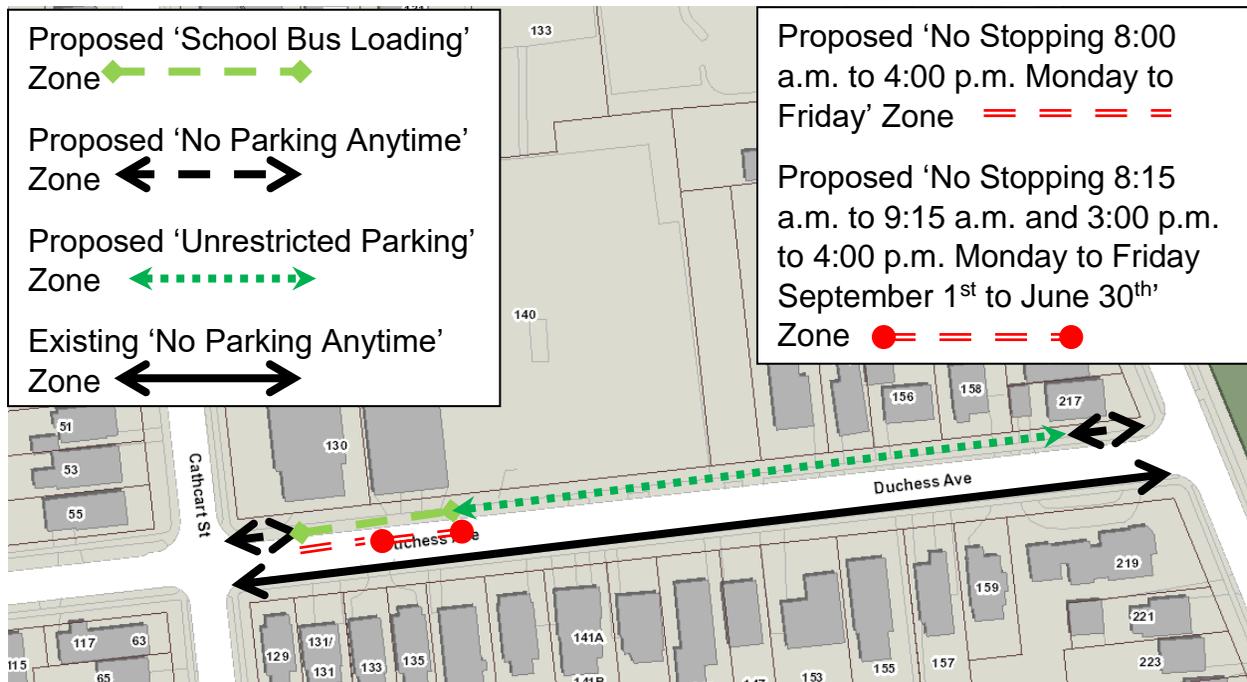


Figure 2b: Duchess Avenue Proposed Regulations

Amendments are required to Schedule 1 (No Stopping), Schedule 2 (No Parking), Schedule 6 (Limited Parking) and Schedule 16 (School Bus Loading Zones) to address the above changes.

## 2. **No Parking**

Staff was requested to review the current parking restrictions within the vicinity of Canada Post Community Mail Boxes (CMB) due to concerns that residents have difficulty retrieving their mail when vehicles are parked in front of the CMB.

The Traffic and Parking By-law currently does not restrict parking within the vicinity of a CMB. It is recommended to implement parking restrictions within 1.0 meter of a CMB when signage is present and if the CMB is facing the street and has no sidewalk access as shown in Figure 3.



Figure 3: No Parking Anytime within 1m of street facing Canada Post Mailboxes

An amendment to PS-113 Traffic and Parking By-law Section 10 (No Parking In Posted Locations) is needed to address the above change.

#### Frobisher Crescent

At the request of local residents, a mail-back survey was sent to the property owners on Frobisher Crescent where the majority of the respondents supported implementing 'No Parking 8:00 a.m. to 4:00 p.m. Monday to Friday' zones on both sides of Frobisher Crescent to 190 m north of Hudson Drive.

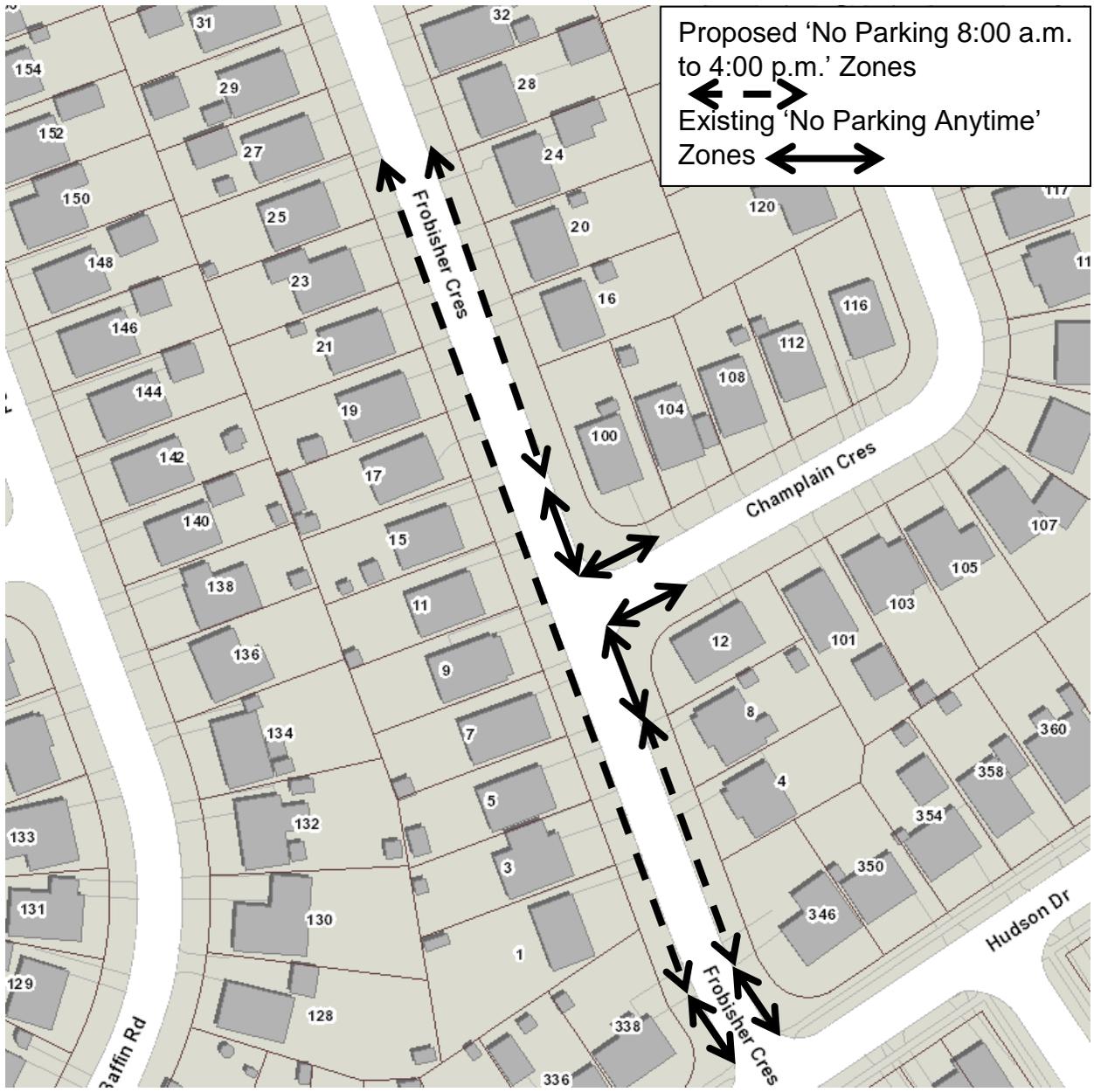


Figure 4: Frobisher Crescent

## Shore Road

At the request of an area resident and the St. Nicholas Catholic School Principal, staff reviewed the on-street parking regulations for Shore Road fronting St. Nicholas Catholic School. The south side of Shore Road is currently No Stopping Anytime from Riverbend Road to a point 205 m west. The north side is currently unrestricted parking, which is required for the drop-off and pick up of students and for school functions. School buses use the U-driveway fronting the school and the school is considering permitting student drop-off and pick-up in the parking area to the east of the building. To improve ingress and egress for the school buses and caregivers' vehicles, a 'No Parking Anytime' zone extending 10m both east and west of the west end of the U-driveway is recommended. A 'No Parking Anytime' zone is also recommended from 10 m west of the U-drive is recommended east entrance to the west side of the parking lot access and for 10 m east of that access.

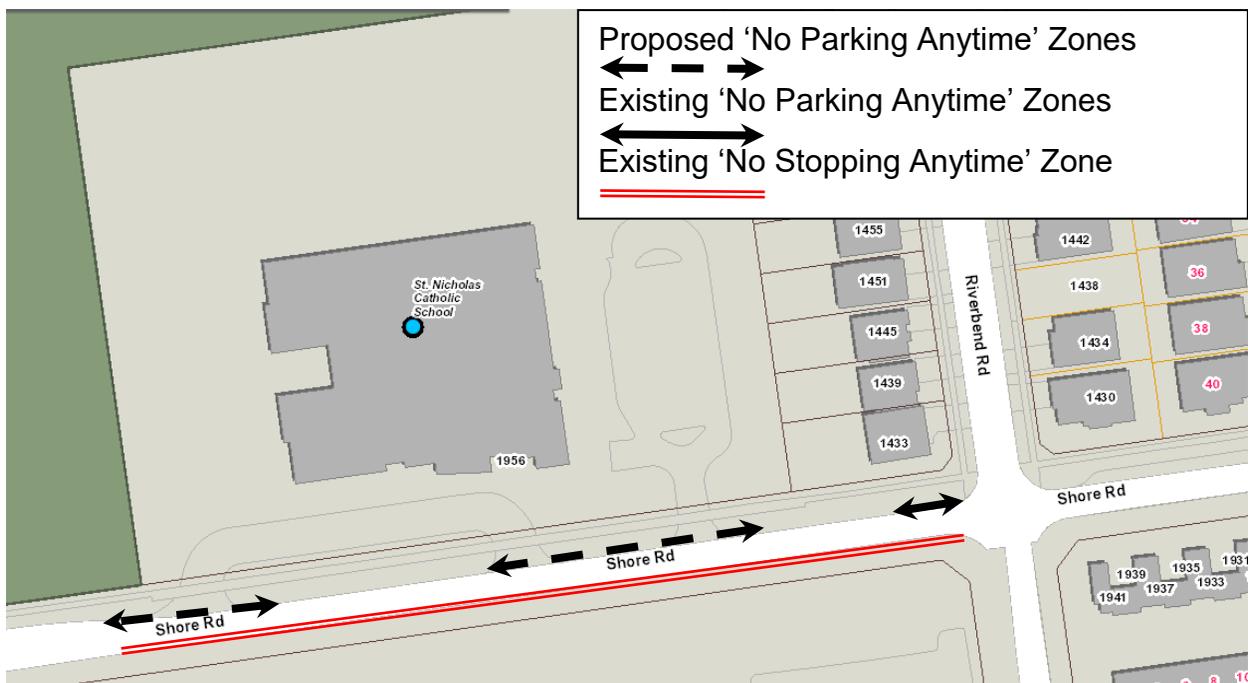


Figure 5: Shore Road

Amendments are required to Schedule 2 (No Parking) address the above changes.

### 3. Regulatory Signs

#### Blackfriars Bridge

The construction of Blackfriars Bridge, Blackfriars Street and Ridout Street North requires amendments to a number of PS-113 Traffic By-law Schedules, including Schedule 8 (Prohibited Turns), Schedule 9.1 (Reserved Lanes), Schedule 10 (Stop Signs), Schedule 12 (One Way Streets) and Schedule 13.1 (Pedestrian Crossovers) to reflect the changes implemented to support safe operations for motorists, cyclists and pedestrians.

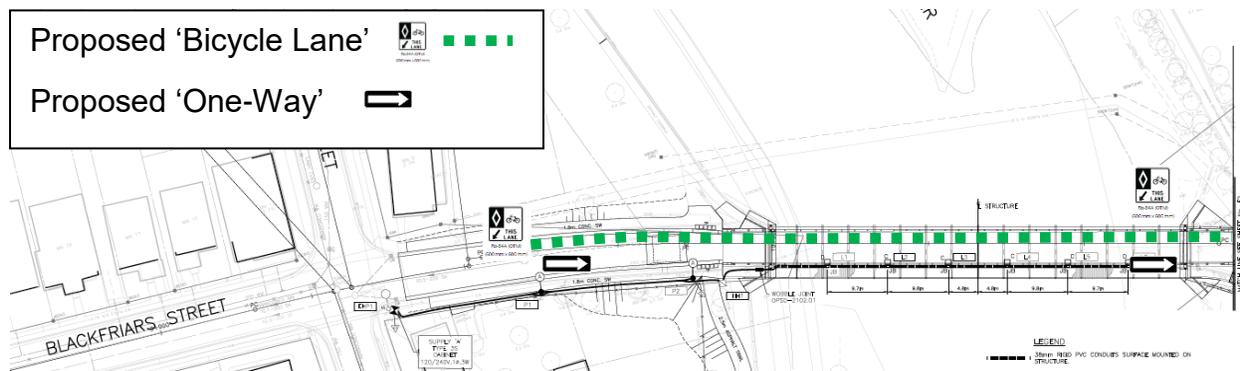


Figure 7: Blackfriars Street and Blackfriars Bridge

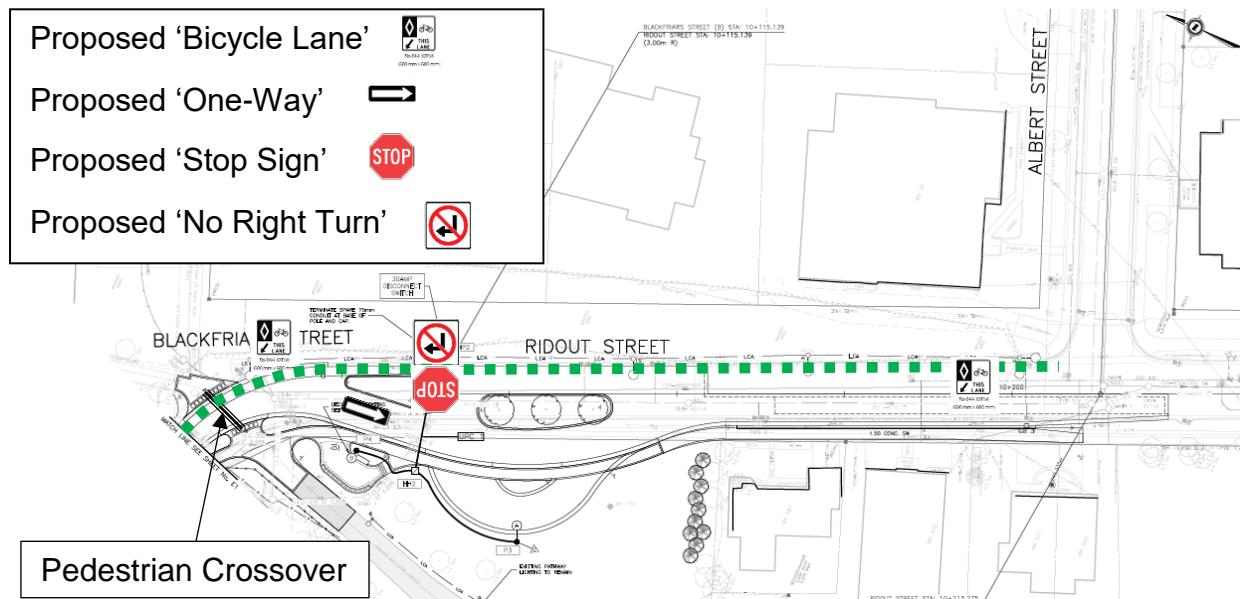


Figure 6: Ridout Street North and Blackfriars Bridge

#### 4. Prohibited Turns

##### Sarnia Road

It is recommended that 'No U-Turn' be implemented for both the eastbound and westbound directions of Sarnia Road at Middlewoods Drive to address safety concerns.



Figure 7: Sarnia Road

Amendments are required to Schedule 8 (Prohibited Turns) to address the above change.

5. **Regulatory Signs**

King Edward Avenue and Scenic Drive

In order to address pedestrian and vehicle safety concerns, it is recommended that an 'All-way Stop' be implemented at the intersection of King Edward Avenue and Scenic Drive.

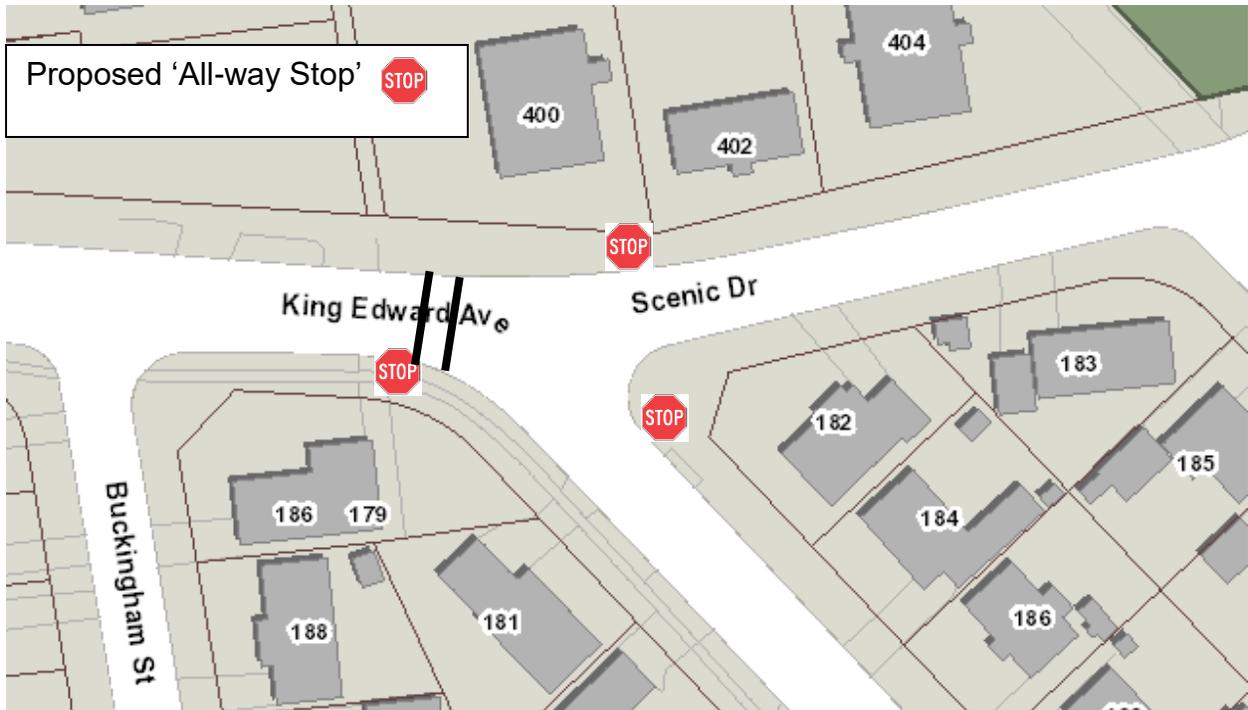


Figure 8 King Edward Avenue and Scenic Drive

Amendments are required to Schedule 10 (Stop Sign Locations) to address the above change.

## 6. Yield Sign to Stop Sign

Due to safety concerns, it is recommended to replace the existing Yield Signs with Stop Signs at the following locations:

- Hillsborough Road at St. Lawrence Boulevard;
- Penrith Crescent at Grasmere Crescent ;
- Robin's Hill Road at Crumlin Sideroad;
- Smallman Drive at Carnforth Road; and
- Thirlmere Road at Carnforth Road.

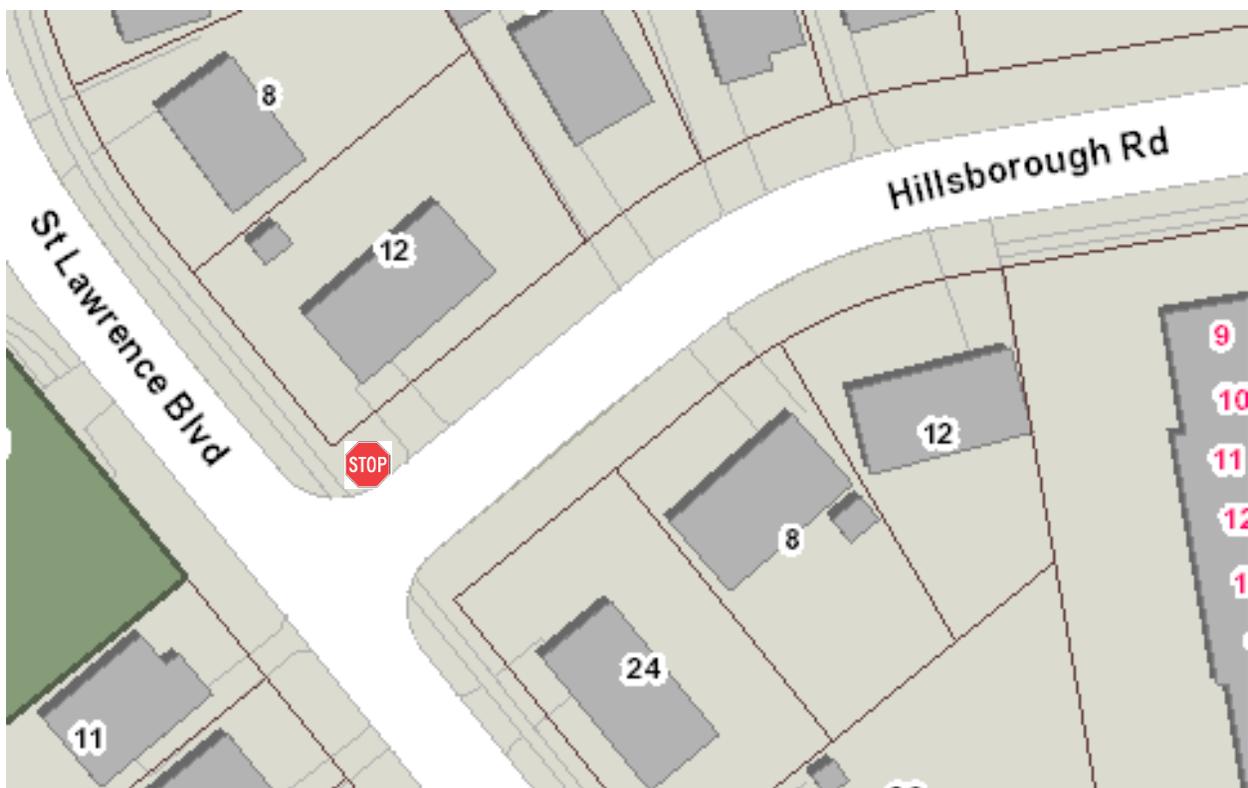


Figure 9: Hillsborough Road at St. Lawrence Boulevard

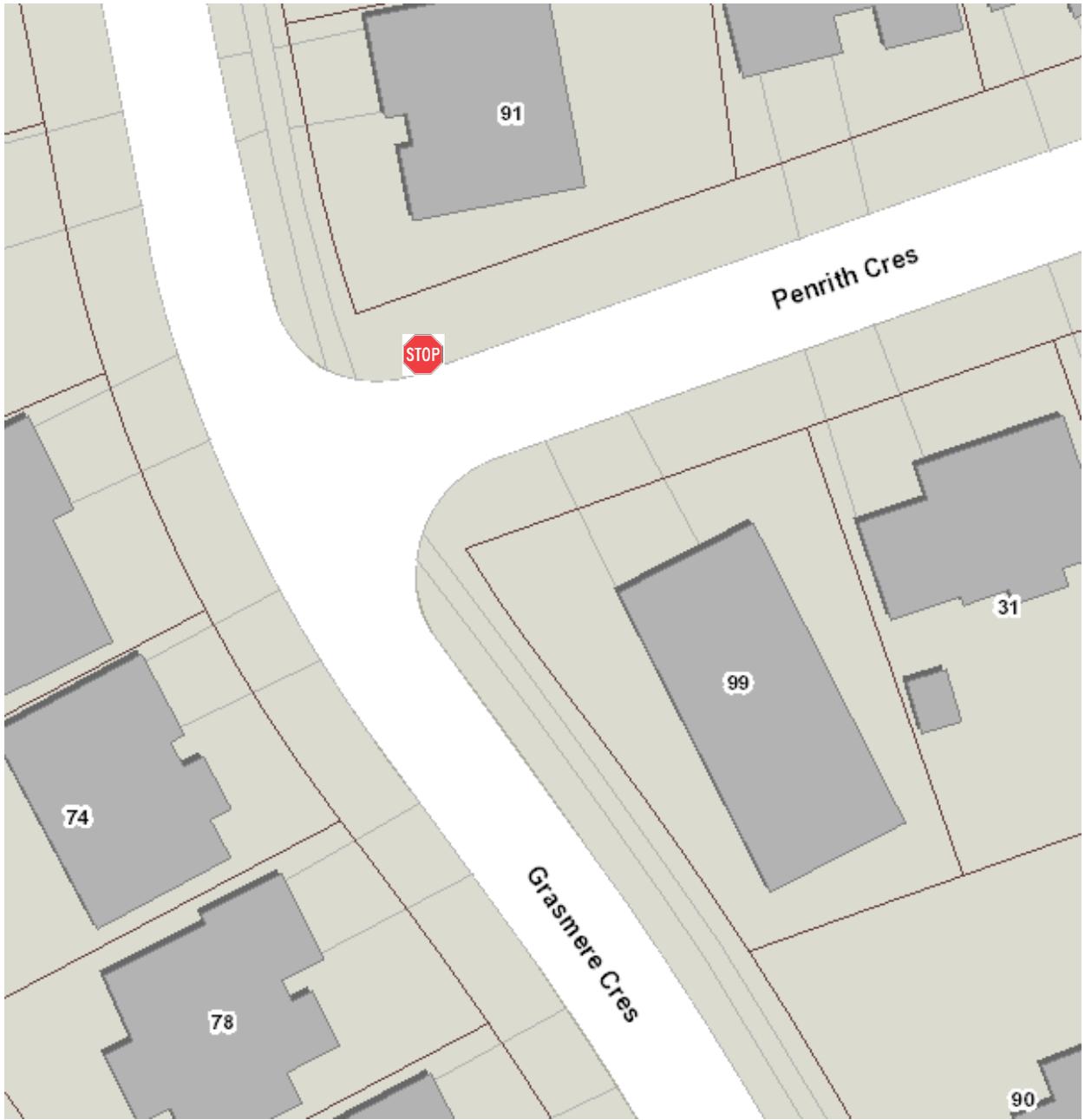


Figure 10: Penrith Crescent at Grasmere Crescent

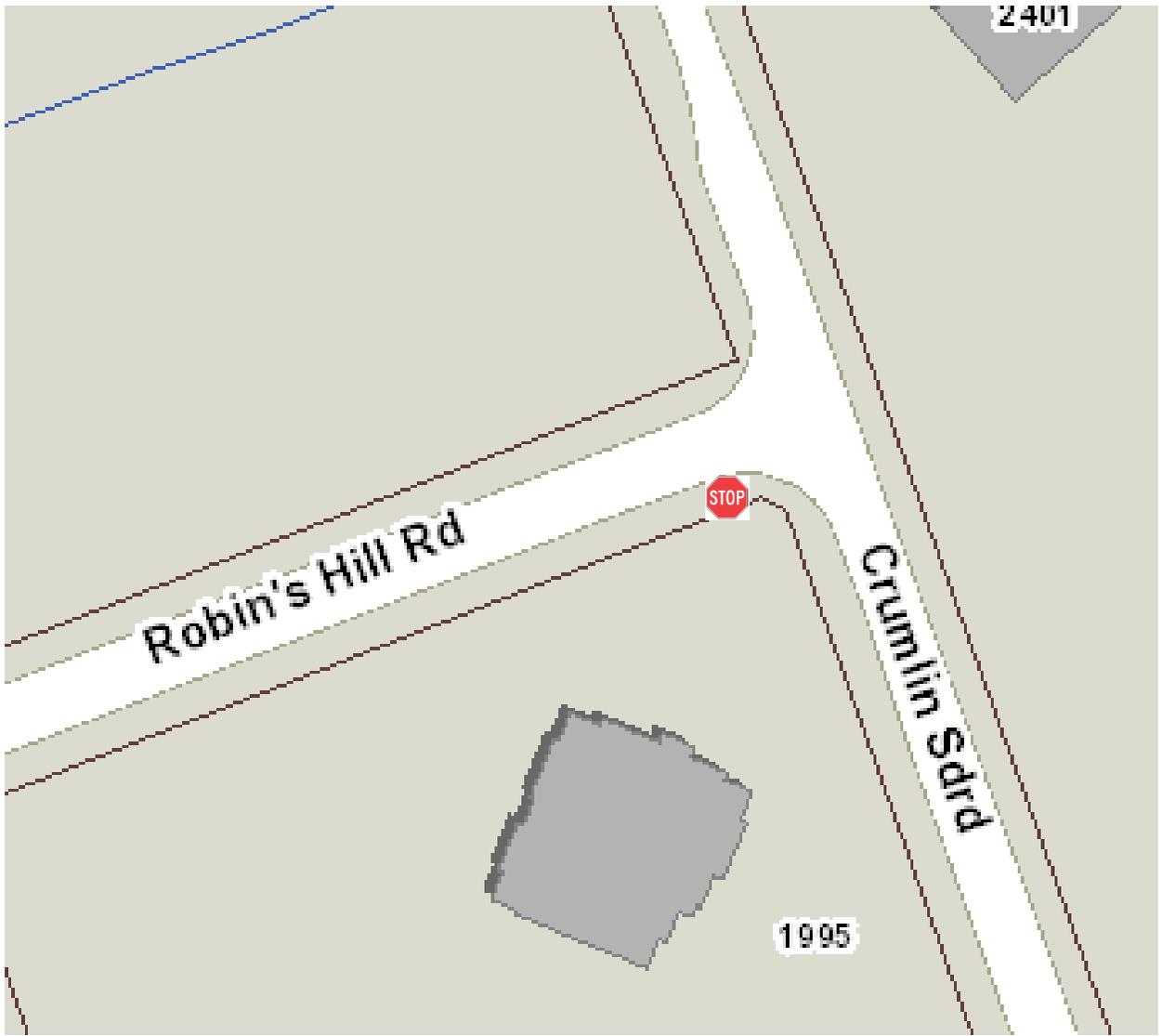


Figure 11: Robin's Hill Road at Crumlin Sideroad

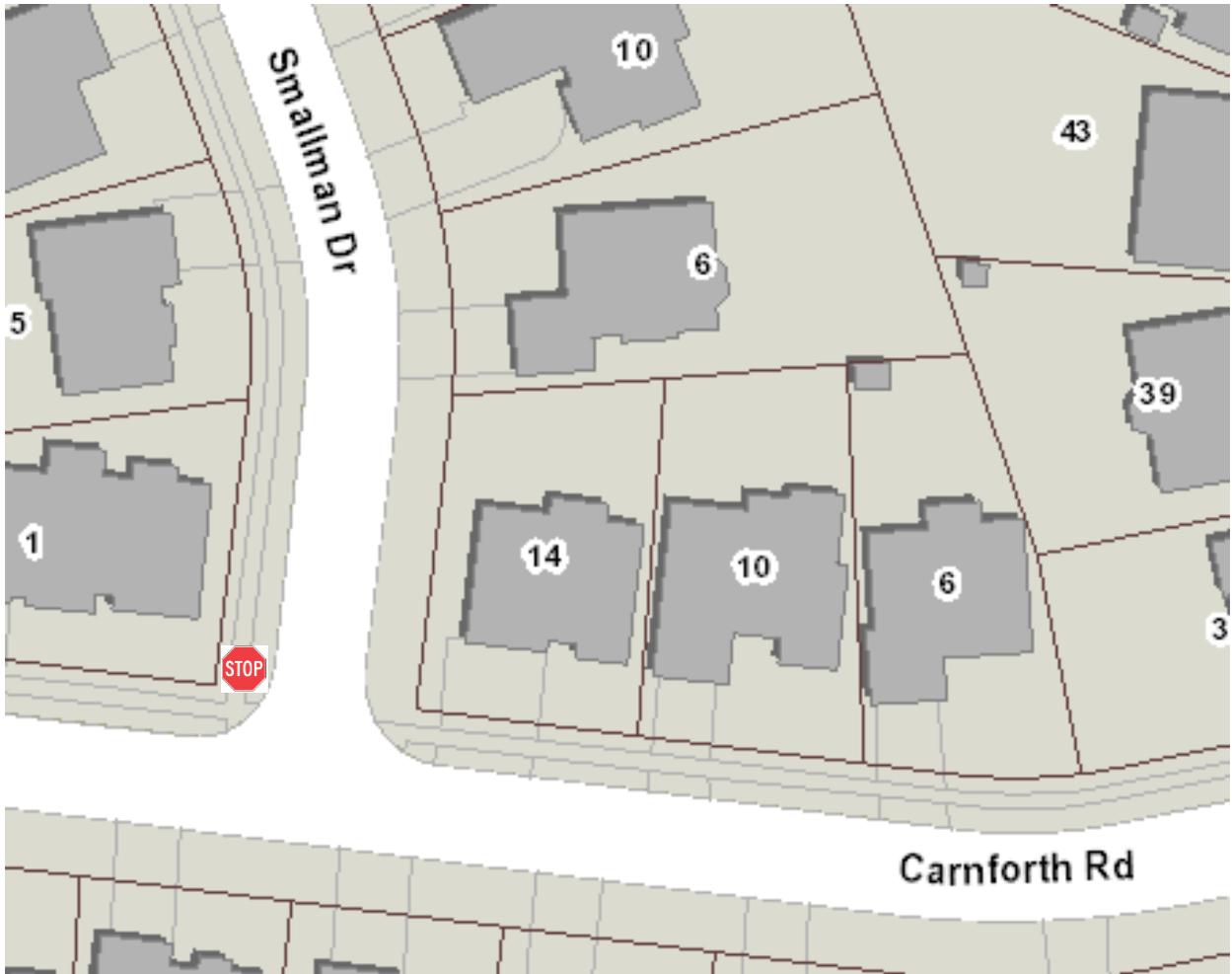


Figure 12: Smallman Drive at Carnforth Road

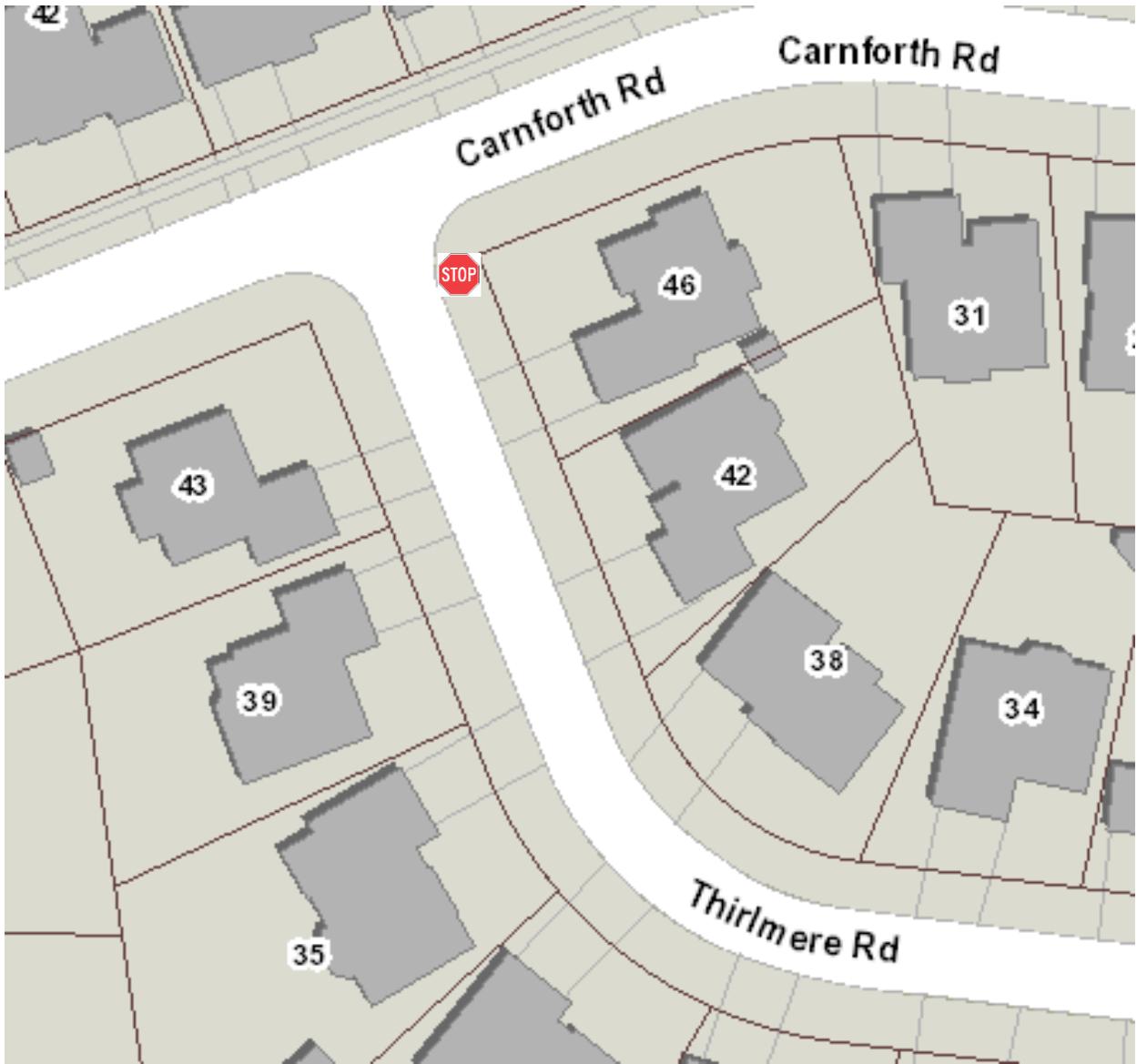


Figure 13: Thirlmere Road at Carnforth Road

Amendments are required to Schedule 10 (Stop Sign Locations) and to Schedule 11 (Yield Signs) to address the above changes.

## 7. Heavy Truck Routes

Due to safety and maintenance concerns, removal of the '24 Hour Heavy Truck Route' on Evelyn Drive from Rebecca Road to the east City Limit and on Rebecca Road from Evelyn Drive to Robin's Hill Road is recommended. Heavy trucks will still have 24 hour access on Robin's Hill Road from the east City Limit to Huron Street and on Rebecca Road from Robin's Hill Road to the north City Limit.

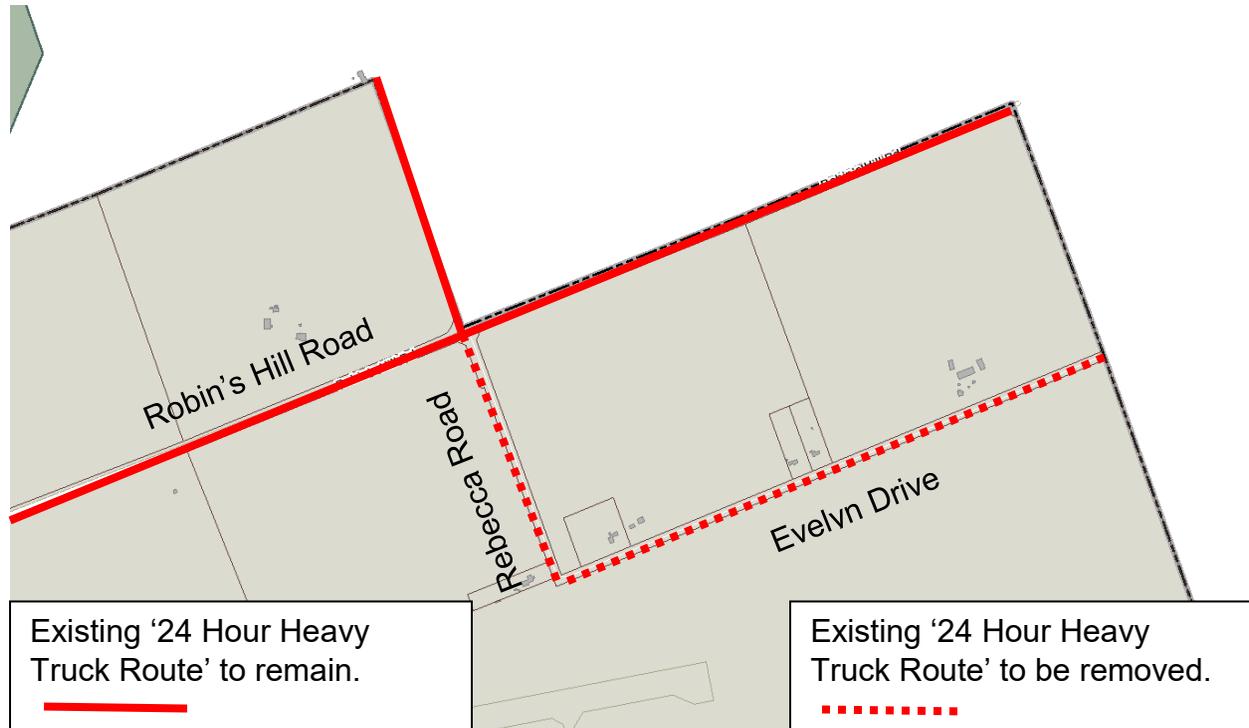


Figure 14: 24 Hour Heavy Truck Route

An amendment is required to Schedule 14 (Heavy Truck Restrictions) to address the above changes.

## 8. School Zone Speed Limit

It recommended that the speed limit be reduced to 40 km/h at the following locations as per the School Zone Speed Limit Policy approved by Council:

### Al-Taqwa Academy Private School

Dumont Street	Merlin Crescent to Avondale Road
Edmonton Street	Wavell Street to Hilton Avenue
Merlin Crescent	Wavell Street to Dumont Street

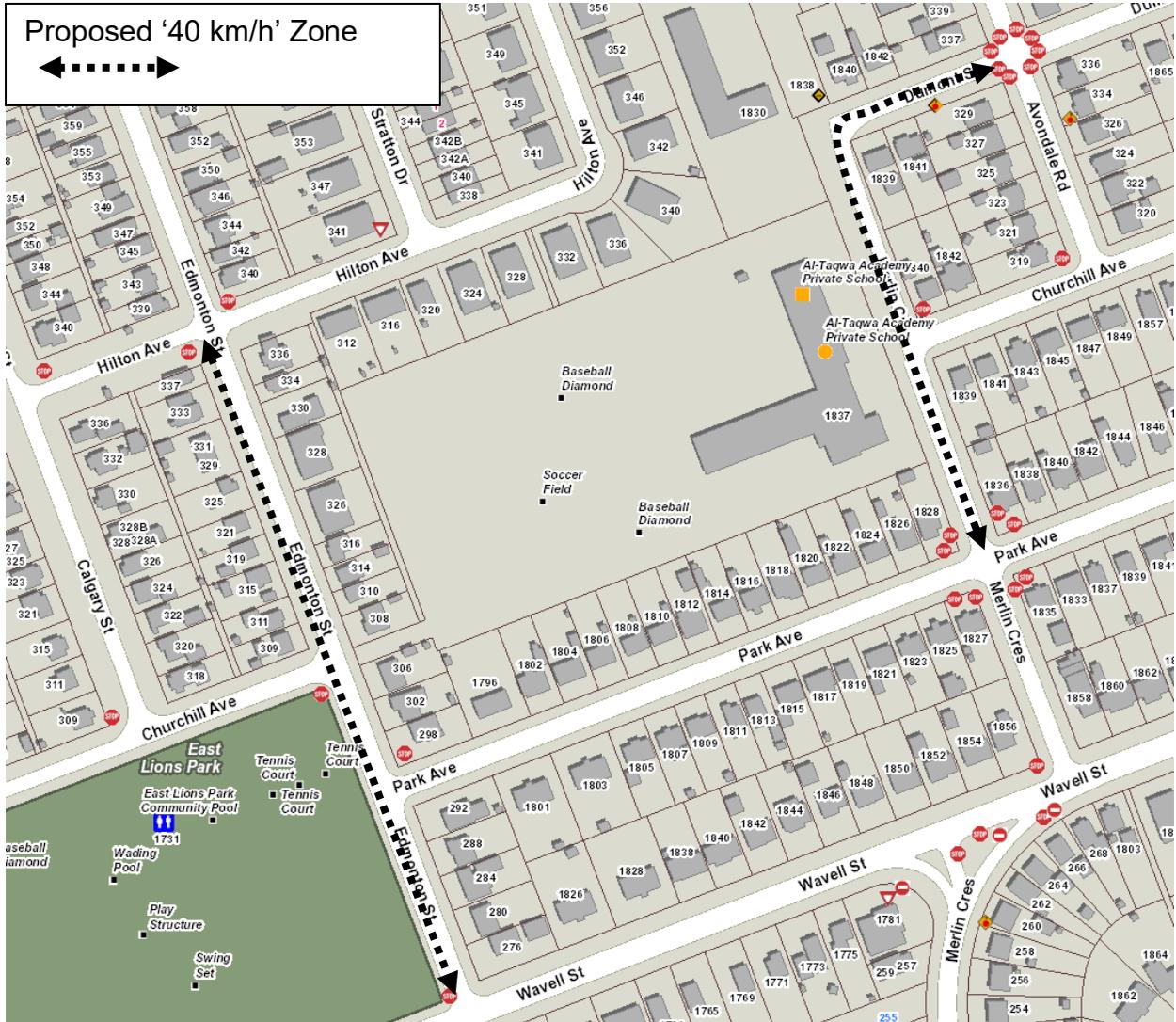
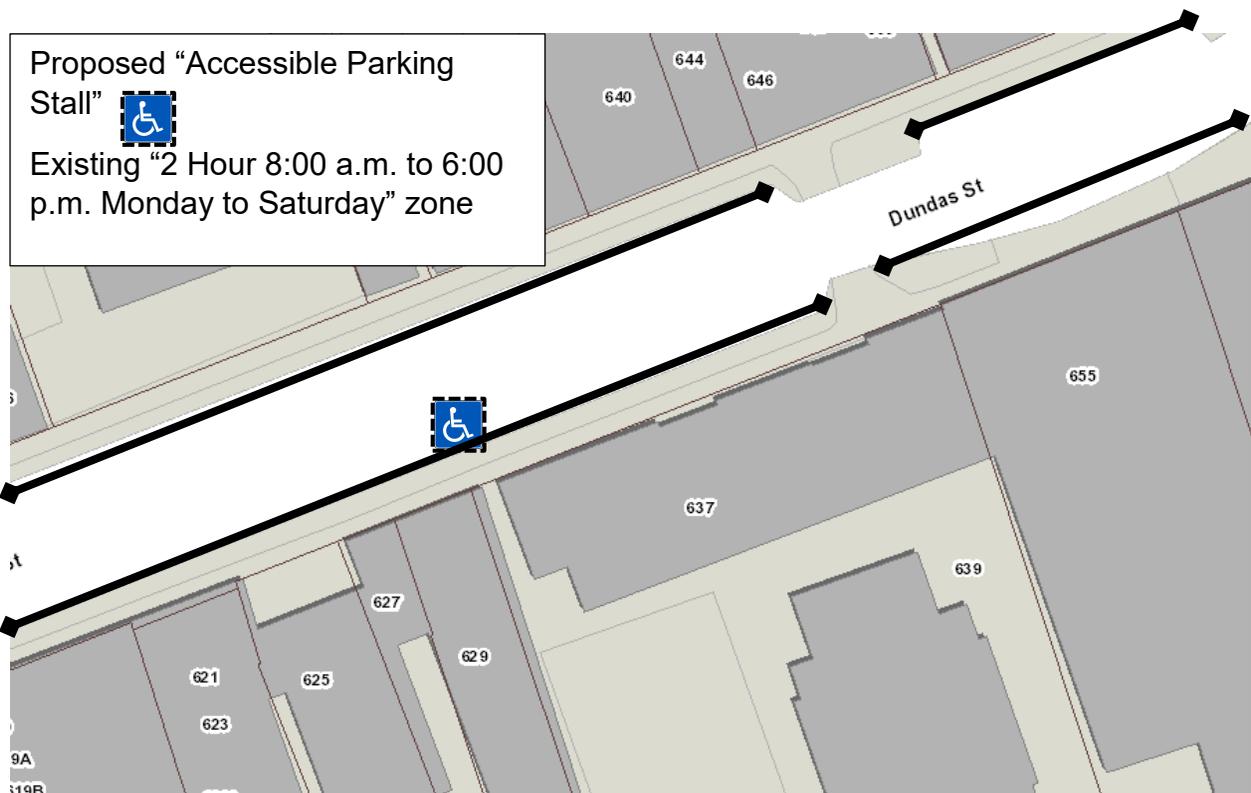


Figure 16: Al-Taqwa Academy Private School

Amendments are required to Schedule 17.1 (Lower Speed Limits) to address the above changes.

### 9. Designated Parking Space

Staff received a request to review the on-street parking on the south side of Dundas Street between Adelaide Street North and Lyle Street to accommodate the need for accessible parking. It is recommended to implement a designated parking space for disabled persons on the south side of Dundas Street from 74 m east of Adelaide Street North to 82m east of Adelaide Street North.



Proposed “Accessible Parking Stall”   
Existing “2 Hour 8:00 a.m. to 6:00 p.m. Monday to Saturday” zone

Figure 17: Dundas Street between Adelaide Street North and Lyle Street

An amendment is required to Schedule 27 (Designated Spaces – Disabled Persons) to address the above change.

**10. Metered Municipal and Public Parking Lots**

The private parking lot at 175-193 Mill Street, 52-64 St. George Street and 174-192 John Street has been added to the list of parking lots managed by the City for the property owner.

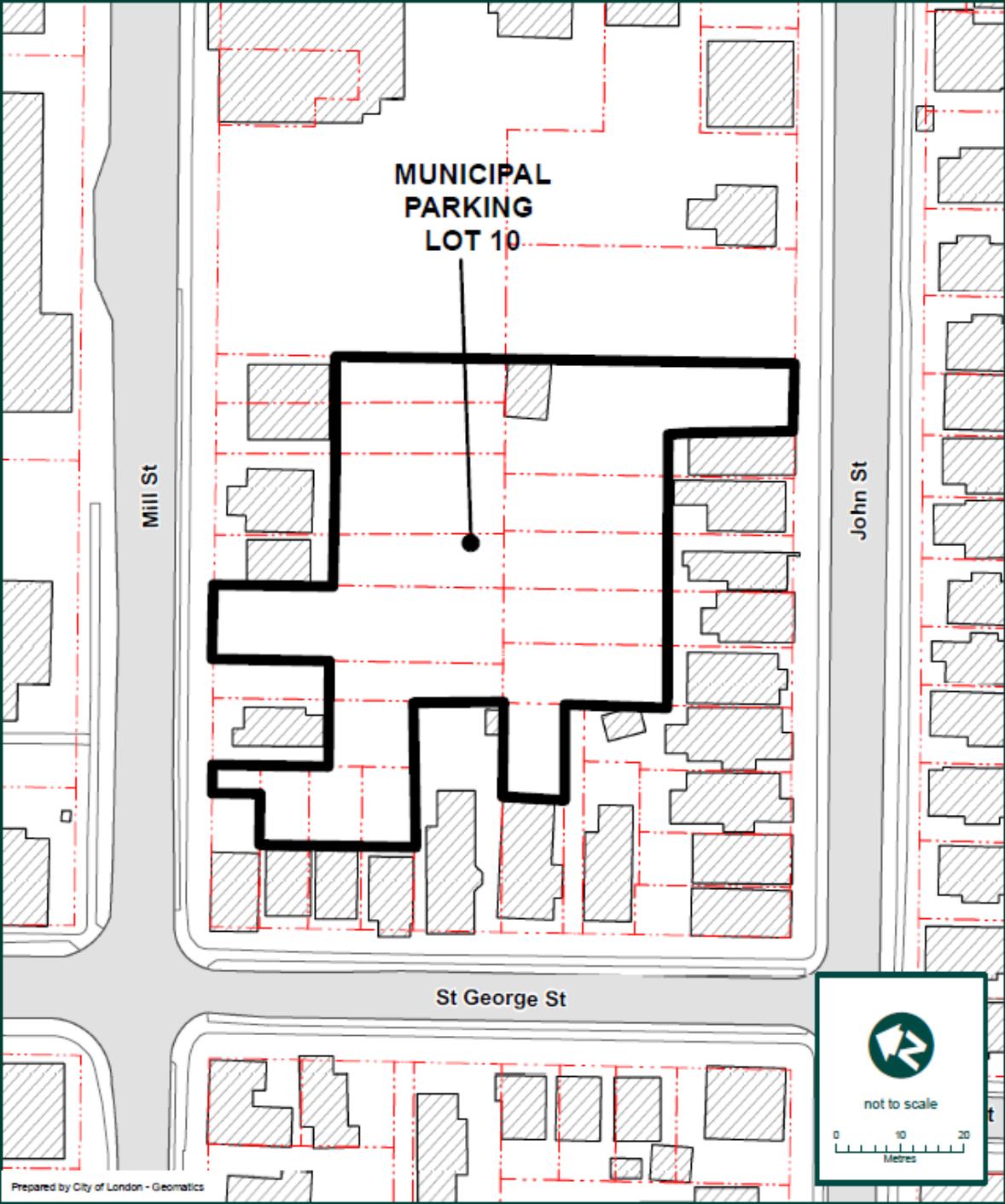


Figure 18: Municipal Lot 10

Amendments are required to Schedule 22 (Metered Off-street Municipal Parking Lots) and Schedule 30 (Metered Municipal and Public Parking Lots) to address the above change.

This report was prepared by Doug Bolton and Shane Maguire of the Roadway Lighting and Traffic Control Division.

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

\\FILE2\users-ulestr\Shared\Administration\COMMITTEE REPORTS\Civic Works\2019\DRAFT\02-20\CWC - TRAFFIC PARKING BY-LAW AMENDMENTS CWC February 20 2019 Council March 5 2019 Ver. 2.docx

February 11, 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 Parking in Posted Locations**

Section 10 No Parking In Posted Locations of the By-law PS-113 is hereby amended by **adding** the following:

m) within 1 meter of a Canada Post Community Mail Box or where the Community Mail Box is set back from the roadway, within 1 meter of the point at which defines the outer edge of the Community Mail Box at the right angles to the edge of the roadway intersects such edge at any time, when the Community Mailbox is facing the roadway and the presence of sidewalk access is absent.

**1. No Stopping**

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

Charlotte Street	West	Dundas Street	Lorne Avenue	Anytime
Duchess Avenue	North	A point 52 m east of Cathcart Street	A point 113 m east of Cathcart Street	8:00 am to 4:00 pm Monday to Friday

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

Duchess Avenue	North	A point 20 m east of Cathcart Street	A point 32 m east of Cathcart Street	8:00 a.m. to 4:00 p.m. Monday to Friday September 1 <sup>st</sup> to June 30 <sup>th</sup>
Duchess Avenue	North	A point 32 m east of Cathcart Street	A point 56 m east of Cathcart Street	8:15 a.m. to 9:15 a.m. and 3:00 p.m. to 4:00 p.m. Monday to Friday September 1 <sup>st</sup> to June 30 <sup>th</sup>

## 2. No Parking

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

Duchess Avenue	North	Cathcart Street	A point 52 m east of Cathcart Street	Anytime
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Schedule 2 (No Parking) of the By-law PS-113 is hereby amended by **adding** the following rows:

Frobisher Crescent	Both	Hudson Drive	A point 190 m north of Hudson Drive	8:00 a.m. to 4:00 p.m. Monday to Friday
Shore Road	North	A point 210 m west of Riverbend Road	A point 175 m west of Riverbend Road	Anytime
Shore Road	North	A point 128 m west of Riverbend Road	A point 55 m west of Riverbend Road	Anytime

**3. Prohibited Turns**

Schedule 8 (Prohibited Turns) of the By-law PS-113 is hereby amended by **adding** the following rows:

Ridout Street North at a point 98 m north of Albert Street with Blackfriars Street	Northbound	Right
Sarnia Road with Middlewoods Drive	Eastbound and Westbound	“U” Turn

**4. Reserved Lanes**

Schedule 9.1 (Reserved Lanes) of the By-law PS-113 is hereby amended by **adding** the following rows:

Blackfriars Street	a point 24 m east of Napier Street to Ridout Street N	1 <sup>st</sup> lane from the north	Anytime	Northbound	Bicycle
Ridout Street N	Blackfriars Street to Albert Street	1 <sup>st</sup> lane from the north	Anytime	Northbound	Bicycle

**5. Stop Signs**

Schedule 10 (Stop Sign Locations) of the By-law PS-113 is hereby amended by **adding** the following rows:

Westbound	Hillsborough Road	St. Lawrence Boulevard
Eastbound	King Edward Avenue	King Edward Avenue
Westbound	Penrith Crescent	Grasmere Crescent

Northbound	Ridout Street North	At a point 98 m north of Albert Street
Eastbound	Robin's Hill Road	Crumlin Sideroad
Westbound	Scenic Drive	King Edward Avenue
Southbound	Smallman Drive	Carnforth Road
Northbound	Thirlmere Road	Carnforth Crescent

## 6. Yield Signs

Schedule 11 (Yield Sign Locations) of the By-law PS-113 is hereby amended by **deleting** the following rows:

Westbound	Hillsborough Road	St. Lawrence Boulevard
Westbound	Penrith Crescent	Grasmere Crescent
Eastbound	Robin's Hill Road	Crumlin Sideroad
Southbound	Smallman Drive	Carnforth Road
Northbound	Thirlmere Road	Carnforth Crescent

**7. One-Way Streets**

Schedule 12 (One-Way Streets) of the By-law PS-113 is hereby amended by **adding** the following row:

Blackfriars Street	Napier Street	Ridout Street N	Eastbound
--------------------	---------------	-----------------	-----------

**8. Pedestrian Crossovers**

Schedule 13.1 (Pedestrian Crossovers) of the By-law PS-113 is hereby amended by **adding** the following row:

Blackfriars Street	A point 130 m north of Albert Street
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**9. Heavy Truck Restrictions**

Schedule 14 (Heavy Truck Restrictions) of the By-law PS-113 is hereby amended by **deleting** the following rows:

Evelyn Road	Rebecca Road	East City Limits	24 Hours
Rebecca Road	North City Limit	Evelyn Road	24 Hours

Schedule 14 (Heavy Truck Restrictions) of the By-law PS-113 is hereby amended by **adding** the following row:

Rebecca Road	Robin's Hill Road	North City Limit	24 Hours
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## **10. School Bus Loading Zones**

Schedule 16 (School Bus Loading Zones) of the By-law PS-113 is hereby amended by **deleting** the following row:

Duchess Avenue	North	A point 52 m east of Cathcart Street	A point 113 m east of Cathcart Street
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Schedule 16 (School Bus Loading Zones) of the By-law PS-113 is hereby amended by **adding** the following row:

Duchess Avenue	North	A point 20 m east of Cathcart Street	A point 56 m east of Cathcart Street
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## **11. Lower Speed Limits**

Schedule 17.1 (Lower Speed Limit) of the PS-113 By-law is hereby amended by **adding** the following rows:

Dumont Street	Merlin Crescent	Avondale Road	40 km/h
Edmonton Street	Wavell Street	Hilton Avenue	40 km/h
Merlin Crescent	Park Avenue	Dumont Street	40 km/h

## **12. Metered Off-street Municipal Parking Lots**

Schedule 22 (Metered Off-street municipal Parking Lots) of the said By-law PS-113 is hereby amended by inserting attached in Appendix 'B'.

### **13. Designated Parking Spaces - Disabled Persons**

Schedule 27 (Designated Parking Spaces – Disabled Persons) of the PS-113 By-law is hereby amended by **adding** the following row:

Dundas Street	South	From a point 74 m east of Adelaide Street North to a point 82 m east of Adelaide Street North	2 Hours
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### **14. Metered Municipal and Public Parking Lots**

Schedule 30 (Metered Municipal and Public Parking Lots) of the PS-113 By-law is hereby amended by **deleting** the following row:

10

Schedule 30 (Metered Municipal and Public Parking Lots) of the PS-113 By-law is hereby amended by **adding** the following row:

10	Mill Street	The premises bounded by 175-193 Mill Street, 52-64 St. George Street and 174-192 John Street	130
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This by-law comes into force and effect on the day it is passed.

PASSED in Open Council on March 5, 2019

Ed Holder, Mayor

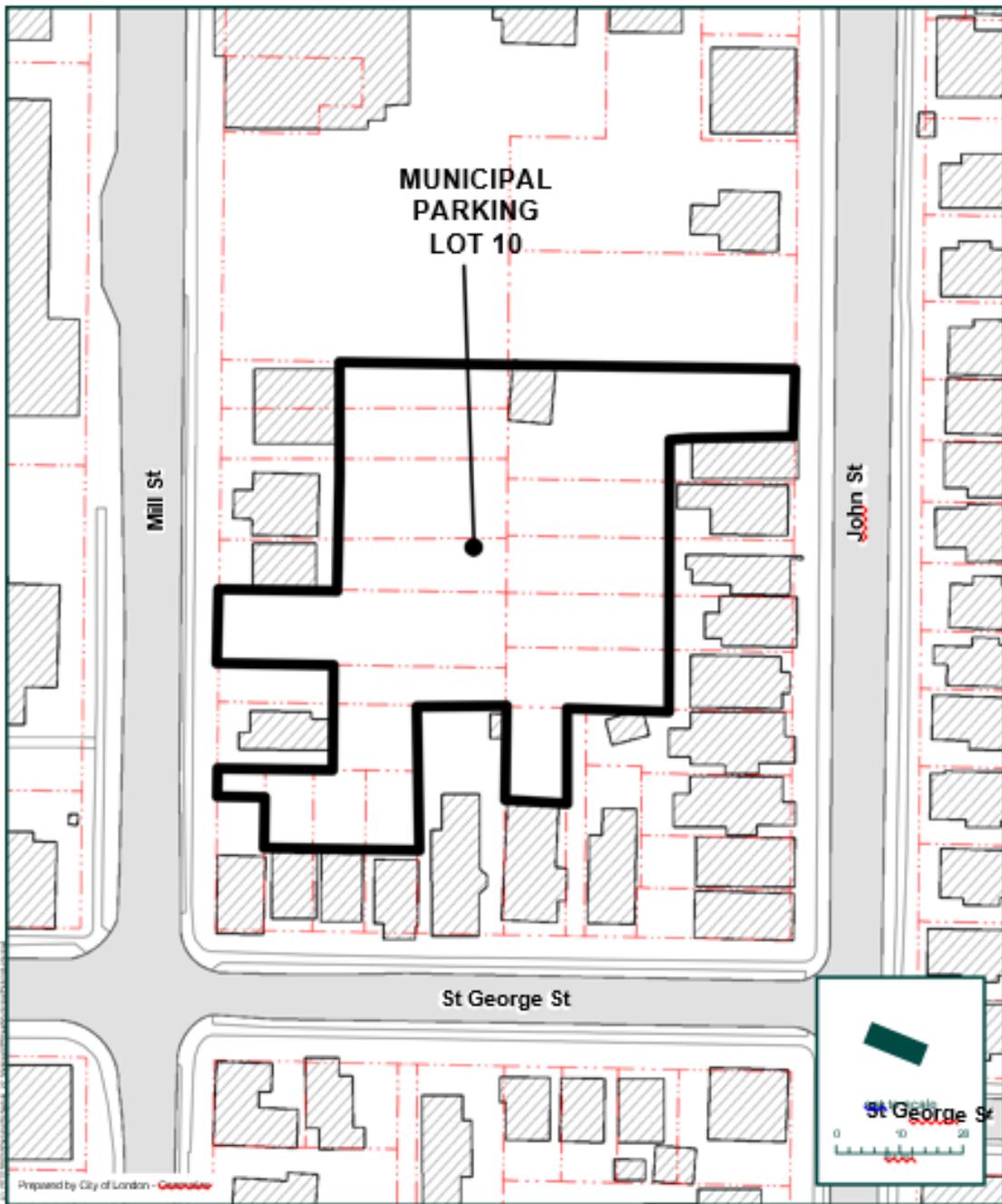
Catharine Saunders, City Clerk

First Reading – March 5, 2019

Second Reading – March 5, 2019

Third Reading – March 5, 2019

**APPENDIX B**  
**SCHEDULE 22**  
**of**  
**TRAFFIC & PARKING BY-LAW**  
**METERED**  
**OFF-STREET MUNICIPAL PARKING LOTS**



 <p>201 Dundas Avenue, PO Box 2020 London, Ontario N6A 1G0 General Inquiries: 519-857-4200 www.london.ca</p>	<p>Parking Lot for:  <b>175-193 Mill Street, 52-64 St. George          Street, &amp; 174-192 John Street</b></p>	<p>Date:          Nov 08, 2018</p>
	<p><b>Lot 10</b></p>	

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON FEBRUARY 20, 2019</b>
<b>FROM:</b>	<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR ENVIRONMENTAL &amp; ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>2019 ANNUAL NEW SIDEWALK PROGRAM</b>

**RECOMMENDATION**

That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, the sidewalk candidates proposed for the 2019 Annual New Sidewalk Program **BE ENDORSED** for implementation in 2019.

**PREVIOUS REPORTS PERTINENT TO THIS MATTER**

- Civic Works Committee – September 25, 2018 – Byron South Neighbourhood Sidewalk Connectivity Plan

**2015-19 STRATEGIC PLAN**

This report supports the 2015-2019 Strategic Plan through the strategic focus area of Building a Sustainable City. The plan identifies the implementation and enhancement of road safety measures for all users as a means to deliver convenient and connected mobility choices.

**BACKGROUND**

**Purpose**

The New Sidewalk Program is an ongoing annual program responding to resident requests to improve walkability and accessibility in their neighbourhoods through the installation of sidewalks.

Subject to Council approval, the sidewalk candidates described, herein, will be implemented via the 2019 Annual New Sidewalk Program.

**DISCUSSION**

The purpose of this report is to request Municipal Council endorsement of proposed works to be undertaken in the 2019 Annual New Sidewalk Program. The New Sidewalk Program is an ongoing annual program responding to requests for sidewalks received from the public.

The 2019 Annual New Sidewalk Program will include approximately 1,500 m of new sidewalk improving pedestrian safety, connectivity and accessibility. This includes three proposed locations around the City as well as the previously endorsed Byron South Neighbourhood Sidewalk Connectivity Plan.

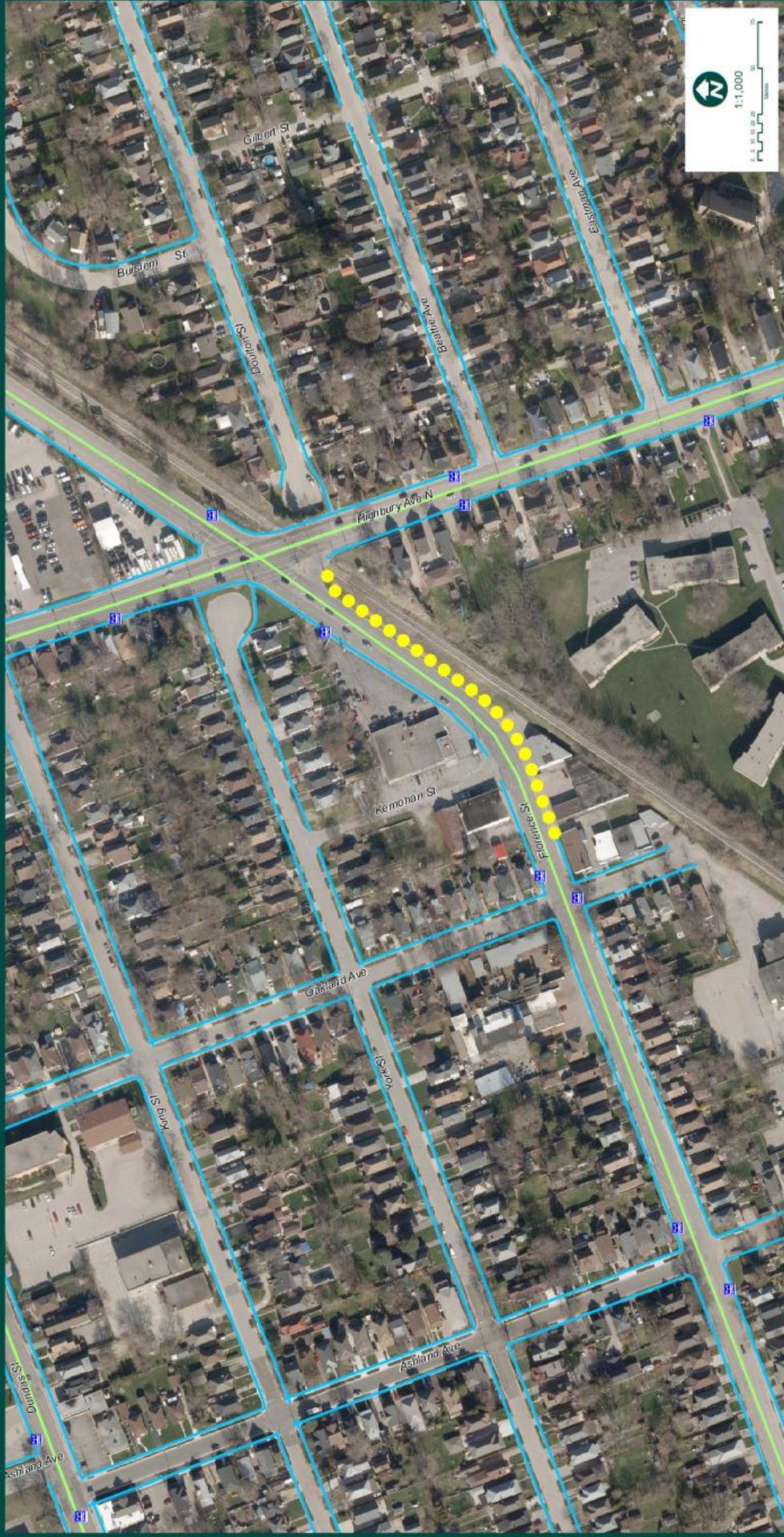
## Missing Connections in the Existing Sidewalk Network

Walking is an active mode of transportation promoted by the Smart Moves 2030 Transportation Master Plan, Official Plan Policy, and it is an integral part of a transit trip. Implementing new sidewalks is part of a complete streets approach to make neighbourhood streets welcoming, equitable, safe and accessible for community members of all ages, abilities and means. This annual new sidewalk program responds to resident requests for new sidewalk connections and prioritizes implementation based on factors such as pedestrian demand, traffic activity, transit accessibility and roadside conditions with special attention being paid to those requests that serve schools and seniors. In addition to this targeted program, a complete streets assessment is included in infrastructure renewal street reconstruction projects which create new sidewalks where recommended based on an assessment of desire lines, design, impacts and mitigation.

The lack of sidewalks poses a safety risk to pedestrians and limits resident's mobility to destinations in London. Sidewalks provide a safe and separated space for pedestrians, especially children, the elderly or pedestrians with mobility assistance devices. The proposed 2019 sidewalk locations to be constructed under the new sidewalk program are illustrated in the below figures, with new sidewalks itemized in the following table.

Missing Connections in the Existing Sidewalk Network		
Location	From	To
Florence Street	60m east of Oakland Avenue	Highbury Avenue
Southdale Road & Wharnccliffe	Old Wharnccliffe Road	Old Wharnccliffe Road
Newbold Street	Adelaide Street	Bradley Avenue

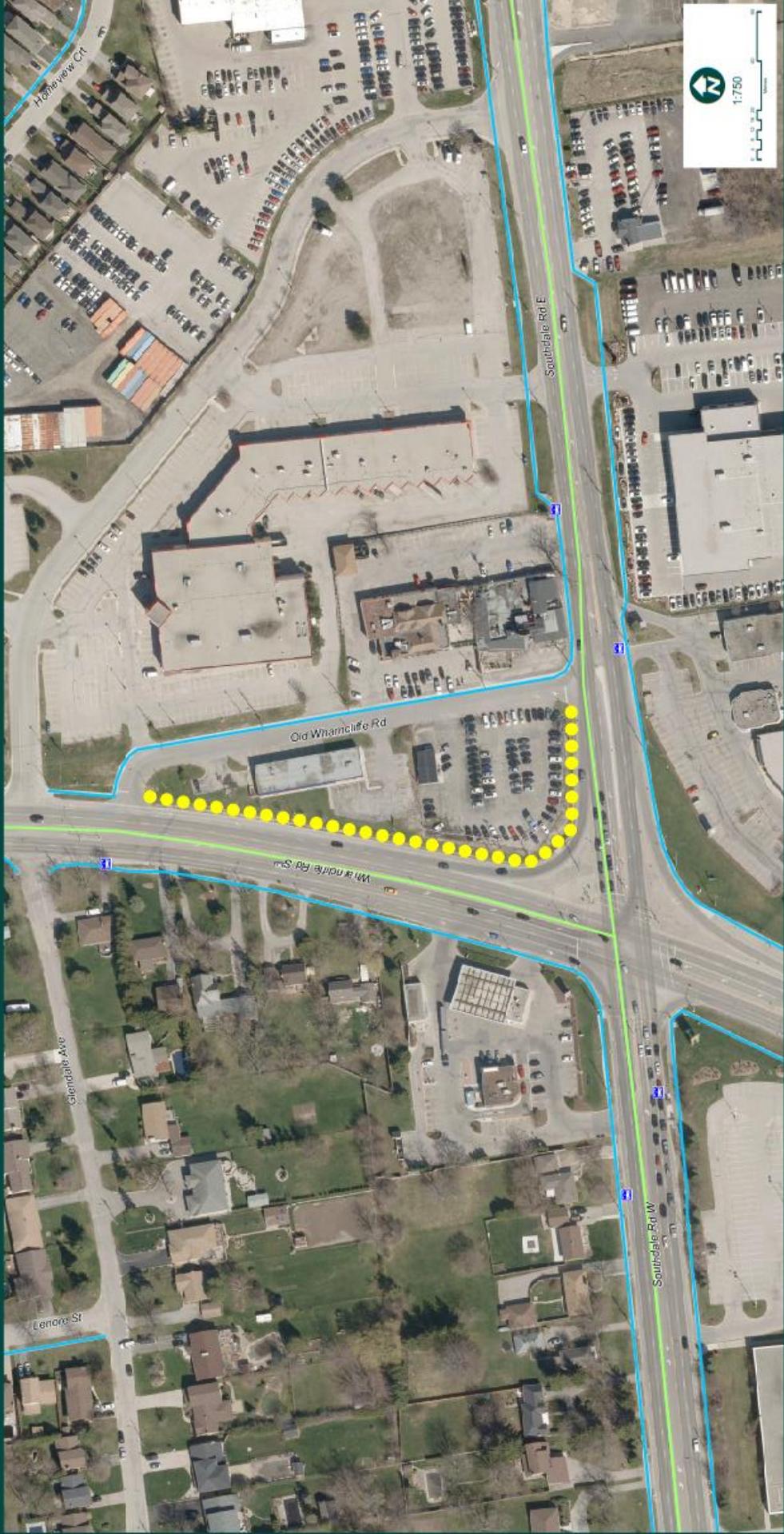
# FLORENCE STREET NEIGHBOURHOOD CONNECTIVITY PLAN



Legend

- SIDEWALKS**
- Existing Sidewalk
- Proposed Sidewalk
- LTC Bus Route
- Bus Stop

# WHARNCLIFFE RD & SOUTHDALE RD INTERSECTION CONNECTIVITY PLAN



Legend

- SIDEWALKS**
- Existing Sidewalk
  - Proposed Sidewalk

- LTC Bus Route
- Bus Stop



- SYMBOLS**
- Existing Sidewalk
  - Proposed Sidewalk
  - LTC Bus Stop
  - LTC Bus Route

## NEWBOLD STREET CONNECTIVITY PLAN

Date: January 16, 2019  
 Created By: Geomatics Division, City of London



Florence Street and Southdale Road/Wharncliffe Road are locations where there are flattened grass pathways suggesting these are heavily pedestrian used areas. Installing sidewalk in these locations will improve the safety and accessibility for all pedestrians on these streets.

#### Typical Street Selected for Sidewalk Installation



Newbold Street is being accelerated on the New Sidewalk List, so the installation of sidewalk can be coordinated with the road reconstruction project planned for summer 2019. Coordinating the two projects will save money in the design and construction cost. This approach also minimizes the overall disruption for the community, as the improvements are confined to one construction season.

Additionally, higher ranked candidates were deferred to another construction year as they are planned with a major road reconstruction project or require additional staff attention to build a connective neighbourhood plan to improve connectivity and accessibility in consultation with the community.

#### Design and Implementation

If the 2019 Annual New Sidewalk Program is endorsed, City staff will complete the sidewalk design for the proposed candidates. Letters will be sent out notifying affected residents of the sidewalk design. If residents in the neighbourhood request further information, staff will plan additional consultation opportunities to address all resident concerns. Staff will also attend the Transportation Advisory Committee once the design is complete, to allow for additional comments that could improve the sidewalk design.

During the design of the sidewalks, staff will complete an assessment of potential impacts and mitigation strategies to address resident and neighbourhood concerns. Based on past sidewalk projects, several impacts and mitigation strategies that staff have encountered can be seen in the table below.

Potential Impacts on City ROW	Mitigation Strategies
<ul style="list-style-type: none"> <li>• Tree removals</li> </ul>	<ul style="list-style-type: none"> <li>• Bend sidewalk around trees, or</li> <li>• Install new tree</li> </ul>
<ul style="list-style-type: none"> <li>• Loss of parking as sidewalk crosses driveway</li> </ul>	<ul style="list-style-type: none"> <li>• Install sidewalk strategically so that resident parking spots are maintained as much as possible</li> </ul>
<ul style="list-style-type: none"> <li>• Damage to landscaping or privately installed irrigation</li> </ul>	<ul style="list-style-type: none"> <li>• Provide residents early notice, allowing ample time for residents to relocate</li> </ul>
<ul style="list-style-type: none"> <li>• Driveway damaged during construction</li> </ul>	<ul style="list-style-type: none"> <li>• All driveways will be restored to existing or better condition after construction</li> </ul>

Following the design phase communications, staff will send an additional notice before construction providing residents with an anticipated construction schedule that will include project manager contact information. During the installation of these sidewalks, City staff will minimize impacts to tree removals, utility relocations, and driveway disturbance.

A sidewalk on the east side of Regal Drive from Hillcrest Avenue to Magnolia Crescent was proposed on February 21, 2017 at the Civic Works Committee Meeting. The sidewalk location was changed to the west side as this provided better visibility, safety and connectivity. The installation of a sidewalk on the east side of Regal Drive is on the New Sidewalk List and will be completed based on its priority rating.

<b>CONCLUSION</b>
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The 2019 Annual New Sidewalk Program supports the City of London’s Vision Zero Road Safety Strategy by increasing safety and providing healthy equitable mobility for all. The program is also linked to the City of London’s 2015-2019 Strategic Plan by Building a Sustainable City with convenient and connected mobility choices.

The program will add approximately 1,500 m of new sidewalk improving pedestrian safety, accessibility and connectivity in our neighbourhoods. The installation of sidewalks will provide a safe space for pedestrians where one does not currently exist.

Staff will continue to engage affected residents throughout the next stages of design and construction and work together to make this program a success by improving safety for all.

## Acknowledgements

This report was prepared by Peter Kavcic, P.Eng. Transportation Design Engineer, with input from Samantha Smith, Engineering Intern, in the Transportation Planning and Design Division.

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

Attach: Appendix A

2019 New Sidewalk Annual Program List

Appendix A

**2019 New Sidewalk Annual Program List (as of December 21, 2018)**  
 (Sections proposed for construction in 2019 are highlighted in Green)

	Rating				Length	Road
COST	125 Max.	LOCATION	FROM	TO	m.	Class
\$45,375	90	Florence Street	60m east of Oakland Avenue	Highbury Avenue	165	A
\$45,500	85	Windemere Road	Windemere on the Mount	Sisters of St. Joseph	260	A
\$123,375	80	Downing Crescent	North Millbank Intersection	South Millbank Intersection	705	L
\$93,625	80	Riverside Drive	Sunninghill Avenue	Dunedin Drive	535	A
\$87,500	80	Tewksbury Crescent	Sorrel Road	Perth Avenue	500	L
\$152,250	75	Burnside Drive	Bow Street	Holgate Road	870	L
\$37,625	75	Cairn Street	Three Valleys Crescent	Burlington Crescent	215	L
\$22,925	75	Cleveland Avenue	Burlington Street	Cairn Street	131	L
\$157,500	75	Sunningdale Road E	East of Skyling (Existing)	Villagewalk Boulevard	900	A
\$44,275	75	Wayne Road	Boler Road	Jellicoe Crescent	253	L
\$69,125	75	Wood, Maurice, & Murdock	Forward Avenue	Riverside Drive	395	L
\$59,500	75	Huron Street	Clarke Road	Oakville Avenue	340	A
\$7,525	70	Adelaide St N	Existing at Huron	South existing	43	A
\$82,250	70	Braesyde Avenue	Hamilton Road	Gore Road	470	L
\$145,250	70	Clarke Road	Hamilton Road	375m S of Gore Road	830	A
\$203,875	70	Colonel Talbot Road	Byron Baseline Road	Fourwinds Road	1165	A
\$70,000	70	Coombs Avenue	West end of Trott Drive	North end of Fox Avenue	400	L
\$45,500	70	Cramston Crescent	Valetta Street	Adevon Avenue	260	L
\$208,250	70	Griffith Street	Baseline Road	Commissioner s Road W.	1190	C
\$80,500	70	Oxford Street	Existing just east of Clarke Rd	780m east of Clarke Rd	460	A
\$249,375	70	Pond Mills Road	Bradley Avenue	Wilton Grove Road	1425	A
\$40,250	70	Southdale Road & Wharncliffe Road	Old Wharncliffe Road	Old Wharncliffe Road	230	A
\$63,875	70	Stoneybrook Crescent	100m NE of Geary Avenue	Fanshawe Park Road.	365	L
\$46,375	70	Vesta Road	Fuller Street	Hillcrest Avenue	265	L

\$145,250	70	Wharncliffe Road	Savoy Street	Wonderland Road	830	A
\$74,025	70	Windermere Road	693 Windemere Road	65m West of Adelaide	423	A
\$253,750	70	Commissioners Road West	Boler Road	Byron Baseline Road	1450	A
\$63,000	65	Briarhill Avenue	Huron Street	Melsandra Avenue	360	C
\$58,625	65	Centre Street	27 Centre Street	Wharncliffe Road	335	L
\$13,475	65	Chippendale Crescent South leg	King Edward Avenue	Existing S/W at School	77	L
\$231,875	65	Clarke Road	Huron Street	Oxford Street	1325	A
\$175,000	65	Colonel Talbot Road	4685 Colonel Talbot Road	Existing S/W	1000	A
\$322,875	65	Hamilton Road	Gore Road	Clarke Road	1845	C
\$81,375	65	Hyde Park Road	Dyer Drive	Fanshawe Park Road.	465	A
<b>\$93,625</b>	<b>65</b>	<b>Jellicoe Crescent</b>	<b>Wayne Road</b>	<b>Blake Street</b>	<b>535</b>	<b>L</b>
\$63,000	65	Nottingham Road	Commissioners Road. West	Village Green Road.	360	C
\$90,125	65	Stoneybrook Crescent	Fanshawe Park Road	Phillbrook Drive	515	L
\$63,000	65	Sunningdale Road E	Bluebell Road	360m east of Bluebell Road	360	A
\$119,000	65	The Parkway	Sunset Drive	Sherwood Avenue	680	L
\$52,500	60	Base Line Road	Beachwood Avenue	20m W of West Street.	300	C
\$44,625	60	Belvedere Avenue	Lola Street	Byron Baseline Road	255	L
<b>\$93,625</b>	<b>60</b>	<b>Blake Street</b>	<b>Collingwood Avenue</b>	<b>Byron Baseline Road</b>	<b>535</b>	<b>L</b>
\$242,375	60	Clarke Road	95m North of Oxford Street	Huron Street	1385	A
<b>\$53,375</b>	<b>60</b>	<b>Collingwood Avenue</b>	<b>Wayne Road</b>	<b>Belvedere Avenue</b>	<b>305</b>	<b>L</b>
\$11,375	60	Colonel Talbot Road	Outer Drive	4690 Col. Talbot Road	65	A
\$39,550	60	Commissioners Road West	Longworth Road	Crestwood Drive	226	A
\$37,625	60	Ford Crescent	South end of N/S portion	North end of N/S portion	215	L
\$43,750	60	Forward Avenue	End	100m W of Wood Street.	250	L
\$242,375	60	Industrial Road	Oxford Street East	Dundas Street	1385	A
\$49,000	60	Kenmore Place	Melsandra Avenue	Kipps Lane	280	L
\$52,500	60	Mark Street	Susan Avenue	West End of Street	300	L
\$85,750	60	Micheal Street	Irving Place	East End of Street	490	L
\$123,375	60	Middlewoods Drive	Lawson Road	Sarnia Road	705	L

<b>\$115,500</b>	<b>60</b>	<b>Newbold Street</b>	<b>Adelaide Street</b>	<b>Bradley Avenue</b>	<b>660</b>	<b>C</b>
\$78,750	60	Patann Drive	Godfrey Drive	Irving Place	450	L
\$43,750	60	Royal Crescent	Mun. No. 1925	Garland Crescent	250	L
\$126,000	60	Whitney Street	Saskatoon Street	40m East of Hilton Avenue	720	L
\$26,250	60	Wortley Road	Mountsfield Crescent	Commissioner s Road	150	C
\$17,500	60	Meadowdown Drive	Mayfair Drive	Epworth Avenue	100	L
\$52,500	60	Baseline Road	Beachwood Avenue	West Street	300	C
\$33,250	55	Cavendish Crescent	Walnut Street	115 Cavendish Crescent	190	L
\$15,750	55	Col. Talbot Road	Lambeth Walk	James Street	90	A
\$14,875	55	Cornish Street	Brydges Street	Cronyn Crescent	85	L
\$17,150	55	Danielle Lane	River Run Terrace	Pochard lane	98	L
\$45,500	55	Everglade Crescent	Mahogany Road	Cypress Crescent	260	L
\$99,750	55	Hillcrest Avenue	Regal Drive	Highbury Avenue	570	L
\$28,000	55	Horace Street	St. Julien Street	Madison Avenue	160	L
\$84,000	55	Inverness Avenue	Laurel Street	Deer Park Circle	480	L
\$37,450	55	King Edward Avenue	114m W of Scenic Drive	Thompson Road	214	C
\$99,750	55	Kiwanis Park Drive	Wavell Street	Spruce Avenue	570	L
\$9,625	55	Longworth Road	Commissioners Road. West	Existing	55	C
\$70,000	55	Magee Street	Highbury Avenue	Hale Street	400	C
\$105,000	55	Neville Drive/Edgar Drive	Dead End of Neville Drive	Coombs Avenue	600	L
\$14,000	55	Oliver Street	Vauxhall Street	Terrence Street	80	L
\$50,400	55	Old Wonderland Road	Teeple Terrace	Eaton Park Drive	288	L
\$43,750	55	Penrith Crescent	Grasmere Crescent.	Ambleside Drive	250	L
\$40,250	55	Regent Street	William Street	Adelaide Street	230	L
\$7,875	55	Royal York Road	Manchester Road	Oxford Street	45	C
\$35,000	55	Salway Street	Quinton Road	Valetta Street	200	L
\$38,500	55	Scotchpine Crescent	Limberlost Road	Homestead Crescent	220	C
\$26,250	55	Selkirk Drive	Braesyde Avenue	East End of Selkirk Drive	150	L
\$157,500	55	Sunningdale Road E	East of Skyline (Existing)	Villagewalk Boulevard	900	A
\$52,500	55	Sunnyside Drive	Richmond Street	Masonville Crescent	300	L
\$25,375	55	Topping Lane	559 Topping Lane	Commissioner s Road W	145	C

\$92,750	55	Trafalgar Street	Veterans Memorial Parkway	Crumlin Road	530	A
\$124,600	55	Webster Street	Jensen Road	Killaly Road	712	C
\$64,750	55	Wellingsboro Road	Southdale Road	Dearness Drive	370	L
\$48,125	55	Wellington Road	Bradley Avenue	White Oaks Mall	275	A
\$35,000	55	Whitney Street	West end parking lot	Edgeworth Ave	200	L
\$42,000	50	Casson Way	Legendary Drive	Paulpeel Avenue	240	L
\$107,625	50	Crestwood Drive	Commissioners Road. West	Longworth Road	615	L
\$243,250	50	Crumlin Side Road	Trafalgar Street	Dundas Street	1390	A
\$63,875	50	Edgar Drive	Coombs Avenue	Edgar Drive	365	L
\$108,500	50	Southdale Road W	Bostwick Road	270m west of Wonderland Rd	620	A
\$105,000	50	Royal York Road	Manchester Road	Hyde Park Road	600	C
\$64,750	45	Fairview Avenue	Whetter Avenue	35m N of Base Line Road	370	C
\$39,375	45	Geraldine Avenue	Kathryn Drive	Louise Boulevard	225	L
\$84,875	45	Kathryn Drive	Brian Avenue	McClure Drive	485	L
\$8,750	45	Mahogany Road	Everglade Street	Woodborough Crescent	50	L
\$26,250	45	McClure Drive	Smallman Drive	Louise Boulevard	150	L
\$61,250	45	Pond View Road	Glenroy Road	Milan Place	350	L
\$47,250	45	Regal Drive	Hillcrest Avenue	Fuller Street	270	L
\$70,000	45	Ridout Street	Dufferin Avenue	Albert Street	400	C
\$17,500	45	Sunninghill Avenue	Riverside Drive	Embassy Road	100	L
\$110,250	45	Tetherwood Boulevard & Tetherwood Court	Windermere Road	End of Street	630	L
\$26,250	40	Ann Street	St. George Street	East End	150	L
\$36,750	40	Barker Street	Victoria Street	Cheapside Street	210	C
\$70,000	40	Briarhill Avenue	Briarhill Court	Kipps Lane	400	L
\$35,000	40	Consortium Court	Newbold Street	End	200	L
\$10,500	40	Ealing Street	South End	Ex Walk west of Oliver	60	L
\$15,750	40	Edinburgh Street	Brittania Avenue	Woodward Drive	90	L
\$26,250	40	Midale Road	Grenfell Drive	Midale Crescent East	150	L
\$113,750	40	Newbold Street	Hargrieve Street	Adelaide Street	650	C
\$70,000	40	Northbrae Avenue	Monsarrat Avenue	Kipps Lane	400	L
\$175,000	40	Palmtree Avenue	Riverside Drive	Plantation Road	1000	L

\$38,500	40	Redford Road	Sunningdale Road E	Uplands Drive	220	L
\$70,000	40	Regent Street	Christie Street	Wellington Street	400	C
\$78,750	30	First Street	Oxford Street East	Commercial Crescent	450	C
\$42,000	25	Appel Street	Rabb Street	Cheapside Street	240	L
\$17,500	25	Oakridge Drive	Valetta Street	Kingsway Avenue	100	C

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON FEBRUARY 20, 2019</b>
<b>FROM:</b>	<b>KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>RED LIGHT CAMERA PROGRAM 2018 ANNUAL REPORT</b>

<b>RECOMMENDATION</b>
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That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following 2018 Annual Report for the Red Light Camera Program **BE RECEIVED** for information in support of Vision Zero London.

<b>PREVIOUS REPORTS PERTINENT TO THIS MATTER</b>
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Civic Works Committee – January 5, 2016. II, 2. [Red Light Camera Program Implementation](#)

Civic Works Committee – May 9, 2017. II, 11. [Vision Zero – London Road Safety Strategy](#)

Civic Works Committee – May 15, 2018. IV, 1. [Automated Speed Enforcement](#)

<b>2015-19 STRATEGIC PLAN</b>
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The following report supports the [Strategic Plan](#) through the strategic focus areas of **Strengthening Our Community** by providing a safer city.

<b>BACKGROUND</b>
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**Purpose**

The London Road Safety Strategy (LRSS) defined a system and process for setting out the targets, policies, and action plans to guide the City and its partners in creating safer roads in order to reduce the number and severity of motor vehicle collisions. One of the six target areas identified related to reducing red light running, as the crashes that result from this behaviour often result in serious injury or even fatality.

**Context**

The installation of Red Light Cameras (RLCs) began in mid-2017 and the full complement of ten intersections has now been implemented. This 2018 Annual Report provides a preliminary look at the first year of RLC operations within the City.

## DISCUSSION

### Multi-Municipality Agreement

On January 1, 2017, the Red Light Camera Agreement was established between the Ontario Ministry of Transportation (MTO), the City of London, and seven other Ontario municipalities. Under the Agreement, all RLC records are transported to the Joint Processing Centre operated by the City of Toronto, where they are scrutinized by Provincial Offenses Officers who issue a citation if warranted.

### Vision Zero London – Public Awareness and Education

As part of the MTO Agreement requirements and Council direction, the City engaged in an annual public awareness campaign and educational program to promote activities on road safety. A public outreach and awareness plan was created using Vision Zero as the guiding principle. This plan creates opportunities to help Londoners understand their role reducing the number of motor vehicle collisions in the city and making the roads safer for everyone. The educational aspects of the campaign will continue through 2021, which marks the completion of the current RLC program.

### Red Light Camera Locations

The following table shows the location of London's RLCs and the date they were commissioned. The data is up to and including November 2018. No data is yet available for Oxford Street E & Adelaide Street N, which was commissioned in December 2018.

**Table 1: Red Light Camera Locations**

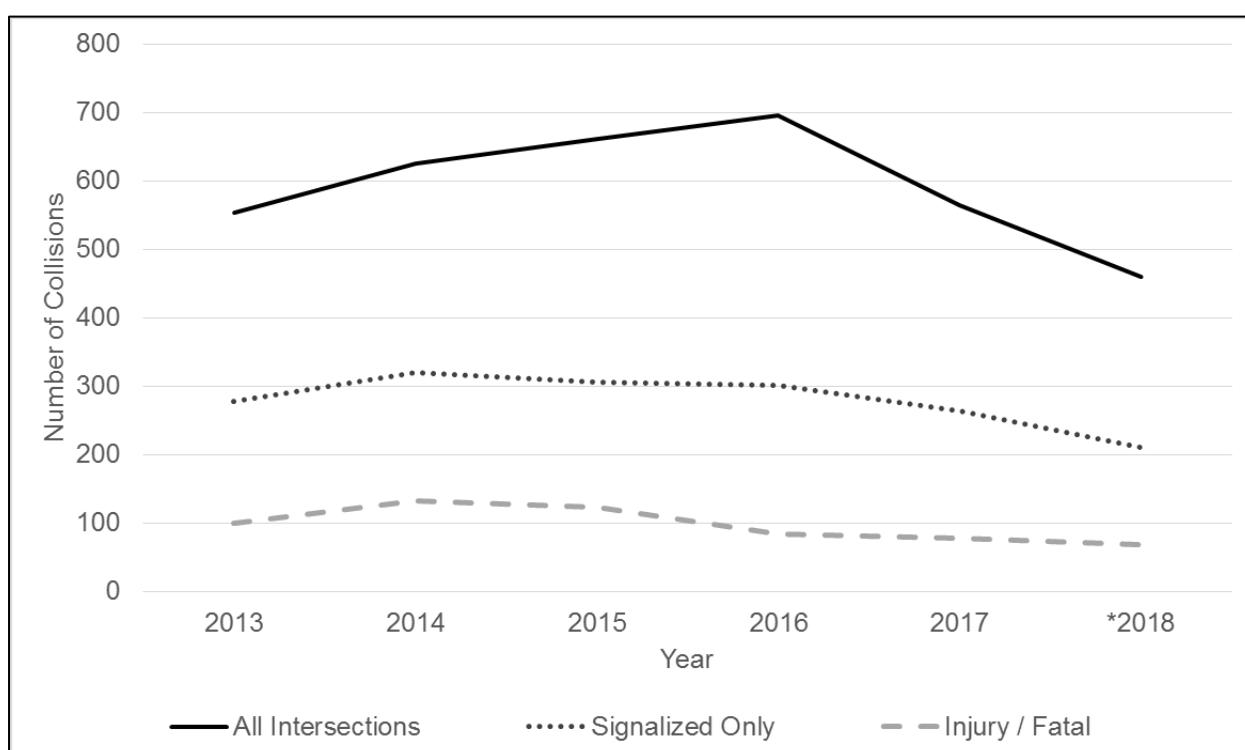
RLC Location	Commissioning Date	Infractions Issued to Date	Average per Day
Commissioners Road East & Wellington Road South	August 9, 2017	926	1.9
Dundas Street & Clarke Road	July 4, 2017	1,170	2.3
Exeter Road & Wharncliffe Road South	September 18, 2017	231	0.5
Huron Street & Highbury Avenue	August 9, 2017	296	0.6
Oxford Street W & Wonderland Road North	July 18, 2017	456	0.9
Oxford Street E & Adelaide Street North	December 11, 2018	n/a	n/a
Queens Avenue & Adelaide Street	July 18, 2017	1,366	2.7
Queens Avenue & Talbot Street	June 25, 2018	560	3.5
Springbank Drive & Wonderland Road South	June 18, 2017	597	1.1
Windermere Road & Richmond Street	August 9, 2017	740	1.5
<b>TOTALS</b>		<b>6,342</b>	<b>1.6</b>

## Collision History

Red light running usually results in right-angle collisions. The recent five-year and current year-to-date collision history was examined for this collision type on a city-wide basis, as shown in Table 1 and Figure 1. Right-angle collisions are arguably more problematic in their negative impacts than other collision types as injuries and fatalities and are more strongly correlated with right-angle collisions. In turn, red light running is a major contributing factor in right-angle collisions at signalized intersections.

As illustrated in Figure 1, a general downward trend emerges with respect to right-angle collision frequencies starting with the introduction of the Vision Zero and RLC programs in 2017 and continuing through 2018. At RLC locations, the overall monthly average injury rate was also reduced by 48% since the installation of the cameras. This measure considered injuries resulting from all collision types at the RLC camera locations.

**Figure 1: Right-Angle Collision History 2013-2018 (City-wide)**



**Table 2: Right-Angle 5-Year Collision Average vs. Post-RLC Reductions**

Collision History	2017 Reduction	2018 Reduction
All Intersections	9%	26%
Signalized Only	10%	28%
Injury / Fatal	24%	34%

Note that the 2018 data included in the above figure and table use 2018 data includes collisions reported to the end of September 2018. Year-end values were projected using trend analysis.

Overall, the first year of the RLC program shows promise with respect to a reduction in both the number of collisions and the monthly average injury rate. While additional data is required to confirm the preliminary results, it appears that the City's various public outreach campaigns and the use of RLC cameras may be contributing to improved roadway safety. It should be noted that the above only considers data from the first year of a five-year program, however, and additional monitoring is required.

## Financial Update

The 2017 to 2021 budgeted five-year cost to run the RLC program was \$3.8 million, while the RLC violation revenue (excluding the victim surcharge) over the same period was anticipated to be approximately \$4.5 million.

Table 3 details the revenues and expenses associated with the RLC program. Expenses largely include contract administration, infraction processing, and educational campaigns. While the program was designed to be cost-neutral, the initial financial information identified below indicates a positive variance at this time. The surplus results from greater than anticipated fine revenues and lower than expected program costs.

**Table 3: Financial Breakdown 2017-2018**

Item	2017	2018
RLC Expenses	(\$241,000)	(\$448,000)
Infraction Payments	\$269,000	\$923,000
Variance	\$28,000	\$475,000

It is anticipated that with a continued 3E approach (education, engineering, and enforcement) to road safety, driving attitudes and awareness will improve and that the program will cease to generate revenues above the cost of delivering the RLC program. The surplus experienced in earlier years of the contract would thus balance future negative variances in later years. In the interim, the surplus revenue will be put into a reserve fund that will be used to address potential deficits in future years or for other road safety initiatives (e.g. education, engineering, automated speed enforcement, etc.).

## 2018 Activities and Next Steps

As of December 2018, the last of the ten RLCs within London was commissioned. There are no plans for additional RLC locations at this time. The number of RLCs and locations will be reviewed at the conclusion of the current contract in 2021.

## **AUTOMATED SPEED ENFORCEMENT**

London is also pursuing another automated enforcement initiative that is in the process of being enabled by new provincial regulations. City staff are part of a working group of Ontario municipalities led by the City of Toronto that is exploring Automated Speed Enforcement (ASE) for communities across the province. In late 2018, the City of Toronto began testing ASE locations to inform the development of a new ASE program. It is anticipated that the Request for Proposals (RFPs) and testing proof-of-concept deployments will begin in the first half of 2019. City of London staff will participate in the RFP evaluation process for the ASE program as part of the working group. Following this process, implementation of the ASE program in Ontario is anticipated in late 2019. More information on this initiative will follow in future reports as it progresses.

**CONCLUSION**

The City's current RLC program is now in its second year of a five-year joint contract with other municipalities across Ontario. While the results of the RLC program are still preliminary, collisions over the period between January 2012 and September 2018 show a general positive reduction against the previous one-year period and the five-year average. The relevant collision rates to the RLC program will continue to be monitored for the duration of the five-year contract.

**Acknowledgments**

This report was prepared by Jon Kostyniuk, P.Eng. of the Roadway Lighting and Traffic Control Division and Mark Ridley, CET of the Transportation Planning and Design Division.

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

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February 11, 2019/jdk

- cc:           Community Safety and Crime Prevention Advisory Committee  
               London Middlesex Road Safety Committee  
               London Police Service  
               Transportation Advisory Committee

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON FEBRUARY 20, 2019</b>
<b>FROM:</b>	<b>KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>STREET LIGHT LOCAL IMPROVEMENT PROCESS</b>

<b>RECOMMENDATION</b>
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That on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, an annual New Street Light Local Improvement Program with a 50% cost sharing with abutting property owners **BE CONSIDERED** alongside other investment priorities in the upcoming 2020-2023 multi-year budget process.

<b>2015-19 STRATEGIC PLAN</b>
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The following report supports the [Strategic Plan](#) through the strategic focus areas of:

- **Strengthening Our Community** by providing a healthy, safe, and accessible city to strengthen emergency management, operations, and public notification information; and
- **Building a Sustainable City** by providing convenient and connected mobility choices to improve travel by managing congestion and increasing roadway safety and by providing robust infrastructure.

by improving safety for pedestrians and facilitating alternative mobility choices in London's neighbourhoods.

<b>BACKGROUND</b>
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There are over 36,000 street lights in the city illuminating our roads and sidewalks. The majority of city streets have street lights and the Street Services Implementation and Financing Procedure provides a means to have street lights installed where they are absent or inadequate. The following report explores options to change how unlit residential streets could have street lights installed.

## DISCUSSION

A review of the relevant research indicates that today's car headlights are often sufficient to meet the illumination needs of motorists on many roads without the need for street lights. Streetlights, however, still play an important role in active transportation users and contribute to the level of safety and comfort cyclists, pedestrians and other road users experience at night. Property owners also often indicate that they feel safer when there are street lights. The following table summarizes the breakdown of unlit verses lit streets in the city:

Road Classification	Length of unlit roads (km)	Length of lit roads (km)	Percentage of roads unlit
Major Roads	240	303	44%
Minor Roads	130	1017	11%
All Roads	370	1,320	22%

Notes:

- (1) Major Roads are Expressways, Urban Thoroughfares, Rapid Transit Boulevards, Civic Boulevards, Main Streets, Rural Thoroughfares and Rural Connectors.
- (2) Minor Roads are Neighbourhood Connectors and Neighbourhood Streets

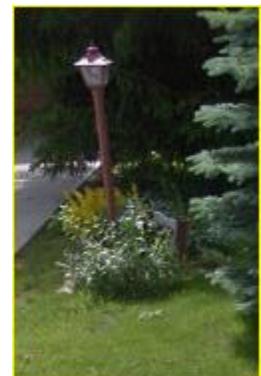
### Major Roads

Lighting along major roads is the responsibility of the City. This may be done as development occurs on lands adjacent to the road, as standalone projects or when the road is improved (e.g. road widening, etc.). There are many rural roads, primarily in the south part of the city, which are not lit at this time due to the abutting land use.

The annual capital budget for the installation of new street lights not associated with other work is \$145,000. It should be noted that this account is funded from development charges so it can be applied to growth-related needs.

### Minor Roads

When new subdivisions are constructed, the developer is required to install street lights on all public roads. The cost of this work is passed on to the purchasers of the property by the developer. In some older areas, the developers installed small front yard lights rather than street lights. The yard lights are the responsibility of the property owner to maintain.



From time to time staff receive requests from residents inquiring about installing street lights on their street. The Street Services Implementation and Financing Procedure allows for use of the Local Improvement Program to install street lights in unlit minor roads. A successful Local Improvement Petition requires "at least two-thirds of the owners representing at least

one-half of the value of the lots liable to be specially charged for the work” to be in support of the project. The abutting property owners are responsible for 100% of the project cost. The City is responsible for a portion of the cost at intersections and other exemptions as per the local improvement procedures. The typical cost to the City is 20% of the total project.

The current estimate to install street lights on an existing residential street is \$300 per centreline meter (\$150 per meter of frontage); therefore, a property with 12 m (39 ft.) of frontage would be assessed \$1,800, which can be paid in one lump sum or financed over 10 years on the owner’s property taxes. Both sides of the street are assessed equally, regardless of which side the street lights are to be installed.

The last street light local improvement project was completed in 2005. There have been several requests for street lights since 2005; however, there have not been any successful local improvement petitions. The typical reason given by the public for the lack of successful petitions is the cost allocated to the property owners.

### Funding Options for Minor Roads

The cost to light all of the minor roads is estimated to be \$39,000,000. Municipal Council may choose to reduce the property owner’s share of the cost in order to encourage more residential streets to be lit and to be more responsive to requests.

Removing the property owner’s cost allocation entirely may increase the number of streets being lit; however, it does not recognize that property owners benefit from the street lights. It should be noted that any increase in the City’s share would need to be approved in the 2020-2023 multi-year budget.

The following are some potential cost sharing options that may be considered along with the cost for a typical property (12 m of frontage) and the capital budget impact of an example \$200,000 street light local improvement project:

Cost Sharing	Individual Property Owner’s Share (12 m frontage)	City’s Capital Budget (assume \$200,000 project)	Additional Capital Budget Required
100% property owner (Current Process)	\$1,800	\$40,000	-
2/3 <sup>rd</sup> property owner	\$1,200	\$93,333	\$53,333
50% property owner	\$900	\$120,000	\$80,000
1/3 <sup>rd</sup> property owner	\$600	\$146,667	\$106,667
100% City	-	\$200,000	\$160,000

A cost sharing of 50/50 is recommended. This recognizes that the property owners benefit from the installation of the street lights, but that the broader public in the area also benefits. This is particularly true for cyclists and pedestrians. An annual street

light local improvement program of \$200,000 would light approximately 670 m of residential streets each year or 0.5% of all unlit residential roads annually.

Regardless of the final cost sharing arrangement, it is recommended that the local improvement process be maintained. This will help ensure community support for the installation of the street lights and share some of the costs with those who benefit most directly. If the number of street light projects increases beyond the approved budget, then a prioritization system would be developed. The prioritization system may include such things as the continuity of existing street lights, traffic volumes, cyclist and pedestrian needs, and community safety factors. The ongoing operating costs are anticipated to be minimal.

<b>CONCLUSION</b>
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Existing procedures adequately address the installation of street lights on major roads. The procedure for minor roads requires the abutting property owner to pay 100% of the cost, which is often cited as the reason why the street light local improvement petitions are not successful. A cost sharing of 50/50 between the City and abutting property owners will help residents get priority streets lit while ensuring there is buy-in from the majority of impacted property owners. A new capital budget program is required to finance this updated local improvement program and a business case should be submitted for consideration as part of the 2020-2030 multi-year budget process.

**Acknowledgements:**

This report was prepared by Doug Bolton and Shane Maguire of the Roadway Lighting and Traffic Control Division with the assistance of James Arthur of the Geomatics Division.

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

<b>TO:</b>	<b>CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON FEBRUARY 20, 2019</b>
<b>FROM:</b>	<b>KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER</b>
<b>SUBJECT:</b>	<b>DOWNTOWN OEV EAST – WEST BIKEWAY CORRIDOR EVALUATION</b>

<b>RECOMMENDATION</b>
-----------------------

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions be taken with respect to the Downtown OEV East – West Bikeway Corridor Evaluation:

- (a) The preferred alternative identified herein as the Dundas Street and Queens Avenue Old East Village (OEV) Hybrid **BE ENDORSED** for implementation which is generally described as:
  - i) an improved connection between the Thames Valley Parkway and Dundas Place;
  - ii) a shared cycling route along Dundas Place between Ridout Street and Wellington Street;
  - iii) uni-directional cycle tracks on Dundas Street between Wellington Street and William Street;
  - iv) a cycle track couplet on Dundas Street (eastbound) and Queens Avenue (westbound) between William Street and Quebec Street through the Old East Village; and,
- (b) The proposed recommendations of the Evaluation **BE INCORPORATED** into the Cycling Master Plan;
- (c) The Civic Administration **BE DIRECTED** to further assess pedestrian connectivity in the Old East Village for consideration in the development of capital programs; and,
- (d) The Civic Administration **BE DIRECTED** to undertake additional public consultation during project design and implementation phases.

<b>PREVIOUS REPORTS PERTINENT TO THIS MATTER</b>
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- Strategic Priorities and Policy Committee – January 28, 2016 – Downtown Infrastructure Planning and Coordination
- Civic Works Committee – September 7, 2016 – London ON Bikes Cycling Master Plan

- Civic Works Committee – October 4, 2016 – Infrastructure Canada Phase One Investments Public Transit Infrastructure Fund
- Civic Works Committee – January 10, 2017 – Queens Avenue and Colborne Street Cycle Tracks
- Strategic Priorities and Policy Committee – May 3, 2017- Rapid Transit Alternative Corridor Review
- Planning and Environment Committee – December 4, 2017 – Parking Strategy for Downtown London
- Civic Works Committee – November 12, 2018 – Appointment of Consulting Engineer Infrastructure Renewal Program - Contract C Dundas Street from Adelaide Street to Ontario Street
- Planning and Environment Committee – February 19, 2019 – Draft Old East Village Dundas Street Corridor Secondary Plan

## 2015-19 STRATEGIC PLAN

This report supports the 2015-2019 Strategic Plan through the strategic focus area of Building a Sustainable City. The plan identifies the implementation and enhancement of road safety measures for all users as a means to deliver convenient and connected mobility choices.

## BACKGROUND

### **Purpose**

The London ON Bikes Cycling Master Plan (CMP) identified a separated east-west bikeway route through the downtown. This study recommends the routing based on a detailed assessment of current plans, urban contexts and consultation.

### **Related Initiatives**

The following provides a brief description of related initiatives.

#### Bus Rapid Transit

On May 16<sup>th</sup>, 2017, Council approved the BRT network which included a one-way transit couplet on King Street and Queens Avenue for eastbound and westbound transit, respectively. The current BRT plans include an eastbound cycle lane on King Street east of Wellington Street with no available space for cycling facilities on King Street and Queens Avenue between Ridout Street and Wellington Street. The current local transit frequency on King Street and Queens Avenue also significantly restricts cycling options on these streets through the downtown.

#### Queens Avenue Two-Way Cycle Track

The CMP identified a bidirectional cycle track on Queens Avenue through the downtown. The goal of the Queens Avenue cycle track was to provide cyclists a separated east-west cycling facility through the downtown connecting to destinations, such as the Old East Village (OEV). This is not feasible based on the decision to relocate transit from Dundas Street to enable the construction of Dundas Place.

### Downtown Parking Strategy

In 2017, the City finalized its Downtown Parking Strategy, which included a review of existing parking conditions as well as an assessment of future parking needs within the downtown. The assessment of parking needs accounted for the removal of parking lots and on-street parking due to potential developments and planned transportation projects.

The strategy identified satisfactory current parking supply, a modest need for future parking and recommended a coordinated approach to establish parking in conjunction with future development.

### Downtown King Street Cycling Improvements

On October 2, 2018 Council approved the 2019 construction of a separated bike lane on King Street from Ridout Street to Colborne Street. This project was approved with the intention of being temporary as King Street is planned as a significant transit way, accommodating buses moved off Dundas Place as well as a future rapid transit route.

It was acknowledged in the report to Council that the long term east-west cycling facility would be identified through the Downtown OEV East – West Bikeway Corridor Evaluation.

### Old East Village Dundas Street Corridor Secondary Plan

Concurrent with the Downtown OEV East – West Bikeway Corridor Evaluation, the City's Planning Department created a Secondary Plan for the Old East Village. As part of the secondary plan process and the bikeway evaluation process, Transportation and Planning staff have been working collectively on how best to incorporate the recommendations and visions of both studies to ensure a balanced and complementary approach.

### Infrastructure Renewal Program – Dundas Street from Adelaide Street to Ontario Street

Dundas Street from Adelaide Street to Ontario Street has been scheduled for a capital reconstruction project beginning in 2020 with the potential to span over two years. This reconstruction project is using the results of the Downtown OEV East – West Bikeway Corridor Evaluation and the Old East Village Dundas Street Corridor Secondary Plan to guide the built environment on Dundas Street.

## **CONSULTATION**

The below description provides a general overview of the consultation process that provided feedback on the east-west route alternatives from the OEV through the downtown. Each alternative was carefully evaluated and stakeholder feedback throughout the study assisted in guiding the preferred alternative.

### **Stakeholder Consultation**

Throughout the Downtown OEV East – West Bikeway Corridor Evaluation, staff have been proactive in reaching out to interested stakeholders for feedback and comments on the cycling route alternatives. The meetings, mail outs and presentations with all stakeholders have been effective and fulsome.

### London Transit Commission

London Transit Commission (LTC) is an important partner in this project. LTC transit buses currently operate at 10-20 minute frequencies on Dundas Street east of Wellington Street. City staff have had an ongoing dialogue with LTC staff and met

formally on September 27, and November 5, 2018 to discuss the alternatives and the preferred alternative preliminary design.

#### Cycling Advisory Committee

City staff presented alternatives and the preferred recommendation to the Cycling Advisory Committee (CAC) on October 17, 2018 and January 16, 2019, respectively. Committee members were very helpful providing feedback on the alternatives.

#### Old East Village Business Improvement Association

City staff have been engaging in regular and ongoing dialogue with the Old East Village (OEV) Business Improvement Association (BIA). Staff have met with the OEV BIA on numerous occasions; October 18, 2018, November 13 and 30, 2018 and January 8 and 23, 2019. The OEV BIA also scheduled and led a walking tour on December 13, 2018. The tour allowed staff and the respective consultants to examine areas of interest in detail with the BIA as it related to the two ongoing studies: Old East Village Dundas Street Corridor Secondary Plan and the Downtown OEV East – West Bikeway Corridor Evaluation

Feedback and concerns provided by the BIA included the loss of parking and loading zones on the south side of Dundas Street. Maintaining vehicular capacity on Dundas Street is also a stated priority. Additional concerns were raised not directly related to cycling which were additional signage for parking lots and improved pedestrian connections and lighting between King Street and Queens Avenue. From the discussion with the BIA, staff have identified a number of loading zone locations on the south side of Dundas Street as well as identified areas where additional on street parking will be provided on the north side of Dundas Street to mitigate the loss of parking on the south side. An assessment of lighting needs on north-south side street connections is also underway.

Staff will engage further with the BIA and businesses during the detailed design process to solicit feedback and comments as it relates to the design of Dundas Street through the OEV.

#### London Cycle Link

On November 7, 2018, and January 10, 2019 City staff met with members of the cycling advocacy group London Cycle Link. The Cycle Link members advocated for two way cycling facilities on Dundas Street throughout the study limits and proposed a south side bi-directional cycle track along Dundas Street through the core of OEV from William Street to Ontario Street.

Throughout the discussion, Cycle Link members noted that safety for all road users and education along critical conflict areas is important. Staff have included the Dundas two-way bidirectional alternative in the east – west cycling evaluation.

#### Public Information Centre's

Two formal Public Information Centre's (PIC) were held throughout the study process, the first on June 27, 2018 at Aeolian Hall and the second on November 1, 2018 at H. B Beal Secondary School. The first PIC held was to gather feedback on the corridors selected for evaluation, while the second PIC was to gather feedback and input on the preferred alternative. The PIC's were held in conjunction with the Old East Village Dundas Street Corridor Secondary Plan to help inform both study teams as it relates to

the transportation infrastructure through the OEV as well as the land use planning and pedestrian realm.

<b>CYCLING INFRASTRUCTURE EVALUATION</b>
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The purpose of the Downtown OEV East – West Bikeway Corridor Evaluation is to determine a suitable separated east – west cycling route connecting to existing and proposed cycling infrastructure.

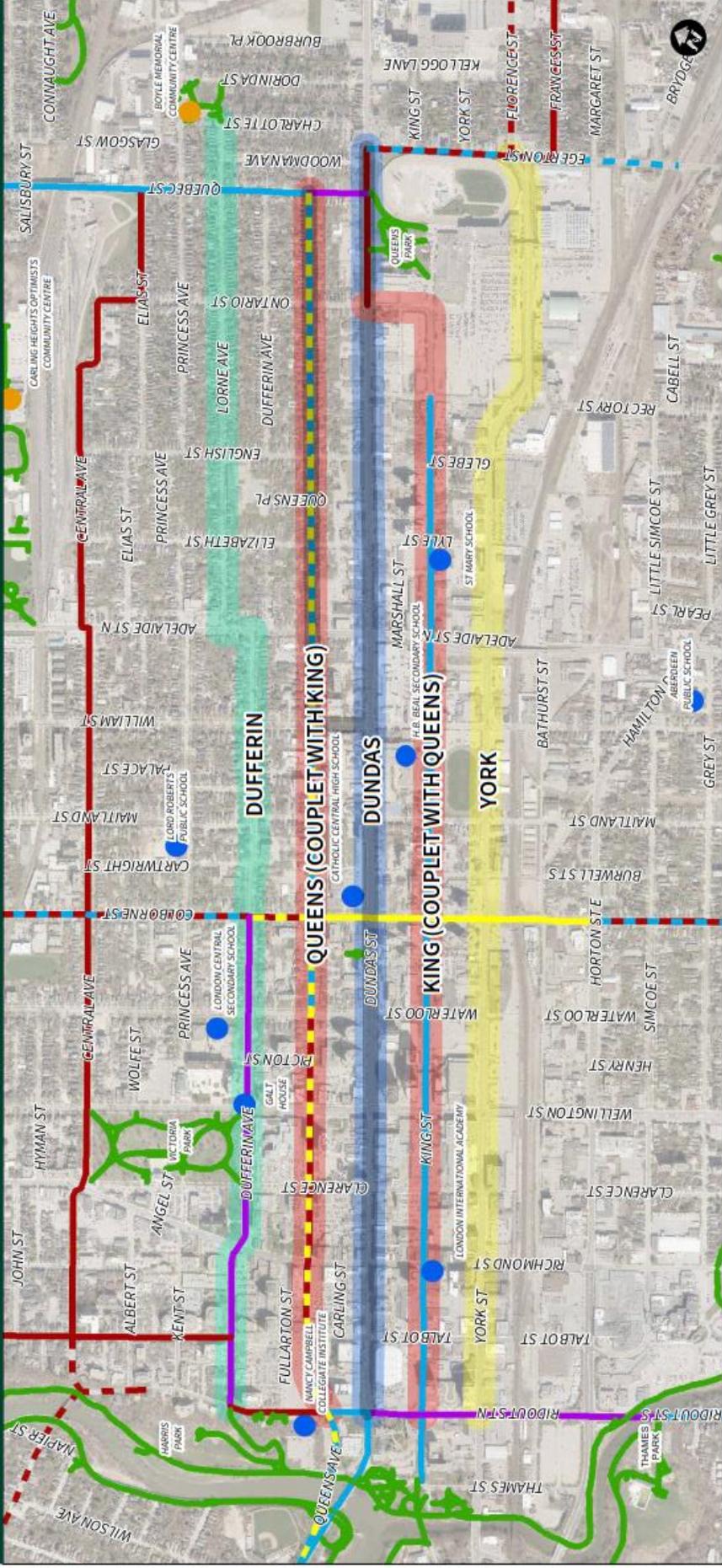
**Downtown OEV East – West Bikeway Corridor Evaluation**

During the first public meeting, City staff began to evaluate four alternatives; Dundas Street two-way uni-directional, York Street, Dufferin Avenue, and a King Street and Queens Avenue Couplet. From additional public consultation and meetings with stakeholders, two additional alternatives were carried forward which included the Dundas Street two-way bidirectional and Dundas Street and Queens Avenue OEV Hybrid options. The six alternatives and descriptions of the routes can be seen in the table and figure below.

Alternative	Description
<b>Dundas Two-Way Unidirectional</b>	Shared cycling facilities along Dundas Place and separated uni-directional cycling facilities on Dundas Street from Wellington Street to Ontario Street
<b>Dundas Two-way Bi-directional</b>	Shared cycling facility along Dundas Place, separated uni-directional cycling facilities on Dundas Street between Wellington Street and William Street, converting to a bi-directional cycling facility located on the south side of Dundas Street from William Street to Ontario Street
<b>Dundas Street and Queens Avenue OEV Hybrid</b>	Shared cycling facilities along Dundas Place, separated uni-directional cycling facilities on Dundas Street from Wellington to William Street, converting to a cycling couplet with one eastbound cycling facility on Dundas Street from William to Ontario Street and one westbound cycling facility on Queens Avenue from Quebec Street to William Street
<b>King Street and Queens Avenue Couplet</b>	Separated uni-directional eastbound cycling facility located on King Street from Wellington Street to Ontario Street, and a separated uni-directional westbound cycling facility on Queens Avenue from Quebec Street to Wellington Street
<b>Dufferin Avenue</b>	Separated uni-directional cycling facilities on Dufferin Avenue from Ridout Street to Charlotte Street
<b>York Street</b>	Separated uni-directional cycling facilities on York Street from Ridout Street to Egerton Street

These six alternatives were evaluated to provide a separated east-west bikeway. The evaluation criteria used for the Downtown OEV East – West Bikeway Corridor Evaluation is similar to the previous King Street, Queens Avenue, and Colborne Street evaluation criteria, and can be seen below. This criteria was informed from Ontario Traffic Manual (OTM) Book 18: Cycling Facilities and stakeholder comments during the first public information centre and on-going consultation.

# Proposed Study Corridor Map



## Proposed Study Corridors

- Dundas (Unidirectional /OEV Bi-directional)
- Dundas & Queens Hybrid OEV Couplet
- King & Queen (couplet)
- Dufferin
- York

## Existing Cycling Facilities

- Multi-Use Path
- Bike Lane
- Signed Bike Route
- Signed Route with Sharrow
- Separated Bikeway

## Proposed On-Road Cycling Facilities

- Separated Bikeway
- Bike Lane
- Signed Bike Route
- Signed Route with Sharrow

## Community Features

- Park
- School
- Community Centre
- Preferred Study Corridor: Dundas & Queens Hybrid OEV Couplet



Data provided courtesy of City of London, June 2018



## Evaluation Criteria

<b>1. Conflict mitigation</b> – minimizing conflicts with motorists, transit, cyclists and pedestrians	<b>7. Connectivity and Directness</b> – potential to connect to existing and proposed cycling network routes identified in the Cycling Master Plan
<b>2. Constructability</b> – assess the suitability of a roadway/corridor and the level of effort required to implement a separated bikeway	<b>8. Destination Access</b> – connect to significant destinations and or attractions
<b>3. Parking</b> – impact to on-street parking supply	<b>9. Cost</b> – anticipated cost to construct a separated bikeway on a corridor. This is a high level costing assessment based on the level of effort required
<b>4. Transit Operations</b> – impact and compatibility with local transit and the future BRT project	<b>10. Social Health and Equity</b> - provides a fair and accessible environment for users
<b>5. Traffic Operations</b> – impact to roadway capacity and intersection operations	<b>11. Retail Economic Impact</b> - recognizing the importance of providing customer access by all modes of travel , this criteria asses the overall impacts to walking, cycling and parking access
<b>6. Streetscaping and Public Realm</b> – potential impacts to the public space within the boulevard that would affect urban design, streetscaping, and the public realm	

Each corridor was evaluated against the 11 different criteria and was given a score from one to four. The last two criteria, Social Health and Equity, and Retail Economic Impact, were added in response the stakeholder feedback. Its position on the list does not diminish the importance and consideration given to this factor. A score of one indicates least desirable conditions, while a score of four indicates most desirable conditions. Desirability refers to maximizing the benefit of the separated bikeway while reducing the overall impacts on the local neighborhood and City. The maximum score a corridor could receive is 44 (4 points x 11 criteria).

A link to the east-west bikeway evaluation memo can be seen in the attached link: <https://www.london.ca/residents/Roads-Transportation/cycling/Pages/Downtown-Bikeway-Corridor-Evaluation.aspx>

### Parking Impacts

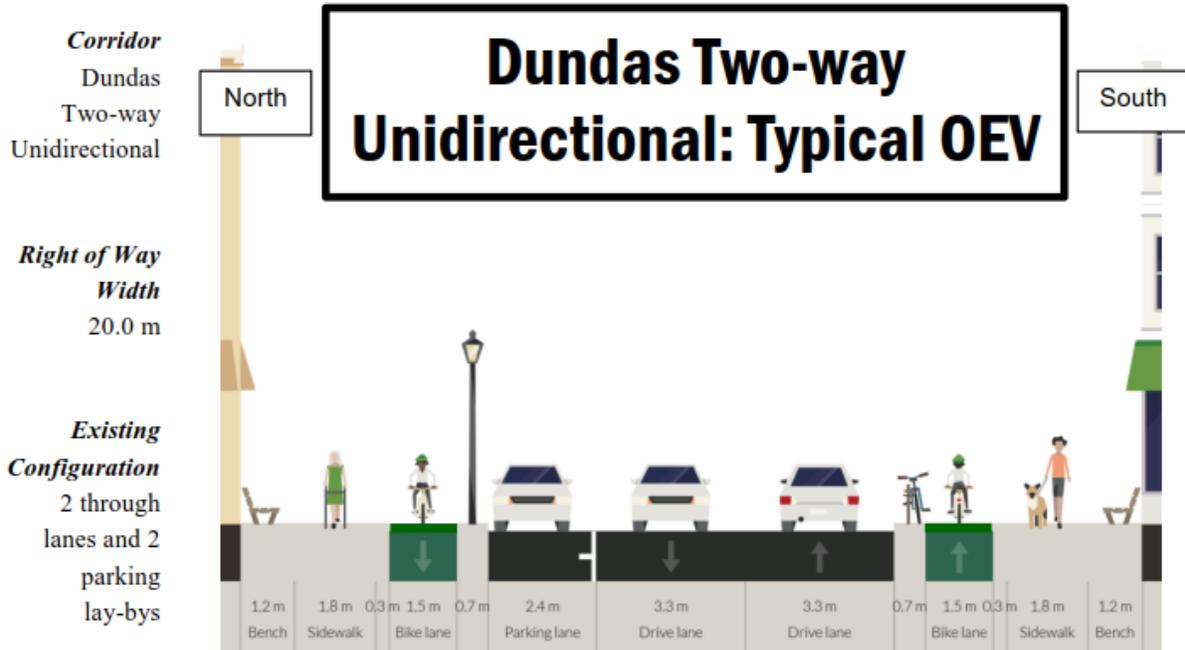
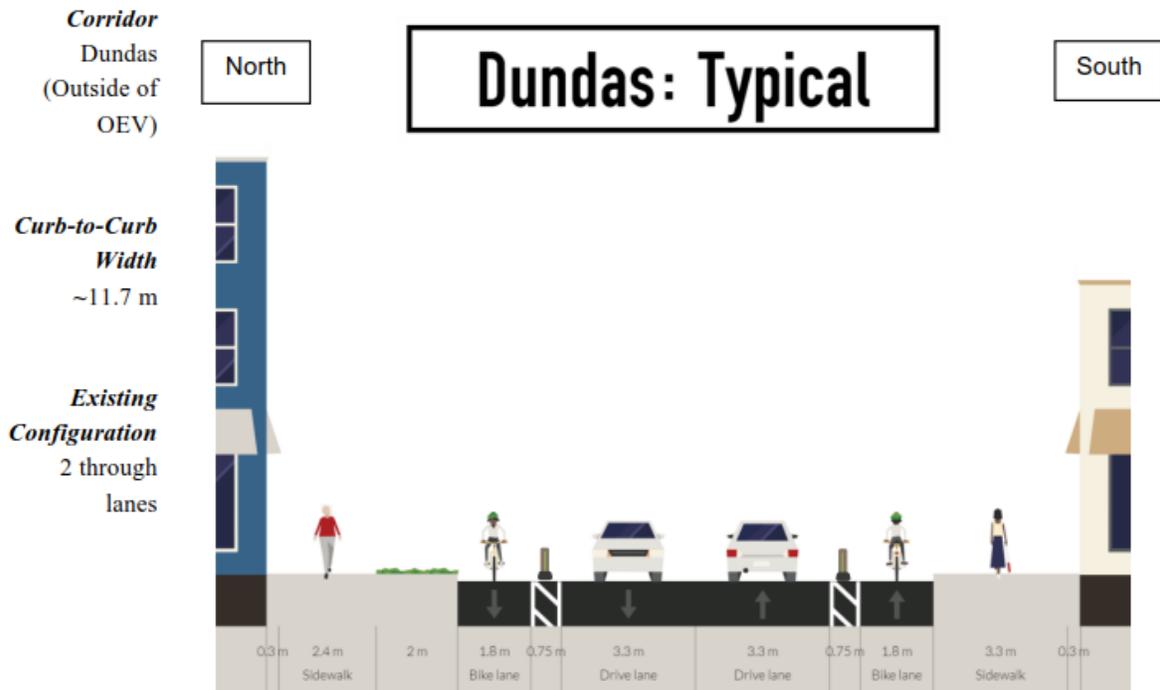
Throughout the Downtown OEV East – West Bikeway Corridor Evaluation, City staff understood that each route alternative would have parking impacts and wanted to assess these impacts as it related to the suitability of the east-west bikeway. The importance of parking was brought forward during the PIC's and from public and business owner feedback. WSP performed a macro parking impact review of each alternative, using background information (such as Downtown Parking Strategy and the BRT Environmental Project Report) and parking utilization data provided by the City. The below table identifies the results of the parking impact review based on number of parking spaces including existing and new parking utilization. The parking impact review confirms that with the removal of on-street parking, the parking supply can satisfy the

demand. However, expressed concerns about the details of parking displacement on Dundas Street in the OEV remain, so minimizing and mitigation is the focus for future implementation.

CORRIDOR	EXISTING CAPACITY	CURRENT USAGE	NEW CAPACITY	EXISTING UTILIZATION	NEW UTILIZATION
Dufferin	206	56	74	27%	75%
Queens	131	43	95	33%	45%
Dundas (uni or bidirectional)	288	93	122	32%	76%
King	39	17	26	44%	65%
York	N/A				
OEV Hybrid Parking Breakdown					
Overall	336	97	170	29%	57%
Dundas	288	93	122	32%	76%
Queens	48	4	48	8%	8%

The following pages provide a brief summary of each alternative and the associated strengths and weaknesses. The typical cross sections were created looking eastbound with north on the left side of the figures. All road designs were created using typical cross sections, at locations shown in the maps for each alternative.

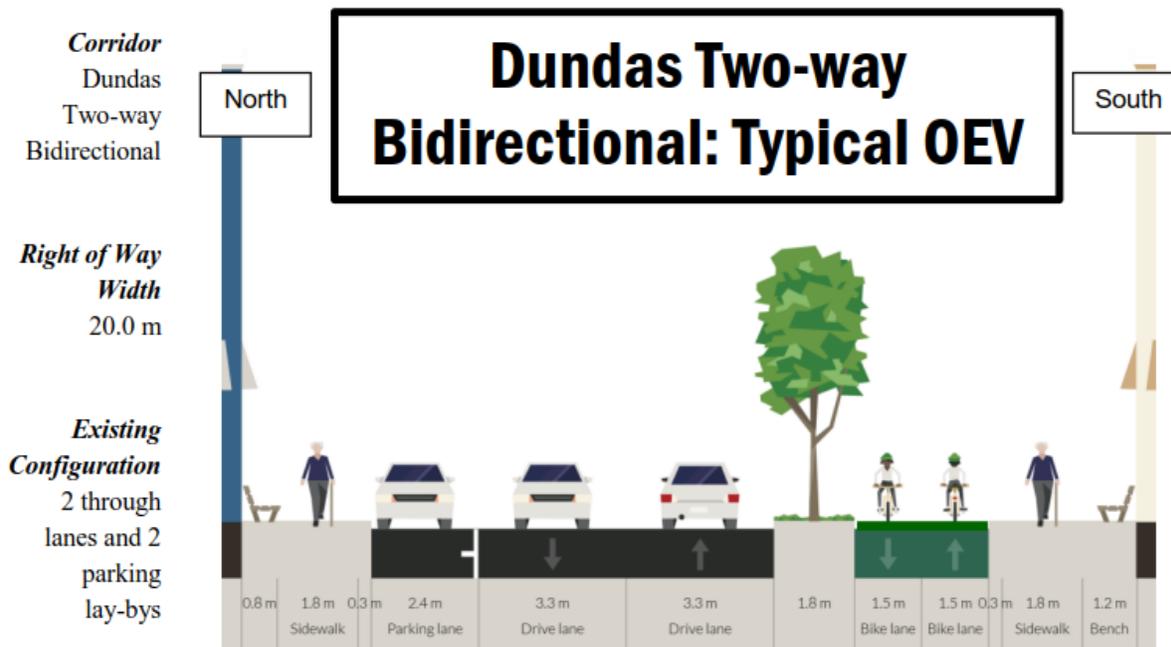
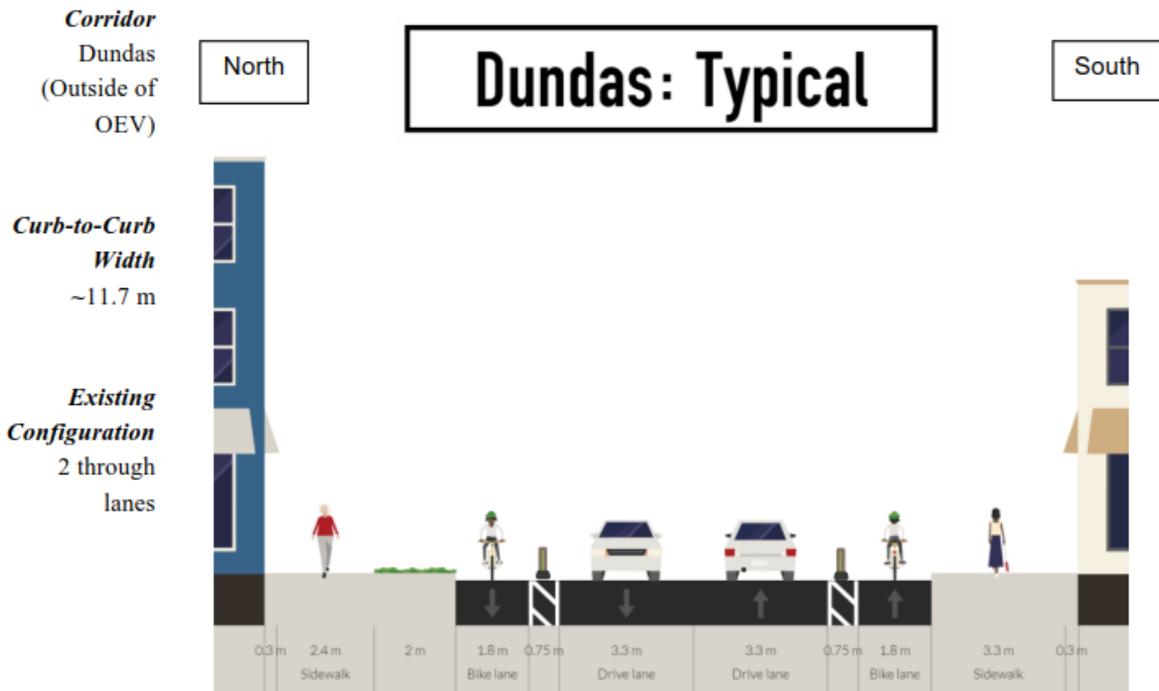
## Dundas Two-way Unidirectional



	Strengths	Weaknesses
<p><b>Dundas Two-Way Uni-directional</b></p>	<ul style="list-style-type: none"> <li>• Provides a connective and direct cycling route (Connectivity and Directness)</li> <li>• Provides access for all modes of transportation to destinations in the City, Downtown and OEV (Destination Access &amp; Social Health and Equity)</li> </ul>	<ul style="list-style-type: none"> <li>• Impacts ability to provide wider sidewalks along Dundas, especially between Adelaide and Ontario. Proposes smaller sidewalk width than existing sidewalk width (Streetscaping and Public Realm).</li> <li>• Impacts the businesses on the south side of Dundas between Adelaide and Ontario, as no opportunities for loading zones (Retail Economic Impact)</li> <li>• Approximately 170 parking spots removed along the route from Ridout to Ontario (Parking)</li> <li>• Transit operations throughout the OEV would be impacted as transit passengers board and alight on to the cycle lane (Transit Operations)</li> </ul>

Dundas two-way uni-directional provides the most direct route for cyclists along Dundas Street, however this alternative negatively affects the constrained corridor throughout the Old East Village (OEV) between Adelaide Street and Ontario Street. The alternative would propose smaller sidewalks within the OEV not allowing business owners the opportunities for patios or merchandise displays. This alternative would not allow for south side loading zones to be installed on Dundas Street, which negatively impacts the day to day operations for many business owners.

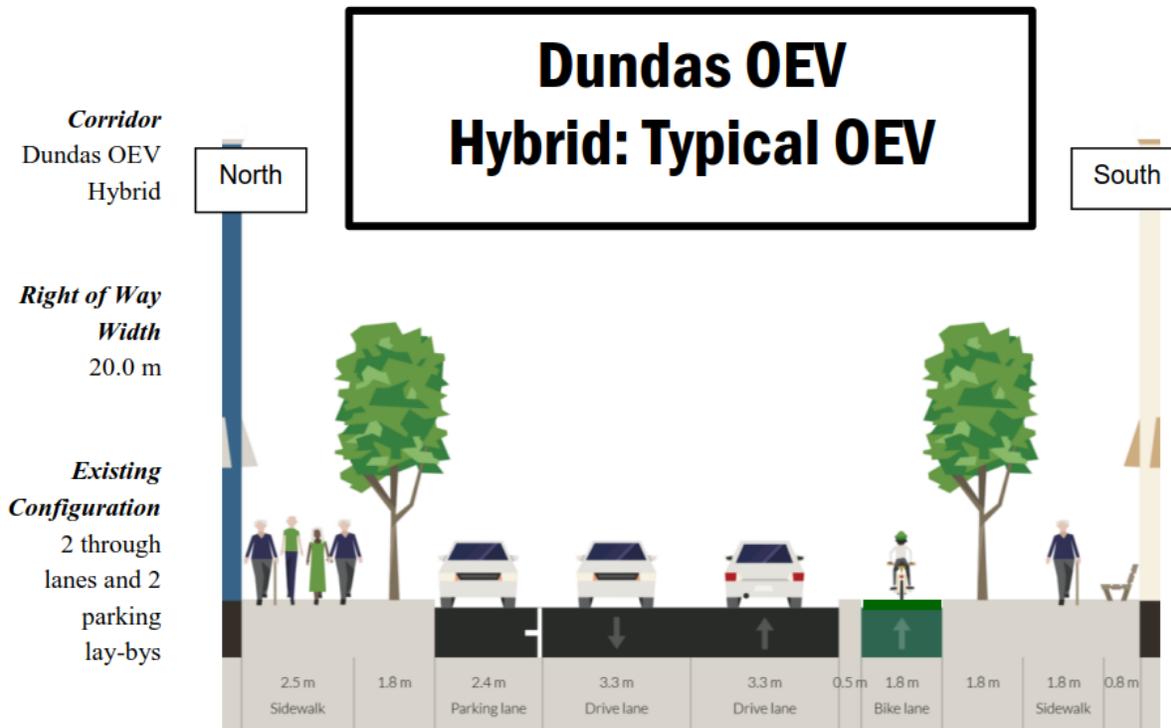
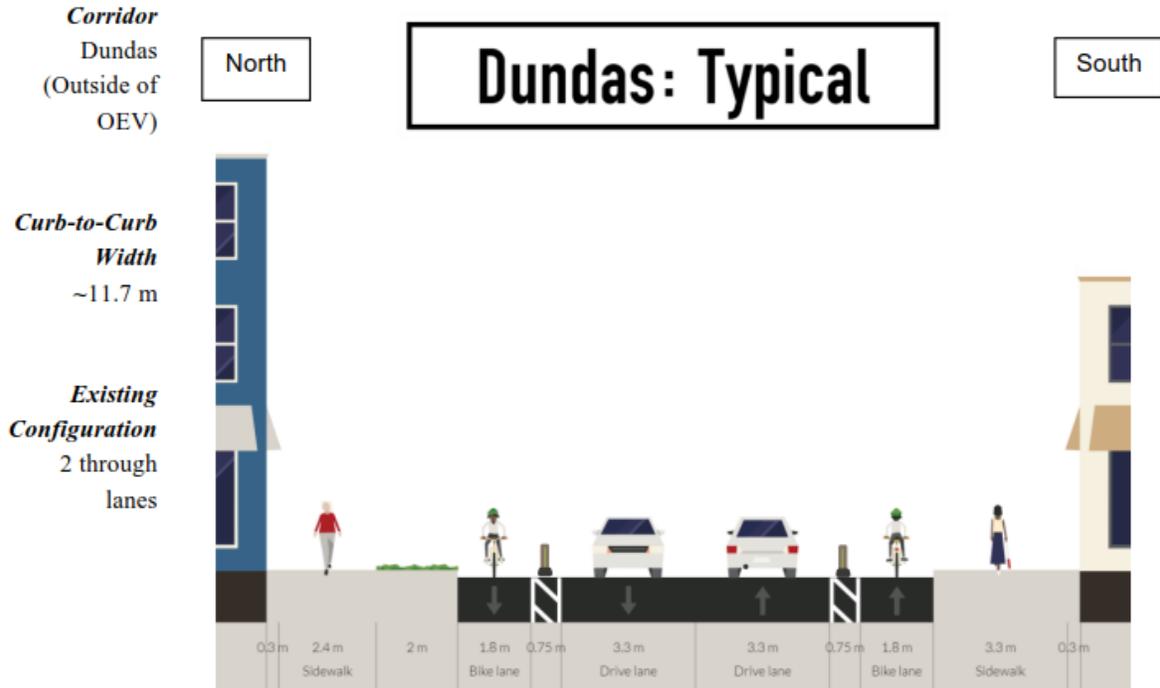
# Dundas Two-way Bi-directional



	Strengths	Weaknesses
<p><b>Dundas Two-way Bi-directional</b></p>	<ul style="list-style-type: none"> <li>• Provides a connective and direct cycling route (Connectivity and Directness)</li> <li>• Provides access for all modes of transportation to destinations in the City, Downtown and OEV (Destination Access &amp; Social Health and Equity)</li> <li>• Less boulevard space required to separate cyclists from motor vehicles</li> </ul>	<ul style="list-style-type: none"> <li>• Impacts ability to provide wider sidewalks along Dundas, especially between Adelaide and Ontario (Streetscaping and Public Realm)</li> <li>• Impacts the businesses on the south side of Dundas between Adelaide and Ontario, as no opportunities for loading zones (Retail Economic Impact)</li> <li>• Approximately 170 parking spots removed throughout the route from Ridout to Ontario (Parking)</li> <li>• Transit operations throughout the OEV would be impacted as transit passengers board and alight on to the two way cycle track (Transit Operations)</li> <li>• Bi-directional cycle tracks on two-way streets are complicated, particularly at intersections and transitions between facility types as this can be challenging for cyclists. Bi-directional cycle tracks are also less intuitive resulting in unexpected conflicts at driveway, side streets, and transit stops (Conflict Mitigation)</li> <li>• Significantly impacts the traffic capacity, as a separate cyclist signal phase is required at intersections resulting in less traffic capacity (Constructability)</li> </ul>

Dundas two-way bi-directional alternative provides a direct cycling route, but this alternative negatively impacts the operations of businesses and introduces additional conflicts. Having a westbound cycle lane on the south side of vehicle traffic is less intuitive, which may result in more conflicts across driveway, loading zones and at transit stops. Cyclists heading westbound up to William Street would have to make the transition from a south side bi-directional cycling facility to a uni-directional cycling facility on the north side. This is accomplished through a separate cyclist signal phase which would negatively impact traffic capacity. This alternative would also propose a smaller sidewalk than existing, which does not allow opportunities for loading zones or patio space and merchandise displays.

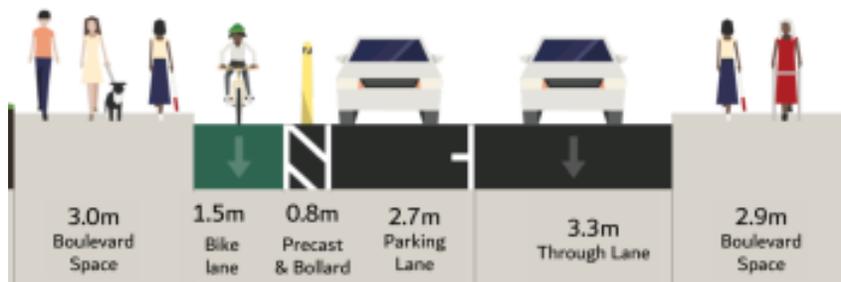
# Dundas Street and Queens Avenue OEV Hybrid



# Queens: Typical

North

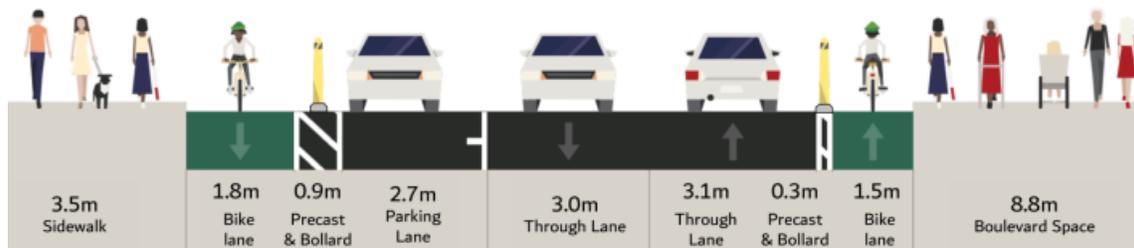
South



# William: Typical

West

East



Dundas OEV Hybrid provides a cycling couplet throughout the Old East Village (OEV) with separated eastbound cycling on Dundas Street and separated westbound cycling on Queens Avenue. This alternative proposes cycling facilities on William Street and Ontario Street to connect back to Dundas Street.

	Strengths	Weaknesses
<p><b>Dundas and Queens OEV Hybrid</b></p>	<ul style="list-style-type: none"> <li>• Provides a connective and direct cycling route (Connectivity and Directness)</li> <li>• Increases the pedestrian realm allowing for larger sidewalks and improved streetscaping within the OEV (Streetscaping and Public Realm)</li> <li>• Provides loading zones for businesses on the south side of Dundas between Adelaide Street and Ontario Street (Retail Economic Impact)</li> <li>• Transit passengers have designated transit stops to board and alight reducing conflicts with other road users (Transit Operations)</li> </ul>	<ul style="list-style-type: none"> <li>• Approximately 170 parking spots removed throughout the route from Ridout Street to Ontario Street (Parking)</li> <li>• Through the OEV transit will be required to serve stops from the through lane which may cause delays (Transit Operations)</li> </ul>

The Dundas and Queens OEV Hybrid option is the preferred alternative for the Downtown OEV East – West Bikeway Corridor Evaluation. This alternative provides a balanced approach in a constrained corridor along Dundas Street in the Old East Village. This alternative provides opportunities to improve the pedestrian realm allowing for wide sidewalks and additional landscaping features. It also, provides businesses loading zones on the south side throughout the OEV, which the OEV BIA has mentioned to be a critical priority for south side businesses that will lose parking. With the Dundas and Queens OEV Hybrid option, City Staff will look to improve the connection on Dundas Street between the Thames Valley Parkway and Dundas Place. Cycle lane improvements will be completed during the detailed design phase and this important connection will be included in the construction of the east-west bikeway.

## King and Queens Couplet



*Corridor*  
Queens (OEV  
and King &  
Queens  
Couplet)

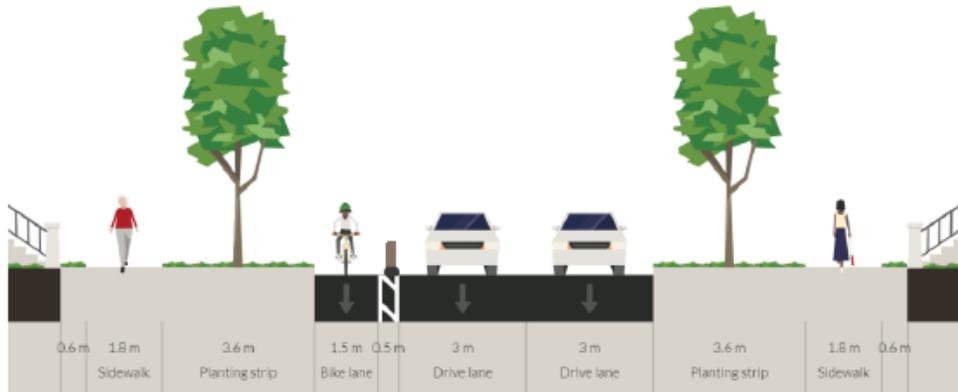
North

**Queens: Typical**

South

*Curb-to-Curb*  
*Width*  
~8.0 m

*Existing*  
*Configuration*  
2 through  
lanes with a  
westbound  
bike lane on  
the north side



*Corridor*  
King (BRT  
Proposal)

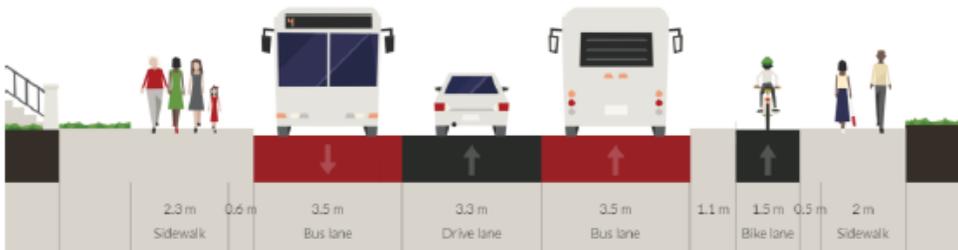
North

**King: BRT Proposal**

South

*Right of Way*  
*Width*  
20.0 m

*Proposed*  
*Configuration*  
2 BRT lanes,  
eastbound  
travel lane,  
eastbound  
raised cycle  
track

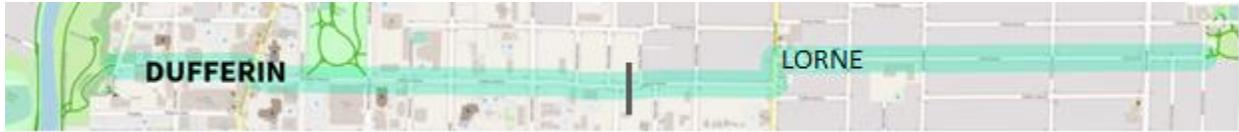


	Strengths	Weaknesses
<b>King Street and Queens Avenue Couplet</b>	<ul style="list-style-type: none"> <li>• Provides improved transit operations (Transit Operations)</li> <li>• Provides access for all modes of transportation to destinations in the City, and OEV (Social Health and Equity)</li> </ul>	<ul style="list-style-type: none"> <li>• There are several driveways along King Street and Queens Avenue resulting in less physical separation for cyclists (Constructability, Conflict Mitigation)</li> <li>• Impacts connectivity for cyclists as King Street cycle facility terminates east of Wellington Street (Connectivity &amp; Directness, Destination Access)</li> </ul>

During the analysis of the BRT drawings, conceptual renderings, and the May 2018 Draft Environmental Project Report, it became apparent that the King Street and Queens Avenue couplet would not be an ideal east-west cycling corridor. Transit operations on King Street and Queens Avenue between Ridout Street and Wellington Street intensified significantly with the removal of buses from Dundas Street to accommodate Dundas Place. As a result, there is insufficient space available to include any cycling facilities on King Street and Queens Avenue between Ridout Street and Wellington Street. These challenges result in low scores for destination access, connectivity, constructability, and cost.

There are other significant concerns with a King Street and Queens Avenue couplet. Along King Street and Queens Avenue, there are many driveways, which reduce the amount of separation that could be provided. North – south connectivity is more challenging with the couplet, resulting in an additional north – south connector street to facilitate connectivity to downtown and OEV. This would increase the constructability and cost for this alternative.

## Dufferin Avenue



Corridor  
Dufferin

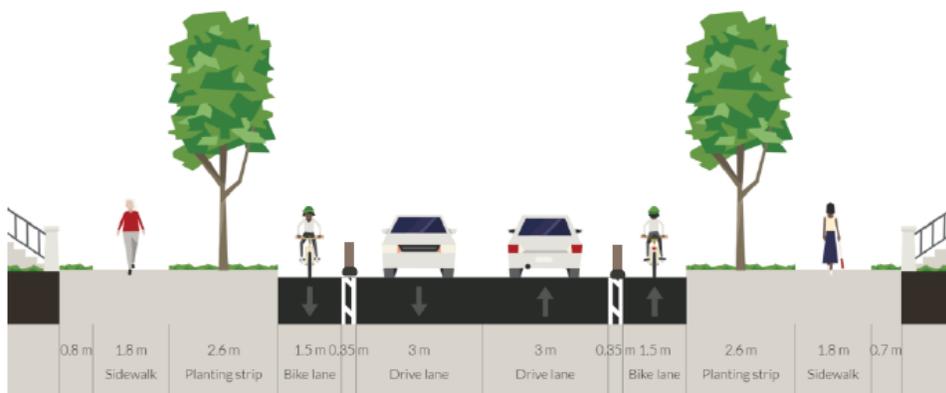
North

### Dufferin: Typical

South

Curb-to-Curb  
Width  
~8.7 m

Existing  
Configuration  
2 travel lanes  
with parking  
on both sides

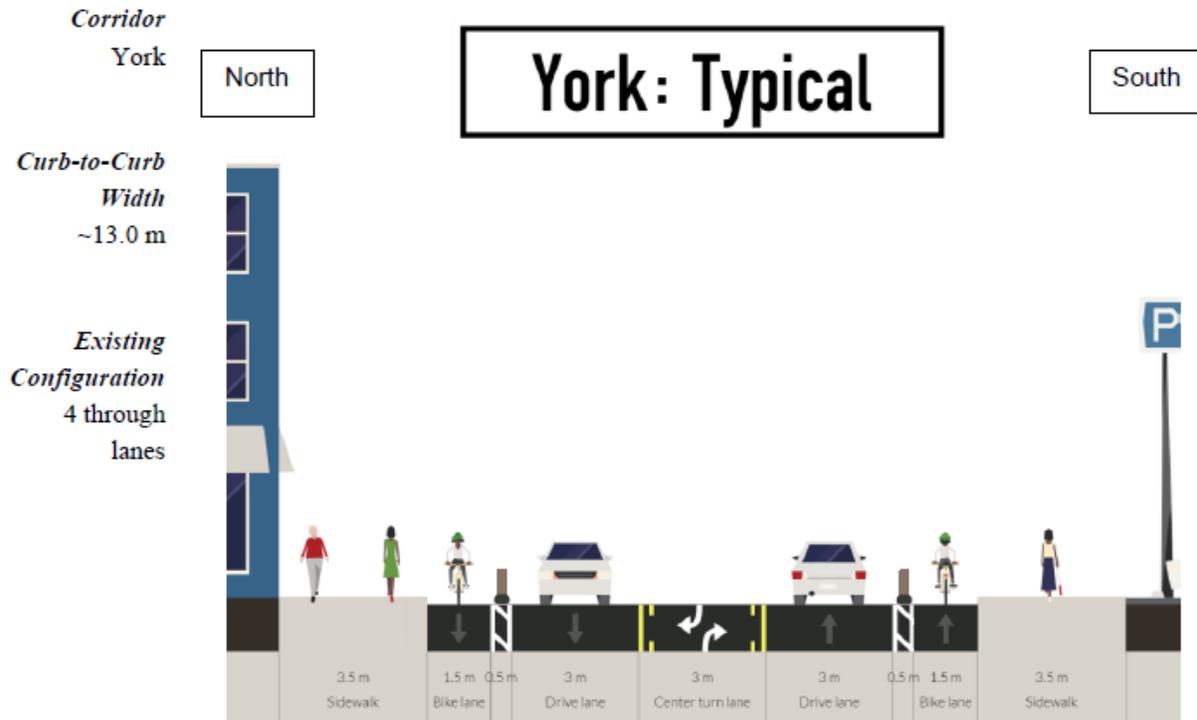


	Strengths	Weaknesses
<b>Dufferin Avenue</b>	<ul style="list-style-type: none"> <li>• Transit stops for local transit wouldn't be impacted due to the low frequency (Transit Operations)</li> <li>• Minimal anticipated impacts to the boulevard space (Streetscaping &amp; Public Realm)</li> </ul>	<ul style="list-style-type: none"> <li>• Dufferin Avenue and Lorne Avenue would require signalization for a separated cycling signal phase because of the jog at Adelaide Street (Constructability)</li> <li>• Approximately 130 parking spots removed throughout the route (Parking)</li> <li>• The route alternative is less direct for cyclists and has minimal destinations (Connectivity &amp; Directness, Destination Access)</li> </ul>

Throughout the Downtown OEV East – West Bikeway Corridor Evaluation, it was confirmed that Dufferin Avenue was a low scoring alternative. This was confirmed during the first public information centre, as attendees ranked Dufferin Avenue and York Street as their least preferred alternatives. The primary issues with Dufferin Avenue are the lack of connectivity to the downtown core and key services.

Dufferin Avenue is mostly single detached residential until the downtown segments. In order to implement a separated cycling facility, a travel lane/parking lane would need to be removed, which negatively affects the traffic operations. The Dufferin Avenue alternative is also indirect and requires a jog through Adelaide Street to connect Dufferin Avenue to Lorne Avenue, which negatively affects constructability and conflict mitigation, with no traffic signal to enable a crossing. Also, a traffic signal at Dufferin Avenue and Adelaide Street would not meet the spacing requirements to the existing traffic signal at Adelaide Street and Lorne Avenue.

## York Street



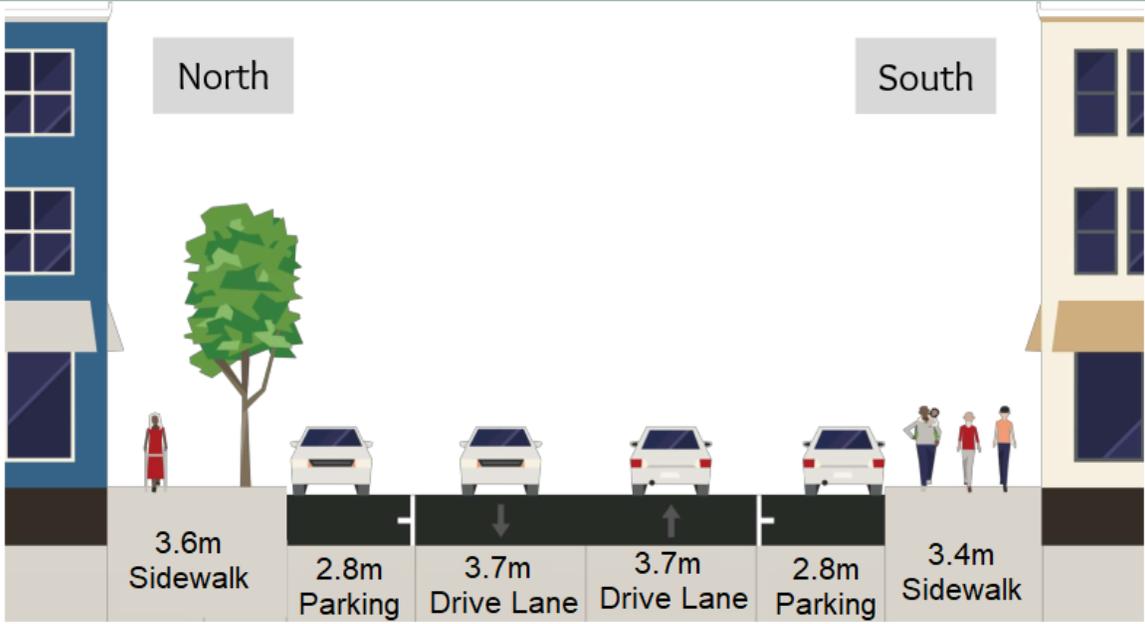
	Strengths	Weaknesses
<b>York Street</b>	<ul style="list-style-type: none"> <li>Minimal parking reductions anticipated (Parking)</li> </ul>	<ul style="list-style-type: none"> <li>20,000 vehicles a day use York Street in addition to numerous driveways, impacting the physical separation for a cycling facility (Conflict Mitigation)</li> <li>Significant impact to traffic operations and roadway capacity as a lane reduction is required to provide a separated cycling facility (Constructability, Traffic Operations, Transit Operations)</li> <li>This route alternative provides limited connectivity to destinations compared to other alternatives (Connectivity &amp; Directness, Destination Access)</li> </ul>

Throughout the Downtown OEV East – West Bikeway Corridor Evaluation, York Street was a low scoring alternative. This was confirmed during the first public information centre, as attendees ranked York Street and Dufferin Avenue as their least preferred alternatives. The primary issues with York Street are the lack of connectivity to the core areas and key services as the corridor primarily services industrial and commercial uses. The existing roadway widths, would not allow for a continuous separated cycling facility unless a travel lane is removed. The loss of a travel lane on York Street would be detrimental to the transportation network.

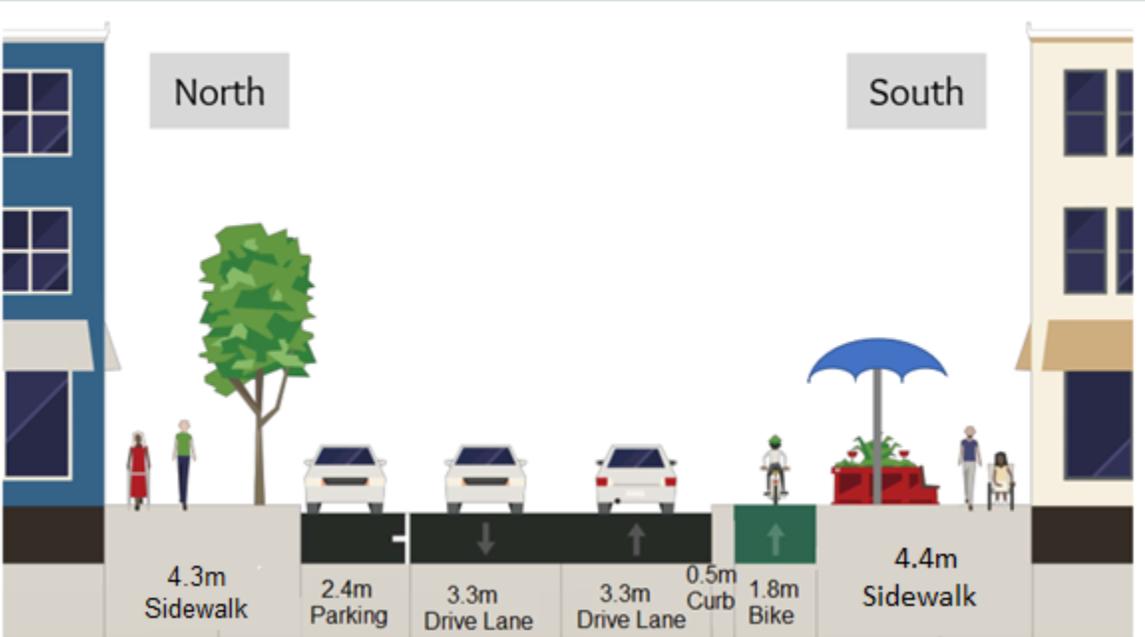
**PREFERRED ALTERNATIVE – DUNDAS & QUEENS OEV HYBRID**

The Dundas Street and Queens Avenue OEV Hybrid is the preferred east-west bikeway alternative to connect to the downtown and OEV. The hybrid option, in comparison to the other alternatives, balances the priorities of stakeholders as it provides two-directional cycling facilities close to destinations, provides additional space in the boulevard that could be used to enhance the pedestrian realm and landscaping features, and also provides more flexibility for businesses through the OEV allowing for loading zones on Dundas Street and opportunities for patios and merchandise displays. The following typical cross section compares existing conditions with that proposed, noting that the cross sections vary throughout the project, particularly with accommodation for loading zones and bus stops.

**Old East Village Today**



**Separated Eastbound Bikeway through the Old East Village**



The proposed improvements will enhance cycling within the core by providing a connected and separated east –west cycling route which connects to the existing separated north – south cycling route on Colborne Street.

The preferred alternative can be incorporated into the construction activities identified in the Infrastructure Lifecycle Renewal Program for Dundas Street between Adelaide Street and Ontario Street for 2020 currently in design. Other segments will be implemented as opportunities arise and budgets facilitate. Further communications and development of mitigation measures will be developed, in particular where on-street parking gets displaced. In the OEV, this includes assessment of streetscape and lighting improvements on connections to parking lots and side street connections between King Street and Queens Avenue.

## **CONCLUSION**

As identified in the London ON Bikes Cycling Master Plan, there is a desire for a separated east – west cycling facility through the downtown / OEV connecting to other destinations in the City of London.

Six alternatives were evaluated using 11 different criteria to capture the importance and varying priorities of stakeholders to ensure a fair comparison between alternatives. Staff retained WSP to utilize their expertise and knowledge of cycling infrastructure to prepare and evaluate these corridors, and by their analysis indicates that the Dundas and Queens OEV Hybrid is the preferred alternative. This route provides for a balanced approach to the varying priorities along Dundas Street especially given its constrained nature through the Old East Village where it is not possible to fit all of the desired street elements.

Throughout the Downtown OEV East – West Bikeway Corridor Evaluation, City staff have had numerous stakeholder meetings, Public Information Centre's, and day-to-day interactions discussing this project with stakeholders, organizations and individuals. These discussions led to the inclusion of additional evaluation criteria to better capture the importance of varying stakeholder priorities and ensuring the corridors are evaluated equally and fairly.

Implementation is expected to occur in a phased approach, combining with pre-planned construction projects where possible to mitigate the social disruption associated with construction as well as to benefit from economies of scale.

The first phase of the separated east-west bikeway is to be included with the planned Infrastructure Lifecycle Renewal Program on Dundas Street from Adelaide Street to Ontario Street which is anticipated to start construction in 2020. Future phases of the east – west bikeway can be coordinated with planned construction projects and be scheduled accordingly with available budget and Council approval. Staff will also continue to progress the pedestrian connectivity assessment within the OEV to identify and implement connection improvements between Dundas Street and surrounding parking lots and transit routes.

The separated east - west cycling facility is a marquee connection identified in the Cycling Master Plan and allows for a well-connected and desirable cycling route providing benefit to not only the downtown but to the surrounding neighborhoods.

## Acknowledgements

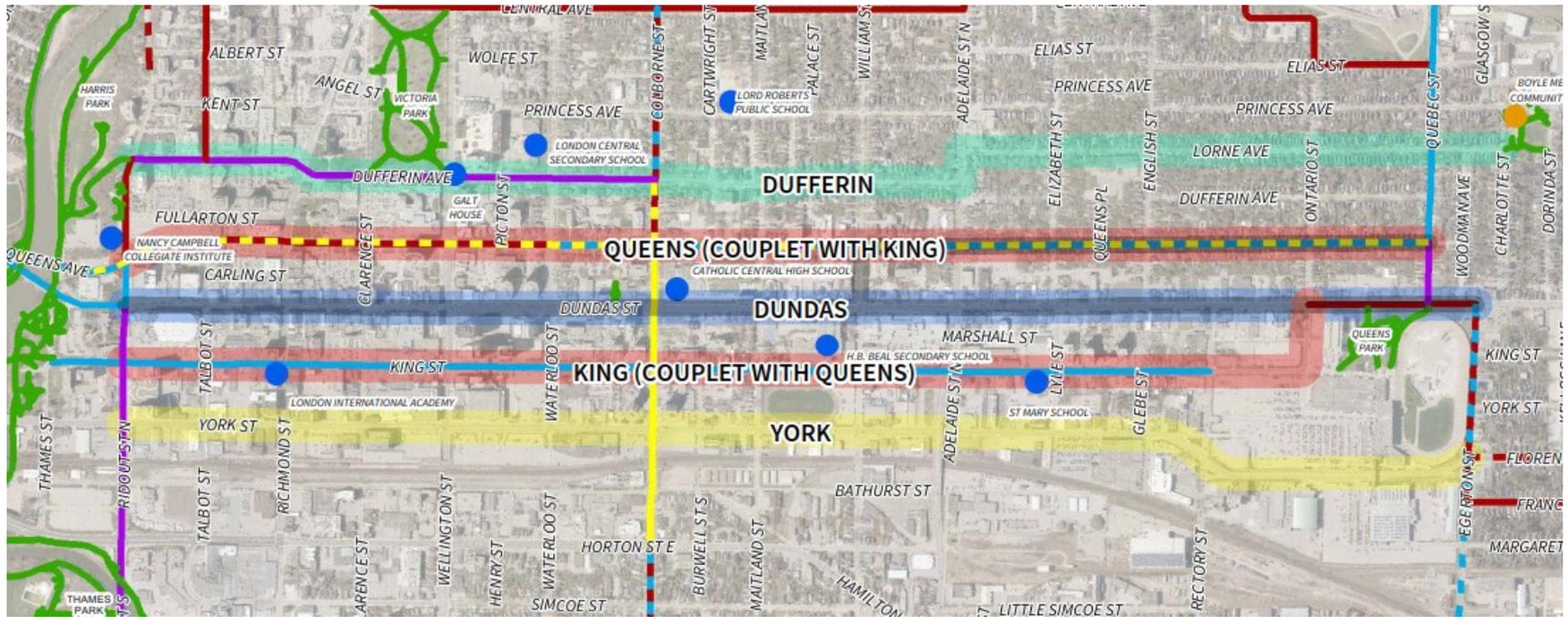
This report was prepared by Andrew Giesen, CET, Senior Transportation Technologist and Peter Kavcic, P.Eng., Transportation Design Engineer of the Transportation Planning & Design Division.

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

- c: Katie Burns, London Transit Commission  
Jen Pastorius, Old East Village Business Improvement Association  
Janette Macdonald, Downtown London  
Daniel Hall, London Cycle Link  
Cycling Advisory Committee  
John Fleming, Managing Director, Planning and City Planner



# Downtown OEV East West Bikeway Corridor Evaluation



Civic Works Committee – February 20, 2019



## Dufferin



## York



## King & Queens Couplet



## Dundas (two-way unidirectional)





# Consultation

- The east-west bikeway study was coordinated with the Secondary Plan process, which recognized the different perspectives and unique needs from stakeholders
- Staff incorporated comments and feedback from the public and stakeholders which refined the evaluation criteria and incorporated two additional route alternatives



## Dundas & Queens Hybrid OEV Couplet



## Dundas OEV (two-way bidirectional)





# Study Evaluation Criteria

- These criteria were developed using best practices from Ontario Traffic Manual (OTM) Book 18: Cycling Facilities and with input from key stakeholders



Conflict Mitigation



Transit Operations



Streetscape & Public Realm



Constructability



Traffic Operations



Social Health & Equity



On-Street Parking



Cost



Retail Economic Impact



Connectivity & Directness

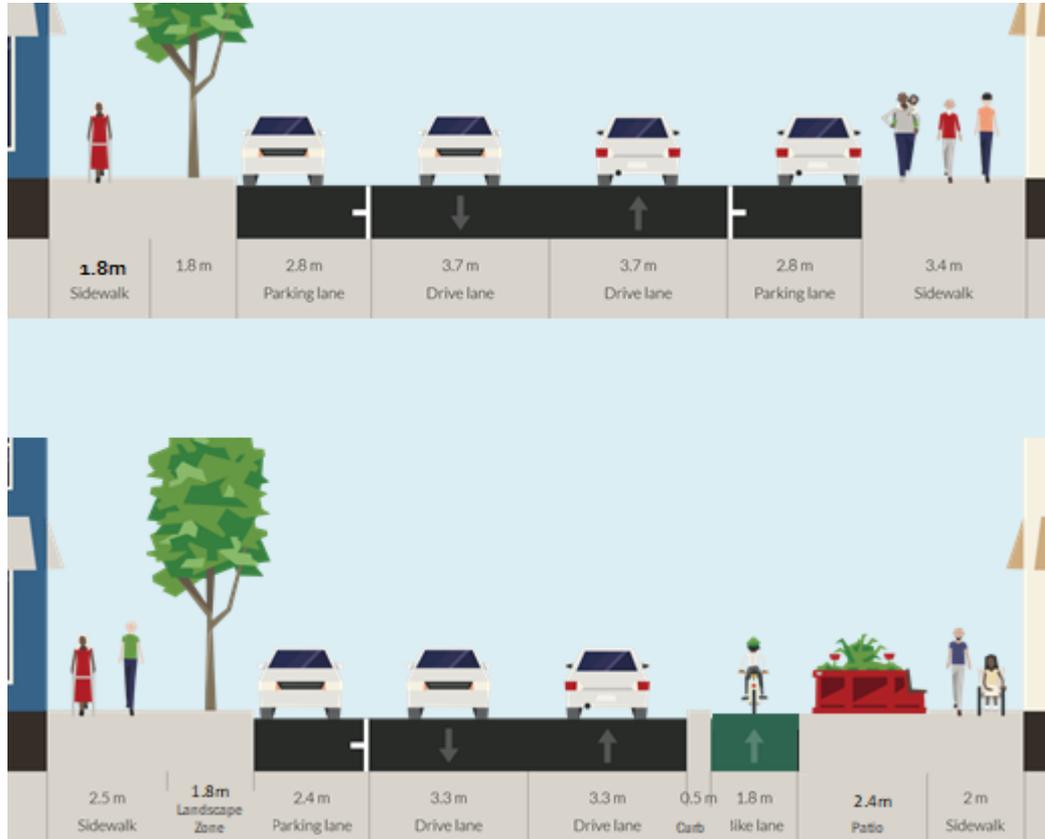


Destination Access





# Enhancing the Public Realm



New street features enhance the public realm and vitality of the Old East Village

- **Landscaping zones** to beautify the street
- **Wider sidewalks** to attract pedestrians and provide opportunities for businesses
- **Loading zones** to provide businesses what they require for their operations
- **Separated bikeway** for eastbound cyclists



# Next Steps

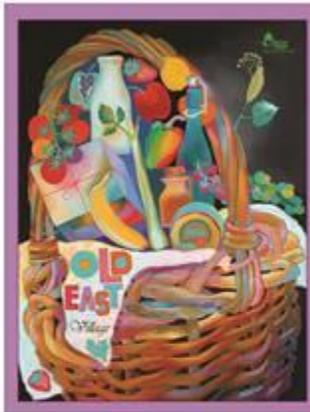
- Report the recommended alternative to council
- The recommendation from the east-west study and OEV secondary plan process to build the 2020 infrastructure program planned for construction on Dundas Street
- Continue to enhance connectivity to Dundas Street within the Old East Village
- Consult with stakeholders during the design and implementation phases

**From:** Jen Pastorius  
**Sent:** Monday, February 04, 2019 3:07 PM  
**To:** Saunders, Cathy <[csaunder@london.ca](mailto:csaunder@london.ca)>  
**Subject:** OEV BIA Delegation for Feb 20th Civic Works Meeting

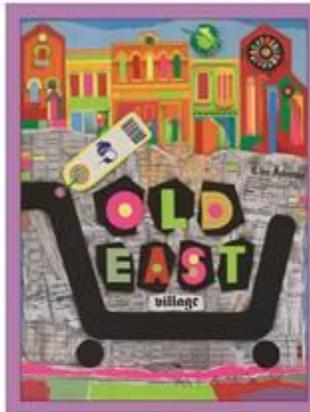
Hello Cathy,

I would like to request Delegation Status for the Feb 20<sup>th</sup> Civic Works Committee to speak to the BIA perspective regarding the East West Bikeway Report being submitted by Transportation Engineering. We will likely be bringing a PowerPoint presentation with us. Please let me know if this is enough information or if you need further details. Thanks Cathy.

Kind regards,  
Jennifer Pastorius  
Manager, Old East Village BIA  
316 Rectory Street  
519-645-7662  
[Oldeastvillage.com](http://Oldeastvillage.com)



**Eat**



**Shop**



**Play**



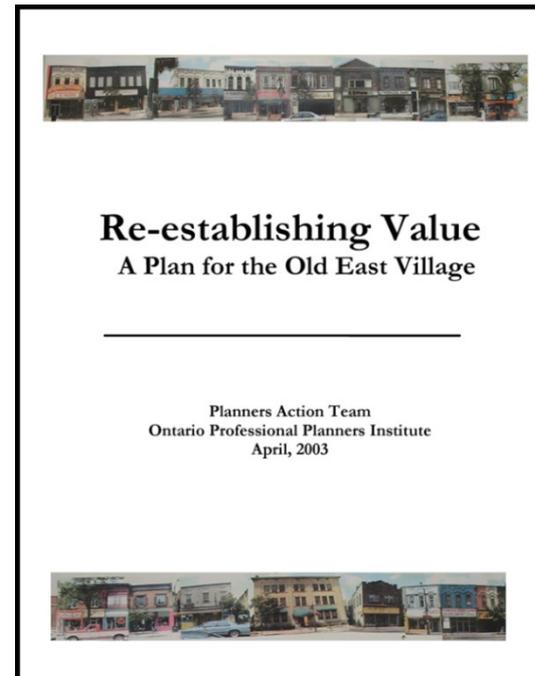
# Downtown OEV East-West Bikeway

Feedback – Old East Village BIA

Presented by: Jen Pastorius, BIA Manager

# Supporting Documents

- Mayor's Report on Old East Village (1998)
- Planner's Action Team Report (2003)
- OEV Community Improvement Plan (2004)
- OEV Commercial Corridor Urban Design Manual (2016)
- London Plan (2016)
- Transportation Master Plan (2013)



# On-Street Parking

Business community has stressed the importance of on-street parking



# Amenities

Request to provide opportunities for business friendly amenities



# Connectivity



# Thank You!



The Old East Village BIA would like to thank you for your time and we look forward to continuing our successful, collaborative relationship.

Hi there,

I'd like to have delegation status for the Feb 20th Civic Works meeting to speak to the East-West Bikeway study.

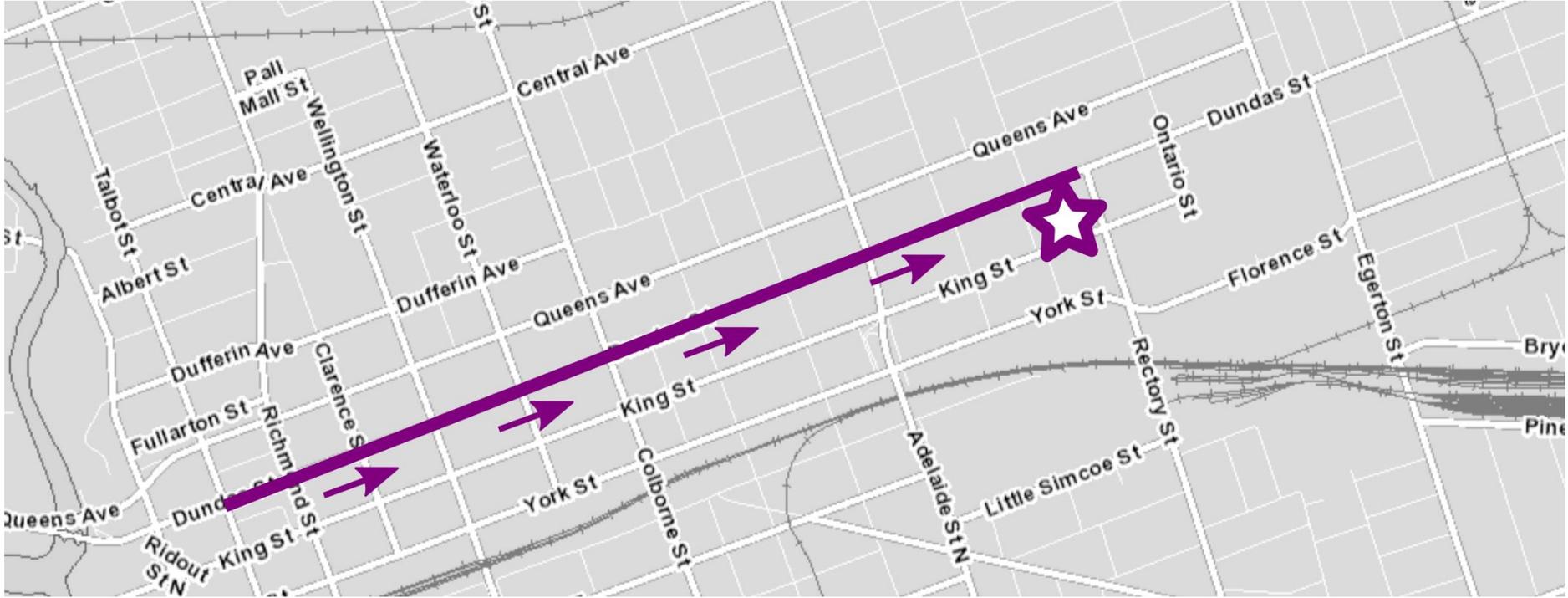
**Daniel Hall**  
Executive Director

**BIKES ON**



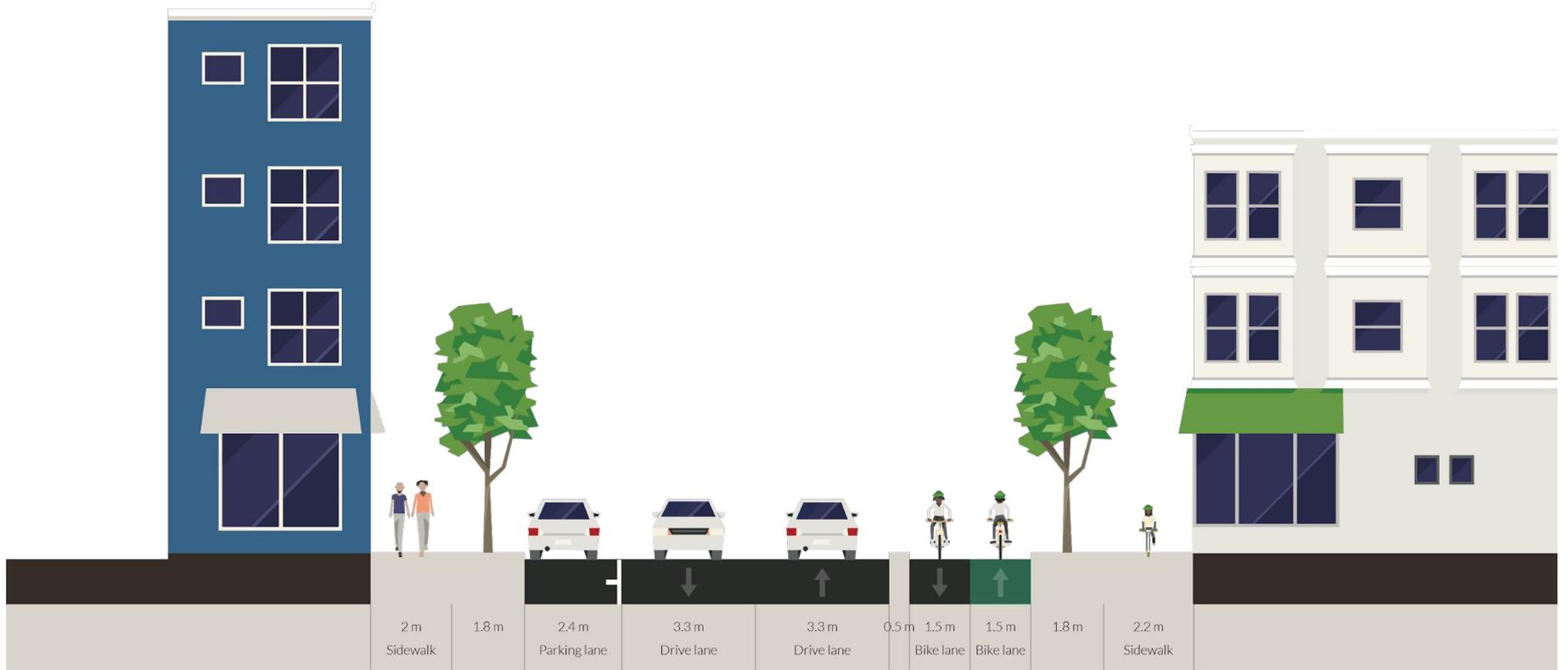
**DUNDAS**

# City's Current Recommendation





# LCL's Recommendation: Dundas St in OEV



# More people on bikes

1. Cannon St, Hamilton - 580 daily riders in 2015 to 972 daily riders in 2017
2. Laurier Ave, Ottawa - 330% increase in cyclists over 5 years
3. Downtown cycle tracks, Calgary - 40% increase in first year

# Rue Rachel in Montreal



# A better Old East Village



# We want a fair evaluation

Retail Economic Impact - “Recognizing the importance of providing customer access by all modes of travel, this criteria assesses the overall impacts to **walking, cycling, and parking access.**”

# Our ask

- 1) Do not endorse preferred hybrid alternative
- 2) Direct staff to include two-way cycle track on Dundas

**From:** Janette MacDonald  
**Sent:** Friday, February 15, 2019 3:53 PM  
**To:** CWC <[cwc@london.ca](mailto:cwc@london.ca)>  
**Cc:** Gerald Gallacher  
**Subject:** Request for Delegation Status - February 20th CWC meeting

Good afternoon Chair and Members of Civic Works Committee.

Downtown London is requesting delegation status at the February 20th, 2019 meeting. The spokesperson will be Gerald Gallacher - Board Chair - LDBA.

Several of our stakeholders have concerns about the proposed installation of Temporary Bike Lanes on King St between Ridout and Richmond Streets. We would appreciate an opportunity to have these concerns heard and be on the record.

Thank you in advance for your consideration.

Best regards,

Janette.

**Janette MacDonald,  
CEO and General Manager.**

**Downtown London  
123 King St,  
London, ON. N6A 3N7.**

**DEFERRED MATTERS**

**CIVIC WORKS COMMITTEE  
(as of February 11, 2019)**

Item No.	File No.	Subject	Request Date	Requested/ Expected Reply Date	Person Responsible	Status
1.	75.	<p><b><u>Options for Increased Recycling in the Downtown Core</u></b>            That, on the recommendation of the Director, Environment, Fleet and Solid Waste, the following actions be taken with respect to the options for increased recycling in the Downtown core:</p> <p>b) the Civic Administration BE DIRECTED to report back to the Civic Works Committee in May 2017 with respect to:</p> <ul style="list-style-type: none"> <li>i) the outcome of the discussions with Downtown London, the London Downtown Business Association and the Old East Village Business Improvement Area;</li> <li>ii) potential funding opportunities as part of upcoming provincial legislation and regulations, service fees, direct business contributions, that could be used to lower recycling program costs in the Downtown core;</li> <li>iii) the future role of municipal governments with respect to recycling services in Downtown and Business Areas; and,</li> <li>iv) the recommended approach for increasing recycling in the Downtown area.</li> </ul>	Dec 12/16	1 <sup>st</sup> Quarter 2019	K. Scherr J. Stanford	
2.	76.	<p><b><u>Rapid Transit Corridor Traffic Flow</u></b>            That the Civic Administration BE DIRECTED to report back on the feasibility of implementing specific pick-up and drop-off times for services, such as deliveries and curbside pick-up of recycling and waste collection to local businesses in the downtown area and in particular, along the proposed rapid transit corridors.</p>	Dec 12/16	2nd Quarter 2019	K. Scherr J. Ramsay	

3.	78.	<p><b><u>Garbage and Recycling Collection and Next Steps</u></b>  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 garbage and recycling collection and next steps:  b) the Civic Administration BE DIRECTED to report back to Civic Works Committee by December 2017 with:  i) <del>a Business Case including a detailed feasibility study of options and potential next steps to change the City's fleet of garbage packers from diesel to compressed natural gas (CNG); and,</del>  ii) an Options Report for the introduction of a semi or fully automated garbage collection system including considerations for customers and operational impacts.</p>	Jan 10/17	2 <sup>nd</sup> Quarter 2019	K. Scherr J. Stanford	2 <sup>nd</sup> Quarter 2019
4.	91.	<p><b><u>Warranted Sidewalk Program</u></b>  That the following actions be taken with respect to the Warranted Sidewalk Program:  <del>a) the Managing Director, Environmental and Engineering Services and City Engineer BE REQUESTED to develop an improved community engagement strategy with respect to Warranted Sidewalk Program; and,</del>  b) the Managing Director, Environmental and Engineering Services and City Engineer, BE REQUESTED to report back to the Civic Works Committee with respect to the potential future provision of additional sidewalk installation options on the east side of Regal Drive in the Hillcrest Public School area; it being noted that currently planned work would not be impeded by the potential additional work; it being further noted that the Civic Works Committee received a delegation and communication dated September 22, 2017 from L. and F. Conley and the attached presentation from the Division Manager, Transportation Planning and Design, with respect to this matter.</p>	Sept 26/17	2 <sup>nd</sup> Quarter 2019	D. MacRae	
5.	93.	<p><b><u>Public Notification Policy for Construction Projects</u></b>  That the Civic Administration BE DIRECTED to amend the "Public Notification Policy for Construction Projects" to provide for a notification process that would ensure that property owners would be given at least one week's written notice of the City of London's intent to undertake maintenance activities on the City boulevard adjacent to their property; it being noted that a communication from Councillor V. Ridley was received with respect to this matter.</p>	Nov 21/17	1 <sup>st</sup> Quarter 2019	U. DeCandido	

6.	94.	<p><b><u>Report on Private Works Impacting the Transportation Network</u></b></p> <p>b) report back to the Civic Works Committee, by the end of March 2018, on:</p> <p>i) ways to improve communication with affected business, organizations and residents about the timing, duration and impacts of permits for approved works, including unexpected developments;</p> <p>ii) ways to improve the scheduling and coordination of private and public projects affecting roadways and sidewalks that carry significant pedestrian, cyclist, transit and auto traffic;</p> <p>iii) resources required to implement these improvements; and</p> <p>iv) any other improvements identified through the review resources required to implement these improvements; and</p>	Dec 4/17	3rd Quarter 2018	G. Kotsifas	George to provide new date
7.	99.	<p><b><u>Pedestrian Sidewalk – Pack Road and Colonel Talbot Road</u></b></p> <p>That the communication from J. Burns related to a request for a pedestrian crosswalk at the intersection of Pack Road and Colonel Talbot Road BE REFERRED to the Division Manager, Transportation Planning and Design for review and consultation with Mr. Burns as well as a report back to the appropriate standing committee related to this matter.</p>	Feb. 6, 2018	2nd Quarter 2019	D. MacRae S. Maguire	
8.	104	<p><b><u>Toilets are Not Garbage Cans</u></b></p> <p>That the Civic Administration BE REQUESTED to undertake the following with respect to the "Toilets Are Not Garbage Cans" public awareness sticker initiative, coordinated by B. Orr, Sewer Outreach and Control Inspector</p>	June 19, 2018	1st Quarter 2019	S. Mathers	
9.	105	<p><b><u>Environmental Assessment</u></b></p> <p>That the Managing Director, Environmental and Engineering Services &amp; City Engineer BE REQUESTED to report on the outstanding items that are not addressed during the Environmental Assessment response be followed up through the detailed design phase in its report to the Civic Works Committee.</p>	July 25, 2018	1st Quarter 2019	S. Mathers P. Yeoman	