

Agenda Including Addeds

Civic Works Committee

The 5th Meeting of the Civic Works Committee

March 30, 2021, 12:00 PM

2021 Meeting - Virtual Meeting during the COVID-19 Emergency

Please check the City website for current details of COVID-19 service impacts.

Meetings can be viewed via live-streaming on YouTube and the City website

Members

Councillors E. Pelosa (Chair), J. Helmer, M. Cassidy, P. Van Meerbergen, S. Turner,
Mayor E. Holder

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Transportation Advisory Committee

Report

2nd Meeting of the Transportation Advisory Committee
February 23, 2021
Advisory Committee Virtual Meeting - during the COVID-19 Emergency

Attendance PRESENT: D. Foster (Chair), A. Abiola, D. Doroshenko, T. Kerr, T. Khan, P Moore, M. Rice and M.D. Ross and J. Bunn (Committee Clerk)

ABSENT: G. Bikas, B. Gibson and S. Wraight

ALSO PRESENT: J. Bos, G. Dales, J. Dann, Sgt. S. Harding, A. Jain, P. Kavcic, J. Kostyniuk, T. Macbeth, D. MacRae, A. Miller, M. Morris, A. Pascual, J. Patel, K. Scherr, J. Standford and B. Westlake-Power

The meeting was called to order at 12:15 PM.

1. Call to Order

1.1 Disclosures of Pecuniary Interest

That it BE NOTED that no pecuniary interests were disclosed.

2. Scheduled Items

None.

3. Consent

3.1 1st Report of the Transportation Advisory Committee

That it BE NOTED that the 1st Report of the Transportation Advisory Committee, from its meeting held on January 26, 2021, was received.

3.2 Notice of Planning Application - Draft Plan of Subdivision Official Plan and Zoning By-law Amendment - 14 Gideon Drive and 2012 Oxford Street West

That it BE NOTED that the Notice of Planning Application, dated February 10, 2021, from S. Meksula, Senior Planner, with respect to a Draft Plan of Subdivision Official Plan and Zoning By-law Amendment related to the properties located at 14 Gideon Drive and 2012 Oxford Street West, was received.

3.3 Notice of Planning Application - Official Plan Amendment - Argyle Community Improvement Plan

That it BE NOTED that the Notice of Planning Application, dated January 28, 2021, from I. de Ceuster, Planner I, with respect to an Official Plan Amendment related to the Argyle Community Improvement Plan, was received.

3.4 2021 TAC Work Plan

That it BE NOTED that the Transportation Advisory Committee 2021 Work Plan, as at January 26, 2021, was received.

3.5 Annual New Sidewalk Program

That the following actions be taken with respect to the Annual New Sidewalk Program:

- a) the Civic Administration BE REQUESTED to reinstate putting the Annual Warranted Sidewalk Program document and application on the City of London website; and,
- b) the presentation, dated February 23, 2021, from J. Bos, Technologist II, with respect to the Annual New Sidewalk Program, BE RECEIVED.

3.6 Sunningdale Road and Hyde Park Road Intersection Improvements

That it BE NOTED that the presentation, dated February 23, 2021, from J. Bos, Technologist II, with respect to the Sunningdale Road and Hyde Park Road Intersection Improvements, was received.

3.7 Adelaide Street North at CP Railway Grade Separation (Adelaide Underpass)

That it BE NOTED that the presentation, dated February 23, 2021, from P. Kavcic, Manager, Development Engineering and J. Ackworth, WSP Canada Inc., with respect to the Adelaide Street North at CP Railway Grade Separation ("Adelaide Underpass"), was received.

4. Sub-Committees and Working Groups

4.1 Working Group Updates

That it BE NOTED that the Transportation Advisory Committee held a general discussion with respect to updates on the various Working Groups.

5. Items for Discussion

None.

6. Adjournment

The meeting adjourned at 12:38 PM.

Waste Management Working Group

Report

1st Meeting of the Waste Management Working Group

March 16, 2021

Virtual Meeting - during the COVID-19 Emergency

City Hall is open to the public, with reduced capacity and physical distancing requirements.

Attendance PRESENT: Councillors M. van Holst (Chair), S. Lehman, E. Pelozza and S. Turner and J. Bunn (Secretary)

ALSO PRESENT: W. Abbott, M. Losee, K. Scherr, and J. Stanford

The meeting was called to order at 4:01 PM; it being noted that Councillors S. Lehman, E. Pelozza, S. Turner and M. van Holst were in remote attendance.

1. Call to Order

1.1 Disclosures of Pecuniary Interest

That it BE NOTED that no pecuniary interests were disclosed.

1.2 Election of Chair and Vice Chair for the term ending November 30, 2021

That it BE NOTED that the Waste Management Working Group elected Councillor M. van Holst and Councillor S. Turner as Chair and Vice Chair, respectively, for the term ending November 30, 2021.

2. Scheduled Items

None.

3. Consent

3.1 2nd Report of the Waste Management Working Group

That it BE NOTED that the 2nd Report of the Waste Management Working Group, from its meeting held on August 13, 2020, was received.

3.2 Progress Report #12: Community Engagement Program Update – August 1, 2020 to February 28, 2021

That it BE NOTED that the staff report dated March 16, 2021, from the Director, Environment, Fleet and Solid Waste, with respect to Progress Report #12 related to a Community Engagement Program Update - August 1, 2020 to February 28, 2021, was received.

4. Items for Discussion

4.1 Proposed Draft Environmental Assessment Study Report for the Expansion of the W12A Landfill

That, on the recommendation of the Director, Environment, Fleet and Solid Waste, the following actions be taken with respect to the staff report dated March 16, 2021 with respect to the Proposed Draft Environmental Assessment Study Report for the Expansion of the W12A Landfill:

- a) the release of the above-noted staff-report for review and comment by the Government Review Team, Indigenous Communities and the general public, BE SUPPORTED; it being noted that minor changes/revisions to the report may be made prior to the release; and,
- b) the above-noted staff report BE RECEIVED.

4.2 Review of W12A Landfill Community Enhancement and Mitigation Measures Program

That it BE NOTED that the presentation, as appended to the agenda, from J. Stanford, Director, Environment, Fleet and Solid Waste, with respect to a Review of the W12A Landfill Community Enhancement and Mitigative Measures Program, was received.

4.3 Updates on 60% Waste Diversion Action Plan and Resource Recovery Strategy - Verbal Update

That it BE NOTED that a verbal update from J. Stanford, Director, Environmental, Fleet and Solid Waste, with respect to the 60% Waste Diversion Action Plan and Resource Recovery Strategy, was received.

5. Adjournment

The meeting adjourned at 5:05 PM.

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P. Eng., MBA, FEC Managing Director,
Environmental & Engineering Services & City Engineer

Subject: Investing in Canada Infrastructure Program (ICIP) Public
Transit Stream: Approval of Transfer Payment Agreement

Date: March 30, 2021

Recommendation

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the attached proposed by-law (Appendix “A”) **BE INTRODUCED** to:

- (a) approve Transfer Payment Agreement (TPA) for the Investing in Canada Infrastructure Program (ICIP): Public Transit Stream between Her Majesty the Queen in Right of Ontario represented by the Minister of Transportation for the Province of Ontario and The Corporation of the City of London (the “Agreement”);
- (b) authorize the Mayor and the City Clerk to execute the Agreement;
- (c) delegate authority to approve further Amending Agreements to the Agreement.

Executive Summary

The Investing in Canada Infrastructure Program is a Federal infrastructure program designed to create long-term economic growth, build inclusive, sustainable and resilient communities, and support a low-carbon economy. Investments in infrastructure are being made through targeted funding streams; under the Public Transit Stream, the Government is investing \$7.5 billion over ten years towards improving the capacity, quality, safety of and access to public transit infrastructure. It is noted that the funding stream at the time of application was originally named “Public Transit Infrastructure Stream (PTIS)” but has subsequently been renamed the “Public Transit Stream (PTS)”.

In March 2019, the Municipal Council approved ten public transit and active transportation infrastructure projects for submission for funding consideration under the ICIP-PTS program.

On June 25, 2019, the Province pledged \$103.2 million for these projects and on August 23, 2019, the Government of Canada announced \$123.8 million in funding. The City of London contribution is more than \$148 million, for a total investment of \$375 million. Eligible cost expenditures were approved and the program requirements communicated to enable progress on projects while the details of the TPA were established.

This report introduces a by-law to authorize the Mayor and the City Clerk to execute the TPA and delegates authority to execute any future Amending Agreements between Her Majesty the Queen in Right of Ontario, represented by the Minister of Transportation for the Province of Ontario and The Corporation of the City of London with respect to the Investing in Canada Infrastructure Program (ICIP): Public Transit Stream.

Linkage to the Corporate Strategic Plan

The following report supports the Strategic Plan through the strategic focus area of “Building a Sustainable City”, under the outcome of ensuring London’s infrastructure is built, maintained and operated to meet the long-term needs of our community. Furthermore, this report supports the Strategic Plan’s key area of focus of “Creating a Safe London for Women and Girls” and the outcome of enhancing the potential for women and girls to live safe lives.

Government partnership and investments supporting public transit infrastructure in London represent important contributions to maintaining and improving the quality of life of all Londoners.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

- Strategic Priorities and Policy Committee, March 20, 2019, Agenda Item 3.1 Investing in Canada Infrastructure Program Public Transit Stream Transportation Project List for Consideration. The report can be found on the City's website by visiting:
<https://pub-london.escribemeetings.com/Meeting.aspx?Id=2cb10fa6-0799-41fc-bed1-38b08de49d22&Agenda=Merged&lang=English>
- Strategic Priorities and Policy Committee, October 28, 2019, Agenda Item 2.3 Investing in Canada Infrastructure Plan – Public Transit Infrastructure Stream – Approved Projects. The report can be found on the City's website by visiting:
<https://pub-london.escribemeetings.com/Meeting.aspx?Id=3469df7b-b8d1-42cf-9c28-651233427aa5&Agenda=Merged&lang=English>

2.0 Financial Impact/Considerations

The Investing in Canada Infrastructure Program (ICIP) is a Federal infrastructure program designed to create long-term economic growth, build inclusive, sustainable, and resilient communities, and support a low-carbon economy. Investments in infrastructure are being made through targeted funding streams; under the Public Transit Stream, the Government is investing \$7.5 billion over ten years towards improving the capacity, quality, safety of and access to public transit infrastructure. It is noted that the funding stream at the time of application was originally named “Public Transit Infrastructure Stream (PTIS)” but has subsequently been renamed the “Public Transit Stream (PTS)”.

In February 2019, the Municipal Council directed the Civic Administration to assemble a list of transportation projects to be considered for provincial and federal funding and able to be delivered within the program timing window of the ICIP-PTS program as per the terms of the TPA. To be considered, the projects had to improve the capacity of public transit infrastructure, the quality or safety of transit systems or access to a public transit system. The program requirements also state that public transit projects and active transportation projects that connect citizens to a public transit system need to be consistent with a land-use or transportation plan or strategy.

In March 2019, the Municipal Council approved ten public transit and active transportation infrastructure projects for submission for funding consideration under the ICIP-PTS program;

- Downtown Loop
- East London Link
- Wellington Gateway
- Expansion Buses
- Bus Stop Amenities
- Intelligent Traffic Signals
- Adelaide Street Underpass Active Transportation Connections
- Dundas Place Thames Valley Parkway Active Transportation Connection
- Dundas Street Old East Village Streetscape Improvements
- Oxford Street / Wharncliffe Road Intersection Improvements

On June 25, 2019, the Province pledged \$103.2 million for these projects and on August 23, 2019, the Government of Canada announced \$123.8 million in funding. The City of London contribution is more than \$148 million, for a total investment of \$375

million. Approval to incur eligible costs was provided in a letter from the Minister of Transportation dated October 10, 2019 and progress on projects has begun.

The TPA formalizes the program requirements and sets out the maximum funds in the amount of \$227,019,949 that will be provided to The Corporation of the City of London for the purpose of carrying out the ten projects on the approved list. The eligibility determination of Own-Force Labour Costs (City staff costs) for the Downtown Loop, East London Link and Wellington Gateway projects is pending and is subject to Canada's written consent:

The Federal contribution toward Total Eligible cost is 40%, Provincial contribution towards Total Eligible cost is 33.33% and the Municipal contribution towards Total Eligible cost is 26.67%, with the eligibility period up to October 31, 2027 as per TPA. Funding for the ICIP program is currently held within the 2020-2023 Multi-Year Capital Budget therefore no additional changes will be required upon execution of this Transfer Payment Agreement.

3.0 Risk Considerations

Risk Management has reviewed the agreement and notes that Article 9.0 – Indemnity requires the City to indemnify and hold harmless the Province from and against any loss or proceeding, unless solely caused by the Province's negligence or wilful misconduct. Although this clause exposes the City to risk, the benefits of the Agreement outweigh the risks. The City will mitigate this exposure through appropriate risk transfer controls set within the construction and consulting agreements associated with these projects.

Conclusion

The Corporation of the City of London has been successful in securing over \$227 million in Provincial and Federal funding for important City projects under the Investing in Canada Infrastructure Program Public Transit Stream.

This report introduces a by-law to authorize the Mayor and the City Clerk to execute the Transfer Payment Agreement, and delegates authority to execute any future Amending Agreements between Her Majesty the Queen in Right of Ontario, represented by the Minister of Transportation for the Province of Ontario and The Corporation of the City of London with respect to the Investing in Canada Infrastructure Program: Public Transit Stream.

Submitted by: **Doug MacRae, P. Eng., MPA, Director, Roads and Transportation**

Recommended by: **Kelly Scherr, P. Eng., MBA, FEC Managing Director, Environmental & Engineering Services and City Engineer**

Attach: Appendix "A" - Proposed By-Law
London and Ontario ICIP TPA

cc: Jennie A. Dann
Shane Maguire
Garfield Dales
Ted Koza
Kelly Paleczny

Anna Lisa Barbon
Adam Thompson
Kyle Murray
John Millson
Alan Dunbar

Appendix “A”

Bill No.
2021

By-law No.

A by-law to approve and authorize the execution of Transfer Payment Agreement for the Investing in Canada Infrastructure Program (ICIP): Public Transit Stream between Her Majesty the Queen in Right of Ontario, represented by the Minister of Transportation for the Province of Ontario and The Corporation of the City of London.

WHEREAS subsection 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 subsection 10(1) of the *Municipal Act, 2001* provides that a municipality may provide any service or thing that the municipality considers necessary or desirable for the public;

AND WHEREAS subsection 10(2) of the *Municipal Act, 2001* provides that a municipality may pass by-laws respecting, among other things: i) economic, social and environmental well-being of the municipality, including respecting climate change; and ii) financial management of the municipality;

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

1. (a) The Transfer Payment Agreement for the Investing in Canada Infrastructure Program (ICIP): Public Transit Stream between Her Majesty the Queen in right of Ontario, represented by the Minister of Transportation for the Province of Ontario and The Corporation of the City of London (“the Agreement”), substantially in the form attached as Schedule “1” to this by-law, is authorized and approved.

(b) The Mayor and the City Clerk are authorized to execute the Agreement authorized and approved under subsection 1(a) of this by-law.

Amending Agreements

2. (a) The Managing Director Environmental & Engineering Services and City Engineer is authorized to approve Amending Agreements to the Agreement, provided it does not increase the indebtedness or liabilities of The Corporation of the City of London.

(b) Subject to subsection 2(c) of this by-law, the Mayor and City Clerk are authorized to execute any Amending Agreement to the Agreement approved by the Managing Director Environmental & Engineering Services and City Engineer under subsection 2(a) of this by-law.

(c) The City Treasurer is authorized to approve and execute any Amending Agreement for Minor Changes to Reporting or Minor Changes to the Project Description, Budget and Timelines, pursuant to sections C.3.3 and D.7.2 of the Agreement.

3. The Managing Director, Corporate Services, and City Treasurer, Chief Financial Officer, and City Manager (or their written delegates) are severally authorized to execute any financial reports required as a condition under the Agreement.

4. This by-law shall come into force and effect on the day it is passed.

PASSED in Open Council on April 13, 2021

Ed Holder
Mayor

Catharine Saunders
City Clerk

First Reading – April 13, 2021
Second Reading – April 13, 2021
Third Reading – April 13, 2021

**TRANSFER PAYMENT AGREEMENT
FOR THE INVESTING IN CANADA INFRASTRUCTURE PROGRAM (ICIP):
PUBLIC TRANSIT STREAM**

THIS TRANSFER PAYMENT AGREEMENT for the Investing in Canada Infrastructure Program (ICIP): Public Transit Stream (the “Agreement”) is effective as of the Effective Date.

B E T W E E N

Her Majesty the Queen in right of the Province of Ontario,
represented by the Minister of Transportation for the Province of Ontario

(the “**Province**”)

- and -

The Corporation of the City of London

(the “**Recipient**”)

BACKGROUND

The Investing in Canada Infrastructure Program (“ICIP”) is a federal infrastructure program designed to create long-term economic growth, build inclusive, sustainable and resilient communities, and support a low-carbon economy.

The Government of Canada (“Canada”) announced, in its *Budget 2016* and *Budget 2017*, over \$180 billion for the ICIP to support sustainable and inclusive communities, while driving economic growth.

The federal Minister of Infrastructure, Communities and Intergovernmental Affairs and the provincial Minister of Infrastructure entered into the Canada-Ontario Integrated Bilateral Agreement for the Investing in Canada Infrastructure Program (“Bilateral Agreement”), for Canada to provide financial support to the Province.

Under the Bilateral Agreement, Canada agrees to provide contribution funding to Ontario under the public transit stream of ICIP.

Also, under the Bilateral Agreement, Ontario agrees to identify projects, including municipal projects, and be responsible for the transfer of ICIP and provincial funds to eligible municipalities pursuant to transfer payment agreements.

The Recipient has applied to the Province for ICIP funds to assist the Recipient in carrying out one or more public transit infrastructure projects.

The Province has submitted to Canada for approval and Canada has approved, in accordance with the terms and conditions set out in the Bilateral Agreement, the Project or Projects, as the case may be.

The Agreement sets out the terms and conditions upon which ICIP funds will be provided to the Recipient for carrying out the Project or Projects, as the case may be.

CONSIDERATION

In consideration of the mutual covenants and agreements contained in the Agreement and for other good and valuable consideration, the receipt and sufficiency of which are expressly acknowledged, the Province and the Recipient agree as follows:

1.0 ENTIRE AGREEMENT

1.1 Schedules and Sub-schedules to the Agreement. The following schedules and sub-schedules form part of the Agreement:

Schedule "A" - General Terms and Conditions

Schedule "B" - Specific Information

Schedule "C" - Project Description, Budget, Timelines, and Standards

Sub-schedule "C.1" - Project Description, Budget, and Timelines

Schedule "D" - Reports

Sub-schedule "D.1" - Project Tier Classification and Other Information

Schedule "E" - Eligible Expenditures and Ineligible Expenditures

Schedule "F" - Evaluation

Schedule "G" - Communications Protocol

Schedule "H" - Disposal of Assets

Schedule "I" - Aboriginal Consultation Protocol

Schedule "J" - Requests for Payment and Payment Procedures

Sub-schedule "J.1" - Form of Certificate from Recipient

Sub-schedule "J.2" - Form of Declaration of Project Substantial Completion

Sub-schedule "J.3" - Form of Certificate from a Professional Engineer for Project Substantial Completion

Sub-schedule "J.4" - Form of Certificate from an Independent Engineer to Certify Progress

Schedule "K" - Committee

1.2 Entire Agreement. The Agreement constitutes the entire agreement between the Parties in respect to the subject matter contained in the Agreement and supersedes all prior oral or written representations and agreements.

2.0 CONFLICT OR INCONSISTENCY

2.1 **Conflict or Inconsistency.** In the event of a conflict or inconsistency between any of the requirements of:

- (a) the main body of the Agreement and any of the requirements of a schedule or a sub-schedule, the main body of the Agreement will prevail to the extent of the conflict or inconsistency;
- (b) Schedule “A” (General Terms and Conditions) and any of the requirements of another schedule or a sub-schedule, Schedule “A” (General Terms and Conditions) will prevail to the extent of the conflict or inconsistency; or
- (c) a schedule and any of the requirements of a sub-schedule, the schedule will prevail to the extent of the conflict or inconsistency.

3.0 COUNTERPARTS

3.1 **One and the Same Agreement.** The Agreement may be executed in any number of counterparts, each of which will be deemed an original, but all of which together will constitute one and the same instrument.

3.2 **Electronic Execution and Delivery of Agreement.**

- (a) The Agreement may:
 - (i) be executed and delivered by scanning the manually signed Agreement as a PDF and delivering it by email to the other Party; or
 - (ii) subject to the Province’s prior written consent, be executed and delivered electronically to the other Party.
- (b) The respective electronic signature of the Parties is the legal equivalent of a manual signature.

4.0 AMENDING THE AGREEMENT AND AGREEMENT REVIEW

4.1 **Amending the Agreement.** Subject to sections C.3.3 (Amending the Agreement for Minor Changes to the Project Description, Budget, and Timelines) and D.7.2 (Amending the Agreement for Minor Changes to the Reporting), the Agreement may only be amended by a written agreement duly executed by the representatives of the Parties listed on the signature page below.

4.2 **Agreement Review.** If, pursuant to section 25.10 (Review of Agreement) of the Bilateral Agreement, the Bilateral Agreement is reviewed after three or five years, or both, of the effective date of the Bilateral Agreement, and any changes to the Bilateral Agreement are required as a result, the Parties agree to amend the Agreement as necessary and consistent with such changes.

5.0 ACKNOWLEDGEMENT

5.1 **Acknowledgement from Recipient.** The Recipient acknowledges, in respect of each Project, that:

- (a) the Funds are to assist the Recipient to carry out the Project and not to provide goods or services to the Province or Canada;
- (b) the Province and Canada are not responsible for carrying out the Project;
- (c) the Province's and Canada's role in respect of the Project is limited to making a financial contribution to the Recipient for the Project, and the Province and Canada are not involved in the Project or its operation;
- (d) the Province and Canada are neither decision-makers nor administrators in respect of the Project;
- (e) the Province is bound by the *Freedom of Information and Protection of Privacy Act* (Ontario) and any information provided to the Province in connection with the Project or otherwise in connection with the Agreement may be subject to disclosure in accordance with that Act; and
- (f) Canada is bound by the *Access to Information Act* (Canada) and any information provided to Canada by either the Province or the Recipient in connection with the Project or otherwise in connection with the Agreement may be subject to disclosure in accordance with that Act.

5.2 **Acknowledgement from Province.** The Province acknowledges that the Recipient is bound by the *Municipal Freedom of Information and Protection of Privacy Act* (Ontario) and any information provided to the Recipient in connection with any Project or otherwise in connection with the Agreement may be subject to disclosure in accordance with that Act.

6.0 CANADA'S RIGHTS AND INFORMATION SHARING WITH CANADA

6.1 **Third Party Beneficiary.** The Recipient agrees that, although the Agreement is between the Province and the Recipient, Canada is, in respect of the rights, covenants, remedies, obligations, indemnities, and benefits (together referred to as "Rights")

undertaken or given to Canada in the Agreement, a third party beneficiary under the Agreement and is entitled to rely upon and directly enforce those Rights as if Canada were a party to the Agreement.

6.2 **Sharing of Information with the Province and Canada.** The Recipient agrees that, consistent with section 6.1 (Third Party Beneficiary) and for the implementation of the Bilateral Agreement:

- (a) the Province or Canada, or both, and in respect of Canada either directly or through the Province, may, upon Notice to the Recipient, request additional information from the Recipient including, without limitation, information for any determination under Article A.28.0 (Environmental Requirements and Assessments) and Article A.29.0 (Aboriginal Consultation);
- (b) if the Province or Canada, or both, provide the Recipient with Notice under paragraph 6.2(a), the Recipient will, within the timelines set out in the Notice, deliver the information to either the Province or Canada, or both, as required; and
- (c) the Province or Canada, or both, may share any information received from the Recipient pursuant to the Agreement with each other.

- SIGNATURE PAGE FOLLOWS -

The Parties have executed the Agreement on the dates set out below.

**HER MAJESTY THE QUEEN IN RIGHT OF THE
PROVINCE OF ONTARIO**, represented by the Minister of
Transportation for the Province of Ontario

Date	Name: Caroline Mulroney
	Title: Minister

The Corporation of the City of London

Date	Name: Ed Holder
	Title: Mayor

I have authority to bind the Recipient.

Date	Name: Catharine Saunders
	Title: City Clerk

I have authority to bind the Recipient.

**SCHEDULE “A”
GENERAL TERMS AND CONDITIONS**

A.1.0 INTERPRETATION AND DEFINITIONS

A.1.1 **Interpretation.** For the purposes of interpretation:

- (a) words in the singular include the plural and vice-versa;
- (b) words in one gender include all genders;
- (c) the background and headings do not form part of the Agreement; they are for information and reference only and will not affect the interpretation of the Agreement;
- (d) any reference to dollars or currency will be in Canadian dollars and currency; and
- (e) all accounting terms not otherwise defined in the Agreement have their ordinary meanings.

A.1.2 **Definitions.** In the Agreement, the following terms have the following meanings:

“Aboriginal Community” has the meaning ascribed to it in section I.1.1 (Definitions).

“Aboriginal Consultation Record” means the Aboriginal Consultation Record described in section I.3.1 (Requirements for Aboriginal Consultation Record).

“Agreement” means this agreement entered into between the Province and the Recipient, all of the schedules and sub-schedules listed in section 1.1 (Schedules and Sub-schedules to the Agreement), and any amending agreement entered into pursuant to section 4.1 (Amending the Agreement).

“Asset” means any real or personal property, or immovable or movable asset, acquired, purchased, constructed, rehabilitated, renovated or improved, in whole or in part, with any of the Funds.

“Authorities” means any government authority, agency, body or department, whether federal, provincial, or municipal, having or claiming jurisdiction over the Agreement or any Project, or both.

“Bilateral Agreement” means the Canada-Ontario Integrated Bilateral Agreement for the Investing in Canada Infrastructure Program entered into between Canada and Her Majesty the Queen in right of Ontario, effective as of March 26, 2018.

“Budget” means, in respect of a Project, the Project budget set out in Sub-schedule “C.1” (Project Description, Budget, and Timelines).

“Business Day” means any working day, Monday to Friday inclusive, excluding statutory and other holidays, namely: New Year’s Day; Family Day; Good Friday; Easter Monday; Victoria Day; Canada Day; Civic Holiday; Labour Day; Thanksgiving Day; Remembrance Day; Christmas Day; Boxing Day; and any other day on which the Province has elected to be closed for business.

“Canada” means, unless the context requires otherwise, Her Majesty the Queen in right of Canada.

“Canadian Content Policy” means the *Ministry of Transportation Canadian Content for Transit Vehicle Procurement Policy*, as amended from time to time.

“Certificate from a Professional Engineer for Project Substantial Completion” means a Certificate from a Professional Engineer in the form set out in Sub-schedule “J.3” (Form of Certificate from a Professional Engineer for Project Substantial Completion).

“Certificate from an Independent Engineer to Certify Progress” means a Certificate from an Independent Engineer to Certify Progress in the form set out in Sub-schedule “J.4” (Form of Certificate from an Independent Engineer to Certify Progress).

“Committee” refers to a Committee established pursuant to section A.30.1 (Establishment of Committee).

“Communications Activities” means, but is not limited to, public or media events or ceremonies including key milestone events, news releases, reports, web and social media products or postings, blogs, news conferences, public notices, physical and digital signs, publications, success stories and vignettes, photos, videos, multi-media content, advertising campaigns, awareness campaigns, editorials, multi-media products, and all related communication materials under the Agreement.

“Contract” means a contract between the Recipient and a Third Party whereby the Third Party agrees to supply goods or services, or both, in respect of any Project in return for financial consideration.

“Declaration of Project Substantial Completion” means a Declaration of Project Substantial Completion in the form set out in Sub-schedule “J.2” (Form of Declaration of Project Substantial Completion).

“Effective Date” means the date of signature by the last signing party to the Agreement.

“Eligible Expenditures” means the costs in respect of each Project the Recipient has incurred and paid and that are eligible for payment under the terms and conditions of the Agreement, and that are further described in Schedule “E” (Eligible

Expenditures and Ineligible Expenditures).

“Environmental Laws” means all applicable federal, provincial, or municipal laws, regulations, by-laws, orders, rules, policies, or guidelines respecting the protection of the natural environment, public, or occupational health or safety, and the manufacture, importation, handling, transportation, storage, disposal, and treatment of environmental contaminants and includes, without limitation, the *Environmental Protection Act* (Ontario), *Environmental Assessment Act* (Ontario), *Ontario Water Resources Act* (Ontario), *Canadian Environmental Protection Act, 1999* (Canada), *Canadian Environmental Assessment Act, 2012* (Canada), *Fisheries Act* (Canada), and *Navigation Protection Act* (Canada).

“Evaluation” means an evaluation in respect of any Project, the Projects or the ICIP as described in Article F.1.0 (Projects and ICIP Evaluations).

“Event of Default” has the meaning ascribed to it in section A.12.1 (Events of Default).

“Expiry Date” means the expiry date set out in Schedule “B” (Specific Information).

“Federal Approval Date” means the date on which Canada has approved a Project identified in Sub-schedule “C.1” (Project Description, Budget, and Timelines).

“Funding Year” means:

- (a) in the case of the first Funding Year, the period commencing on the Effective Date and ending on the following March 31; and
- (b) in the case of Funding Years subsequent to the first Funding Year, the period commencing on April 1 following the end of the previous Funding Year and ending on the following March 31 or the Expiry Date, whichever comes first.

“Funds” means the money the Province provides to the Recipient pursuant to the Agreement.

“Holdback” means the Holdback described in and to be paid in accordance with section A.4.12 (Retention of Contribution) and Article J.7.0 (Holdback).

“ICIP” means the federal infrastructure program described in the first paragraph of the “Background” to the Agreement.

“Indemnified Parties” means Her Majesty the Queen in right of Ontario and Her Majesty the Queen in right of Canada, and includes their respective ministers, officers, servants, agents, appointees, and employees.

“Ineligible Expenditures” means the costs in respect of each Project that are ineligible for contribution by the Province and Canada under the terms and conditions of the Agreement, and that are described in Schedule “E” (Eligible Expenditures and Ineligible Expenditures).

“Loss” means any cause of action, liability, loss, cost, damage, or expense (including legal, expert, and consultant fees) that anyone incurs or sustains as a result of or in connection with any Project or any part of the Agreement or the Bilateral Agreement.

“Maximum Funds” means the maximum Funds amount set out Schedule “B” (Specific Information).

“Notice” means any communication given or required to be given pursuant to the Agreement.

“Notice Period” means the period of time within which the Recipient is required to remedy an Event of Default, pursuant to paragraph A.12.3(b), and includes any such period or periods of time by which the Province extends that time in accordance with section A.12.4 (Recipient Not Remediating).

“Parties” means the Province and the Recipient.

“Party” means either the Province or the Recipient.

“Person” means, without limitation, a person, the Recipient, a Third Party, a corporation, or any other legal entity, and their officers, servants, employees, or agents.

“Proceeding” means any action, claim, demand, lawsuit, or other proceeding, whether in contract, tort (including negligence), or otherwise, that anyone makes, brings, or prosecutes as a result of or in connection with any Project or any part of the Agreement or the Bilateral Agreement.

“Progress Report” means the Progress Report described in Article D.1.0 (Progress Reports).

“Project Substantial Completion Date” means, in respect of any Project, the Project Substantial Completion Date indicated on the Declaration of Project Substantial Completion.

“Projects” means, collectively, the undertakings described in Sub-schedule “C.1” (Project Description, Budget, and Timelines), and **“Project”** means any one of them.

“Records Review” means any assessment the Province conducts pursuant to section A.7.4 (Records Review).

“Reports” means the reports described in Schedule “D” (Reports).

“Requirements of Law” means all applicable requirements, laws, statutes, codes, acts, ordinances, approvals, orders, decrees, injunctions, by-laws, rules, regulations, official plans, permits, licences, authorizations, directions, and agreements with all Authorities, and includes the Environmental Laws.

“Substantial Completion” or **“Substantially Completed”** means, in respect of any Project, that the Project can be used for the purpose for which it was intended.

“Term” means the period of time described in section A.3.1 (Term).

“Third Party” means any person or legal entity, other than a Party, who participates in the implementation of any Project by means of a Contract.

“Timelines” means the Project schedule described in Sub-schedule “C.1” (Project Description, Budget, and Timelines).

“Total Financial Assistance” means the total Project funding from all sources including, but not limited to, funding from federal, provincial, territorial, municipal, regional, band council, and Indigenous government sources; private sources; and in-kind contributions.

A.2.0 REPRESENTATIONS, WARRANTIES, AND COVENANTS

A.2.1 **General.** The Recipient represents, warrants, and covenants that, in respect of each Project:

- (a) it has, and will continue to have, the experience and expertise necessary to carry out the Project;
- (b) it is in compliance with, and will continue to comply with, all Requirements of Law related to any aspect of the Project, the Funds, or both;
- (c) unless otherwise provided for in the Agreement, any information the Recipient provided to the Province in support of its request for funds (including, without limitation, any information relating to any eligibility requirements) was true and complete at the time the Recipient provided it and will continue to be true and complete; and
- (d) any Funds received have not displaced, and will continue to not displace, the Recipient’s own funding and spending on public transit.

A.2.2 **Execution of Agreement.** The Recipient represents and warrants that it has:

- (a) the full power and authority to enter into the Agreement; and
- (b) taken all necessary actions to authorize the execution of the Agreement, including passing a municipal by-law authorizing the Recipient to enter into the Agreement.

A.2.3 **Governance.** The Recipient represents, warrants, and covenants that it has, will maintain in writing, and will follow:

- (a) procedures to enable the Recipient to manage Funds prudently and effectively;
- (b) procedures to enable the Recipient to complete each Project successfully;
- (c) procedures to enable the Recipient to identify risks to the completion of each Project and strategies to address the identified risks, all in a timely manner;
- (d) procedures to enable the preparation and submission of all Reports required pursuant to Article A.7.0 (Reporting, Accounting, and Review); and
- (e) procedures to enable the Recipient to address such other matters as the Recipient considers necessary to enable the Recipient to carry out its obligations under the Agreement.

A.2.4 **Supporting Proof.** Upon the request of the Province, the Recipient will provide the Province with proof of the matters referred to in this Article A.2.0 (Representations, Warranties, and Covenants).

A.3.0 TERM OF THE AGREEMENT AND SUBSTANTIAL COMPLETION

A.3.1 **Term.** The term of the Agreement will commence on the Effective Date and will expire on the Expiry Date, unless terminated earlier pursuant to Article A.11.0 (Termination on Notice) or Article A.12.0 (Event of Default, Corrective Action, and Termination for Default).

A.3.2 **Substantial Completion.** The Recipient will ensure that each Project is Substantially Completed on or before October 31, 2027.

A.4.0 FUNDS AND CARRYING OUT THE PROJECT

A.4.1 **Funds Provided.** The Province will:

- (a) provide the Recipient up to the Maximum Funds for the purpose of carrying out the Projects;

- (b) provide the Funds to the Recipient in accordance with the request for payment and payment procedures provided for in Schedule “J” (Requests for Payment and Payment Procedures); and
- (c) deposit the Funds into an account the Recipient designates, provided that the account:
 - (i) resides at a Canadian financial institution; and
 - (ii) is in the name of the Recipient.

A.4.2 Limitation on Payment of Funds. Despite section A.4.1 (Funds Provided):

- (a) in addition to any other limitation under the Agreement on the payment of Funds, the Province is not obligated to provide:
 - (i) any Funds to the Recipient until the Recipient fulfils the special conditions listed in section A.32.1 (Special Conditions); and
 - (ii) any instalment of Funds in respect of any Project until the Province and Canada are satisfied with the progress of the Project;
- (b) the Province may adjust the amount of Funds it provides to the Recipient in any Funding Year based upon the Province’s assessment of the information the Recipient provides to the Province pursuant to section A.7.2 (Preparation and Submission); and
- (c) any payment of Funds is subject to:
 - (i) the requirements of the *Financial Administration Act* (Ontario), including the availability of an appropriation by the Ontario Legislature that is sufficient and constitutes lawful authority for the payment;
 - (ii) ministerial funding levels in respect of transfer payments, the program under which the Agreement was made, or otherwise that are sufficient for the payment; and
 - (iii) Canada’s payment of funds to the Province, pursuant to the Bilateral Agreement, that are sufficient for the payment.

The Province may reduce or terminate the amount of Funds it provides to the Recipient in response to a reduction of appropriation, ministerial funding levels, or Canada’s payment of funds. Notwithstanding Article A.9.0 (Limitation of Liability and Indemnity), the Province will not be liable for any direct, indirect, consequential, exemplary, or punitive damages, regardless of the form of action,

whether in contract or in tort (including negligence) or otherwise, arising from any reduction or termination of Funds. If any changes to the Agreement, including changes in respect of any Project or Budget, are required as a result, the Parties agree to amend the Agreement accordingly.

- A.4.3 **Use of Funds and Carry Out the Project.** The Recipient will, in respect of each Project, do all of the following:
- (a) carry out the Project in accordance with the Agreement;
 - (b) use the Funds only for the purpose of carrying out the Project;
 - (c) spend the Funds only in accordance with the Budget;
 - (d) not use the Funds to cover any Ineligible Expenditure; and
 - (e) not use the Funds to cover any Eligible Expenditure that has or will be funded or reimbursed by one or more of any third party, or ministry, department, agency, or organization of the Government of Ontario or of the Government of Canada.
- A.4.4 **Interest-Bearing Account.** If the Province provides Funds before the Recipient's immediate need for the Funds, the Recipient will place the Funds in an interest-bearing account in the name of the Recipient at a Canadian financial institution.
- A.4.5 **Interest.** If the Recipient earns any interest on the Funds, the Province may do either or both of the following:
- (a) deduct an amount equal to the interest from any further instalments of Funds;
 - (b) demand from the Recipient the payment of an amount equal to the interest.
- A.4.6 **Maximum Funds and Recovery of Excesses.** The Recipient acknowledges that:
- (a) the Funds available to it pursuant to the Agreement will not exceed the Maximum Funds;
 - (b) if Canada's total contribution from all federal sources in respect of any Project exceeds, in the aggregate, the sum of the amounts set out in column I (Federal Contribution Towards the Total Eligible Expenditures of the Project) and column K (Other Federal Contribution Towards the Total Costs of the Project) of the Budget for that Project, the Province may recover the excess from the Recipient or reduce the contribution under the Agreement by an amount equal to the excess;
 - (c) if the Province's total contribution from all provincial sources in respect of any Project exceeds the amount set out in column L (Provincial Contribution Towards

the Total Eligible Expenditures of the Project) of the Budget for that Project, the Province may recover the excess from the Recipient or reduce the contribution under the Agreement by an amount equal to the excess; and

- (d) if the Total Financial Assistance received in respect of any Project exceeds the amount set out in column H (Total Eligible Expenditures of the Project) of the Budget for that Project, the Province may, up to the Maximum Funds, recover the excess from the Recipient or reduce the contribution under the Agreement by an amount equal to the excess.

A.4.7 Disclosure of Other Financial Assistance. The Recipient will inform the Province promptly of any financial assistance received in respect of any Project.

A.4.8 Rebates, Credits, and Refunds. The Province will, in respect of any Project, calculate Funds based on the actual costs to the Recipient to carry out the Project, less any costs (including taxes) for which the Recipient has received, will receive, or is eligible to receive, a rebate, credit, or refund.

A.4.9 Recipient's Acknowledgement of Responsibility for Project. The Recipient will, in respect of any Project, assume full responsibility for the Project, including, without limitation:

- (a) complete, diligent, and timely Project implementation within the costs and timelines specified in the Agreement and in accordance with all other terms and conditions of the Agreement;
- (b) all of the costs of the Project, including, without limitation, unapproved expenditures, Ineligible Expenditures, and cost overruns, if any;
- (c) subsequent operation, maintenance, repair, rehabilitation, construction, demolition, or reconstruction, as required and in accordance with industry standards, and any related costs for the full lifecycle of the Project; and
- (d) the engineering work being undertaken in accordance with industry standards.

A.4.10 Increase in Project Costs. If, at any time during the Term and in respect of any Project, the Recipient determines that it will not be possible to complete the Project unless it expends amounts in excess of all funding available to it (a "Shortfall"), the Recipient will immediately notify the Province of that determination. If the Recipient so notifies the Province, it will, within 30 days of a request from the Province, provide a summary of the measures that it proposes to remedy the Shortfall. If the Province is not satisfied that the measures proposed will be adequate to remedy the Shortfall, then the Province may exercise one or more of the remedies available to it pursuant to section A.12.4 (Recipient Not Remediating).

A.4.11 Recipient's Request for Payment and Payment Procedures. The Recipient agrees to submit its requests for payment in accordance with the payment procedures

provided for in Schedule “J” (Requests for Payment and Payment Procedures).

A.4.12 Retention of Contribution. The Province will retain a maximum of 10% of the provincial funding and 5% of the federal funding in respect of each Project (“Holdback”) up until the following conditions have been met:

- (a) the Recipient has fulfilled all of its obligations under the Agreement for the Project;
- (b) the Recipient has submitted a Declaration of Project Substantial Completion to the Province; and
- (c) the Parties have jointly carried out a final reconciliation, as set out in section J.6.1 (Final Reconciliation and Adjustments), and made any adjustments required in the circumstances.

A.5.0 RECIPIENT’S ACQUISITION OF GOODS OR SERVICES, CONTRACT PROVISIONS, AND DISPOSAL OF ASSETS

A.5.1 Acquisition. If the Recipient acquires goods, services, or both with the Funds, it will do so through a process that:

- (a) is fair, transparent, competitive, and consistent with value for money principles, or in a manner otherwise acceptable to Canada;
- (b) if applicable, is in accordance with the Canadian Free Trade Agreement and international agreements; and
- (c) is in compliance with the Canadian Content Policy, a copy of which the Province will provide to the Recipient.

A.5.2 Non-Compliance with Acquisition Requirements. If the Province or Canada determines that a Contract is awarded in a manner that is not in compliance with the requirements in section A.5.1 (Acquisition), upon giving Notice to the Recipient, the Province may consider the expenditures associated with the Contract to be an Ineligible Expenditure.

A.5.3 Exemptions to Competitive Awarding. Canada may consent to the provision of exemptions from competitive awarding of Contracts on a case-by-case basis, if the Recipient:

- (a) provides a written request indicating the business case rationale for the exemption, in advance of the Contract being awarded;
- (b) provides a consultant or contractor quote for market value; and

- (c) attests to:
 - (i) following value-for-money procurement processes for materials and sub-contracts; and
 - (ii) following its own policies and procedures.

A.5.4 **Contract Provisions.** The Recipient will ensure that all Contracts are consistent with and incorporate the relevant provisions of the Agreement. More specifically but without limiting the generality of the foregoing, the Recipient agrees to include provisions in all Contracts to ensure:

- (a) that proper and accurate accounts and records are kept and maintained as described in the Agreement including, but not limited to, in paragraph A.7.3(a);
- (b) that all applicable Requirements of Law including, without limitation, labour and human rights legislation, are complied with; and
- (c) that the Contract secures the respective rights of the Province and Canada, and any authorized representative or independent auditor identified by the Province or Canada, and the Auditor General of Ontario and the Auditor General of Canada to:
 - (i) inspect and audit the terms of any Contract, record or account in respect of any Project; and
 - (ii) have free and timely access to the Project sites and facilities, and any records, documentation or information, as contemplated pursuant to section A.7.5 (Inspection and Removal).

A.5.5 **Disposal of Assets.** The Recipient will not, unless in accordance with the terms and conditions set out in Schedule “H” (Disposal of Assets), sell, lease, encumber, or otherwise dispose, directly or indirectly, of any Asset.

A.6.0 CONFLICT OF INTEREST

A.6.1 **Conflict of Interest Includes.** For the purposes of this Article A.6.0 (Conflict of Interest), a conflict of interest includes any circumstances where:

- (a) the Recipient or any person who has the capacity to influence the Recipient’s decisions has outside commitments, relationships, or financial interests that could, or could be seen by a reasonable person to interfere with the Recipient’s objective, unbiased, and impartial judgment in respect of any Project or the use of the Funds, or both; or

- (b) a former public servant or public office holder to whom any post-employment, ethics and conflict of interest legislation, guidelines, codes, or policies of Canada apply will derive a direct benefit from the Agreement, unless the provision or receipt of such benefits complies with such legislation, guidelines, policies, or codes.

A.6.2 **No Conflict of Interest.** The Recipient will carry out each Project and use the Funds without an actual, potential, or perceived conflict of interest unless:

- (a) the Recipient:
 - (i) provides Notice to the Province disclosing the details of the actual, potential, or perceived conflict of interest; and
 - (ii) requests the consent of the Province to carry out the Project with an actual, potential, or perceived conflict of interest;
- (b) the Province consents to the Recipient carrying out the Project with an actual, potential, or perceived conflict of interest; and
- (c) the Recipient complies with any terms and conditions the Province may prescribe in its consent.

A.7.0 REPORTING, ACCOUNTING, AND REVIEW

A.7.1 **Province and Canada Include.** For the purpose of sections A.7.4 (Records Review), A.7.5 (Inspection and Removal) and A.7.6 (Cooperation), “Province” includes Canada and any auditor or representative that the Province or Canada, or both, may identify.

A.7.2 **Preparation and Submission.** The Recipient will:

- (a) submit to the Province at the address referred to in section A.16.1 (Notice in Writing and Addressed):
 - (i) all Reports in accordance with the timelines and content requirements provided for in Schedule “D” (Reports); and
 - (ii) any other reports in accordance with any timelines and content requirements the Province may specify from time to time; and
- (b) ensure that all Reports and other reports are:
 - (i) completed to the satisfaction of the Province; and

(ii) signed by an authorized signing officer of the Recipient.

A.7.3 Record Maintenance. The Recipient will keep and maintain for a period of seven years after the Expiry Date:

- (a) proper and accurate financial accounts and records, kept in a manner consistent with generally accepted accounting principles, including but not limited to its contracts, invoices, statements, receipts, and vouchers and any other evidence of payment relating to the Funds or otherwise to each Project; and
- (b) all non-financial records and documents relating to the Funds or otherwise to each Project.

A.7.4 Records Review. The Province may, at its own expense, upon 24 hours' Notice to the Recipient and during normal business hours, enter upon the Recipient's premises to conduct an audit or investigation of the Recipient regarding the Recipient's compliance with the Agreement, including assessing any of the following:

- (a) the truth of any of the Recipient's representations and warranties;
- (b) the progress of any Project;
- (c) the Recipient's allocation and expenditure of the Funds.

A.7.5 Inspection and Removal. For the purposes of any Records Review, the Province may take one or more of the following actions:

- (a) inspect and copy any records or documents referred to in section A.7.3 (Record Maintenance); and
- (b) remove any copies the Province makes pursuant to section A.7.5(a).

A.7.6 Cooperation. To assist the Province in respect of its rights provided for in section A.7.5 (Inspection and Removal), the Recipient will cooperate with the Province by:

- (a) ensuring that the Province has access to the records and documents wherever they are located;
- (b) coordinating access with any Third Party;
- (c) assisting the Province to copy the records and documents;
- (d) providing to the Province, in the form the Province specifies, any information the Province identifies; and
- (e) carrying out any other activities the Province requests.

- A.7.7 **No Control of Records.** No provision of the Agreement will be construed so as to give the Province or Canada, or both, any control whatsoever over the Recipient's records.
- A.7.8 **Auditor General (Ontario and Canada).** The Province's rights under this Article A.7.0 (Reporting, Accounting, and Review) are in addition to any rights provided to the Auditor General of Ontario pursuant to section 9.2 of the *Auditor General Act* (Ontario) and to the Auditor General of Canada pursuant to section 7.1 of the *Auditor General Act* (Canada).
- A.7.9 **Sharing of Audit Findings and Reports.** The Recipient acknowledges that Canada and the Province may:
- (a) inform each other, and any of their respective authorized representatives and auditors, that an audit is being conducted; and
 - (b) share the findings of any audit, including any audit report, with each other and any of their respective authorized representatives and auditors.
- A.7.10 **Evaluation.** The Recipient agrees to participate in any Evaluation and comply with the requirements for such Evaluation that are set out in Schedule "F" (Evaluation).
- A.7.11 **Calculations.** The Recipient will make all calculations and prepare all financial data to be submitted in accordance with the generally accepted accounting principles in effect in Canada. These will include, without limitation, those principles and standards approved or recommended from time to time by the Chartered Professional Accountants of Canada or the Public Sector Accounting Board, as applicable, or any successor institute, applied on a consistent basis.
- A.7.12 **Adverse Fact or Event.** The Recipient will inform the Province immediately of any fact or event of which it is aware that has or will compromise, wholly or in part, any Project.

A.8.0 COMMUNICATIONS REQUIREMENTS

- A.8.1 **Communications Protocol.** The Parties agree to be bound by the terms and conditions of the communications protocol provided for in Schedule "G" (Communications Protocol).

A.9.0 LIMITATION OF LIABILITY AND INDEMNITY

- A.9.1 **Province and Canada Limitation of Liability.** In no event will any of the Indemnified Parties be held liable for any damages, including direct, indirect, consequential,

exemplary, or punitive damages, regardless of the form of action, whether in contract, tort (including negligence), or otherwise, for:

- (a) any injury to any Person, including, but not limited to, death, economic loss, or infringement of rights;
- (b) any damage to or loss or destruction of property of, any Person; or
- (c) any obligation of any Person, including, but not limited to, any obligation arising from a loan, capital lease, or other long-term obligation

in relation to the Agreement, the Bilateral Agreement, or any Project or Projects.

A.9.2 Indemnification of the Province and Canada. The Recipient will indemnify and hold harmless the Indemnified Parties from and against any Loss and any Proceeding based upon or occasioned by:

- (a) any injury to any Person, including, but not limited to, death, economic loss, or any infringement of rights;
- (b) any damage to, or loss or destruction of, property of any Person; or
- (c) any obligation of any Person, including, but not limited to, any obligation arising from a loan, capital lease, or other long-term obligation,

except to the extent to which such Loss or Proceeding is caused by the negligence or wilful misconduct of any Indemnified Party in the performance of that Indemnified Party's duties.

A.9.3 Recipient's Participation. The Recipient will, at its expense, to the extent requested by the Province or Canada, or both, participate in or conduct the defence of any Proceeding against any of the Indemnified Parties and any negotiations for their settlement.

A.9.4 Province's Election. The Province or Canada, or both, may elect to participate in, or conduct the defence of, any Proceeding by providing Notice to the Recipient of such election, without prejudice to any other rights or remedies of the Province under the Agreement or of the Province or Canada under the Bilateral Agreement, at law or in equity. If the Province, Canada, or the Recipient, as applicable, participates in the defence, it will do so by actively participating with the other's counsel.

A.9.5 Settlement Authority. The Recipient will not enter into a settlement of any Proceeding against any of the Indemnified Parties unless the Recipient has obtained from the Province or Canada, as applicable, prior written approval or a waiver of this requirement. If the Recipient is requested by the Province or Canada to participate in or conduct the defence of any Proceeding, the Province or Canada, as applicable, will

cooperate with and assist the Recipient to the fullest extent possible in the Proceeding and any related settlement negotiations.

- A.9.6 **Recipient's Cooperation.** If the Province or Canada conducts the defence of any Proceeding, the Recipient will cooperate with and assist the Province or Canada, as applicable, to the fullest extent possible in the Proceeding and any related settlement negotiations.

A.10.0 INSURANCE

- A.10.1 **Recipient's Insurance.** The Recipient represents, warrants, and covenants that it has, and will maintain at its own cost and expense, with insurers having a secure A.M. Best rating of B+ or greater, or the equivalent, all the necessary and appropriate insurance that a prudent person carrying out a project similar to the Projects would maintain, including commercial general liability insurance on an occurrence basis for third party bodily injury, personal injury, and property damage, to an inclusive limit of not less than \$2,000,000.00 per occurrence, which commercial general liability insurance policy will include the following:

- (a) the Indemnified Parties as additional insureds in respect of liability arising in the course of performance of the Recipient's obligations under, or otherwise in connection with, the Agreement;
- (b) a cross-liability clause;
- (c) contractual liability coverage; and
- (d) a 30-day written notice of cancellation.

- A.10.2 **Proof of Insurance.** The Recipient will:

- (a) provide to the Province, either:
 - (i) annually, certificates of insurance that confirm the insurance coverage as provided in section A.10.1 (Recipient's Insurance); or
 - (ii) other proof that confirms the insurance coverage as provided for in section A.10.1 (Recipient's Insurance); and
- (b) at the Province's request, the Recipient will provide to the Province a copy of any of the Recipient's insurance policies that relate to the Project or otherwise to the Agreement or both.

A.11.0 TERMINATION ON NOTICE

A.11.1 Termination on Notice. The Province may terminate the Agreement at any time without liability, penalty, or costs upon giving at least 30 days' Notice to the Recipient.

A.11.2 Consequences of Termination on Notice by the Province. If the Province terminates the Agreement pursuant to section A.11.1 (Termination on Notice), the Province may take one or more of the following actions:

- (a) cancel all further instalments of Funds;
- (b) demand the payment of any Funds remaining in the possession or under the control of the Recipient; and
- (c) determine the reasonable costs for the Recipient to wind down any Project or the Projects, as applicable, and do either or both of the following:
 - (i) permit the Recipient to offset such costs against the amount the Recipient owes pursuant to paragraph A.11.2(b); and
 - (ii) subject to paragraph A.4.1(a), provide Funds to the Recipient to cover such costs.

A.12.0 EVENT OF DEFAULT, CORRECTIVE ACTION, AND TERMINATION FOR DEFAULT

A.12.1 Events of Default. It will constitute an Event of Default if, in the opinion of the Province, the Recipient breaches any representation, warranty, covenant, or other material term of the Agreement, including failing to do any of the following in accordance with the terms and conditions of the Agreement:

- (a) carry out any Project in whole or in part;
- (b) use or spend Funds; or
- (c) provide, in accordance with section A.7.2 (Preparation and Submission), Reports or such other reports as the Province may have requested pursuant to paragraph A.7.2(b).

A.12.2 Consequences of Events of Default and Corrective Action. If an Event of Default occurs, the Province may, at any time, take one or more of the following actions:

- (a) initiate any action the Province considers necessary in order to facilitate the successful continuation or completion of any Project;

- (b) provide the Recipient with an opportunity to remedy the Event of Default;
- (c) suspend the payment of Funds for such period as the Province determines appropriate;
- (d) reduce the amount of the Funds;
- (e) cancel all further instalments of Funds;
- (f) demand from the Recipient the payment of any Funds remaining in the possession or under the control of the Recipient;
- (g) demand from the Recipient the payment of an amount equal to any Funds the Recipient used, but did not use in accordance with the Agreement;
- (h) demand from the Recipient the repayment of an amount equal to any Funds the Province provided to the Recipient;
- (i) demand from the Recipient an amount equal to the costs the Province incurred or incurs to enforce its rights under the Agreement, including the costs of any Records Review and the costs it incurs to collect any amounts the Recipient owes to the Province; and
- (j) terminate the Agreement at any time, including immediately, without liability, penalty, or costs to the Province upon giving Notice to the Recipient.

A.12.3 **Opportunity to Remedy.** If, in accordance with paragraph A.12.2(b), the Province provides the Recipient with an opportunity to remedy the Event of Default, the Province will provide Notice to the Recipient of:

- (a) the particulars of the Event of Default; and
- (b) the Notice Period.

A.12.4 **Recipient Not Remediating.** If the Province provided the Recipient with an opportunity to remedy the Event of Default pursuant to paragraph A.12.2(b), and:

- (a) the Recipient does not remedy the Event of Default within the Notice Period;
- (b) it becomes apparent to the Province that the Recipient cannot completely remedy the Event of Default within the Notice Period; or
- (c) the Recipient is not proceeding to remedy the Event of Default in a way that is satisfactory to the Province,

the Province may extend the Notice Period, or initiate any one or more of the actions

provided for in paragraphs A.12.2(a), (c), (d), (e), (f), (g), (h), (i), and (j).

A.12.5 **When Termination Effective.** Termination under this Article A.12.0 (Event of Default, Corrective Action, and Termination for Default) will take effect as provided for in the Notice.

A.13.0 FUNDS AT THE END OF A FUNDING YEAR

A.13.1 **Funds at the End of a Funding Year.** Without limiting any rights of the Province under Article A.12.0 (Event of Default, Corrective Action, and Termination for Default), if, in respect of any Project, the Recipient has not spent all of the Funds allocated for the Funding Year as provided for in the Budget for that Project, the Province may take one or both of the following actions:

- (a) demand from the Recipient payment of the unspent Funds; and
- (b) adjust the amount of any further instalments of Funds accordingly.

A.13.2 **Effect of Action Taken by the Province.** If the Province takes any action under section A.13.1 (Funds at the End of a Funding Year), the Parties will review the effect of such action on the overall implementation of the Project and may amend the Agreement.

A.14.0 FUNDS UPON EXPIRY

A.14.1 **Funds Upon Expiry.** The Recipient will, upon expiry of the Agreement, pay to the Province any Funds remaining in its possession, under its control, or both.

A.15.0 DEBT DUE AND PAYMENT

A.15.1 **Payment of Overpayment.** If at any time the Province provides Funds in excess of the amount the Recipient is entitled to under the Agreement, the Province may:

- (a) deduct an amount equal to the excess Funds from any further instalments of Funds; or
- (b) demand that the Recipient pay to the Province an amount equal to the excess Funds.

A.15.2 **Debt Due.** If, pursuant to the Agreement:

- (a) the Province demands from the Recipient the payment of any Funds, an amount equal to any Funds or any other amounts owing under the Agreement; or

- (b) the Recipient owes to the Province any Funds, an amount equal to any Funds, or any other amounts owing under the Agreement, whether or not the Province has demanded their payment,

such amounts will be deemed to be debts due and owing to the Province by the Recipient, and the Recipient will pay the amounts to the Province immediately, unless the Province directs otherwise.

- A.15.3 **Interest Rate.** The Province may charge the Recipient interest on any money owing to the Province by the Recipient under the Agreement at the then-current interest rate charged by the Province of Ontario on accounts receivable.
- A.15.4 **Payment of Money to Province.** The Recipient will pay any money owing to the Province by cheque payable to the “Ontario Minister of Finance” and delivered to the Province at the address set out in Schedule “B” (Specific Information) for the purposes of Notice to the Province.
- A.15.5 **Failure to Repay.** Without limiting the application of section 43 of the *Financial Administration Act* (Ontario), if the Recipient fails to pay any amount owing under the Agreement, Her Majesty the Queen in right of Ontario may deduct any unpaid amount from any money payable to the Recipient by Her Majesty the Queen in right of Ontario.

A.16.0 NOTICE

- A.16.1 **Notice in Writing and Addressed.** Notice will be:

- (a) in writing;
- (b) delivered by email, postage-prepaid mail, personal delivery, or courier; and
- (c) addressed to the Province and the Recipient as set out in Schedule “B” (Specific Information), or as either Party later designates to the other by Notice.

- A.16.2 **Notice Given.** Notice will be deemed to have been given:

- (a) in the case of postage-prepaid mail, five Business Days after the Notice is delivered; and
- (b) in the case of email, personal delivery, or courier, on the date on which the Notice is delivered.

- A.16.3 **Postal Disruption.** Despite paragraph A.16.2(a), in the event of a postal disruption:

- (a) Notice by postage-prepaid mail will not be deemed to be given; and
- (b) the Party giving Notice will provide Notice by email, personal delivery, or courier.

A.17.0 CONSENT BY PROVINCE OR CANADA AND COMPLIANCE BY RECIPIENT

A.17.1 **Consent.** When the Province or Canada provides its consent pursuant to the Agreement:

- (a) it will do so by Notice;
- (b) it may attach any terms and conditions to the consent; and
- (c) the Recipient may rely on the consent only if the Recipient complies with any terms and conditions the Province or Canada may have attached to the consent.

A.18.0 SEVERABILITY OF PROVISIONS

A.18.1 **Invalidity or Unenforceability of Any Provision.** The invalidity or unenforceability of any provision of the Agreement will not affect the validity or enforceability of any other provision of the Agreement.

A.19.0 WAIVER

A.19.1 **Waiver Request.** Either Party may, by Notice, ask the other Party to waive an obligation under the Agreement.

A.19.2 **Waiver Applies.** If in response to a request made pursuant to section A.19.1 (Waiver Request) a Party consents to a waiver, the waiver will:

- (a) be valid only if the Party that consents to the waiver provides the consent by Notice; and
- (b) apply only to the specific obligation referred to in the waiver.

A.19.3 **Waivers in Writing.** If a Party fails to comply with any term of the Agreement, that Party may only rely on a waiver of the other Party if the other Party has provided a written waiver in accordance with the Notice provisions in Article A.16.0 (Notice). Any waiver must refer to a specific failure to comply and will not have the effect of waiving any subsequent failures to comply.

A.20.0 INDEPENDENT PARTIES

A.20.1 **Parties Independent.** The Recipient is not an agent, joint venturer, partner, or employee of either the Province or Canada, and the Recipient will not represent itself in any way that might be taken by a reasonable person to suggest that it is, or take any actions that could establish or imply such a relationship.

A.20.2 **No Authority to Represent.** Nothing in the Agreement is to be construed as authorizing any Person, including a Third Party, to contract for or to incur any obligation on behalf of the Province or Canada, or both, or to act as an agent for the Province or Canada. The Recipient will take the necessary action to ensure that any Contract between the Recipient and a Third Party contains a provision to that effect.

A.21.0 ASSIGNMENT OF AGREEMENT OR FUNDS

A.21.1 **No Assignment.** The Recipient will not, without the prior written consent of the Province, assign any of its rights or obligations under the Agreement.

A.21.2 **Agreement Binding.** All rights and obligations contained in the Agreement will extend to and be binding on:

- (a) the Recipient's successors and permitted assigns; and
- (b) the successors to Her Majesty the Queen in right of Ontario.

A.22.0 GOVERNING LAW

A.22.1 **Governing Law.** The Agreement and the rights, obligations, and relations of the Parties will be governed by and construed in accordance with the laws of the Province of Ontario and the applicable federal laws of Canada. Any actions or proceedings arising in connection with the Agreement will be conducted in the courts of Ontario, which will have exclusive jurisdiction over such proceedings.

A.23.0 FURTHER ASSURANCES

A.23.1 **Agreement into Effect.** The Recipient will:

- (a) provide such further assurances as the Province may request from time to time in respect to any matter to which the Agreement pertains; and
- (b) do or cause to be done all acts or things necessary to implement and carry into effect the terms and conditions of the Agreement to their full extent.

A.24.0 JOINT AND SEVERAL LIABILITY

A.24.1 **Joint and Several Liability.** Where the Recipient is comprised of more than one entity, each entity will be jointly and severally liable to the Province for the fulfillment of the obligations of the Recipient under the Agreement.

A.25.0 RIGHTS AND REMEDIES CUMULATIVE

A.25.1 **Rights and Remedies Cumulative.** The rights and remedies of the Province under the Agreement are cumulative and are in addition to, and not in substitution for, any of its rights and remedies provided by law or in equity.

A.26.0 FAILURE TO COMPLY WITH OTHER AGREEMENTS

A.26.1 **Other Agreements.** If the Recipient:

- (a) has failed to comply with any term, condition, or obligation under any other agreement with Her Majesty the Queen in right of Ontario or one of Her agencies (a "Failure");
- (b) has been provided with notice of such Failure in accordance with the requirements of such other agreement;
- (c) has, if applicable, failed to rectify such Failure in accordance with the requirements of such other agreement; and
- (d) such Failure is continuing,

the Province may suspend the payment of Funds for such period as the Province determines appropriate.

A.27.0 SURVIVAL

A.27.1 **Survival.** Any rights and obligations of the Parties that, by their nature, extend beyond the termination of the Agreement will continue in full force and effect for a period of seven years from the date of expiry or termination of the Agreement. Surviving provisions include, without limitation, the following Articles, sections and paragraphs, and all applicable cross-referenced Articles, sections, paragraphs, schedules, and sub-schedules: Articles 1.0 (Entire Agreement), 2.0 (Conflict or Inconsistency), 5.0 (Acknowledgement), 6.0 (Canada's Rights and Information Sharing with Canada), A.1.0 (Interpretation and Definitions) and any other applicable definitions, paragraphs A.2.1(a), A.4.2(c), sections A.4.4 (Interest-Bearing Account), A.4.5 (Interest), A.4.8 (Rebates, Credits, and Refunds), A.5.5 (Disposal of Assets), A.7.1 (Province and

Canada Include), A.7.2 (Preparation and Submission) (to the extent that the Recipient has not provided the Reports or other reports as may have been requested to the satisfaction of the Province), A.7.3 (Record Maintenance), A.7.4 (Records Review), A.7.5 (Inspection and Removal), A.7.6 (Cooperation), A.7.7 (No Control of Records), A.7.8 (Auditor General (Ontario and Canada)), A.7.9 (Sharing of Audit Findings and Reports), A.7.10 (Evaluation), A.7.11 (Calculations), Articles A.8.0 (Communications Requirements), A.9.0 (Limitation of Liability and Indemnity), sections A.11.2 (Consequences of Termination on Notice by the Province), A.12.1 (Events of Default), paragraphs A.12.2(d), (e), (f), (g), (h), (i) and (j), Articles A.13.0 (Funds at the End of a Funding Year), A.14.0 (Funds Upon Expiry), A.15.0 (Debt Due and Payment), A.16.0 (Notice), and A.18.0 (Severability of Provisions), section A.21.2 (Agreement Binding), and Articles A.22.0 (Governing Law), A.24.0 (Joint and Several Liability), A.25.0 (Rights and Remedies Cumulative), A.27.0 (Survival), A.28.0 (Environmental Requirements and Assessments), A.29.0 (Aboriginal Consultation), and A.32.0 (Special Conditions).

A.28.0 ENVIRONMENTAL REQUIREMENTS AND ASSESSMENTS

A.28.1 **Federal Environmental Requirements.** Without limitation to the Recipient's obligations to comply with Environmental Laws and for greater clarity:

- (a) no site preparation, removal of vegetation or construction will occur in respect of any Project; and
- (b) the Province will have no obligation to pay any Eligible Expenditures that are capital costs, as determined by the Province, until Canada is satisfied that federal requirements are met, and continue to be met, under the following:
 - (i) *Canadian Environmental Assessment Act, 2012*;
 - (ii) other applicable environmental assessment legislation that is or may come into force during the term of the Agreement; and
 - (iii) other applicable agreements between Canada and Aboriginal Communities.

A.28.2 **Assessments.** The Recipient will complete the assessments that are required in Sub-schedule "D.1" (Project Tier Classification and Other Information) and are further described in Schedule "D" (Reports).

A.29.0 ABORIGINAL CONSULTATION

A.29.1 **Aboriginal Consultation Protocol.** The Parties agree to be bound by the terms and conditions of the Aboriginal Consultation Protocol provided for in Schedule "I" (Aboriginal Consultation Protocol).

A.29.2 **Legal Duty to Consult.** Until Canada and, if applicable, the Province are satisfied that any legal duty to consult and, where appropriate, to accommodate Aboriginal Communities, or any other federal consultation requirement, has been, and continues to be met:

- (a) no site preparation, removal of vegetation or construction will occur in respect of any Project; and
- (b) the Province has no obligation to pay any Eligible Expenditures that are capital costs, as determined by the Province and Canada; and, for any Project requiring consultation, Canada and, if applicable, the Province must be satisfied that:
 - (i) Aboriginal Communities have been notified and, if applicable, consulted;
 - (ii) where consultation has occurred, the Recipient has provided a summary of consultation or engagement activities, including a list of Aboriginal Communities consulted, concerns raised, and how each of the concerns have been addressed or, if not addressed, an explanation as to why not;
 - (iii) the Recipient is carrying out accommodation measures, where appropriate; and
 - (iv) any other information has been provided which Canada or Ontario, or both, may deem appropriate.

A.29.3 **Funding Conditional upon Meeting Aboriginal Consultation Obligations.** No funds will be provided to the Recipient under the Agreement unless Canada and, if applicable in the opinion of the Province, the Province are satisfied that their respective obligations have been met in respect of the legal duty to consult and, if applicable, accommodate any Aboriginal Community.

A.30.0 COMMITTEE

A.30.1 **Establishment of Committee.** The Province may, at its sole discretion, require the establishment of a committee to oversee the Agreement (the “Committee”).

A.30.2 **Notice of Establishment of Committee.** Upon Notice from the Province, the Parties will hold an initial meeting to establish, in accordance with Schedule “K” (Committee), the Committee described in section A.30.1 (Establishment of Committee).

A.31.0 DISPUTE RESOLUTION

A.31.1 **Contentious Issues.** The Parties will keep each other informed of any issues that could be contentious.

- A.31.2 **Examination by the Committee and Parties.** If a contentious issue arises and a Committee has been established under section A.30.1 (Establishment of Committee), the Parties will refer the contentious issue that may arise to the Committee for examination. In the absence of a Committee, the Parties will examine the contentious issue.
- A.31.3 **Potential Dispute Resolution by Committee.** The Committee or the Parties, as the case may be, will attempt, reasonably and in good faith, to resolve disputes as soon as possible and, in any event, within, for the Committee, 30 days, or, for the Parties, 90 days of receiving Notice of a contentious issue.
- A.31.4 **Dispute Resolution by the Parties.** If the Committee cannot agree on a resolution, the matter will be referred to the Parties for resolution. The Parties will provide a decision within 60 Business Days of the Notice.
- A.31.5 **Alternative Mechanisms for Dispute Resolutions.** Where the Parties cannot agree on a resolution, the Parties may use any alternative dispute resolution mechanisms available to them to resolve the issue.
- A.31.6 **Suspension of Payments.** The Province may suspend any payments related to any contentious issue or dispute raised by either Party, together with the obligations related to such issue, pending resolution.

A.32.0 SPECIAL CONDITIONS

- A.32.1 **Special Conditions.** The Province's funding under the Agreement is conditional upon,
- (a) on or before the Effective Date, the Recipient having provided the Province with:
 - (i) evidence satisfactory to the Province that the Recipient's council has passed a municipal by-law authorizing the Recipient to execute the Agreement;
 - (ii) the certificates of insurance or any other proof the Province may request pursuant to section A.10.2 (Proof of Insurance);
 - (iii) banking information, such as a void cheque or a bank letter, for an interest-bearing account in the name of the Recipient at a Canadian financial institution, into which the Province may transfer funds electronically; and
 - (iv) an asset management self-assessment, in the form and at the address provided by the Province.

- (b) prior to submitting a request for payment in respect of any Project under the Agreement,
 - (i) the Recipient having provided the Province with written confirmation that:
 - a. the Recipient is in compliance with all Environmental Laws, including the Recipient's obligations under section A.28.1 (Federal Environmental Requirements), and has obtained all necessary approvals and permits;
 - b. the Recipient has met any requirements under Article A.29.0 (Aboriginal Consultation) that may apply to the Project; and
 - c. if the Recipient does not own the land on which the Project is to be carried out, the Recipient has entered into legally binding agreements with all owners of such land, which agreements are consistent with, and incorporates the relevant provisions of the Agreement; and
 - (ii) the Recipient having provided the Province with any required assessments pursuant to Article A.28.0 (Environmental Requirements and Assessments); and
- (c) on or before February 1 in each of the years 2021, 2023 and 2024, unless the Project has reached Substantial Completion before such date, the Recipient having provided the Province with an asset management self-assessment, in the form and at the address provided by the Province.

For greater certainty, if the Province provides any Funds to the Recipient before the conditions set out in this Article A.32.0 (Special Conditions) have been met, and unless the Province has waived compliance with such condition in writing, the Province may exercise one or more of the remedies available to it pursuant to section A.12.2 (Consequences of Event of Default and Corrective Action).

END OF GENERAL TERMS AND CONDITIONS

**SCHEDULE “B”
SPECIFIC INFORMATION**

Maximum Funds*	\$227,019,948.78
Expiry Date	March 31, 2029
Contact information for the purposes of Notice to the Province	<p>Address: Strategic Investments Office Municipal Programs Branch Ontario Ministry of Transportation 777 Bay Street, 30th Floor Toronto ON M7A 2J8</p> <p>Phone: 416-585-7637</p> <p>Email: ICIPTransit@ontario.ca</p>
Contact information for the purposes of Notice to the Recipient	<p>Position: Managing Director Environmental & Engineering & City Engineer</p> <p>Address: 300 Dufferin Avenue London, ON N6A 4L9</p> <p>Phone: 519-661-2489 ext 2391</p> <p>Email: kscherr@london.ca</p>
Authorized Representative of the Province for the purpose of sections C.3.3 (Amending the Agreement for Minor Changes to the Project Description, Budget, and Timelines) and D.7.2 (Amending the Agreement for Minor Changes to the Reporting)	<p>Position: Director, Municipal Programs Branch; or Director, Capital Project Oversight Branch</p>
Authorized Representative designated by the Recipient for the purpose of sections C.3.3 (Amending the Agreement for Minor Changes to the Project Description, Budget, and Timelines) and D.7.2 (Amending the Agreement for Minor Changes to the Reporting)	<p>Position: City Treasurer</p>

<p>Contact Information for the senior financial person in the Recipient organization (e.g., CFO, CAO) - to respond to requests from the Province related to the Agreement</p>	<p>Position: Director Roads & Transportation Address: 300 Dufferin Avenue London, ON N6A 4L9 Phone: 519-661-2489 ext 4936 Email: dmacrae@london.ca</p>
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***Note:** For greater clarity, neither the Province nor Canada will contribute Funds in respect of any Project that exceed their proportional share of the Eligible Expenditures for that Project, as set out in column J (Federal Funding Rate of the Total Eligible Expenditures of the Project) and column M (Provincial Funding Rate of the Total Eligible Expenditures of the Project) in Sub-schedule “C.1” (Project Description, Budget, and Timelines).

SCHEDULE “C” PROJECT DESCRIPTION, BUDGET, TIMELINES, AND STANDARDS

C.1.0 PROJECT DESCRIPTION, BUDGET, AND TIMELINES

C.1.1 **Project Description.** The Recipient will carry out each Project described in Sub-schedule “C.1” (Project Description, Budget, and Timelines).

C.1.2 **Budget and Timelines.** The Recipient will carry out each Project within the Budget and Timelines for that Project set out in Sub-schedule “C.1” (Project Description, Budget, and Timelines).

C.2.0 PROJECT STANDARDS

C.2.1 **Canada’s Requirements for Standards.** In addition to any other standards that the Recipient must meet or exceed for the Project, the Recipient will ensure the Project meets or exceeds the following:

- (a) any applicable energy efficiency standards for buildings outlined in Canada’s *Pan-Canadian Framework on Clean Growth and Climate Change* provided by Canada at www.canada.ca/en/services/environment/weather/climatechange/pan-canadian-framework.html, or at any other location the Province may provide; and
- (b) the accessibility requirements of the highest accessibility standards published in Ontario, in addition to accessibility requirements in applicable provincial building codes and relevant municipal by-laws.

C.3.0 CHANGES TO THE PROJECT DESCRIPTION, BUDGET, AND TIMELINES

C.3.1 **Province’s and Canada’s Consent.** Any change to the Project will require the Province’s and Canada’s prior written consent. When seeking to make a change in respect of any Project, the Recipient will submit updated Project information and any other information that the Province or Canada, or both, may require to the satisfaction of Canada and the Province.

C.3.2 **Minor Changes to the Project Description, Budget, and Timelines.** Subject to sections C.3.1 (Province’s and Canada’s Consent) and C.3.3 (Amending the Agreement for Minor Changes to the Project Description, Budget, and Timelines), changes that, in the opinion of the Province, are minor may be made in respect of any Project to Sub-schedule “C.1” (Project Description, Budget, and Timelines).

C.3.3 Amending the Agreement for Minor Changes to the Project Description, Budget, and Timelines. Any change made pursuant to section C.3.2 (Minor Changes to the Project Description, Budget, and Timelines) must be documented through a written agreement duly executed by the respective representatives of the Parties listed in Schedule “B” (Specific Information).

**SUB-SCHEDULE “C.1”
PROJECT DESCRIPTION, BUDGET, AND TIMELINES**

Project ID (A)	Project Title (B)	Project Description (C)	Forecasted Project Start Date (MM/DD/YYYY) (D)	Forecasted Project End Date (MM/DD/YYYY) (E)	Federal Approval Date (MM/DD/YYYY) (F)	Total Costs of the Project (G)	Total Eligible Expenditures of the Project (H)	Federal Contribution Towards the Total Eligible Expenditures of the Project (I)	Federal Funding Rate of the Total Eligible Expenditures of the Project (J)	Other Federal Contribution Towards the Total Costs of the Project (K)	Provincial Contribution Towards the Total Eligible Expenditures of the Project (L)	Provincial Funding Rate of the Total Eligible Expenditures of the Project (M)	Recipient Contribution Towards the Total Costs of the Project (N)	Other Contribution Towards the Total Eligible Expenditures of the Project (O)
ICIP-LON-01	Intelligent Traffic Signals	The Project is a critical element in the successful implementation of the City of London’s overall transit plan. The goal of the project is to implement a transportation management system that will be able to make “real-time” adjustments to traffic signaling on key corridors, helping to ease traffic congestion and provide for the more efficient movement of transit vehicles within existing corridors across the City of London. The scope of the Project includes upgrading up to 399 intersections into a high-bandwidth communication network, installation of transit-priority signals and GPS-based tracking sensors, installation of video cameras and travel time monitoring equipment, and the creation of a Transportation Management Centre within an existing municipal building to centralize and coordinate traffic management capabilities across the City of London. The Project will improve the data collection, analysis and dispatch capabilities of the City of London, ensuring greater reliability of the existing and future transit system.	04/01/2020	03/31/2027	08/22/2019	\$19,500,000.00	\$19,500,000.00	\$7,800,000.00	40%	\$0.00	\$6,499,350.00	33.33%	\$5,200,650.00	\$0.00
ICIP-LON-02	Dundas Place Thames Valley Parkway Active Transportation Connection	The Project consists of the construction of new bicycle lanes and improved sidewalks between the Thames Valley Parkway and transit stops along the planned Downtown Loop Bus Rapid Transit, facilitated by a reconstruction of a part of the roadway. The Project will deliver 0.4 km of new bicycle lanes, 0.4 km of improved sidewalks, and 0.25 km of reconstructed roadway. The Project will facilitate active transit that provides a first-mile/last-mile connection to the public transit system, by	01/01/2021	03/31/2022	08/21/2019	\$4,000,000.00	\$4,000,000.00	\$1,600,000.00	40%	\$0.00	\$1,333,200.00	33.33%	\$1,066,800.00	\$0.00

		connecting the Thames Valley Parkway to the Downtown Loop Bus Rapid Transit. Objectives: - The project will provide improved connections for cyclists and pedestrians between the Thames Valley Parkway and nearby stops on the rapid transit Downtown Loop. - This section of Dundas Street currently has a narrow sidewalk and an abrupt midblock end to a bike lane. - By improving the link to the Dundas Place flex street, pedestrians and cyclists will be able to better travel between the pathway system and rapid transit stops via Dundas Place and a short block on Talbot Street.													
ICIP-LON-03	East London Link	The East London Link Project will revitalize 6.3 km of roadway from downtown (King Street) to Fanshawe College by widening Highbury Bridge (overpass), Highbury Avenue and Oxford Street as well as conversion of existing mixed use traffic lanes into dedicated bus lanes; work will include installation of 14 transit platforms along the route, 3.7 km of cycling facilities and a transit hub at Fanshawe College; It will also include intelligent traffic signals to reduce intersection delays and shorten travel times, including transit signal priority, sensors and video. The project also includes the purchase of 9 new buses. Concurrent underground work on sewers and water mains will also be undertaken. The on-street cycling network is not well developed, and at present there is limited connectivity in the existing network, with many lanes and paths limited to small segments of a road. This limits the ability of the current cycling network to provide access to current and future transit services. These shortcomings have previously been acknowledged by the City and the Transportation Master Plan. The proposed multi-use pathways and on-street cycling infrastructure will help to fill in these existing gaps and will act as first- and last-mile connections to the proposed rapid transit corridors.	04/01/2020	03/31/2027	08/21/2019	\$120,200,000.00	\$104,200,000.00	\$41,680,000.00	40%	\$0.00	\$34,729,860.00	33.33%	\$43,790,140.00	\$0.00	
ICIP-LON-04	Downtown Loop	The Project involves the construction of a Bus Rapid Transit (BRT) corridor in downtown London, including dedicated bus lanes, intelligent traffic signals, platforms and bicycle lanes, as well as the relocation and reconstruction of sidewalks and water mains impacted by construction of the corridor. The Project will deliver 2 km of roadways with dedicated bus lanes, sidewalks on both sides of the street (total 4 km), intelligent traffic signals at 12 intersections, 5 transit platforms, 480 m of bicycle lanes and relocate 600 m of water main. Upgrading transit service in the downtown area will improve the speed and reliability of bus transportation, particularly providing improved connections to regional	04/01/2020	03/31/2024	08/21/2019	\$28,500,000.00	\$28,500,000.00	\$11,280,000.00	40%	\$0.00	\$9,399,060.00	33.33%	\$7,820,940.00	\$0.00	

		transit nodes (Greyhound and Via Rail stations). The proposed bicycle path infrastructure will act as a first-mile and last-mile connection to the proposed rapid transit corridors by providing connections between the Queens/Rideout rapid transit stop, Dundas Place, and the Thames Valley Parkway active transportation network. Enhanced sidewalks along the corridor will improve recreational walking infrastructure in the downtown core. 100% of rapid transit stops will be fully accessible.													
ICIP-LON-05	Adelaide Street Underpass Active Transportation Connections	The Adelaide Street Underpass Active Transportation Connections Project (the Project), which is a component of the broader Adelaide Street Underpass Project, will construct approximately 250m of four-metre wide multi-use paths on both sides (500m total) of Adelaide Street which will run under a Canadian Pacific Rail (CPR) bridge, in London (Ontario). The Project will also construct approximately 700m of cycling and pedestrian connections to the north and south of the underpass on Central Avenue, McMahan Street and Pall Mall Street. It will also construct a new pumping station and relocate a utility corridor, including watermain, storm water and wastewater pipes. The Project aligns with the City of London's Smart Moves 2030 Transportation, the City of London Plan, and has been identified as highest priority grade crossing in the city. Currently, Adelaide Street crosses two tracks at-grade directly adjacent to a CPR yard on the eastern side of the intersection. The crossing is frequently blocked by trains from the CPR yard, with a daily average of 20 road blockages that last about 4.6 minutes each. These blockages delay all users of the corridor including pedestrians, cyclists and transit users. The Project will facilitate active transit that provides a first-mile/last-mile connection to bus stops on Adelaide street and to future bus rapid transit on Oxford Street.	06/01/2020	03/31/2024	08/21/2019	\$18,900,000.00	\$15,086,729.00	\$6,034,692.00	40%	\$0.00	\$5,028,406.78	33.33%	\$4,920,234.55	\$0.00	
ICIP-LON-06	Wellington Gateway Project	The Project consists of the construction of a complete Rapid Transit corridor along the length of Wellington Road, a primary arterial route into the city's core. The Project scope includes: • Reconstruction of 6.8 km of road between downtown and Highway 401, including widening to establish continuous transit lanes, multi-use paths, bike lanes and sidewalks, totaling 15.4 km of infrastructure which will act as first-mile and last-mile connections to the proposed rapid transit corridors • Installation of intelligent traffic signals including transit signal priority, sensors and video cameras at 15 signalized intersections, as well as equipment for 5 buses	04/01/2021	03/31/2027	08/21/2019	\$131,800,000.00	\$95,300,000.00	\$38,120,000.00	40%	\$0.00	\$31,763,490.00	33.33%	\$61,916,510.00	\$0.00	

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		<ul style="list-style-type: none"> • Construction of 1 park-and-ride facility near Highway 401 • Widening of Clarke's Bridge for additional two traffic lanes and a multi-use path (87 metres) • Installation of 18 transit stations • Purchase of 5 new buses • Replacement of 800 metres of storm sewer, 700 metres of sanitary sewer and 1000 metres of watermain due to direct conflict with rapid transit construction <p>The Project aims to:</p> <ul style="list-style-type: none"> • Provide better transit connectivity to and from the south end of the city connecting people to jobs, as well as support investment in rapidly-expanding commercial and industrial areas of the city • Provide necessary upgrades along the primary arterial route into the city's core which will bring important safety improvements for all modes of transportation • Provide more transportation choices for a more efficient commute 													
ICIP-LON-07	Dundas Street Old East Village Streetscape Improvements	<p>The Project will enhance and revitalize the transit corridor in the area of Dundas street with improved direct pedestrian and cycling connections to Dundas Street bus stops and along connecting side streets to the future King Street rapid transit corridor. The Project scope includes the widening of approximately 1.62 kilometers of roadway along Dundas St. replacement of adjacent sidewalks, installation of approximately 0.81 kilometers of new dedicated cycling lanes with signalized intersections at Dundas St. & Lyle St. /Elizabeth St. and Dundas St. & Rectory St., and installation of new bicycle parking & lock-up areas. The exact number of bicycle parking and lock-up areas will be determined during the detail design phase. New street lighting will be installed along 0.87 kilometers of side streets connecting to the proposed rapid transit corridor and along the 1.62 kilometers of roadway. The cycling amenities will act as first-mile and last-mile connections to the proposed rapid transit system.</p>	09/01/2019	06/30/2022	08/21/2019	\$8,200,000.00	\$8,200,000.00	\$3,280,000.00	40%	\$0.00	\$2,733,060.00	33.33%	\$2,186,940.00	\$0.00	
ICIP-LON-08	London Oxford Street Wharncliffe Road Intersection Improvements	<p>The Project consists of improving the transit movement through the busy intersection of Oxford Street and Wharncliffe Road in the City of London, Ontario.</p> <p>The project scope includes the construction of new transit queue jump lanes in the eastbound and westbound lanes along Oxford Street, as well as intelligent traffic signals, street lighting, turning lanes, sidewalks and bike lanes. The cycling and walking infrastructure will provide direct (first-mile, last-mile) connections to transit services.</p> <p>The project aims to improve capacity of public transit infrastructure and improve quality and safety of the existing</p>	07/01/2022	03/31/2027	08/21/2019	\$17,800,000.00	\$8,800,000.00	\$3,520,000.00	40%	\$0.00	\$2,933,040.00	33.33%	\$11,346,960.00	\$0.00	

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		and future transit system. These major intersection improvements will improve overall traffic operations.												
ICIP-LON-09	Expansion Buses	The project consists of the purchase and commissioning of 31 buses, which will be a mix of 40' and 60' diesel buses, aimed at improving better transit service via direct bus connections and increasing service frequencies system wide, including the City's industrial employment areas.	01/01/2020	10/31/2027	08/21/2019	\$25,200,000.00	\$25,200,000.00	\$10,080,000.00	40%	\$0.00	\$8,399,160.00	33.33%	\$6,720,840.00	\$0.00
ICIP-LON-10	Bus Stop Amenities	Improve the overall customer experience in London through the installation of bus stop amenities including the installation of 60 new bus shelters which include solar powered lighting and benches. This project also includes the installation of 150 new solar-powered lights at bus stops that have been identified as having low light or safety concerns.	01/01/2020	03/31/2023	08/21/2019	\$1,100,000.00	\$1,100,000.00	\$440,000.00	40%	\$0.00	\$366,630.00	33.33%	\$293,370.00	\$0.00

SCHEDULE “D” REPORTS

D.1.0 PROGRESS REPORTS

D.1.1 **Progress Reports.** The Recipient will submit Progress Reports to the Province in a format to be provided by the Province and in accordance with the timelines and any other requirements set out in Article D.2.0 (Reporting Requirements) in respect of each Project.

D.1.2 **Description of Progress Report.** The Recipient agrees that each Progress Report will include, without limitation and at the sole discretion of the Province, the following information in respect of the Project to which the Progress Report relates:

- (a) Canada’s and the Province’s respective forecasted contributions to the Project by Funding Year;
- (b) the Project start date and the Project end date (forecasted and actual where applicable);
- (c) the percentage of the Project that has been completed;
- (d) risks and mitigation strategies;
- (e) confirmation that the Project is on track to achieve expected results or, if the Project is Substantially Completed, confirmation of actual results; and
- (f) confirmation that all required signage for the Project has been installed.

D.2.0 REPORTING REQUIREMENTS

The reporting requirements for each Project vary depending on the tier classification, as set out in column C (Project Tier for Reporting Purposes) of Sub-schedule “D.1” (Project Tier Classification and Other Information), for the Project.

D.2.1 **Tier 1 Reporting Requirements.** If, based on the Province’s assessment, a Recipient’s Project is categorized as a Tier 1 Project, as identified in column C (Project Tier for Reporting Purposes) of Sub-schedule “D.1” (Project Tier Classification and Other Information), the Recipient will submit to the Province:

- (a) up and until the final payment has been made pursuant to section J.8.1 (Final Payment), a Progress Report in each calendar year on or before:
 - (i) March 15th; and
 - (ii) September 15th;
- (b) upon reaching Substantial Completion:
 - (i) a Declaration of Project Substantial Completion;

- (ii) a final Progress Report; and
- (iii) a photograph of the Project; and
- (c) within 90 days of submitting the final Progress Report, a summary of any Communications Activities made for the Project.

D.2.2 Tier 2 Reporting Requirements. If, based on the Province’s assessment, a Recipient’s Project is categorized as a Tier 2 Project, as identified in column C (Project Tier for Reporting Purposes) of Sub-schedule “D.1” (Project Tier Classification and Other Information), the Recipient will submit to the Province:

- (a) up and until the final payment has been made pursuant to section J.8.1 (Final Payment), a Progress Report in each calendar year on or before:
 - (i) March 15th;
 - (ii) June 15th;
 - (iii) September 15th; and
 - (iv) December 15th;
- (b) upon reaching Substantial Completion:
 - (i) a Declaration of Project Substantial Completion;
 - (ii) a final Progress Report;
 - (iii) a Certificate from a Professional Engineer for Project Substantial Completion;
 - (iv) a copy of the report for a compliance audit carried out in accordance with Article D.8.0 (Compliance Audit(s)); and
 - (v) a photograph of the Project; and
- (c) within 90 days of submitting the final Progress Report:
 - (i) a summary of any Communications Activities made for the Project; and
 - (ii) a summary of how the Project aligns with provincial and federal objectives.

D.2.3 Tier 3 Reporting Requirements. If, based on the Province’s assessment, a Recipient’s Project is categorized as a Tier 3 Project, as identified in column C (Project Tier for Reporting Purposes) of Sub-schedule “D.1” (Project Tier Classification and Other Information), then the Recipient will work with the Province to establish a Committee. Additionally, the Recipient will submit to the Province:

- (a) up and until the final payment had been made pursuant to section J.8.1 (Final Payment):
 - (i) a Progress Report in each calendar year on or before:
 - a. March 15th;
 - b. June 15th;
 - c. September 15th; and
 - d. December 15th; and
 - (ii) a Certificate from an Independent Engineer to Certify Progress on or before September 15th of each calendar year;
- (b) a communications plan within 180 days of the Effective Date;
- (c) upon reaching Substantial Completion:
 - (i) a Declaration of Project Substantial Completion;
 - (ii) a final Progress Report;
 - (iii) a Certificate from a Professional Engineer for Project Substantial Completion; and
 - (iv) a photograph of the Project;
- (d) a copy of the reports for the following two compliance audits carried out in accordance with Article D.8.0 (Compliance Audit(s)). The initial compliance audit will be carried out midway through the Project. The final compliance audit will be carried out upon reaching the Project Substantial Completion Date; and
- (e) within 90 days of submitting the final Progress Report:
 - (i) a summary of any Communications Activities made for the Project;
 - (ii) a summary of how the Project aligns with provincial and federal objectives; and
 - (iii) a summary of lessons learned.

D.2.4 Tier 4 Reporting Requirements. If, based on the Province’s assessment, a Recipient’s Project is categorized as a Tier 4 Project, as identified in column C (Project Tier for Reporting Purposes) of Sub-schedule “D.1” (Project Tier Classification and Other Information), then the Recipient will work with the Province to establish a Committee. Additionally, the Recipient will submit to the Province:

- (a) up and until the final payment has been made pursuant to section J.8.1 (Final Payment):
 - (i) a Progress Report in each calendar year on or before the 15th day of each month;
 - (ii) a Certificate from an Independent Engineer to Certify Progress on or before March 15th and September 15th of each calendar year; and
 - (iii) a communications plan within 180 days of the Effective Date and on or before March 15th in each calendar year thereafter;
- (b) upon reaching Substantial Completion:
 - (i) a Declaration of Project Substantial Completion;
 - (ii) a final Progress Report;
 - (iii) a Certificate from a Professional Engineer for Project Substantial Completion; and
 - (iv) a photograph of the Project;
- (c) a copy of the reports for the following two compliance audits carried out in accordance with Article D.8.0 (Compliance Audit(s)). The initial compliance audit will be carried out midway through the Project. The final compliance audit will be carried out upon reaching the Project Substantial Completion Date; and
- (d) within 90 days of submitting the final Progress Report:
 - (i) a summary of any required Communications Activities made for the Project;
 - (ii) a summary of how the Project aligns with provincial and federal objectives; and
 - (iii) a summary of lessons learned.

D.3.0 ABORIGINAL CONSULTATION RECORD

D.3.1 Inclusion of Aboriginal Consultation Record. The Recipient will include an updated Aboriginal Consultation Record, if consultation with any Aboriginal Community is required, in its Progress Report.

D.4.0 RISK ASSESSMENT

D.4.1 Further Details on Risk Assessment. Upon the Province's written request and within the timelines set out by the Province, the Recipient will provide further details on the risk assessment the Recipient provides in respect of any Progress Report.

D.5.0 CLIMATE LENS ASSESSMENTS

D.5.1 **Climate Change Resilience Assessment.** If a climate change resilience assessment is identified as “Required” in column F (Climate Change Resilience Assessment) of Sub-schedule “D.1” (Project Tier Classification and Other Information), the Recipient will submit to Canada, through the Province and in a format acceptable to Canada, a climate change resilience assessment prior to submitting a request for payment for the Project. The climate change resilience assessment will be in accordance with:

- (a) the publication titled, *Climate Lens - General Guidance*, provided by Canada at <https://www.infrastructure.gc.ca/pub/other-autre/cl-occ-eng.html>, or at any other location the Province may provide; and
- (b) any additional direction the Province may provide.

D.5.2 **Greenhouse Gas Emissions Assessment.** If a greenhouse gas emissions assessment is identified as “Required” in column D (Greenhouse Gas Emissions Assessment) of Sub-schedule “D.1” (Project Tier Classification and Other Information), the Recipient will submit to Canada, through the Province and in a format acceptable to Canada, a greenhouse gas emissions assessment prior to submitting a request for payment for the Project. The greenhouse gas emissions assessment will be in accordance with:

- (a) the publication titled, *Climate Lens – General Guidance*, provided by Canada at <https://www.infrastructure.gc.ca/pub/other-autre/cl-occ-eng.html>, or at any other location the Province may provide; and
- (b) any additional direction the Province may provide.

D.6.0 COMMUNITY EMPLOYMENT BENEFITS ASSESSMENTS

D.6.1 **Community Employment Benefits Assessments.** If community employment benefits assessments are identified as “Required” in column E (Community Employment Benefits Assessments) of Sub-schedule “D.1” (Project Tier Classification and Other Information), the Recipient will complete community employment benefits assessments for the Project, as described in section D.6.2 (Description of the Community Employment Benefits Assessments), to the satisfaction of Canada and the Province.

D.6.2 **Description of the Community Employment Benefits Assessments.** If community employment benefits assessments are required pursuant to section D.6.1 (Community Employment Benefits Assessments), the Recipient will provide the Province and Canada with such assessments for three or more of the following federal target groups:

- (a) apprentices;
- (b) Indigenous peoples;
- (c) women;

- (d) persons with disabilities;
- (e) veterans;
- (f) youth;
- (g) new Canadians;
- (h) small-medium-sized enterprises; and
- (i) social enterprises.

D.6.3 Reporting on Community Employment Benefits Assessments. The Recipient will submit its community employment benefit assessments to the Province, together with its Progress Reports, on or before September 15th of each calendar year.

D.7.0 CHANGES TO SCHEDULE “D” (REPORTS)

D.7.1 Minor Changes to the Reporting. Subject to section D.7.2 (Amending the Agreement for Minor Changes to the Reporting), the Parties may make changes to this Schedule “D” (Reports) or Sub-schedule “D.1” (Project Tier Classification and Other Information), or both, that, in the opinion of the Province, are minor.

D.7.2 Amending the Agreement for Minor Changes to the Reporting. Any change made pursuant to section D.7.1 (Minor Changes to the Reporting) must be documented through a written agreement duly executed by the respective representatives of the Parties listed in Schedule “B” (Project Specific Information).

D.8.0 COMPLIANCE AUDIT(S)

D.8.1 Compliance Audit(s). Without limiting the generality of section A.7.4 (Records Review) and as required under Article D.2.0 (Reporting Requirements), the Recipient will, at its own expense, retain an independent third party auditor to conduct one or more compliance audits of the Recipient. Each audit will be conducted in accordance with Canadian Generally Accepted Auditing Standards, as adopted by the Canadian Institute of Chartered Accountants, applicable as of the date on which a record is kept or required to be kept under such standards. In addition, each audit will assess the Recipient’s compliance with the terms of the Agreement and will address, without limitation, the following:

- (a) whether the Funds were spent in accordance with the Agreement and with due regard to economy, efficiency, and effectiveness;
- (b) the progress or state of completion of the Project;
- (c) whether the financial information the Recipient provided is complete, accurate, and timely, and in accordance with the Agreement;

- (d) whether the Recipient's information and monitoring processes and systems are adequate to identify, capture, validate, and monitor the achievement of intended benefits of the Project;
- (e) the overall management and administration of the Project;
- (f) recommendations for improvement or redress; and
- (g) whether prompt and timely corrective action is taken on prior audit findings.

**SUB-SCHEDULE “D.1”
PROJECT TIER CLASSIFICATION AND OTHER INFORMATION**

Project ID	Project Title	Project Tier for Reporting Purposes	Greenhouse Gas Emissions Assessment	Community Employment Benefits Assessments	Climate Change Resilience Assessment	Eligibility of Own-Force Labour Costs	Competitive Acquisition Exemption
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
ICIP-LON-01	Intelligent Traffic Signals	Tier 2	Required	N/A	Required	N/A	N/A
ICIP-LON-02	Dundas Place Thames Valley Parkway Active Transportation Connection	Tier 1	N/A	N/A	N/A	N/A	N/A
ICIP-LON-03	East London Link	Tier 3	Required	Required	Required	Pending and subject to Canada’s written consent	N/A
ICIP-LON-04	Downtown Loop	Tier 3	Required	Required	Required	Pending and subject to Canada’s written consent	N/A
ICIP-LON-05	Adelaide Street Underpass Active Transportation Connections	Tier 2	Required	Required	Required	N/A	N/A
ICIP-LON-06	Wellington Gateway Project	Tier 3	Required	Required	Required	Pending and subject to Canada’s written consent	N/A

ICIP-LON-07	Dundas Street Old East Village Streetscape Improvements	Tier 1	N/A	N/A	N/A	N/A	N/A
ICIP-LON-08	London Oxford Street Wharncliffe Road Intersection Improvements	Tier 1	N/A	N/A	N/A	N/A	N/A
ICIP-LON-09	Expansion Buses	Tier 1	Required	N/A	N/A	N/A	N/A
ICIP-LON-10	Bus Stop Amenities	Tier 1	N/A	N/A	N/A	N/A	N/A

Note: Please see Schedule “D” (Reports) for further details on reporting.

**SCHEDULE “E”
ELIGIBLE EXPENDITURES AND INELIGIBLE EXPENDITURES**

E.1.0 ELIGIBLE EXPENDITURES

E.1.1 Scope of Eligible Expenditures. Eligible Expenditures are the direct costs which are, in the opinion of the Province, properly and reasonably incurred and paid by the Recipient in respect of any Project. Eligible Expenditures only include the following costs:

- (a) incurred on or after the Federal Approval Date and paid on or before October 31, 2027:
 - (i) all costs considered by the Parties to be direct and necessary for the successful implementation of the Project which may include, unless excluded under Article E.2.0 (Ineligible Expenditures), capital, construction, design and planning costs; and
 - (ii) the costs related to monitoring project-level community employment benefits.
- (b) the costs related to the completion of the climate lens assessments, incurred at any time and paid on or before October 31, 2027;
- (c) the costs associated with Aboriginal consultation and, where appropriate, accommodation measures, incurred on or after February 15, 2018 and paid on or before October 31, 2027;
- (d) if the Project is identified as “Approved” in column G (Eligibility of Own-Force Labour Costs) of Sub-schedule “D.1” (Project Tier Classification and Other Information), the incremental own-force labour costs for which Canada has provided its prior written consent and have been incurred on or after the date set out in the consent and paid on or before October 31, 2027;
- (e) if the Project is identified as “Approved” in column H (Competitive Acquisition Exemption) of Sub-schedule “D.1” (Project Tier Classification and Other Information), the costs for which Canada has provided its prior written consent and are associated with sole-source contracts, and have been incurred on or after the date set out in the consent and paid on or before October 31, 2027; and
- (f) any other cost that, in the opinion of the Province, is considered to be necessary for the successful implementation of the Project and has been approved in writing prior to being incurred.

E.2.0 INELIGIBLE EXPENDITURES

E.2.1 Scope of Ineligible Expenditures. Unless a cost is considered an Eligible Expenditure pursuant to section E.1.1 (Scope of Eligible Expenditures), such cost will be considered an Ineligible Expenditure. Without limitation, the indirect costs listed in section E.2.2 (Indirect Costs), the costs listed in section E.2.3 (Costs Over and Above a Project Scope) that are over and above the scope of a Project, and the following costs will be considered Ineligible Expenditures:

- (a) costs incurred prior to the Federal Approval Date of a Project, except for the costs specified in paragraph E.1.1 (b) and paragraph E.1.1 (c);
- (b) costs incurred or paid, or both after October 31, 2027, unless otherwise approved pursuant to paragraph E.1.1(f);
- (c) costs incurred for a cancelled Project;
- (d) land acquisition costs;
- (e) leasing costs for land, buildings, and other facilities;
- (f) leasing costs for equipment other than equipment directly related to the construction of a Project;
- (g) real estate fees and related costs;
- (h) any overhead costs, including salaries and other employment benefits of any employees of the Recipient, any direct or indirect operating or administrative costs of the Recipient, and more specifically, any costs related to planning, engineering, architecture, supervision, management, and other activities normally carried out by the Recipient's staff, except in accordance with paragraph E.1.1(d);
- (i) financing charges;
- (j) legal fees;
- (k) loan interest payments;
- (l) costs of any goods and services received through donations or in-kind;
- (m) taxes and any other costs for which the Recipient or any Third Party is eligible for a rebate;
- (n) costs associated with operating expenses and regularly scheduled

maintenance work, with the exception of essential capital equipment purchased at the onset of the construction/acquisition of the main Asset and approved by Canada;

- (o) costs related to furnishings and non-fixed assets which are not essential for the operation of an Asset or Project;
- (p) costs related to easements (e.g., surveys); and
- (q) any other cost which is not specifically listed as an Eligible Expenditure under Article E.1.0 (Eligible Expenditures) and which, in the opinion of the Province, is considered to be ineligible.

E.2.2 Indirect Costs. Without limitation, the following indirect costs are Ineligible Expenditures:

- (a) costs of developing the business case for the purposes of applying for provincial funding in respect of any Project;
- (b) costs in respect of any Evaluation or any other Project evaluation and audit, unless otherwise approved by the Province in writing;
- (c) costs associated with obtaining any necessary approval, licence or permit where the Recipient is the entity providing the approval, licence or permit;
- (d) costs associated with general planning studies, including the Recipient's *Official Plan* and *Transportation Master Plan*;
- (e) carrying costs incurred on the funding share of any funding partner other than the Province;
- (f) costs associated with municipal staff and any Third Party travel;
- (g) litigation costs including, without limitation, any award or settlement costs in respect of damages and related interest, and disbursements; and
- (h) Recipient's upgrades not expressly approved by the Province.

E.2.3 Costs Over and Above a Project Scope. Activities undertaken in respect of any Project that are over and above the scope of the Project are considered Ineligible Expenditures. These costs include, but are not limited to:

- (a) the costs to upgrade municipal services and utilities that are over and above those for the relocation and replacement of municipal services and utilities that are solely required for the Project;

- (b) the costs for upgrades to materials and design beyond existing municipal standards; and
- (c) the costs for corridor and urban design enhancements over and above those that are described in the Project description.

SCHEDULE “F” EVALUATION

F.1.0 PROJECTS AND ICIP EVALUATIONS

- F.1.1 Recipient’s Participation in Projects and ICIP Evaluations.** The Recipient understands that the Province or Canada, or both, may ask the Recipient to participate in one or more evaluation in respect of any Project, the Projects or the ICIP during and for a period of up to six years after March 31, 2028. The Recipient agrees, if asked and at its own expense, to provide Project-related information to the Province or Canada, or both, for any evaluation.
- F.1.2 Results of Projects and ICIP Evaluations.** The result of any evaluation carried under section F.1.1 (Recipient’s Participation in Projects and ICIP Evaluations) will be made available to the public, subject to all applicable laws and policy requirements.

SCHEDULE “G” COMMUNICATIONS PROTOCOL

G.1.0 DEFINITIONS

G.1.1 **Definitions.** For the purposes of this Schedule “G” (Communications Protocol):

“**Joint Communications**” means events, news releases, and signage that relate to the Agreement or the Bilateral Agreement, or both, that are not operational in nature, and that are collaboratively developed and approved by,

- (a) in the case of the Bilateral Agreement, Canada, the Province and the Recipient; and
- (b) in the case of the Agreement, the Province and the Recipient.

G.2.0 PURPOSE

G.2.1 **Purpose.** This communications protocol outlines the roles and responsibilities of each of the Parties to the Agreement in respect of Communications Activities related to the Project.

G.2.2 **Guidance.** This communications protocol will guide all planning, development and implementation of Communications Activities with a view to ensuring efficient, structured, continuous, consistent, and coordinated communications to the Canadian public.

G.2.3 **Application to Communications Activities.** The provisions of this communications protocol apply to all Communications Activities related to the Agreement and the Project.

G.3.0 GUIDING PRINCIPLES

G.3.1 **Information to Canadians.** Communications Activities undertaken through this communications protocol should ensure that Canadians are informed about the Project benefits, including the ways in which the Project helps improve their quality of life.

G.3.2 **Factors to Consider.** The scale and scope of Communications Activities undertaken for any Project will take into consideration the financial value, scope and duration of the Project and the feasibility of Joint Communications for such Communications Activities.

- G.3.3 **Deficiencies and Corrective Actions.** The Province will communicate to the Recipient any deficiencies or corrective actions, or both, identified by the Province, Canada or, as applicable, the Committee.
- G.3.4 **Approval of Communications Material.** The announcement or publication of the Project must be approved by the Parties and Canada prior to being carried out.
- G.3.5 **Costs of Communication Activities.** With the exception of advertising campaigns outlined in Article G.10.0 (Advertising Campaigns), the costs of Communication Activities and signage will follow the eligibility rules established in Schedule “E” (Eligible Expenditures and Ineligible Expenditures).

G.4.0 JOINT COMMUNICATIONS

- G.4.1 **Subject Matter.** The Parties and Canada may have Joint Communications about the funding and status of each Project.
- G.4.2 **Prior Knowledge and Agreement.** Joint Communications in respect of any Project should not occur without the prior knowledge and agreement of the Parties and Canada.
- G.4.3 **Recognition of the Province’s and Canada’s Contributions.** All Joint Communications material will be approved by the Province and Canada and will recognize the Province’s and Canada’s contribution under Schedule “A” (General Terms and Conditions) or the Total Financial Assistance, or both, received in respect of any Project.
- G.4.4 **Notice and Timing.** The Recipient and the Province, on its own behalf or that of Canada, may request Joint Communications. The Party requesting the Joint Communications will provide at least 15 Business Days’ Notice to the other Party. If the Communications Activity is an event, it will take place at a date and location mutually consented to by the Parties and, if applicable, Canada.
- G.4.5 **Participation and Representatives.** The Party requesting a Joint Communications will provide the opportunity for the other Party and Canada to choose to participate and, if they do so choose, their own designated representative (in the case of an event).
- G.4.6 **English and French.** Canada has an obligation to communicate in English and French. Communications products related to events must be bilingual and include the Canada word mark and the logos of the Parties. In such cases, Canada will provide the translation services and final approval on products.

G.4.7 **Table of Precedence for Canada.** The conduct of all Joint Communications will, as applicable, follow the *Table of Precedence for Canada* provided by Canada at <https://www.canada.ca/en/canadian-heritage/services/protocol-guidelines-special-event/table-precedence-canada.html>, or at any other location as the Province may provide.

G.5.0 INDIVIDUAL COMMUNICATIONS

G.5.1 **Canada's Obligations.** Notwithstanding Article G.4.0 (Joint Communications), the Parties agree that Canada or the Province, or both, have the right to communicate information to Canadians and Ontarians about the Agreement and the use of Funds to meet its legislated and regulatory obligations through their respective own Communications Activities.

G.5.2 **Restrictions.** Each Party may include general ICIP messaging and an overview in respect of any Project in their own Communications Activities. The Province and the Recipient will not unreasonably restrict the use of, for their own purposes, Communications Activities related to the Project and, if the communications are web- or social-media based, the ability to link to it. Canada has also agreed, in the Bilateral Agreement, to the above.

G.5.3 **Publication.** The Recipient will indicate, in respect of any Project-related publications, whether written, oral, or visual, that the views expressed in the publication are the views of the Recipient and do not necessarily reflect those of Canada and the Province.

G.5.4 **Canada's Recognition in Documents.** In respect of any Project where the deliverable is a document, such as but not limited to plans, reports, studies, strategies, training material, webinars, and workshops, the Recipient will clearly recognize Canada's and the Province's respective financial contribution for the Project.

G.5.5 **Acknowledgement of Support.** Unless the Province directs the Recipient to do otherwise, the Recipient will, in respect of any Project-related publications, whether written, oral, or visual, acknowledge the Province's and Canada's support for the Project.

G.6.0 OPERATIONAL COMMUNICATIONS

G.6.1 **Responsibility of Recipient.** The Recipient is solely responsible for operational communications in respect of any Project, including but not limited to calls for tender, contract awards, and construction and public safety notices. Operational communications as described above are not subject to the *Official Languages Act* of Canada.

G.7.0 MEDIA RELATIONS

G.7.1 **Significant Media Inquiry.** The Province and the Recipient will share information promptly with the other Party and Canada if significant media inquiries are received or emerging media or stakeholder issues arise in respect of a Project or the ICIP.

G.8.0 SIGNAGE

G.8.1 **Recognition of Funding Contribution.** The Parties agree that Canada, the Province and the Recipient may each have signage recognizing their funding contribution in respect of any Project.

G.8.2 **Funding Recognition.** Unless otherwise agreed by Canada or the Province, or both, the Recipient will produce and install a sign to recognize the funding contributed by the Province or Canada, or both, at any Project site in accordance with, as applicable, their current respective signage guidelines. Federal sign design, content, and installation guidelines will be provided by Canada. Provincial sign design, content, and installation guidelines will be provided by the Province.

G.8.3 **Permanent Plaque.** Where the Recipient decides to install a permanent plaque or another suitable marker in respect of any Project, the Recipient will:

- (a) on the marker, recognize the Province's and Canada's contributions; and
- (b) prior to installing the marker, seek the prior written approval of both Canada and the Province, each respectively, for its content and installation.

G.8.4 **Notice of Sign Installation.** The Recipient will inform the Province of sign installations, including providing the Province with photographs of the sign, once the sign has been installed.

G.8.5 **Timing for Erection of Sign.** If erected and unless the Province otherwise consents in writing, signage recognizing Canada's and the Province's respective contributions will be installed at the Project site(s) 30 days prior to the start of construction, be visible for the duration of the Project, and remain in place until 180 days after construction is completed and the infrastructure is fully operational or opened for public use.

G.8.6 **Size of Sign.** If erected, signage recognizing Canada's and the Province's respective contribution will be at least equivalent in size and prominence to Project signage for contributions by other orders of government and will be installed in a prominent and visible location that takes into consideration pedestrian and traffic safety and visibility.

G.8.7 Responsibility of Recipient. The Recipient is responsible for the production and installation of Project signage, and for maintaining the signage in a good state of repair during the Project, or as otherwise agreed upon.

G.9.0 COMMUNICATING WITH RECIPIENT

G.9.1 Facilitation of Communications. The Province agrees to facilitate, as required, communications between Canada and the Recipient for Communications Activities.

G.10.0 ADVERTISING CAMPAIGNS

G.10.1 Notice of Advertising Campaigns. Recognizing that advertising can be an effective means of communicating with the public, the Recipient agrees that Canada or the Province, or both, may, at their own cost, organize an advertising or public information campaign in respect of any Project or the Agreement. However, such a campaign will respect the provisions of the Agreement. In the event of such a campaign, Canada or the Province will inform each other and the Recipient of its intention no less than 21 Business Days prior to the campaign launch.

**SCHEDULE “H”
DISPOSAL OF ASSETS**

H.1.0 DEFINITIONS

H.1.1 **Definitions.** For the purposes of this Schedule “H” (Disposal of Assets):

“**Asset Disposal Period**” means the period set out in the 1st column of the table in section H.2.2 (Disposal of Asset and Payment).

H.2.0 DISPOSAL OF ASSETS

H.2.1 **Asset Disposal Period.** Unless the Province consents otherwise, the Recipient will maintain the ongoing operations and retain title to and ownership of any Asset acquired in respect of any Project for the Asset Disposal Period.

H.2.2 **Disposal of Asset and Payment.** If, at any time within the Asset Disposal Period, the Recipient sells, leases, encumbers, or otherwise disposes, directly or indirectly, of any Asset other than to Canada, the Province, or a municipal or regional government established by or under provincial statute, the Province may require the Recipient to reimburse the Province or Canada, via the Province, for any Funds received for the Project in accordance with the table below:

ASSET DISPOSAL PERIOD*	TYPE OF ASSET	RETURN OF FEDERAL CONTRIBUTION	RETURN OF PROVINCIAL CONTRIBUTION
5 years	All Assets	100%	100%
12 years	Transit vehicles including, without limitation, 9 metre to 18 metre buses and double deck buses, regardless of propulsion system	0%	100%
25 years	Subway cars, light rail vehicles, and large infrastructure assets (e.g. a maintenance and storage facility)	0%	100%

* **Note:** The Asset Disposal Period starts on the Substantial Completion Date of the Project in respect of which the Asset was acquired.

**SCHEDULE “I”
ABORIGINAL CONSULTATION PROTOCOL**

I.1.0 DEFINITIONS

I.1.1 **Definitions.** For the purposes of this Schedule “I” (Aboriginal Consultation Protocol):

“**Aboriginal Community**”, also known as “Aboriginal Group”, includes First Nation, Métis, and Inuit communities or peoples of Canada.

“**Aboriginal Consultation Plan**” means the Aboriginal Consultation Plan described in section I.2.1 (Development of Plan).

I.2.0 ABORIGINAL CONSULTATION PLAN

I.2.1 **Development of Plan.** The Province, based on the scope and nature of the Project or at the request of Canada, may require the Recipient, in consultation with the Province or Canada, or both, to develop and comply with an Aboriginal consultation plan (“Aboriginal Consultation Plan”).

I.2.2 **Procedural Aspects of Aboriginal Consultation.** If consultation with Aboriginal Communities is required, the Recipient agrees that:

- (a) the Province or Canada, or both, may delegate certain procedural aspects of the consultation to the Recipient; and
- (b) the Province or Canada, or both, will provide the Recipient with an initial list of the Aboriginal Communities the Recipient will consult.

I.2.3 **Provision of Plan to Province.** If, pursuant to section I.2.1 (Development of Plan), the Province provides Notice to the Recipient that an Aboriginal Consultation Plan is required, the Recipient will, within the timelines provided in the Notice, provide the Province with a copy of the Aboriginal Consultation Plan.

I.2.4 **Changes to Plan.** The Recipient agrees that the Province or Canada, in the sole discretion of the Province or Canada and from time to time, may require the Recipient to make changes to the Aboriginal Consultation Plan.

I.3.0 ABORIGINAL CONSULTATION RECORD

I.3.1 **Requirements for Aboriginal Consultation Record.** If consultation with an Aboriginal Community is required, the Recipient will maintain an Aboriginal Consultation Record and provide such record to the Province, and any update to it,

as part of its reporting to the Province pursuant to section D.3.1 (Inclusion of Aboriginal Consultation Record).

I.4.0 RESPONSIBILITIES OF THE RECIPIENT

I.4.1 Notification to and Direction from the Province. The Recipient will immediately notify the Province:

- (a) of contact by Aboriginal Communities regarding the Project; or
- (b) of any Aboriginal archaeological resources that are discovered in relation to the Project,

and, in either case, the Recipient agrees that the Province or Canada, or both, may direct the Recipient to take such actions as the Province or Canada, or both, may require. The Recipient will comply with the Province's or Canada's direction.

I.4.2 Direction from the Province and Contracts. In any Contract, the Recipient will provide for the Recipient's right and ability to respond to direction from the Province or Canada, or both, as the Province or Canada may provide in accordance with section I.4.1 (Notification to and Direction from the Province).

**SCHEDULE “J”
REQUESTS FOR PAYMENT AND PAYMENT PROCEDURES**

J.1.0 DEFINITION

J.1.1 **Definition.** For the purposes of this Schedule “J” (Requests for Payment and Payment Procedures):

“**Final Payment**” means the final payment by the Province to the Recipient in respect of any Project as described in and to be paid in accordance with Article J.8.0 (Final Payment).

J.2.0 PROCEDURES AND TIMING FOR REQUESTS FOR PAYMENT

J.2.1 **Procedures.** The procedures provided for in Article J.3.0 (Procedures for Requests for Payment for Eligible Expenditures) will apply to requests for payment that the Recipient submits to the Province under the Agreement.

J.2.2 **Diligent and Timely Manner.** The Recipient will submit its requests for payment to the Province in a diligent and timely manner.

J.3.0 PROCEDURES FOR REQUESTS FOR PAYMENT FOR ELIGIBLE EXPENDITURES

J.3.1 **Timing, Reports and Documents.** The Recipient will submit each request for payment for Eligible Expenditures in respect of each Project to the Province on a date and frequency as set out below and, if the Province so requested pursuant to paragraph K.4.1(f), after review by the Committee. The Recipient agrees to submit, for each of the circumstances listed below, the following reports and documents:

- (a) for each request for payment, including the Final Payment, a Request for Payment Form using the form provided in Sub-schedule “J.1” (Form of Certificate from Recipient), fully and accurately completed by an authorized representative of the Recipient. For greater clarity, the Recipient may make one request per Project for each calendar year quarter before the following dates:
 - (i) March 15th;
 - (ii) June 15th;
 - (iii) September 15th; and
 - (iv) December 15th;

- (b) for each request for payment for a non-exempt vehicle, a declaration form, pursuant to the Canadian Content Policy;
- (c) for each request for payment, except for the Final Payment:
 - (i) a Progress Report acceptable to the Province, for the period to which the request for payment relates; and
 - (ii) if, based on the Province's assessment, a Recipient's Project is categorized as a Tier 4 Project, as identified in column C (Project Tier for Reporting Purposes) of Sub-schedule "D.1" (Project Tier Classification and Other Information), a Certificate from an Independent Engineer to Certify Progress;
- (d) for each request for Final Payment, a final Progress Report, acceptable to the Province, for the period to which the request for payment relates;
- (e) if the Province so requests, a copy of all documentation provided to the Recipient by an authorized representative of the Recipient or a professional engineer, or both; and
- (f) such other information as the Province may request.

J.4.0 PAYMENTS

J.4.1 **Payment by the Province.** Subject to the terms and conditions of the Agreement, upon receipt of a request for payment fully completed in accordance with this Schedule "J" (Requests for Payment and Payment Procedures), the Province will use its reasonable efforts to make a payment to the Recipient, if due and owing under the terms of the Agreement, in a timely manner.

J.4.2 For greater certainty and without limitation, before the Province makes a payment to the Recipient, the following terms and conditions of the Agreement must be met, in the opinion of the Province or Canada, or both:

- (a) the conditions set out in paragraph A.4.2(c);
- (b) the special conditions listed in Article A.32.0 (Special Conditions);
- (c) receipt and acceptance by the Province of all required Reports and other reports, as applicable;
- (d) compliance with all applicable audit requirements under the Agreement; and

- (e) applicable communications requirements, as set out Schedule “G” (Communications Protocol).

J.4.3 The Province will under no circumstances be liable for interest for failure to make a payment within the time limit provided for in this Article J.4.0 (Payments).

J.5.0 TIME LIMITS FOR REQUESTS FOR PAYMENTS

J.5.1 **Timing.** The Recipient will submit all requests for payment on or before November 1, 2027.

J.5.2 **No Obligation for Payment.** The Province will have no obligation to make any payment for a request for payment submitted after November 1, 2027.

J.6.0 FINAL RECONCILIATION AND ADJUSTMENTS

J.6.1 **Final Reconciliation and Adjustments.** For each Project, following the submission of both the Declaration of Project Substantial Completion and the final Progress Report, the Parties will jointly carry out a final reconciliation of all requests for payments and payments in respect of any Project and make any adjustments required in the circumstances.

J.7.0 HOLDBACK

J.7.1 **Holdback.** For each Project, the Province may hold back funding in accordance with section A.4.12 (Retention of Contribution).

J.8.0 FINAL PAYMENT

J.8.1 **Final Payment.** Subject to paragraph A.4.2(c), the Province will pay to the Recipient the remainder of its contribution under the Agreement, including the Holdback, after all of the conditions under section A.4.12 (Retention of Contribution) have been met.

**SUB-SCHEDULE “J.1”
FORM OF CERTIFICATE FROM RECIPIENT**

**CERTIFICATE FROM RECIPIENT
INVESTING IN CANADA INFRASTRUCTURE PROGRAM (ICIP):
PUBLIC TRANSIT STREAM TRANSFER PAYMENT AGREEMENT**

TO: [insert the information the Province will provide to the Recipient after the Effective Date by Notice]

FROM: [insert address of the Recipient’s authorized representative]
Attention: [insert the name and title of the Recipient’s authorized representative]
Email: [insert email address of the Recipient’s authorized representative]
Telephone No.: [insert telephone number of the Recipient’s authorized representative]

RE: Investing in Canada Infrastructure Program (ICIP) Transfer Payment Agreement - Project [insert the Project unique ID and title]

In the matter of the Investing in Canada Infrastructure Program (ICIP): Public Transit Stream Transfer Payment Agreement entered into between Her Majesty the Queen in right of Ontario, represented by the Minister of Transportation for the Province of Ontario, and the [insert the legal name of the Recipient] (the “Recipient”), on _____, _____ (the “Agreement”).

I, _____ [insert name and title of the Recipient’s authorized representative], having made such inquiries as I have deemed necessary for this certificate, hereby certify that to the best of my knowledge, information, and belief:

1. On and as of the date set out below:
 - (a) all representations and warranties contained in Article A.2.0 (Representations, Warranties, and Covenants) of Schedule “A” (General Terms and Conditions) to the Agreement are true and correct;
 - (b) the Recipient is in compliance with all the terms and conditions of the Agreement, including, without limitations, its obligations under Article A.28.0 (Environmental Requirements and Assessments), and sections A.29.1 (Aboriginal Consultation Protocol), A.32.1 (Special Conditions), and C.2.1 (Canada’s Requirements for Standards), and no Event of Default, as defined in the Agreement, is currently occurring;

- (c) if the Recipient has incurred a cost overrun in respect of any Project, it has funded the cost, is not asking for funds from the Province, and has sufficient funds to complete the Project in compliance with the Agreement; and
 - (d) the Recipient has complied with all applicable provision of the *Construction Lien Act* (Ontario) and the *Construction Act* (Ontario) and is not aware of any claims for lien under that Act.
2. The information in respect of the Project **[insert the Project unique ID and title]** that is contained in the attached Request for Payment Form and Progress Report is true and correct.
 3. Eligible Expenditures in Appendix “A” have been incurred in accordance with the Agreement and have only been expended on the Project as described in Sub-schedule “C.1” (Project Description, Budget, and Timelines) of the Agreement.
 4. The Recipient is in compliance with all of the reporting requirements of the Agreement.

The Recipient hereby requests a payment in the amount of:

\$ _____ on account of the Province’s; and

\$ _____ on account of Canada’s contribution towards the Eligible Expenditures of the Project **[insert the Project unique ID and title]**.

Declared at _____ (municipality), in the Province of Ontario, this _____ day of _____, 20_____.

(Signatures)

 Name: **[insert/print the name of the Recipient’s authorized representative]**

Title: **[insert/print the title of the Recipient’s authorized representative]**

 Witness Name: **[insert/print the name of the witness]**

Title: **[insert/print the title of the witness]**

I have authority to bind the Recipient.

**CERTIFICATE FROM RECIPIENT
 INVESTING IN CANADA INFRASTRUCTURE PROGRAM (ICIP):
 PUBLIC TRANSIT STREAM TRANSFER PAYMENT AGREEMENT**

APPENDIX “A”

COMPLIANCE REQUIREMENTS BEFORE SUBMITTING A REQUEST FOR PAYMENT TO THE PROVINCE <i>(please respond with “YES”, “NO”, or “N/A”, as appropriate)</i>	
If your Project requires an environmental assessment (EA), pursuant to A.28.1 (Federal Environmental Requirements) of the Agreement, please indicate if the EA has been approved by Canada.	
If your Project has been identified by Canada or the Province as having a legal duty to consult and, where appropriate, to accommodate Aboriginal Communities, please indicate if the requirements under Article A.29.0 (Aboriginal Consultation) have been met for the Project.	
If a climate change resilience assessment is identified as “Required” in column F (Climate Change Resilience Assessment) of Sub-schedule “D.1” (Project Tier Classification and Other Information), please indicate if a climate change resilience assessment has been approved by Canada.	
If a greenhouse gas emissions assessment is identified as “Required” in column D (Greenhouse Gas Emissions Assessment) of Sub-schedule “D.1” (Project Tier Classification and Other Information), please indicate if a greenhouse gas emission assessment has been approved by Canada.	
The Recipient must pay all payment claims and invoices in full before making a request for payment to the Province. Please indicate whether the Recipient has already paid the claimed amount.	
If your Project requires the acquisition of a vehicle that is not exempt from the Canadian Content Policy, please provide a declaration form pursuant to the Canadian Content Policy.	

Record of Invoices											
Date of Invoice (DD/MM/YY)	Period of Work Performed		Vendor Name	Date Paid (DD/MM/YY)	Description of Expense	Eligibility per E.1.1	Amount Paid (\$)				
	From (DD/MM/YY)	To (DD/MM/YY)					Invoice Subtotal without HST	Ineligible Expenditures	Invoice Total HST	Recoverable HST	*Eligible Cost (Net of HST)
TOTAL											

Recommended for payment request:

Date

[insert/print the name and title of the Recipient's authorized representative]

I have authority to bind the Recipient.

Recommended for payment:

Date

[insert/print the name of the Director]
 Director, Ministry of Transportation

**SUB-SCHEDULE “J.2”
FORM OF DECLARATION OF PROJECT SUBSTANTIAL COMPLETION**

**DECLARATION OF PROJECT SUBSTANTIAL COMPLETION
INVESTING IN CANADA INFRASTRUCTURE PROGRAM (ICIP):
PUBLIC TRANSIT STREAM TRANSFER PAYMENT AGREEMENT**

TO: [insert the information the Province will provide to the Recipient after the Effective Date by Notice]

FROM: [insert address of the Recipient’s authorized representative]
Attention: [insert the name and title of the Recipient’s authorized representative]
Email: [insert email address of the Recipient’s authorized representative]
Telephone No.: [insert telephone number of the Recipient’s authorized representative]

RE: Investing in Canada Infrastructure Program (ICIP) Transfer Payment Agreement - Project [insert the Project unique ID and title]

In the matter of the Investing in Canada Infrastructure Program (ICIP): Public Transit Stream Transfer Payment Agreement entered into between Her Majesty the Queen in right of Ontario, as represented by the Minister of Transportation for the Province of Ontario, and the [insert the legal name of the Recipient] (the “Recipient”), on _____, _____ (the “Agreement”).

I, _____ [insert name and title of the Recipient’s authorized representative], having made such inquiries as I have deemed necessary for this certificate, hereby certify that to the best of my knowledge, information and belief:

1. On and as of the date set out below:
 - (a) all representations and warranties contained in Article A.2.0 (Representations, Warranties, and Covenants) of Schedule “A” (General Terms and Conditions) to the Agreement are true and correct;
 - (b) the Recipient is in compliance with all the terms and conditions of the Agreement, including, without limitation, its obligations under Article A.28.0 (Environmental Requirements and Assessments), and sections A.29.1 (Aboriginal Consultation Protocol), A.32.1 (Special Conditions), and C.2.1 (Canada’s Requirements for Standards) to the Agreement, and no Event of Default, as defined in the Agreement, is currently occurring;

- (c) if the Recipient has incurred a cost overrun for the Project, the Recipient has funded the cost, is not asking for funds from the Province, and has sufficient funds to complete the Project in compliance with the Agreement;
 - (d) the Recipient has complied with all applicable provisions of the *Construction Lien Act* (Ontario) and the *Construction Act* (Ontario) and is not aware of any claims for lien under that Act;
 - (e) the work for the Project **[insert the Project unique ID and title]**:
 - (i) has reached Substantial Completion, as defined in the Agreement, on the _____ day of _____ 20____ (the “Project Substantial Completion Date”);
 - (ii) was carried out between _____ **[insert the start date]** and the Project Substantial Completion Date;
 - (iii) was supervised and inspected by qualified staff;
 - (iv) conforms with the plans, specifications, and other documentation for the work;
 - (v) conforms with Schedule “C” (Project Description, Budget, Timelines, and Standards) of the Agreement, except as the Province has otherwise approved in advance and in writing;
 - (vi) conforms with the requirements provided for in paragraph A.4.9(d) of Schedule “A” (General Terms and Conditions) of the Agreement to comply with industry standards; and
 - (vii) conforms with applicable Environmental Laws, as defined in the Agreement, and appropriate mitigation measures have been implemented.
2. The information in respect of the Project **[insert the Project unique ID and title]** that is contained in the final Progress Report is true and correct.
 3. The Funds will only and entirely be used for Eligible Expenditures that have been incurred by the Recipient in accordance with the Agreement.
 4. The value of completed work on the Project is \$ _____ **[insert the amount in Canadian dollars]**.

Declared at _____ (municipality), in the Province of Ontario, this _____ day of _____, 20_____.

(Signatures)

Name: **[insert/print the name of the Recipient's authorized representative]**

Title: **[insert/print the title of the Recipient's authorized representative]**

Witness Name: **[insert/print the name of the witness]**

Title: **[insert/print the title of the witness]**

I have authority to bind the Recipient.

**SUB-SCHEDULE “J.3”
FORM OF CERTIFICATE FROM A PROFESSIONAL ENGINEER
FOR PROJECT SUBSTANTIAL COMPLETION**

[Note: This form is only for Tiers 2, 3 and 4 Projects and must be completed by an independent engineer for Tiers 3 and 4 Projects.]

**CERTIFICATE FROM A PROFESSIONAL ENGINEER
FOR PROJECT SUBSTANTIAL COMPLETION
INVESTING IN CANADA INFRASTRUCTURE PROGRAM (ICIP):
PUBLIC TRANSIT STREAM TRANSFER PAYMENT AGREEMENT**

TO: **[insert the information the Province will provide to the Recipient after the Effective Date by Notice]**

FROM: **[insert the address of the professional engineer]**

Attention: **[insert the name and title of the professional engineer]**

Email: **[insert the email address of the professional engineer]**

Telephone No.: **[insert the telephone number of the professional engineer]**

RE: **Investing in Canada Infrastructure Program (ICIP): Public Transit Stream Transfer Payment Agreement - Project [insert the Project unique ID and title]**

In the matter of the Investing in Canada Infrastructure Program (ICIP): Public Transit Stream Transfer Payment Agreement entered into between Her Majesty the Queen in right of Ontario, as represented by the Minister of Transportation for the Province of Ontario, and the **[insert the name of the Recipient]** (the “Recipient”), on _____, _____ (the “Agreement”).

I, _____ **[insert the name and title of the professional engineer]**, a professional engineer duly licensed in the Province of Ontario, having made such inquiries as I have deemed necessary for this certificate, hereby certify that to the best of my knowledge, information and belief:

On and as of the date set out below, the work for the Project **[insert the Project unique ID and title]**:

1. has reached Substantial Completion, as defined in the Agreement, on the _____ day of _____ 20____ (the “**Project Substantial Completion Date**”);
2. was carried out between **[insert the start date]** and the Project Substantial Completion Date;
3. was supervised and inspected by qualified staff;

4. conforms with the plans, specifications, and other documentation for the work;
5. conforms with applicable Environmental Laws, as defined in the Agreement, and appropriate mitigation measures have been implemented, if applicable;
6. conforms with Schedule "C" (Project Description, Budget, Timelines, and Standards) of the Agreement, except as the Province has otherwise approved in advance and in writing; and
7. conforms with the requirements provided for in paragraph A.4.9(d) of Schedule "A" (General Terms and Conditions) of the Agreement to comply with industry standards.

Declared at _____ (municipality), in the Province of Ontario, this _____ day of _____, 20_____.

(Signatures)

Name: **[insert/print the name of the professional engineer]**
Title: **[insert/print the title of the professional engineer]**

Witness Name: **[insert/print the name of the witness]**
Title: **[insert/print the title of the witness]**

SUB-SCHEDULE “J.4”

FORM OF CERTIFICATE FROM AN INDEPENDENT ENGINEER TO CERTIFY PROGRESS

[Note: This form is only for Tiers 3 and 4 Projects.]

**CERTIFICATE FROM AN INDEPENDENT ENGINEER TO CERTIFY PROGRESS
INVESTING IN CANADA INFRASTRUCTURE PROGRAM (ICIP):
PUBLIC TRANSIT STREAM TRANSFER PAYMENT AGREEMENT**

TO: [insert the information the Province will provide to the Recipient after the Effective Date by Notice]

FROM: [insert the address of an independent professional engineer]
Attention: [insert the name and title of the professional engineer]
Email: [insert the email address of the professional engineer]
Telephone No.: [insert the telephone number of the professional engineer]

RE: Investing in Canada Infrastructure Program (ICIP): Public Transit Stream Transfer Payment Agreement - Project [insert the Project unique ID and title]

In the matter of the Investing in Canada Infrastructure Program (ICIP): Public Transit Stream Transfer Payment Agreement entered into between Her Majesty the Queen in right of Ontario, as represented by the Minister of Transportation for the Province of Ontario, and the [insert the name of the Recipient] (the “Recipient”), on _____, _____ (the “Agreement”).

I, _____ [insert the name and title of the professional engineer], an independent professional engineer duly licensed in the Province of Ontario, having made such inquiries as I have deemed necessary for this certificate, hereby certify that to the best of my knowledge, information and belief:

On and as of the date set out below, the work for the Project is _____ [Insert Project percent complete] percent complete, and the Project:

1. was supervised and inspected by qualified staff;
2. conforms with the plans, specifications and other documentation for the work;
3. conforms with applicable Environmental Laws, as defined in the Agreement, and appropriate mitigation measures have been implemented;
4. conforms with Schedule “C” (Project Description, Budget, Timelines, and Standards) of the Agreement, except as the Province has otherwise approved in advance and in writing; and

5. conforms with the requirements provided for in paragraph A.4.9(d) of Schedule “A” (General Terms and Conditions) of the Agreement to comply with industry standards.

Declared at _____ (municipality), in the Province of Ontario, this _____ day of _____, 20_____.

(Signatures)

Name: **[insert/print the name of the professional engineer]**
Title: **[insert/print the title of the professional engineer]**

Witness Name: **[insert/print the name of the witness]**
Title: **[insert/print the title of the witness]**

SCHEDULE “K” COMMITTEE

K.1.0 ESTABLISHMENT OF COMMITTEE

K.1.1 Establishment and Term of Committee. If the Province requires the establishment of a Committee to oversee the Agreement, pursuant to section A.30.1 (Establishment of Committee), the Parties will, within 60 days of the Province providing Notice, hold an initial meeting to establish the Committee. The Committee’s mandate will expire on the Expiry Date of the Agreement.

K.2.0 COMMITTEE MEMBERS, CO-CHAIRS, AND OBSERVERS

K.2.1 Appointments by the Province. The Province will appoint two persons as members of the Committee.

K.2.2 Appointments by the Recipient. The Recipient will appoint two persons as members of the Committee.

K.2.3 Chairs of the Committee. The Committee will be headed by co-chairs chosen from its members, one appointed by the Province and one appointed by the Recipient. If a co-chair is absent or otherwise unable to act, the member of the Committee duly authorized in writing by the Province or the Recipient, as applicable, will replace him or her and will act as co-chair in his or her place.

K.2.4 Non-committee Member Staff. The Parties may invite any of their staff to participate in Committee meetings. The Province may invite up to two representatives from Canada to sit as observers on the Committee. For greater certainty, the staff and representative(s) from Canada will not be considered members and will not be allowed to vote.

K.3.0 MEETINGS AND ADMINISTRATIVE MATTERS

K.3.1 Rules of Committee. The Committee will:

- (a) meet at least two times a year, and at other times at the request of a co-chair;
and
- (b) keep minutes of meetings approved and signed by the co-chairs as a true record of the Committee meetings.

K.3.2 Quorum. A quorum for a meeting of the Committee will exist only when both co-chairs are present.

K.4.0 COMMITTEE MANDATE

K.4.1 Mandate. Provided that no action taken by the Committee will conflict with the rights of the Parties under the Agreement, the mandate of the Committee will include, but not be limited to:

- (a) monitoring the implementation of the Agreement including, without limitation, the implementation of Schedule “G” (Communications Protocol), for compliance with the terms and conditions of the Agreement;
- (b) acting as a forum to resolve potential issues or disputes and address concerns;
- (c) reviewing and, as necessary, recommending to the Parties amendments to the Agreement;
- (d) approving and ensuring audit plans are carried out as per the Agreement;
- (e) establishing sub-committees as needed;
- (f) at the request of the Province, reviewing requests for payments; and
- (g) attending to any other function required by the Agreement, including monitoring project risk and mitigation measures, or as mutually directed by the Parties.

K.4.2 Committee Decisions. Decisions of the Committee will be made as follows:

- (a) the co-chairs will be the only voting members on the Committee; and
- (b) decisions of the Committee must be unanimous and recorded in writing.

K.5.0 ROLE OF THE RECIPIENT

K.5.1 Requirements. The Recipient undertakes to fulfill, in addition to any other requirements provided for in this Schedule “K” (Committee), the following:

- (a) establish a fixed location where the Agreement will be managed, and maintain it until the expiry of the Committee’s mandate and, if relocation is required, establish a new location;
- (b) prepare and retain, at the location described in paragraph K.5.1(a), and make available to the Committee, all documents needed for the work of the Committee, including payment request forms, approval documents, contracts, and agendas and minutes of meetings of the Committee and its subcommittees;

- (c) ensure that any audit required of the Recipient pursuant to the Agreement is carried out and the results are reported to the Committee;
- (d) ensure that administrative and financial systems are developed and implemented for the Project and the work of the Committee;
- (e) promptly inform the Committee of all proposed changes in respect of any Project; and
- (f) provide the Committee, as requested and within the timelines set by the Committee, and to the Committee's satisfaction, project status information related to Schedule "D" (Reports).

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC
Managing Director, Environmental & Engineering Services
and City Engineer

Subject: Federation of Canadian Municipalities' Municipal Asset
Management Program Grant Application

Date: March 30, 2021

Recommendation

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

- Civic Administration **be directed** to apply for a grant from the Federation of Canadian Municipalities' (FCM) Municipal Asset Management Program (MAMP) to assist with expenditures related to a watermain risk evaluation project. Should the City of London be successful with its grant application, an external consultant, CANN Forecast Software Inc., will lead the project based on their workplan proposal included in Appendix A and the City commits to undertake the activities and associated costs proposed in its application to FCM.
- The Mayor and City Clerk **be authorized** to execute any contract or other documents, if required, to give effect to these recommendations.

Executive Summary

Purpose

This report recommends that the City of London, in conjunction with CANN Forecast Software Inc., apply for the Federation of Canadian Municipalities' Municipal Asset Management Program to complete a watermain risk evaluation project utilizing the Consultant's Artificial Intelligence and Machine Learning software.

Context

Asset management of water infrastructure plays a critical role in ensuring that safe and clean drinking water is being distributed to the City of London's customers. It also ensures that the lifespan of water infrastructure is maximized by utilizing the most appropriate maintenance, repair, and replacement methods. Some assets, like watermains are difficult to directly inspect so advanced software to predict the degradation of these assets is an important tool for evaluating these assets.

Linkage to the Corporate Strategic Plan

Municipal Council's 2019-2023 Strategic Plan identifies "Building a Sustainable City" and "Leading in Public Service" as strategic areas of focus. The recommendation in this report will support drinking water delivery and quality and maximize the lifespan of watermains in the City through effective maintenance, repair and replacement practices based on the project results.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

- January 23, 2018 – Report to Civic Works Committee – FCM Municipal Asset Management Program Grant Application

2.0 Discussion and Considerations

2.1 FCM Municipal Asset Management Program

The Federation of Canadian Municipalities' (FCM) Municipal Asset Management Program (MAMP) is an eight-year, \$110-million program that supports Canadian cities and communities to make improved decisions about infrastructure. The MAMP program provides funding for projects that will help Canadian cities and communities of all sizes enhance their asset management practices. Examples of the types of activities funded by the program are:

- Asset management assessments
- Asset management plans, policies and strategies
- Data collection and reporting
- Training and organizational development
- Knowledge transfer

If successful, a MAMP grant will provide one-time funding of up to 80 per cent of total eligible costs, to a maximum of \$50,000, for any project meeting the program's eligibility requirements. The project must be completed within 12 months of approval notice.

FCM accepts applications for MAMP projects year-round on a continuous basis; there are no deadlines to apply. Recipients may only apply for one project in any fiscal year (April-March) and all applications must include a resolution from Council supporting the submission. While there is no limit to the number of applications a municipality can make, FCM will give preference to first-time applicants.

3.0 Financial Impact/Considerations

The City of London did previously apply for and obtain an FCM MAMP grant in 2018 to assist with the Corporate Asset Management Plan update. The Corporate Asset Management Plan incorporated all City of London assets, where this FCM MAMP application is water asset specific. The Corporate Asset Management service area supports this grant application for the water specific project. A request in the amount of \$49,500 (excluding applicable tax) is being made of FCM via this application, resulting in a balance of \$9,900 (excluding applicable tax) to be covered by the City.

4.0 Key Issues and Considerations

The City of London's Water Engineering division previously worked with the Consultant, CANN Forecast, on a research project in 2019. The previous project studied the impact of water pressure on pipe breakage in our water distribution system. The previous project was also predominately funded by taking advantage of grant money. The grants for the 2019 project came from MITACS and the National Research Council of Canada (NRC). Water Engineering was pleased with CANN Forecast's work on the project and found the work to be of significant value for the financial commitment that was required of the City of London.

Water Engineering does currently utilize software to assist with the asset management of watermains. However, the technology being used was developed over a decade ago and many advancements have been made in the asset management software field since then. CANN Forecast has developed data analysis software which utilizes Artificial Intelligence and Machine Learning, which has the potential to provide more accurate asset management decision making practices. Due to the low cost to the City of London and high value received from this project, it would be of value to have CANN Forecast analyze the City of London's watermain data. We can then compare it to the software that is currently used and see if there are efficiencies to be gained. The Corporate Asset Management service area has endorsed Water Engineering in

pursuing this project and indicated it could possibly be applied to other service areas if it is found to be beneficial.

Conclusion

Asset management of water infrastructure plays a critical role in ensuring that safe and clean drinking water is being distributed to the City of London's customers. It also ensures that the lifespan of water infrastructure is maximized by utilizing the most appropriate maintenance, repair, and replacement methods. This project will allow the City of London to utilize a more advanced asset management software for watermains and determine if our current software should be permanently upgraded. The software being utilized in this project could also be applied to other service area's assets if found to be effective.

Prepared by: Aaron Rozentals, GDPA, P.Eng., Division Manager,
Water Engineering

Submitted by: Scott Mathers, MPA, P. Eng., Director, Water and
Wastewater

Recommended by: Kelly Scherr, P. Eng., MBA, FEC
Managing Director, Environmental and Engineering
Services and City Engineer

CC: Stephen Romano, P.Eng, Environmental Services Engineer, Water
Engineering
Naysan Saran, CEO (CANN Forecast Solutions Inc.)

Appendix 'A' - Workplan

Consulting Services Proposal

Prepared for the City of London

February 2021
Version : 2.0

Table of Contents

1. Introduction
2. IntelliPipes' Smart Cohorts Framework
 - a. What is a pipe cohort?
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 - a. Quality Control
 - b. Smart Cohorts Analysis
 - c. Likelihood of Failure Map
 - d. Consequences of Failure Map
 - e. Overall Risk Evaluation

Introduction

Water pipe networks are ageing and failure rates are increasing in an environment where public utilities have limited funds. This means that there is pressure on public utilities to use their available funds in the most efficient possible manner.

CANN Forecast builds reliable decision support tools that enable clients to protect public health, reduce their operating costs, and better understand their impact on the environment by using data already available (open data and customer data). IntelliPipes is a water data analysis software solution developed by CANN Forecast which utilizes Artificial Intelligence and Machine Learning to identify the water main pipeline cohorts that are most at risk of failure, allowing decision-makers to better predict the remaining asset life and prioritize renewal programs.

IntelliPipes' Smart Cohorts Framework

What is a pipe cohort?

A pipe cohort is a relatively homogenous population of pipes that are expected to have similar physical, environmental, and operational characteristics, and therefore similar performance¹.

The value of Identifying the cohorts within your water network

The importance of identifying the different pipe cohorts within a given water network, has been stressed in many studies over the last few years²³.

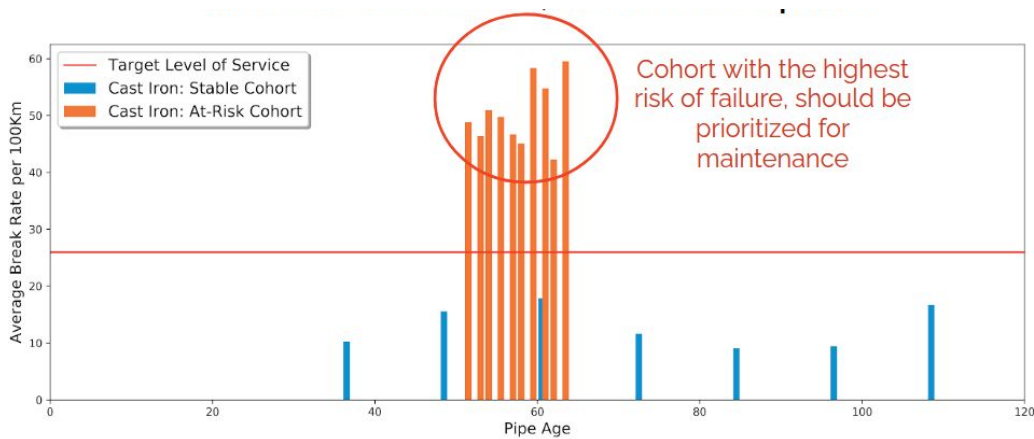


Figure 1: The failure rate and risk profile can vary significantly depending on the cohort

In order to improve the practices of pipeline asset management, the United States Environmental Protection Agency advises that a variety of condition curve scenarios should be generated for each

¹ Primer on Condition Curves for Water Mains, EPA, 2013

² Water Main Break Rates In the USA and Canada: A Comprehensive Study, Utah State University, 2018

³ BURIED NO LONGER: Confronting America's Water Infrastructure Challenge, AWWA

pipe cohort of interest. Once these condition curves are computed for each cohort, it becomes clear and possible to prioritize the most at-risk pipes for leak detection programs, replacement, or rehabilitation.

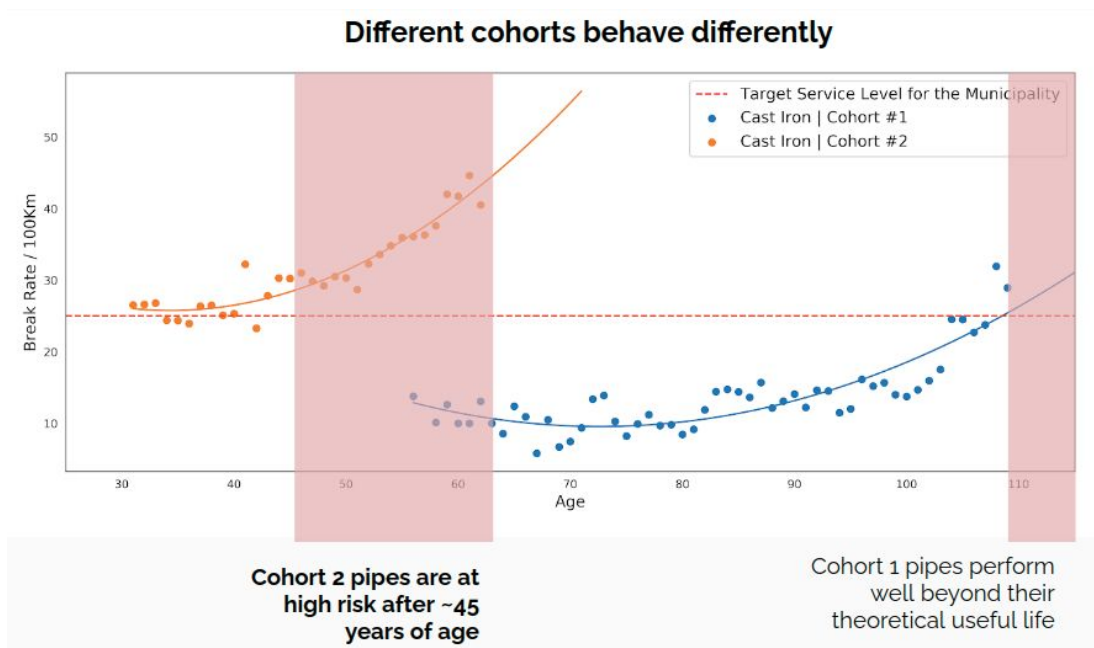


Figure 2: Condition curve scenarios should be generated by cohort

The data challenge: Why InteliPipes leverages Machine Learning

According to the EPA, the accuracy of a cohort-based approach is determined by how well the pipe cohorts are grouped in terms of common factors⁴. However, water mains can fail due to many different factors, including:

1. **Structural Factors**
Installation date, Age, Diameter, Length, Break history, Pipe location
2. **Operational & Environmental Factors**
Pressure average and fluctuation, Seasonal patterns of temperature, Frost and thaw, Pipe lining, Soil type, Road type, Traffic loads etc.

Due to its complexity and the number of the factors involved, the Smart Cohorts methodology; at the heart of InteliPipes, leverages Machine Learning to identify the pipe cohorts of interest within a water network, and sorts them by likelihood of failure. In doing so, this method allows municipalities to do more with less; identifying the minimum length of water mains that have to be replaced, to prevent the maximum number of future breaks.

⁴ Ibid

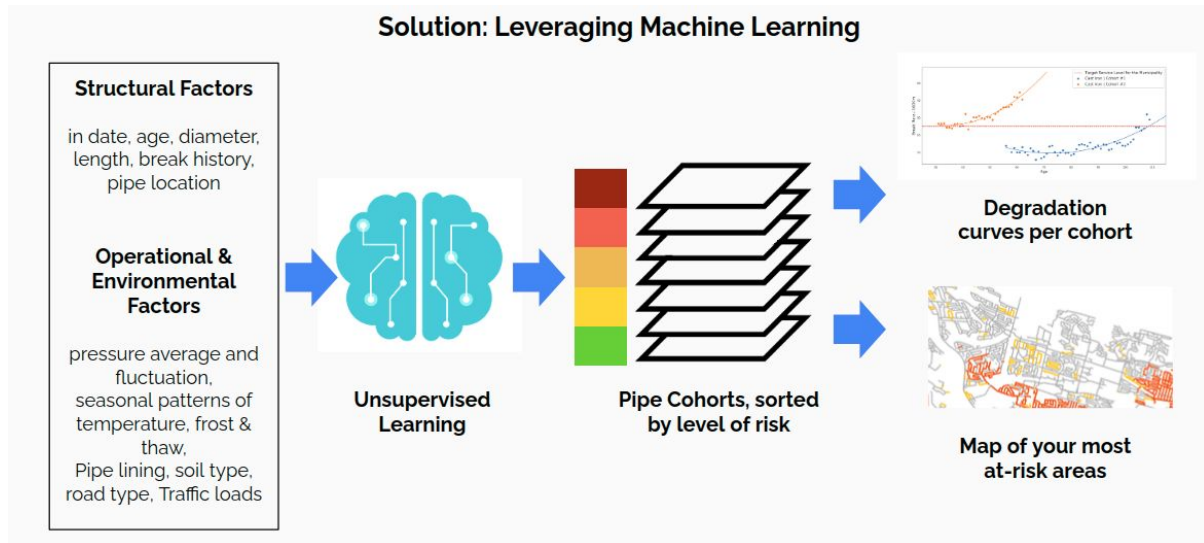


Figure 3: The Smart Cohorts Framework by CANN Forecast

Proposal

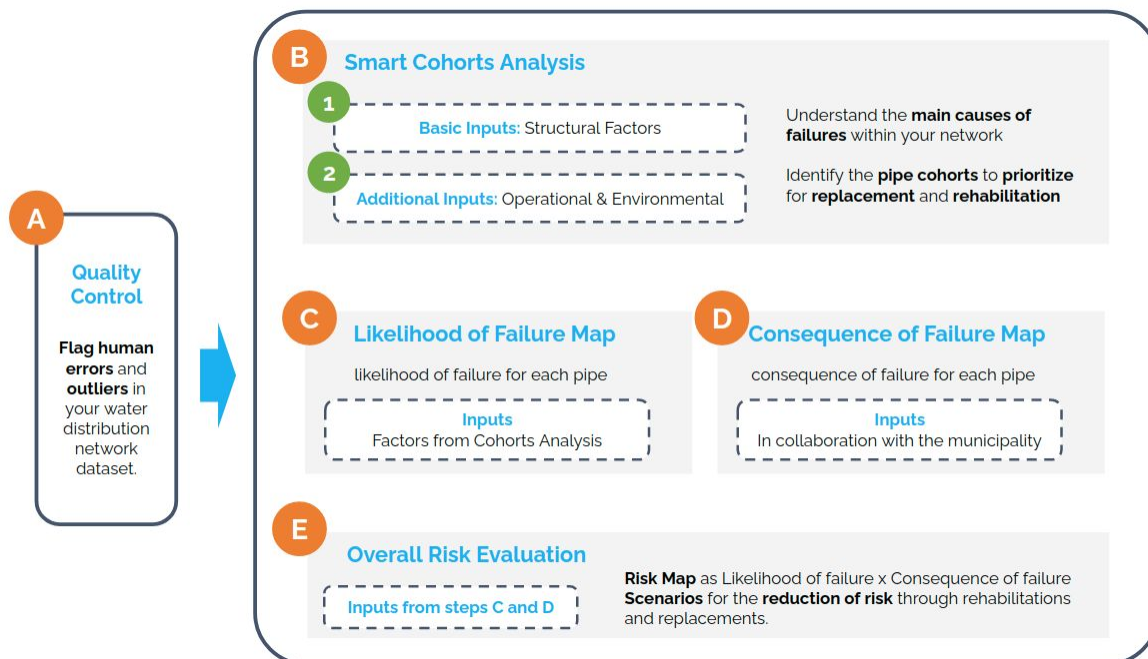


Figure 4: Overview of the Services offered

Proposal Modules

A - Quality Control



Figure 5: Overview of the data quality control step

Value for your utility

Maintaining good quality water network data is an important step in mitigating the risk of pipe failures. To prevent data errors from flowing through the process and ultimately leading to suboptimal or poor decisions, our team carries out a quality control step to flag human errors and identify outliers within your water distribution network dataset.

Summary of the work done

- Identify potential human errors, spelling mistakes, misclassifications and inconsistencies in pipe installation date, diameter, material, and break history datasets
- Alert the utility of missing data or inconsistencies that may flaw the decision making process

Pricing

Data quality control is included with the purchase of each of options B, C and D.

B - Smart Cohorts Analysis



Figure 6: Overview of the Smart Cohorts Analysis

Value for your municipality

Once the condition curves are computed for each cohort, it becomes possible to prioritize the most at-risk pipes in leak detection programs, or for replacement or rehabilitation.

Summary of the work done

- Evaluate the impact of each factor of interest on the historical failure rate
- Identify the main causes of failure within your water network
- Leverage Unsupervised Learning algorithms to identify the cohorts of interest
- For each such cohort
 - a. Compute its condition curve as a function of age
 - b. Evaluate its level of criticality given the target level of service of your municipality
- Overall decision tree so each water main can be associated with its cohort
- Suggest best practices for future data collection, management and analysis

Pricing (option selected)

* Because the City of London has already collaborated with CANN Forecast in a research project on the impact of pressure on watermain breaks, CANN will include pressure in the cohorts analysis at no additional cost to the City.

	< 50,000 inhabitants	< 150,000 inhabitants	150,000 + inhabitants
Report with Structural factors only	\$7,500	\$15,000	\$20,000
Additional factors: pressure	\$5,000	\$6,000	<i>*included</i>
Additional factors: temperature	\$5,000	\$6,000	\$7,000

C - Likelihood of Failure Map

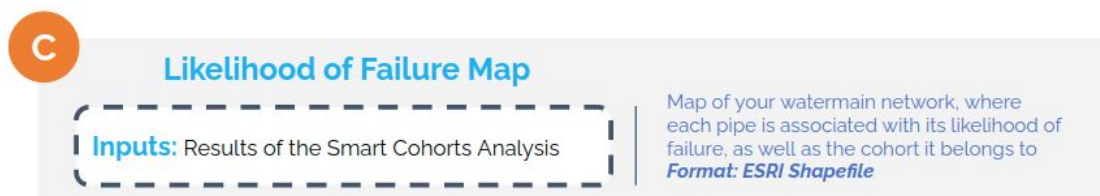


Figure 7: Overview of LoF step

Value for your water utility

Map of the probability of failure for each pipe within your water network, in a format that can be uploaded to any ESRI-compatible software.

Summary of the work done

- Using the decision tree developed in phase B, map each pipe with its corresponding cohort
- For each pipe, compute the 5 and/or 10-year likelihood of failure given its age and cohort condition curve

Pricing (option selected)	< 50,000 inhabitants	< 150,000 inhabitants	150,000 + inhabitants
5-year AND 10-year likelihood of failure	\$3,000	\$4,000	\$5,000

D - Consequence of Failure Map



Figure 8: Overview of CoF step

Value for your water utility

Map of the consequence of failure for each pipe within your water network, in a format that can be uploaded to any ESRI-compatible software.

Summary of the work done

- With the input from the city, assign values to the following costs
 - Cost of lost water**
Based on the pipe diameter, pressure, and time to repair.
 - Costs of repair**
Costs of material, equipment, and worker salaries necessary in the repair process.
 - Costs of supply outage**
Based on a density map of customers affected by water supply outage
 - Sector criticality**
Our team will work with the utility to identify high-impact sectors within the municipality
 - Property Damage**
Estimated physical damage caused to buildings in the vicinity due to the water main burst.
- Work in collaboration with the utility to build the cost a failure equation that aligns with the priorities and target level of service
- Based on the cost of failure equation elaborated for the client, map every pipe in the water network to its associated consequence of failure

Pricing (option selected)	< 50,000 inhabitants	< 150,000 inhabitants	150,000 + inhabitants
Consequence of failure map	\$6,500	\$12,500	\$15,000

E - Overall Risk Evaluation

Value for your municipality

The Likelihood of Failure and Consequence of Failure maps can be combined using a risk matrix to judge the efficiency of future repair and rehabilitation scenarios in terms of overall risk reduction and level of service improvement for your utility.

Summary of the work done

- Compute the 5-year and/or 10-year risk map
- Optional: provide an online dashboard to test potential repair and rehabilitation scenarios and compare their overall risk reduction.

Pricing (option selected)

*As part of our collaboration with the City of London, CANN will include the Online IntelliPipes Dashboard licence at no additional cost to the City for the duration of this project.

	< 50,000 inhabitants	< 150,000 inhabitants	150,000 + inhabitants
5-year AND 10-year risk map	\$1,500	\$2,000	\$2,500
Online IntelliPipes Dashboard (12 month licence)	\$5,000	\$7,500	*included

Tentative Timeline and Pricing

A		Data formatting and quality control	<i>Included</i>	
B	B1	Smart Cohorts Analysis: structural factors	\$20, 000	
	B2	Smart Cohorts Analysis: temperature and pressure	\$7, 000	
C		Likelihood of Failure: 5-year and 10-year likelihood of failure map	\$5, 000	
D		Consequence of failure map	\$15, 000	
E	E1	Overall risk evaluation: 5 and 10-year overall risk map1y	\$2, 500	
	E2	Online Intellipipes Dashboard (12-month license)	<i>Included</i>	
			Total before taxes	\$49, 500\$
			HST Fed. (5%) Prov. (8%)	\$2, 475 \$3, 960
			Total after tax	\$55, 935

A detailed project work plan Excel document is attached to this proposal for more information.

Modules	2021					2022					
	08	09	10	11	12	01	02	03	04	05	06
A	Data transfer, formatting and analysis		Available & updated through the dashboard								
B1			Smart Cohorts Analysis: structural factors		Available & updated through the dashboard						
B2			Additional factors: pressure & temperature			Available & updated through the dashboard					
C					LoF maps		Available through the dashboard				
D			Consequence of Failure Model & Map								
E.1							5 and 10-year overall risk maps				
E.2			Online Intellipipes Dashboard								
Invoicing		\$11,187	\$11,187	\$11,187	\$11,187	\$11,187	\$11,187	\$11,187	\$11,187	\$11,187	

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC
Managing Director, Environmental & Engineering Services
and City Engineer

Subject: Contract Award: Tender RFT21-12
2021-2022 Infrastructure Renewal Program Contract 10
Brydges Street, Swinyard Street, Muir Street Project

Date: March 30, 2021

Recommendation

That on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to the award of contract for the 2021-2022 Infrastructure Renewal Program Brydges Street, Swinyard Street and Muir Street reconstruction project:

- (a) the bid submitted by J-AAR Excavating Limited at its tendered price of \$5,843,421.36, excluding HST, for Contract 10, Brydges Street, Swinyard Street, Muir Street, Infrastructure Renewal Program **BE ACCEPTED**; it being noted that the bid submitted by J-AAR Excavating Limited was the lowest of five bids received and meets the City's specifications and requirements in all areas;
- (b) The engineering fees for resident inspection and contract administration for Archibald, Gray and McKay Engineering Ltd. (AGM) **BE INCREASED** by \$181,874.00 due to increased working days and contaminated soil conditions discovered during detailed design in accordance with the estimates, on file, to an upset amount of \$741,774.00, excluding HST, in accordance with Section 15.2 (g) of the Procurement of Goods and Services Policy;
- (c) the proposed by-law, attached as Appendix 'C' to remove parking on Brydges Street to allow the introduction of new bike lanes on Bridges Street between Ashland Avenue and Highbury Avenue North **BE INTRODUCED** at the Municipal Council meeting to be held on April 13, 2021, 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 (RFT21-12); and
- (g) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

Executive Summary

Purpose

This report recommends award of a tender to a contractor, and continuation of consulting engineer services for the Brydges Street, Swinyard Street and Muir Street Infrastructure Renewal Program Project. The project will reconstruct Brydges Street from Egerton Street to Highbury Avenue North, Swinyard Street from Brydges Street to the northern limit, and Muir Street from Brydges Street to the northern limit. A location map is included in Appendix 'B'.

Context

Brydges Street, Swinyard Street, and Muir Street have each been identified as a high priority in the Infrastructure Renewal Program due to the poor condition of the municipal infrastructure including the presence of existing combined sewers. A large portion of the project was originally constructed between the 1920s and 1940s and have reached the end of their useful life. The project will include replacement of watermain and water services, removal of 848m of combined sewers, installation of new sanitary and storm sewers, bicycle lanes, on-street parking adjustments, driveway entrance replacements and adjustments, concrete curb replacement, and new asphalt road surface.

Linkage to the Corporate Strategic Plan

This report supports the Strategic Plan in the following areas:

- Building a Sustainable City:
 - London's infrastructure is built, maintained, and operated to meet the long-term needs of our community.
 - Londoners can move around the city safely and easily in a manner that meets their needs by incorporating cycling infrastructure and safety enhancements.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

Civic Works Committee – July 14, 2020 – Appointment of Consulting Engineers, Infrastructure Renewal Program

2.0 Discussion and Considerations

2.1 Project Description

The Brydges Street, Swinyard Street and Muir Street infrastructure renewal project includes the following improvements:

- Replacement of watermain and water services to property line,
- Removal of 848m of combined sewers,
- Installation of new sanitary sewers,
- Installation of new storm sewers,
- Partial replacement of existing private drain connections (PDCs),
- New bicycle lanes on Brydges Street,
- On-street parking adjustments,
- Driveway entrance replacements and adjustments, and
- Full road reconstruction including new asphalt, boulevard enhancements, 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 2021 Wastewater, Water, and Transportation Capital Works Budgets.

2.3 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 following table provides the length of combined sewer replacement achieved for this project in relation to the DAP targets.

2016 – 2025 Combined Sewer DAP Target (km)	Prior DAP Combined Sewer Removed/Separated (km)	This Project – Combined Sewer Removed/Separated (km)	Remaining Combined Sewer (km) to achieve target
17 km	6.6 km	0.85 km	9.4 km*

*includes Brydges Street, Swinyard Street, Muir Street (RFT21-12) and Talbot Street (RFT21-10) sewer separation.

This project achieves the removal of approximately 848m of combined sewer, as the City continues to work towards achieving its DAP targets.

2.4 Construction Considerations

The construction of Brydges Street, Swinyard Street, and Muir Street will be completed in two main phases. The phase limits are shown in Appendix ‘B’ and are detailed below:

- Phase 1 to be completed in 2021 – Brydges Street from Egerton Street to just east of Childers Street; Swinyard Street from Brydges Street to the northern limit; Muir Street from Brydges Street to the northern limit.
- Phase 2 to be completed in 2022 – Brydges Street from just east of Childers Street to Highbury Avenue North.

On Brydges Street, construction will generally occur between approximately 7:00am - 6:00pm. The start of the construction day will be delayed until 8:30am on Swinyard Street and Muir Street to accommodate resident and business access in the morning. Road and driveway access will be maintained at the end of each construction day.

2.5 Public Engagement and Consultation

A Project Notice (letter #1), dated August 8, 2020, was mailed to affected properties within and adjacent to the construction limits. A survey was included with this Project Notice letter which residents were invited to complete to provide information on their property and input for consideration.

The project Pre-Construction Notice (letter #2), dated January 22, 2021, was mailed out to affected properties within and adjacent to the construction limits. Residents were provided instructions on how to view pre-recorded project information videos posted on the City’s website (<https://getinvolved.london.ca/brydges>). Topics covered included timing of work, above ground and below ground scope of work, resident and business access impacts, and tree impacts. Typically, the City would hold an in-person Project Update Meeting (PUM) for Infrastructure Renewal Program projects. Due to the COVID-19 pandemic, adjustments were made to ensure public safety and to follow restrictions on public gatherings. These pre-recorded project information videos were intended to

convey the same information as would have been presented at an in person PUM, with residents being able to contact the City’s project manager directly with questions.

3.0 Financial Impact/Considerations

3.1 Tender Summary

Tenders for Brydges Street, Swinyard Street, Muir Street Infrastructure Renewal Project closed on February 17, 2021. Five contractors submitted tender prices as listed below, excluding HST.

Table 1: Summary of submitted tender prices

Contractor	Tender Price Submitted
J-AAR Excavating Limited	\$5,843,421.36
Bre-Ex Construction Inc	\$6,071,972.51
Blue-Con Construction	\$6,337,284.34
Omega Contractors Inc.	\$6,811,373.67
L-82 Construction Limited	\$6,959,250.41

All tenders have been checked by the Environmental and Engineering Services Department and AGM. No mathematical errors were found. The results of the tendering process indicate a competitive process. The tender estimate prior to tender opening was \$7,066,405.20, excluding HST. All tenders include a contingency allowance of \$600,000.00.

3.2 Consulting Services

AGM was awarded the detailed design and contract administration and resident supervision for Brydges Street, Swinyard Street, Muir Street Infrastructure Renewal Project by Council on July 21, 2020. Due to increased project complexities discovered during the detailed design process, the consultant has submitted a request for additional supervision fees. These fees are required to cover the cost of increased working days needed to complete the project. In addition, contaminated soils were encountered, which required greater geotechnical engineering involvement as well as additional time for AGM to manage. AGM submitted a scope change for an additional \$181,874.00. 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 AGM 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.

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 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, civic administration is recommending that AGM’s fees to carry out the resident inspection and contract administration be increased by \$181,874.00, to an

upset limit of \$479,600.00, excluding HST. The approval of this work will bring the total engineering services for this project to \$741,774.00, excluding HST, for both detailed design and resident inspection and contract administration.

Operating Budget Impacts

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

Table 2: Summary of annual operating cost increase

Division	Rationale	Annual Operational Cost Increase
Sewer Operations	Removal of combined sewer and replacement with additional 758m of new sewer and appurtenances	\$1,250
Water Operations	Addition of water valves and hydrants	\$300
Transportation Operations	Addition of 2,470 metres of bike lanes	\$20,000
Total		\$21,550

Conclusion

Civic Administration has reviewed the tender bids and recommends J-AAR Excavating Limited be awarded the construction contract for Contract 10 – 2021-2022 Brydges Street, Swinyard Street, and Muir Street.

AGM 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.

Prepared by: Ashley M. Rammeloo, MMSc., P.Eng., Division Manager, Sewer Engineering

Submitted by: Scott Mathers, MPA, P. Eng., Director, Water and Wastewater

Recommended by: Kelly Scherr, P.Eng., MBA, FEC, Managing Director, Environmental & Engineering Services and City Engineer

CC: D. Gough, C. Ginty, K. Chambers, A. Rozentals

Appendix ‘A’ – Sources of Financing report

Appendix ‘B’ – Location Map

Appendix ‘C’ – Traffic and Parking By-law Amendment (PS-113)

Appendix "A"

#21032

March 30, 2021
(Award Contract)

Chair and Members
Civic Works Committee

RE: RFT21-12 - 2021-2022 Infrastructure Renewal Program Contract 10 - Brydges Street, Swinyard Street, Muir Street
(Subledger WS21C00C)

Capital Project ES241421 - Infrastructure Renewal Program - Sanitary Sewers

Capital Project ES254021 - Infrastructure Renewal Program - Stormwater Sewers and Treatment

Capital Project EW376521 - Infrastructure Renewal Program - Watermains

Capital Project TS144621 - Road Networks Improvements (Main)

Capital Project TS173919 - Active Transportation (2019-2023)

J-AAR Excavating Limited - \$5,843,421.36 (excluding HST)

Archibald, Gray and McKay Engineering Ltd. - \$741,774.00 (excluding HST)

Finance and Corporate Services Report on the Sources of Financing:

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

Estimated Expenditures	Approved Budget	Committed To Date	This Submission	Balance for Future Work
ES241421 - Infrastructure Renewal Program - Sanitary Sewers				
Engineering	2,000,000	90,956	29,612	1,879,432
Construction	11,615,864	1,624,452	1,354,463	8,636,949
City Related Expenses	25,000	0	0	25,000
ES241421 Total	13,640,864	1,715,408	1,384,075	10,541,381
ES254021 - Infrastructure Renewal Program - Stormwater Sewers and Treatment				
Engineering	2,000,000	84,530	29,612	1,885,858
Construction	7,944,576	1,616,104	1,354,463	4,974,009
City Related Expenses	100,000	0	0	100,000
ES254021 Total	10,044,576	1,700,634	1,384,075	6,959,867
EW376521 - Infrastructure Renewal Program - Watermains				
Engineering	2,500,000	112,708	37,015	2,350,277
Construction	13,719,930	2,777,483	1,805,951	9,136,496
EW376521 Total	16,219,930	2,890,191	1,842,966	11,486,773
TS144621 - Road Networks Improvements				
Engineering	1,000,000	97,942	59,224	842,834
Construction	13,650,980	0	948,504	12,702,476
TS144621 Total	14,650,980	97,942	1,007,728	13,545,310
TS173919 - Active Transportation (2019-2023)				
Engineering	814,142	675,848	29,612	108,682
Construction	7,262,042	5,123,781	482,884	1,655,377
City Related Expenses	468	468	0	0
TS173919 Total	8,076,652	5,800,097	512,496	1,764,059
Total Expenditures	\$62,633,002	\$12,204,272	\$6,131,340	\$44,297,390

Appendix "A"

#21032

March 30, 2021
(Award Contract)

Chair and Members
Civic Works Committee

RE: RFT21-12 - 2021-2022 Infrastructure Renewal Program Contract 10 - Brydges Street, Swinyard Street, Muir Street
(Subledger WS21C00C)

Capital Project ES241421 - Infrastructure Renewal Program - Sanitary Sewers

Capital Project ES254021 - Infrastructure Renewal Program - Stormwater Sewers and Treatment

Capital Project EW376521 - Infrastructure Renewal Program - Watermains

Capital Project TS144621 - Road Networks Improvements (Main)

Capital Project TS173919 - Active Transportation (2019-2023)

J-AAR Excavating Limited - \$5,843,421.36 (excluding HST)

Archibald, Gray and McKay Engineering Ltd. - \$741,774.00 (excluding HST)

Sources of Financing	Approved Budget	Committed To Date	This Submission	Balance for Future Work
ES241421 - Infrastructure Renewal Program - Sanitary Sewers				
Capital Sewer Rates	9,140,864	525,687	323,796	8,291,381
Drawdown from Sewage Works Reserve Fund	2,250,000	0	0	2,250,000
Federal Gas Tax	2,250,000	1,189,721	1,060,279	0
ES241421 Total	13,640,864	1,715,408	1,384,075	10,541,381
ES254021 - Infrastructure Renewal Program - Stormwater Sewers and Treatment				
Capital Sewer Rates	820,480	510,914	309,566	0
Drawdown from Sewage Works Reserve Fund	6,974,096	0	14,229	6,959,867
Federal Gas Tax	2,250,000	1,189,720	1,060,280	0
ES254021 Total	10,044,576	1,700,634	1,384,075	6,959,867
EW376521 - Infrastructure Renewal Program - Watermains				
Capital Water Rates	11,672,800	2,253,671	1,842,966	7,576,163
Drawdown from Capital Water Reserve Fund	3,910,610	0	0	3,910,610
Federal Gas Tax	636,520	636,520	0	0
EW376521 Total	16,219,930	2,890,191	1,842,966	11,486,773
TS144621 - Road Networks Improvements				
Capital Levy	3,229,699	0	0	3,229,699
Debenture Quota (Note 1)	939,460	0	0	939,460
Drawdown from Capital Infrastructure Gap Reserve Fund	1,510,874	0	0	1,510,874
Federal Gas Tax	8,970,947	97,942	1,007,728	7,865,277
TS144621 Total	14,650,980	97,942	1,007,728	13,545,310
TS173919 - Active Transportation (2019-2023)				
Capital Levy	391,425	391,425	0	0
Debenture By-law No.W-5654-291	3,614,664	2,536,189	256,248	822,227
Drawdown from City Services - Roads Reserve Fund (Development Charges) (Note 2)	4,015,539	2,817,459	256,248	941,832
Other Contributions	55,024	55,024	0	0
TS173919 Total	8,076,652	5,800,097	512,496	1,764,059
Total Financing	\$62,633,002	\$12,204,272	\$6,131,340	\$44,297,390

Appendix "A"

#21032

March 30, 2021
(Award Contract)

Chair and Members
Civic Works Committee

RE: RFT21-12 - 2021-2022 Infrastructure Renewal Program Contract 10 - Brydges Street, Swinyard Street, Muir Street
(Subledger WS21C00C)

Capital Project ES241421 - Infrastructure Renewal Program - Sanitary Sewers

Capital Project ES254021 - Infrastructure Renewal Program - Stormwater Sewers and Treatment

Capital Project EW376521 - Infrastructure Renewal Program - Watermains

Capital Project TS144621 - Road Networks Improvements (Main)

Capital Project TS173919 - Active Transportation (2019-2023)

J-AAR Excavating Limited - \$5,843,421.36 (excluding HST)

Archibald, Gray and McKay Engineering Ltd. - \$741,774.00 (excluding HST)

Financial Note: Construction	ES241421	ES254021	EW376521	TS144621
Contract Price	\$1,331,037	\$1,331,037	\$1,774,716	\$932,099
Add: HST @13%	173,035	173,035	230,713	121,173
Total Contract Price Including Taxes	1,504,072	1,504,072	2,005,429	1,053,272
Less: HST Rebate	-149,609	-149,609	-199,478	-104,768
Net Contract Price	\$1,354,463	\$1,354,463	\$1,805,951	\$948,504

Financial Note: Construction continued	TS173919	Total
Contract Price	\$474,532	\$5,843,421
Add: HST @13%	61,689	759,645
Total Contract Price Including Taxes	536,221	6,603,066
Less: HST Rebate	-53,337	-656,801
Net Contract Price	\$482,884	\$5,946,265

Financial Note: Engineering	ES241421	ES254021	EW376521	TS144621
Contract Price	\$159,570	\$159,570	\$210,335	\$163,199
Less Amount Previously Approved	130,470	130,470	173,960	105,000
Contract Price	29,100	29,100	36,375	58,199
Add: HST @13%	3,783	3,783	4,729	7,566
Total Contract Price Including Taxes	32,883	32,883	41,104	65,765
Less: HST Rebate	-3,271	-3,271	-4,089	-6,541
Net Contract Price	\$29,612	\$29,612	\$37,015	\$59,224

Financial Note: Engineering continued	TS173919	Total
Contract Price	\$49,100	\$741,774
Less Amount Previously Approved	20,000	559,900
Contract Price	29,100	181,874
Add: HST @13%	3,783	23,644
Total Contract Price Including Taxes	32,883	205,518
Less: HST Rebate	-3,271	-20,443
Net Contract Price	\$29,612	\$185,075

Total Construction and Engineering	\$6,131,340
---	--------------------

Note 1: Note to City Clerk: Administration hereby certifies that the estimated amounts payable in respect of this project does not exceed the annual financial debt and obligation limit for the Municipality from the Ministry of Municipal Affairs in accordance with the provisions of Ontario Regulation 403/02 made under the Municipal Act, and accordingly the City Clerk is hereby requested to prepare and introduce the necessary by-laws.

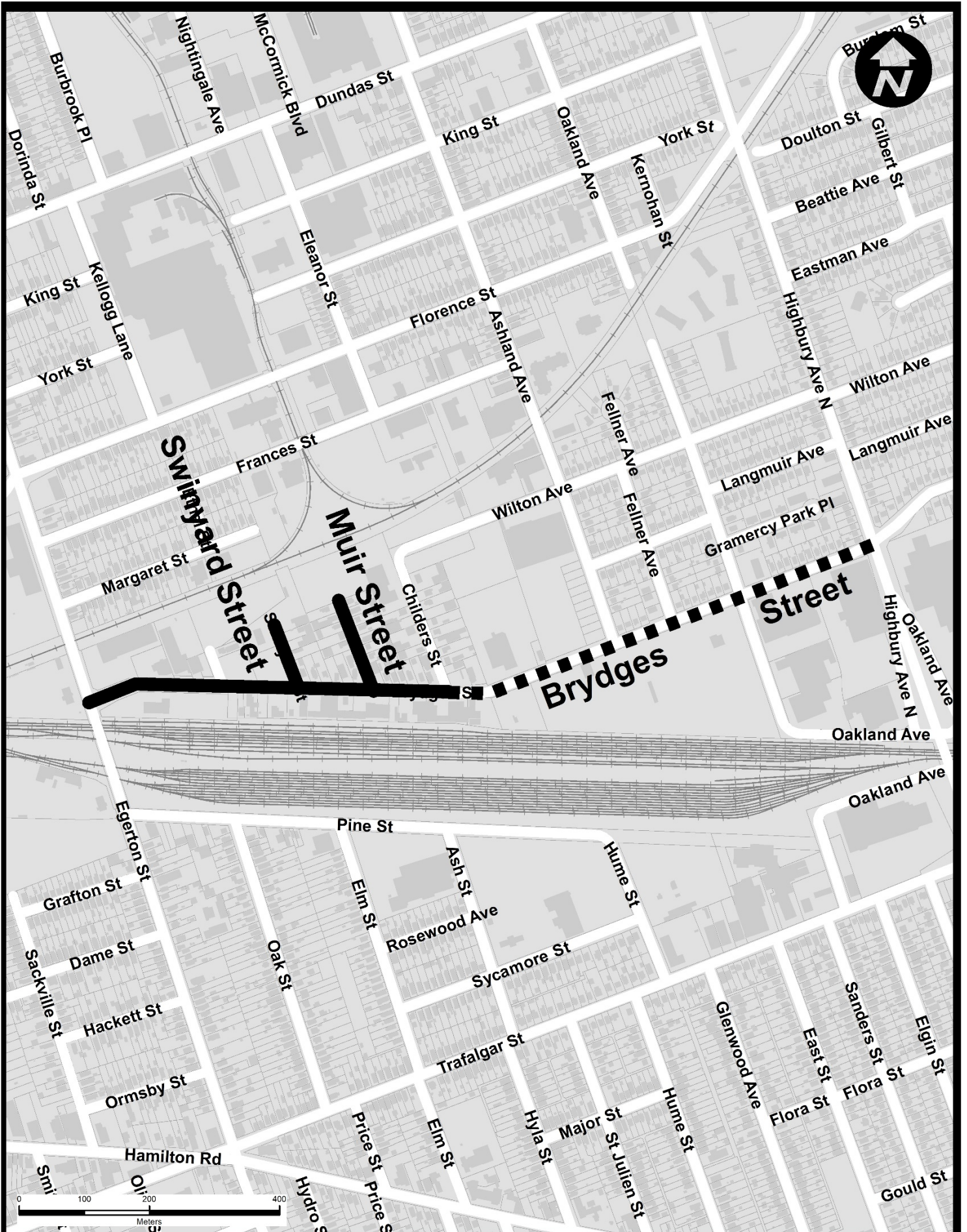
An authorizing by-law should be drafted to secure debenture financing for project TS144621 - Road Networks Improvements (Main) for the net amount to be debentured of \$939,460.

Note 2: Development charges have been utilized in accordance with the underlying legislation and the approved 2019 Development Charges Background Study and the 2021 Development Charges Background Study Update.

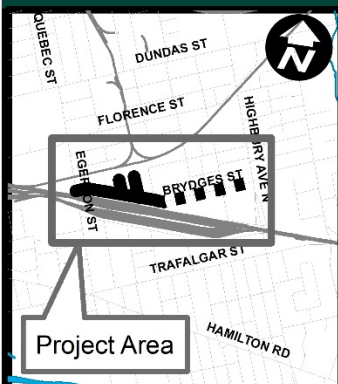
Note 3: There will be additional annual operating costs of \$1,250 for Sewer Operations, \$300 for Water Operations and \$20,000 for Transportation Operations.

Jason Davies
Manager of Financial Planning & Policy

APPENDIX 'B'



LOCATION MAP



**2021-2022 Infrastructure Renewal Program
Contract 10**

Brydges Street from Egerton Street to Highbury Avenue North
Swinyard Street - all
Muir Street - all

- Construction Year**
- Phase 1 - 2021
 - Phase 2 - 2022

Map Produced by
the Sewer
Engineering
Division
February 24 2021 CM

London
CANADA
300 Dufferin Avenue,
PO Box 5035
London, Ontario
N6A 4L9
www.London.ca

APPENDIX C By-law to amend the Traffic and Parking By-law (PS-113)

Addition of bicycle lanes on Brydges Street from Egerton Street to Highbury Avenue N

Bill No.

By-law No. PS-113

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

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

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

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

1. No Stopping

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

Column 1 Street	Column 2 Side	Column 3 From	Column 4 To	Column 5 Period
Brydges Street	South	Highbury Avenue N	153 m west	Anytime

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

Column 1 Street	Column 2 Side	Column 3 From	Column 4 To	Column 5 Period
Brydges Street	Both	Egerton Street	Highbury Avenue N	Anytime

2. No Parking

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

Column 1 Street	Column 2 Side	Column 3 From	Column 4 To	Column 5 Period
Brydges	North	Egerton Street	A point 22 m east of	Anytime

Street

Ashland
Avenue

3. Limited Parking

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

Column 1 Street	Column 2 Side	Column 3 Area	Column 4 Time	Column 5 Period
Brydges Street	North	Ashland Avenue to Highbury Avenue N	8:00 a.m. to 6:00 p.m.	2 Hours

4. Reserved Lanes

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

Column 1 Highways	Column 2 Between	Column 3 Lane	Column 4 Time/Day	Column 5 Direction	Column 6 Class/Type of Vehicle
Brydges Street	Egerton Street to Highbury Avenue N	1 st Lane from south	Anytime	Eastbound	Bicycle
Brydges Street	Highbury Avenue N to Egerton Street	1 st Lane from north	Anytime	Westbound	Bicycle

This by-law comes into force and effect on the day it is passed.

PASSED in Open Council on April 13, 2021

Ed Holder
Mayor

Catharine Saunders
City Clerk

First Reading – April 13, 2021

Second Reading – April 13, 2021
Third Reading – April 13, 2021

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC
Managing Director, Environmental & Engineering Services
and City Engineer

Subject: Contract Award: Tender RFT21-16
2021 Infrastructure Renewal Program
English Street and Lorne Avenue Reconstruction

Date: March 30, 2021

Recommendation

That on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to the award of contracts for the English Street and Lorne Avenue Infrastructure Renewal Program Project:

- (a) the bid submitted by CH Excavating (2013) at its tendered price of \$3,773,382.95, excluding HST, for the English Street & Lorne Avenue Infrastructure Renewal Program Project, **BE ACCEPTED**; it being noted that the bid submitted by CH Excavating (2013) was the lowest of six (6) bids received and meets the City's specifications and requirements in all areas;
- (b) AECOM Canada Ltd., **BE AUTHORIZED** to carry out the resident inspection and contract administration for the said project in accordance with the estimate, on file, at an upset amount of \$389,141.50, excluding HST, in accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy;
- (c) the proposed by-law, attached as Appendix 'C', reflecting the proposed changes to the English Street on-street parking limits, **BE INTRODUCED** at the April 13, 2021 Council Meeting 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 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 (RFT21-16); and
- (g) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

Executive Summary

Purpose

This report recommends award of a tender to a contractor and continuation of consulting engineer services for the 2021 English Street & Lorne Avenue Infrastructure Renewal Program Project, which will reconstruct English Street from Dundas Street to the east leg of Princess Avenue and Lorne Avenue from English Street to approximately 100m to the east. A location map is included in Appendix 'B'.

Context

English Street and Lorne Avenue have been identified for reconstruction under the annual Infrastructure Renewal Program as the sanitary sewers and watermain within the project limits are at the end of their useful life. The sewer was constructed circa the 1900s of clay tile and the watermain is cast iron circa the 1890s-1900s. In addition to sanitary sewer and watermain replacement, the project will also include new asphalt, sidewalks, cycling infrastructure, safety improvements, heritage features, and street lighting.

Linkage to the Corporate Strategic Plan

The following report supports the Strategic Plan in the following areas:

- Building a Sustainable City:
 - London's infrastructure is built, maintained, and operated to meet the long-term needs of our community;
 - Londoners can move around the city safely and easily in a manner that meets their needs by incorporating cycling infrastructure and safety enhancements; and
 - London has a strong and healthy environment by incorporating stormwater management quantity and quantity controls to protect downstream waterways.
- Strengthening Our Community:
 - London's neighbourhoods have a strong character and sense of place by enhancing the character of the Old East Heritage Conservation District and integrating components of the Lorne Avenue Park development.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

Civic Works Committee – July 18, 2019 – Appointment of Consulting Engineers, Infrastructure Renewal Program

London Advisory Committee on Heritage – December 9, 2020 – Heritage Alteration Permit Application by the Corporation of the City of London for the English Street Infrastructure Renewal Project in the Old East Heritage Conservation District

2.0 Discussion and Considerations

2.1 Project Description

The scope of construction for the English Street and Lorne Avenue Infrastructure Renewal Program Project includes the following improvements:

- Replacement of watermain and water services,
- Replacement of sanitary sewers,
- Partial replacement of existing sewer private drain connections,
- Storm sewer and road drainage improvements including curb-inlet catchbasins and implementing new stormwater management features,
- New asphalt road surface, concrete curb and gutter, and concrete sidewalks,
- Dedicated bicycle lanes on English Street between Dundas Street and Queens Avenue,
- Reconfiguration of the Queens Avenue at English Street intersection, and
- Private utility works and duct/conduit installation.

Infrastructure replacement needs have been coordinated within the Environmental and Engineering Services Department. The funding for this project comes from the approved 2021 Wastewater and Treatment, Water, and Transportation capital works budgets.

2.2 Road Design Considerations

A number of enhancements to the road design are being incorporated into the project to improve the usability and safety for all road users. A visual representation of these improvements is included as Appendix 'D', and summarized as follows:

- **Bicycle Lanes – Dundas Street to Queens Avenue**

The English Street bicycle lanes will provide connection between the eastbound bicycle lane on Dundas Street and westbound bicycle lane on Queens Avenue. The project was initially conceived to include bicycle lanes on English Street from Dundas Street to Princess Avenue. In response to community feedback, the limits of the bicycle lanes were subsequently revised to the limits noted.

- **Queens Avenue Intersection**

The intersection of English Street and Queens Avenue will see improvements that include directing pedestrian traffic toward the signalized pedestrian crossing, reducing the vehicle travel lane width and curb radii, adding curbed median islands, and adding additional pavement markings to the cycling facility. These improvements are intended to enhance safety and prepare the intersection for the future Queens Avenue improvement project east and west of the English Street intersection.

- **Reduced Road Width**

The proposed asphalt width of English Street between Queens Avenue and the east leg of Princess Avenue is being reduced to 7.0 meters. This reduction will still allow for two-way vehicular traffic and maintain on-street parking on the west side while also allowing for increased grass boulevard space.

2.3 On-Street Parking Adjustments

To accommodate bicycle lanes between Dundas Street and Queens Avenue within the existing asphalt road width, the west side on-street parking will be removed. Approximately 12 parking spaces will be lost.

To mitigate the loss of the on-street parking, the City reviewed the existing no-parking area near Lorne Avenue Park and will be changing the restriction to allow for on-street parking along this section. This will add approximately 8 parking spaces. While there is still a net loss of approximately 4 parking spaces, the project has worked to minimize the impacts to available on-street parking by not including bicycle lanes between Queens Avenue and Princess Avenue and by adjusting the limits of existing no-parking zones.

A Traffic and Parking By-law (PS-113) amendment reflecting the proposed changes to the English Street on-street parking limits has been included as Appendix 'C' of this report.

2.4 Heritage and Lorne Avenue Park Integration

The English Street and Lorne Avenue Infrastructure Renewal Program Project is located within the Old East Heritage Conservation District. The project design team has worked with the City Heritage Planner to ensure the character of the Conservation District is not only maintained but enhanced where possible. The enhancements to the heritage character of the project include:

- Incorporating green space boulevards,

- Replacing street name signs with the Heritage Conservation District style,
- Stamping street names into the concrete sidewalk, and
- Replacing street lighting with a new fixture and decorative arm more sympathetic to the heritage character of the Old East Heritage Conservation District.

A Heritage Alteration Permit (HAP) for the modifications to the road design was presented to the London Advisory Committee on Heritage at the December 9, 2020 meeting, and was subsequently passed by Council at the meeting of January 12, 2021. Additionally, the project team has worked with Parks Planning to coordinate Lorne Avenue Park opportunities into the English Street reconstruction. These opportunities include:

- Construction of three concrete “porches” along English Street initially identified for Phase 2 of the park development,
- Establishing landscaped planting gardens which will feature public art obelisks, and
- Installing the Park’s irrigation water service connection.

In 2020, the park development project installed a temporary asphalt access at the main entrance to the Lorne Avenue Park at the English Street/Lorne Avenue intersection. As part of the 2021 English Street reconstruction, the asphalt access will be removed and replaced with the permanent concrete entranceway.

2.5 Street Tree Impacts

This project included assessment of 82 street trees within the project limits. Six trees were identified for removal due to heaving, health, and structural issues that will be exacerbated by construction.

The project is retaining limited sections of sidewalk and utilizing trenchless service installation to protect and retain certain street tree specimens of historic and heritage significance including a white oak tree at 754 Queens Avenue and linden tree at 741 Queens Avenue.

2.6 Public Engagement & Community Association Consultation

A Project Notice (letter #1) was mailed out to affected properties within and adjacent to the construction limits as well as the Old East Community Association and BIA, dated January 31, 2020.

On August 13, 2020 the City held a virtual project introduction and preliminary design considerations overview meeting with the City project team, representatives of the Old East Community Association, BIA, and other steering group members. Based on issues raised and feedback received from these representatives, the project road design was revised to enhance the project, mitigate the impacts on residents, and improve the overall road safety.

On October 7, 2020 the City held a second virtual project design considerations meeting with representatives of the Old East Community Association to present the project design progress.

The project Pre-Construction Notice (letter #2), dated December 16, 2020, was mailed out to affected properties within and adjacent to the construction limits as well as the Old East Community Association and BIA. Included in this letter was an invitation for residents to view pre-recorded project information videos posted on the project webpage (<https://getinvolved.london.ca/english>). Typically, the City would hold an in-person Project Update Meeting (PUM) for Infrastructure Renewal Program projects, however due to the COVID-19 pandemic, adjustments were made to ensure public safety and to follow restrictions on public gatherings. These pre-recorded project information videos were intended to convey the same information as would have been presented at an in-person PUM, with residents being able to contact the City’s project

manager directly with questions.

3.0 Financial Impact/Considerations

3.1 Tender Summary

Tenders for the English Street & Lorne Avenue Infrastructure Renewal Program Project were opened on February 5, 2021. Six contractors submitted tender prices as listed in Figure 1 below, excluding HST.

Table 1: Summary of submitted tender prices

Contractor	Tender Price Submitted
CH Excavating (2013)	\$3,773,382.95
Bre-Ex Construction Inc	\$3,775,336.61
J-AAR Excavating Limited	\$3,827,414.64
Omega Contractors Inc.	\$3,855,155.96
Blue-Con Construction	\$3,977,739.74
Amico Infrastructure (Oxford) Inc.	\$4,306,999.55

All tenders have been checked by the Environmental and Engineering Services Department and AECOM. No mathematical errors were found nor did the bid submission contain unbalanced item prices which would negatively affect the City. The results of the tendering process indicate a competitive process. The tender estimate just prior to tender opening was \$3.66M, excluding HST. All tenders include a contingency allowance of \$375,000.

3.2 Consulting Engineer Services

AECOM was awarded the detailed design of the English Street and Lorne Avenue Infrastructure Renewal Program Project by Council on July 18, 2019. 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 resident inspection and contract administration for the project. AECOM Canada Ltd submitted a proposal which includes an upset limit of \$389,141.50, including 10% contingency, excluding HST.

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 Canada Ltd 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.

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 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, civic administration is recommending that AECOM Canada Ltd be authorized to carry out the remainder of engineering services, as construction administrators, for a fee estimate of \$389,141.50, including 10% contingency, excluding

HST. These fees are associated with the construction resident inspection and contract administration 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 \$607,362.50, excluding HST, for both detailed design and construction administration.

3.3 Operating Budget Impacts

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

Table 2: Summary of annual operating cost increase

Division	Rationale	Annual Operating Cost Increase
Sewer Operations	Additional manholes, catchbasins with quality control, and LIDs	\$700.00
Water Operations	Additional valve	\$75.00
Transportation Operations	Additional 269m of dedicated bicycle lanes	\$2,093.00
Total	Total of the above adjustments.	\$2,868.00

Conclusion

Civic Administration has reviewed the tender bids and recommends CH Excavating (2013) be awarded the construction contract for the English Street & Lorne Avenue Infrastructure Renewal Program Project at the submitted tender price of \$3,773,382.95.

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. The contract administration assignment is valued at an upset amount of \$389,141.50 (including contingency, excluding HST).

Prepared by: Ashley M. Rammeloo, MMSc., P.Eng., Division Manager, Sewer Engineering

Submitted by: Scott Mathers, MPA, P.Eng., Director, Water and Wastewater

Recommended by: Kelly Scherr, P.Eng., MBA, FEC, Managing Director, Environmental and Engineering Services and City Engineer

CC: D. Gough, C. Ginty, K. Chambers, A. Rozentals

Appendix 'A' – Sources of Financing report

Appendix 'B' – Location Map

Appendix 'C' – Traffic and Parking By-law (PS-113) Amendment

Appendix 'D' – English Street Bicycle Lanes and Queens Avenue Intersection Improvements

Appendix "A"

#21034

March 30, 2021
(Award Contract)

Chair and Members
Civic Works Committee

RE: Contract Award: Tender RFT21-16

2021 Infrastructure Renewal Program - English Street and Lorne Avenue Reconstruction

(Subledger WS21C00A)

Capital Project ES241421 - Infrastructure Renewal Program - Sanitary Sewers

Capital Project ES254021 - Infrastructure Renewal Program - Stormwater Sewers and Treatment

Capital Project ES302519 - Wastewater Servicing Built Area Works (2019-2023)

Capital Project EW376521 - Infrastructure Renewal Program - Watermains

Capital Project PK302020 - Maintain Urban Parks (2020-2023)

Capital Project TS173919 - Active Transportation (2019-2023)

Capital Project TS301421 - Road Network Improvements

Capital Project TS416519 - Urban Intersections (2019-2023)

Capital Project - TS512320 - Street Light Maintenance

CH Excavating (2013) - \$3,773,382.95 (excluding HST)

AECOM Canada Ltd. - \$389,141.50 (excluding HST)

Finance and Corporate Services Report on the Sources of Financing:

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

Estimated Expenditures	Approved Budget	Revised Budget	Committed To Date	This Submission	Balance for Future Work
ES241421 - Infrastructure Renewal Program - Sanitary Sewers					
Engineering	2,000,000	2,000,000	215,059	103,115	1,681,826
Construction	11,615,864	11,615,864	2,978,915	713,119	7,923,830
Construction (Utilities Share)	0	91,750	0	91,750	0
City Related Expenses	25,000	25,000	0	0	25,000
ES241421 Total	13,640,864	13,732,614	3,193,974	907,984	9,630,656
ES254021 - Infrastructure Renewal Program - Stormwater Sewers and Treatment					
Engineering	2,000,000	2,000,000	208,634	103,116	1,688,250
Construction	7,944,576	7,944,576	2,970,567	713,120	4,260,889
City Related Expenses	100,000	100,000	0	0	100,000
ES254021 Total	10,044,576	10,044,576	3,179,201	816,236	6,049,139
ES302519 - Wastewater Servicing Built Area Works (2019-2023)					
Engineering	416,865	416,865	364,594	52,271	0
Construction	6,679,224	6,679,224	3,948,886	655,904	2,074,434
Materials and Supplies	60	60	60	0	0
ES302519 Total	7,096,149	7,096,149	4,313,540	708,175	2,074,434
EW376521 - Infrastructure Renewal Program - Watermains					
Engineering	2,500,000	2,500,000	149,723	137,488	2,212,789
Construction	13,719,930	13,719,930	4,583,434	950,771	8,185,725
EW376521 Total	16,219,930	16,219,930	4,733,157	1,088,259	10,398,514
PK302020 - Maintain Urban Parks (2020-2023)					
Engineering	91,966	91,966	26,678	0	65,288
Construction	1,008,034	1,008,034	176,162	5,399	826,473
PK302020 Total	1,100,000	1,100,000	202,840	5,399	891,761
TS173919 - Active Transportation (2019-2023)					
Engineering	814,142	814,142	705,460	0	108,682
Construction	7,262,042	7,262,042	5,606,665	57,630	1,597,747
City Related Expenses	468	468	468	0	0
TS173919 Total	8,076,652	8,076,652	6,312,593	57,630	1,706,429
TS301421 - Road Network Improvements					
Construction	9,524,195	9,524,195	597,815	596,666	8,329,714
TS416519 - Urban Intersections (2019-2023)					
Engineering	800,000	800,000	188,906	0	611,094
Construction	1,200,000	1,200,000	121,332	15,608	1,063,060
Traffic Signals	2,510,000	2,510,000	364,172	0	2,145,828
Street Lights	1,490,000	1,490,000	20,759	0	1,469,241
TS416519 Total	6,000,000	6,000,000	695,169	15,608	5,289,223

Appendix "A"

#21034
March 30, 2021
(Award Contract)

Chair and Members
Civic Works Committee

RE: Contract Award: Tender RFT21-16
2021 Infrastructure Renewal Program - English Street and Lorne Avenue Reconstruction
(Subledger WS21C00A)

Estimated Expenditures continued	Approved Budget	Revised Budget	Committed To Date	This Submission	Balance for Future Work
TS512320 - Street Light Maintenance					
Engineering	300,000	300,000	32,285	0	267,715
Construction	2,543,887	2,543,887	124,663	38,212	2,381,012
TS512320 Total	2,843,887	2,843,887	156,948	38,212	2,648,727
Total Expenditures	\$74,546,253	\$74,638,003	\$23,385,237	\$4,234,169	\$47,018,597

Sources of Financing

ES241421 - Infrastructure Renewal Program - Sanitary Sewers					
Capital Sewer Rates	9,140,864	9,140,864	943,974	816,234	7,380,656
Drawdown from Sewage Works Reserve Fund	2,250,000	2,250,000	0	0	2,250,000
Federal Gas Tax	2,250,000	2,250,000	2,250,000	0	0
Other Contributions (Utilities) (Note 2)	0	91,750	0	91,750	0
ES241421 Total	13,640,864	13,732,614	3,193,974	907,984	9,630,656

ES254021 - Infrastructure Renewal Program - Stormwater Sewers and Treatment					
Capital Sewer Rates	820,480	820,480	820,480	0	0
Drawdown from Sewage Works Reserve Fund	6,974,096	6,974,096	108,721	816,236	6,049,139
Federal Gas Tax	2,250,000	2,250,000	2,250,000	0	0
ES254021 Total	10,044,576	10,044,576	3,179,201	816,236	6,049,139

ES302519 - Wastewater Servicing Built Area Works (2019-2023)					
Drawdown from Sewage Works Reserve Fund	4,427,998	4,427,998	2,522,576	177,752	1,727,670
Drawdown from City Services - Wastewater Reserve Fund (Development Charges) (Note: 1)	2,668,151	2,668,151	1,790,964	530,423	346,764
ES302519 Total	7,096,149	7,096,149	4,313,540	708,175	2,074,434

EW376521 - Infrastructure Renewal Program - Watermains					
Capital Water Rates	11,672,800	11,672,800	4,096,637	1,088,259	6,487,904
Drawdown from Capital Water Reserve Fund	3,910,610	3,910,610	0	0	3,910,610
Federal Gas Tax	636,520	636,520	636,520	0	0
EW376521 Total	16,219,930	16,219,930	4,733,157	1,088,259	10,398,514

PK302020 - Maintain Urban Parks (2020-2023)					
Capital Levy	1,024,000	1,024,000	202,840	5,399	815,761
Drawdown from Capital Infrastructure Gap Reserve Fund	76,000	76,000	0	0	76,000
PK302020 Total	1,100,000	1,100,000	202,840	5,399	891,761

TS173919 - Active Transportation (2019-2023)					
Capital Levy	391,425	391,425	391,425	0	0
Debenture By-law No. W.-5654-291	3,614,664	3,614,664	2,933,072	28,815	652,777
Drawdown from City Services - Roads Reserve Fund (Development Charges) (Note 1)	4,015,539	4,015,539	2,933,072	28,815	1,053,652
Other Contributions	55,024	55,024	55,024	0	0
TS173919 Total	8,076,652	8,076,652	6,312,593	57,630	1,706,429

TS301421 - Road Network Improvements					
Capital Levy	8,724,195	8,724,195	597,815	596,666	7,529,714
Drawdown from Capital Infrastructure Gap Reserve Fund	800,000	800,000	0	0	800,000
TS301421 Total	9,524,195	9,524,195	597,815	596,666	8,329,714

TS416519 - Urban Intersections (2019-2023)					
Drawdown from City Services - Roads Reserve Fund (Development Charges) (Note 1)	6,000,000	6,000,000	695,169	15,608	5,289,223

Appendix "A"

#21034

March 30, 2021
(Award Contract)

Chair and Members
Civic Works Committee

RE: Contract Award: Tender RFT21-16
2021 Infrastructure Renewal Program - English Street and Lorne Avenue Reconstruction
(Subledger WS21C00A)

Sources of Financing continued	Approved Budget	Revised Budget	Committed To Date	This Submission	Balance for Future Work
TS512320 - Street Light Maintenance					
Capital Levy	2,667,304	2,667,304	156,948	38,212	2,472,144
Drawdown from Capital Infrastructure Gap Reserve Fund	176,583	176,583	0	0	176,583
TS512320 Total	2,843,887	2,843,887	156,948	38,212	2,648,727
Total Financing	\$74,546,253	\$74,638,003	\$23,385,237	\$4,234,169	\$47,018,597

	ES241421	ES254021	ES302519	EW376521	TOTAL Engineering
Financial Note (Engineering):					
Contract Price	\$101,332	\$101,333	\$51,367	\$135,110	\$389,142
Add: HST @13%	13,173	13,173	6,678	17,564	50,588
Total Contract Price Including Taxes	114,505	114,506	58,045	152,674	439,730
Less: HST Rebate	-11,390	-11,390	-5,774	-15,186	-43,740
Net Contract Price	\$103,115	\$103,116	\$52,271	\$137,488	\$395,990

	ES241421	ES241421 Start.ca	ES241421 Bell Canada	ES254021	ES302519D
Financial Note (Construction):					
Contract Price	\$700,785	\$29,314	\$62,436	\$700,786	\$644,560
Add: HST @13%	91,102	3,811	8,117	91,102	83,793
Total Contract Price Including Taxes	791,887	33,125	70,553	791,888	728,353
Less: HST Rebate	-78,768	-3,811	-8,117	-78,768	-72,449
Net Contract Price	\$713,119	\$29,314	\$62,436	\$713,120	\$655,904

	EW376521	PK302020B	TS173919	TS301421	TS416519
Contract Price	\$934,326	\$5,306	\$56,634	\$586,347	\$15,338
Add: HST @13%	121,462	690	7,362	76,225	1,994
Total Contract Price Including Taxes	1,055,788	5,996	63,996	662,572	17,332
Less: HST Rebate	-105,017	-597	-6,366	-65,906	-1,724
Net Contract Price	\$950,771	\$5,399	\$57,630	\$596,666	\$15,608

	TS512320	Total Construction
Contract Price	\$37,551	\$3,773,383
Add: HST @13%	4,882	490,540
Total Contract Price Including Taxes	42,433	4,263,923
Less: HST Rebate	-4,221	-425,744
Net Contract Price	\$38,212	\$3,838,179

Total Engineering and Construction **\$4,234,169**

Note 1: Development charges have been utilized in accordance with the underlying legislation and the approved 2019 Development Charges Background Study and the 2021 Development Charges Background Study Update.

Note 2: Start Communications and Bell Canada have confirmed their contribution towards this project. The expenditures have increased to accommodate their contributions.

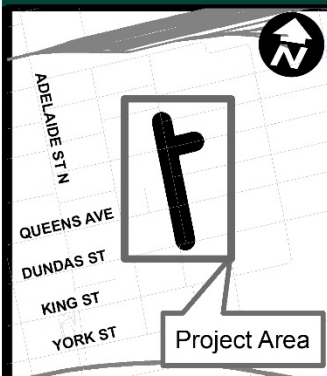
Note 3: There will be additional annual operating costs of \$700 for Sewer Operations, \$75 for Water Operations and \$2,093 for Transportation Operations.

Jason Davies
Manager of Financial Planning & Policy

jg



LOCATION MAP



**2021 Infrastructure Renewal Program
Contract 5**

English Street from Princess Avenue to Dundas Street
Lorne Avenue from English Street to approximately 100m east of English Street

 Project Area

Map Produced by
the Sewer
Engineering
Division
February 18 2021 CM



300 Dufferin Avenue,
PO Box 5035
London, Ontario
N6A 4L9
www.London.ca

APPENDIX C By-law to amend the Traffic and Parking By-law (PS-113)

Addition of bicycle lanes on English Street from Dundas Street to Queens Avenue.

Bill No.

By-law No. PS-113

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

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

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

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

1. No Stopping

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

Column 1 Street	Column 2 Side	Column 3 From	Column 4 To	Column 5 Period
English Street	Both	Dundas Street	Queens Avenue	Anytime

2. No Parking

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

Column 1 Street	Column 2 Side	Column 3 From	Column 4 To	Column 5 Period
English Street	West	A point 45 m north of Dundas Street	Dundas Street	Anytime
English Street	East	Central Avenue	Dundas Street	Anytime

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

Column 1	Column 2	Column 3	Column 4	Column 5
----------	----------	----------	----------	----------

Street	Side	From	To	Period
English Street	East	Queens Avenue	Central Avenue	Anytime

3. Limited Parking

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

Column 1 Street	Column 2 Side	Column 3 Area	Column 4 Time	Column 5 Period
English Street	West	Queens Avenue to Dundas Street	8:00 a.m. to 6:00 p.m.	1 Hour

4. Reserved Lanes

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

Column 1 Highways	Column 2 Between	Column 3 Lane	Column 4 Time/Day	Column 5 Direction	Column 6 Class/Type of Vehicle
English Street	Dundas Street to Queens Avenue	1 st Lane from east	Anytime	Northbound	Bicycle
English Street	Queens Avenue to Dundas Street	1 st Lane from west	Anytime	Southbound	Bicycle

This by-law comes into force and effect on the day it is passed.

PASSED in Open Council on April 13, 2021

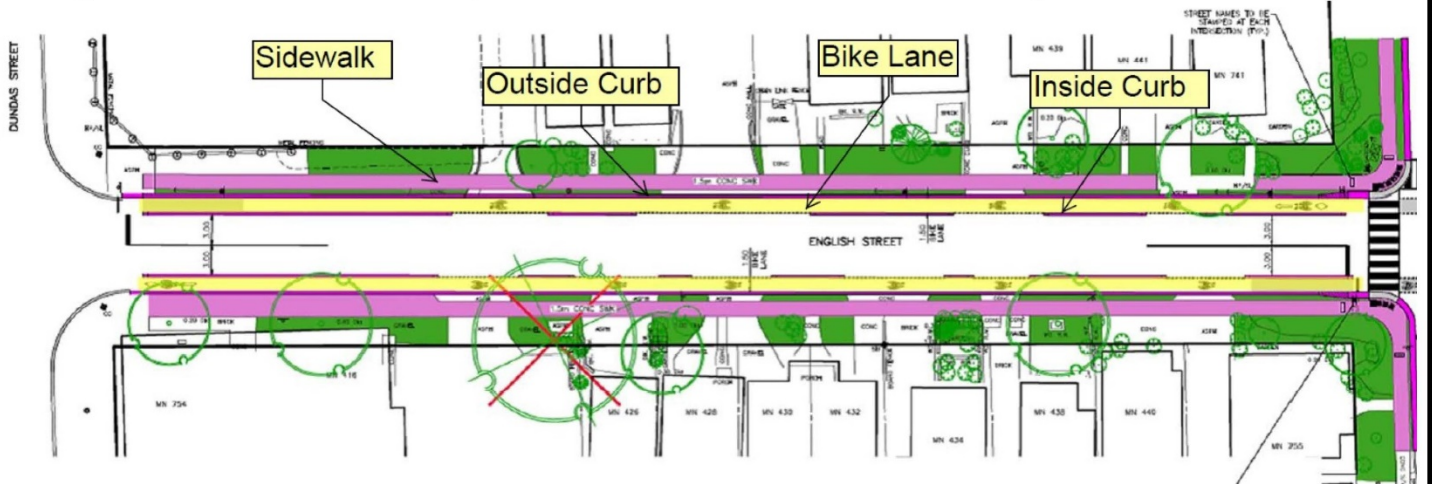
Ed Holder
Mayor

Catharine Saunders

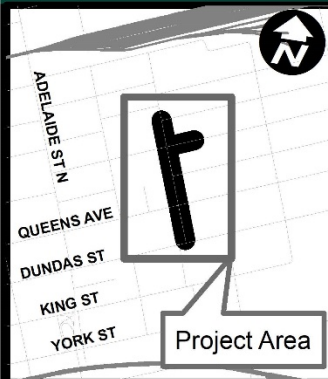
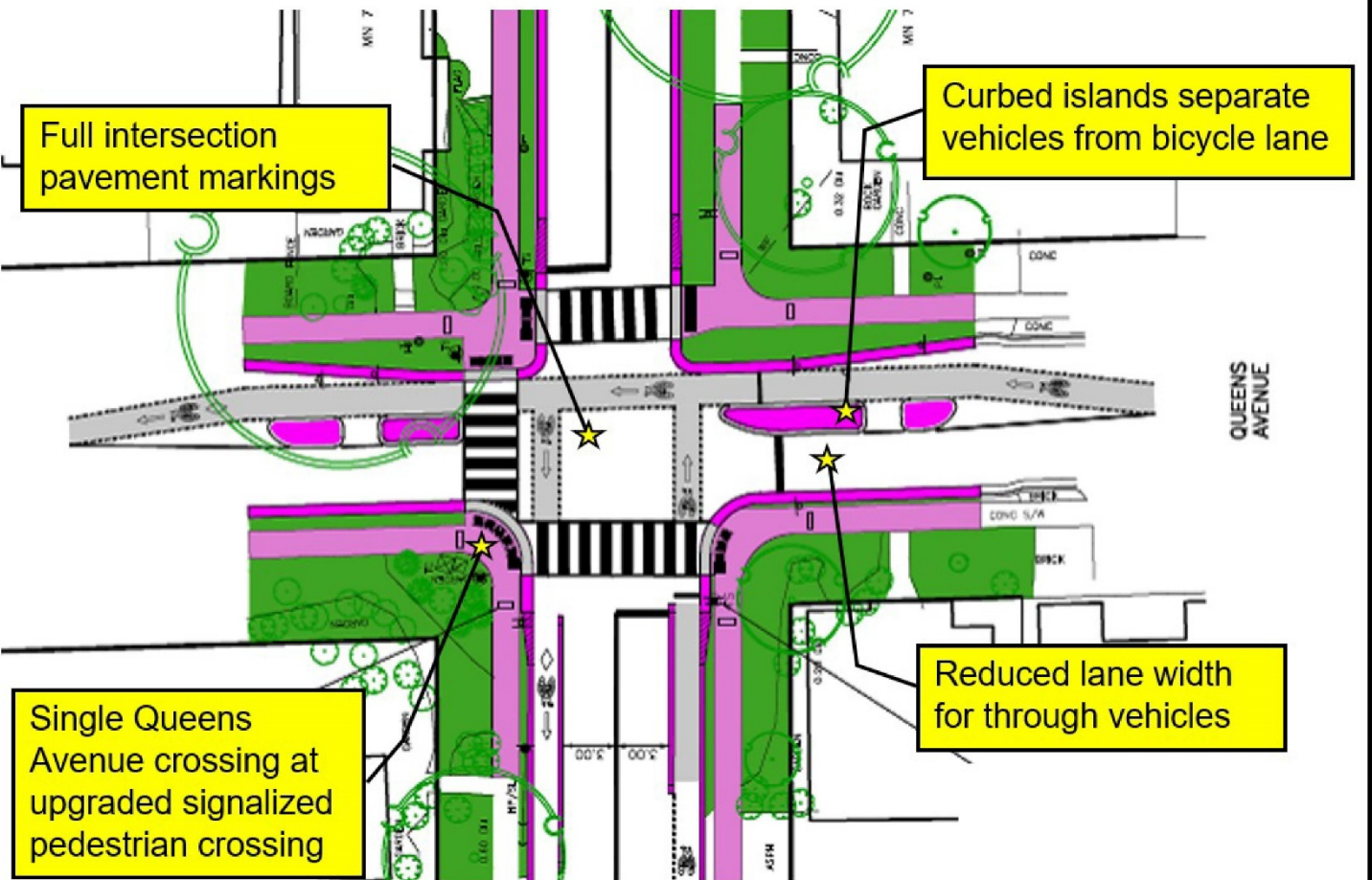
City Clerk

First Reading – April 13, 2021
Second Reading – April 13, 2021
Third Reading – April 13, 2021

English Street Bike Lanes (Dundas Street to Queens Avenue)



Queens Avenue @ English Street Intersection



English Street Bike Lanes & Queens Avenue Intersection Improvements

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC
Managing Director, Environmental & Engineering Services
and City Engineer

Subject: 2021 Renew London Infrastructure Construction Program
and 2020 Review

Date: March 30, 2021

Recommendation

That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, the following information report concerning the 2021 Renew London Infrastructure Construction Program **BE RECEIVED** for information.

Linkage to the Corporate Strategic Plan

The following report supports Municipal Councils 2019-2023 Strategic Plan by contributing to the following expected results:

Building a Sustainable City

- Build infrastructure to support future development and protect the environment
- Manage the infrastructure gap
- Protect and enhance waterways, wetlands, and natural areas
- Improve the quality of cycling and pedestrian environments to support healthy and active lifestyles

Growing our Economy

- Increase public and private investment in strategic locations; revitalize London's downtown and urban areas

Leading in Public Service

- Londoners experience exceptional and valued customer service delivered by Renew London Construction Program which focuses on efficiency, timely communication, and coordination to minimize impacts to the public
- Increase community and resident satisfaction of their experience with the City

Analysis

1.0 Background Information

1.1 Purpose

The purpose of this report is to provide Committee and Council with an overview of the major City construction projects planned for 2021 and to provide an overview and evaluation of the 2020 Renew London Construction Program. This report will identify potential risks for the upcoming construction season, and outline lessons learned from 2020.

1.2 Context

The Environmental and Engineering Services Department undertakes approximately 200 capital works projects and programs each year. Our goal is to provide mobility choices for all Londoners that are safe, dependable, affordable, and environmentally responsible that help London's communities thrive, and the city prosper.

The Renew London Construction Program manages the sustainability of city infrastructure through a combination of road, bridge, bicycle, sewer, water, sidewalk and intersection improvements. The program addresses existing lifecycle needs, system improvements, and growth-related priorities. It was created to drive efficiency in infrastructure delivery and minimize delays and inconveniences to the public during construction.

As leaders of the program, City staff are responsible for overseeing City construction projects and providing onsite inspection where required. This oversight ensures projects are well-communicated, completed on time, and built in accordance with plans, specifications, and City standards. It also helps make sure projects follow proper safety procedures and are delivered within budget.

2.0 Discussion

2.1 2021 Renew London Infrastructure Construction Program

The 2021 budgets will invest in key priority areas to support the city's growing population needs and make improvements to our aging infrastructure. Focus remains on essential infrastructure and investments in replacing or building much-needed roads, water, and wastewater infrastructure.

The City is committing approximately \$170 million in construction improvements in 2021. This 2021 program includes lifecycle renewal investments of \$40 million for road improvements, \$31 million for sewer improvements, and \$38 million for water system improvements. Growth and external provincial and federal funding also contributes to projects such as the Adelaide Street Underpass project and the first phase of the Downtown Loop project in 2021. These total investments provide for integrated projects which reduce costs by coordinating underground infrastructure work with rehabilitation roads, curbs, and sidewalks. This will improve and extend the lifecycle of London's critical road, water and sewer infrastructure and the reliability of its systems while protecting the environment.

There will be 75 lane-kilometers of road reconstructed, 14 kilometers of sanitary and storm sewers replaced or added, and 10 kilometers of watermain rebuilt in 2021. Approximately 1.5 kilometers of combined sewer will be removed, having a significant benefit to the environment. Over 15 intersections will be rebuilt to improve intersections and address safety concerns in growing areas. More than 5 kilometers of cycling and sidewalks infrastructure will be built to improve safety, connectivity and accessibility.

In addition, 5.5 kilometers of watermain and 11 kilometers of sewers will be lined without having to dig trenches. These trenchless programs accomplish the goals of upgrading the infrastructure while allowing for significant capital avoidance and minimized social impact to residents and businesses by avoiding open cut construction.

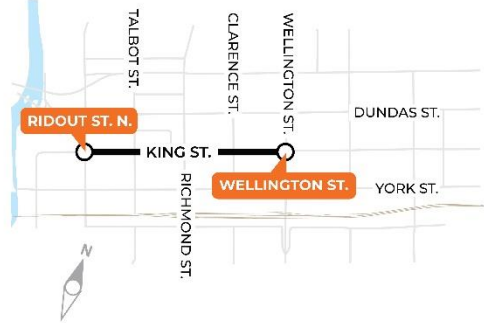









A complete map of city-wide 2021 construction projects can be viewed by residents on the City's website.
















Top 10 City Projects

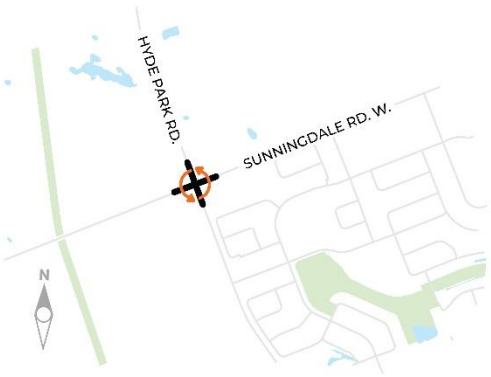














The top 10 City projects are selected each year to provide an overview of the upcoming year's work and impacts. City staff have identified the top 10 projects that will take place during the 2021 construction season. This year's projects involve areas across London and include the start of Downtown Loop construction, essential underground infrastructure upgrades, and continued improvements to our cycling network.











The top 10 are selected based on the following criteria:

- Scope of work (e.g., complete utility and sewer rebuild, asphalt resurfacing)
- Construction duration
- Location in relation to other nearby projects and the expected future benefits
- Road classification
- Road user impact
- Transit impact
- Impact to neighbours
- Proximity to events, schools, community centres, parks, cycle routes
- Economic impact and Government funding

1		<p>Downtown Loop Phase I</p> <p>Work Type: Rapid Transit</p> <p>Tender: \$8.2 M</p> <p>Benefits: Improved mobility, connectivity to transit, streetscaping, and water and sewer infrastructure to accommodate future growth</p> <ul style="list-style-type: none">  Temporary sidewalk closures  LTC route impacts  Road Closure  Phased road closures <p>Website: london.ca/downtownloop</p>
2		<p>Adelaide St North Underpass</p> <p>Work Type: Improved Mobility. Road Improvements</p> <p>Benefits: Improved mobility, new sewer infrastructure, and enhanced lighting.</p> <ul style="list-style-type: none">  Temporary sidewalk closures  LTC route impacts  Road closure  Road closure <p>Website: london.ca/adelaide</p>

<p>3</p>		<p>Dundas Street (Old East Village)</p> <p>Work Type: Infrastructure Renewal</p> <p>Tender: \$12.5 M (2020)</p> <p>Benefits: Improved underground infrastructure, connectivity to transit, streetscaping, and a separated bike lane</p> <ul style="list-style-type: none">  Temporary sidewalk closures  LTC route impacts  Road closures  Road closures <p>Website: london.ca/oev</p>
<p>4</p>		<p>Dundas Street TVP Connection</p> <p>Work Type: Cycling Infrastructure Improvements</p> <p>Tender: \$2.4 M</p> <p>Benefits: New cycling infrastructure connecting to the core, sewer improvements</p> <ul style="list-style-type: none">  Temporary sidewalk closure  LTC stop impacts  Lane restrictions  Lane restrictions <p>Website: london.ca/corecycling</p>
<p>5</p>		<p>Highbury Avenue – Wenige Expressway Bridge Renewal</p> <p>Work Type: Infrastructure Renewal</p> <p>Tender: \$8.9 M (2020)</p> <p>Benefits: Improved bridge condition and multi-use pathway below the bridge</p> <ul style="list-style-type: none">  Temporary TVP closure  LTC route impacts  Road closure  Road closure <p>Website: london.ca/highburyave</p>

<p>6</p>		<p>Hyde Park and Sunningdale Roundabout</p> <p>Work Type: Intersection Improvements</p> <p>Tender: Estimated \$3.7 M</p> <p>Benefits: Improved intersection safety and operations</p> <ul style="list-style-type: none">  Temporary restrictions  No LTC impact  Road closure  Road closure <p>Website: london.ca/hyde-sunningdale</p>
<p>7</p>		<p>Brydges Street</p> <p>Work Type: Infrastructure Renewal</p> <p>Tender: \$5.9 M</p> <p>Benefits: Removal of approx. 850m of combined sewer, and addition of new bike lanes</p> <ul style="list-style-type: none">  Temporary sidewalk closure  No LTC impact  Road closure  Road closure <p>Website: london.ca/brydges</p>
<p>8</p>		<p>Saskatoon and Brydges/Wavell Bike Lanes</p> <p>Work Type: New Cycling Infrastructure</p> <p>Tender: Estimated \$1.5 M</p> <p>Benefits: Improved cycling infrastructure</p> <ul style="list-style-type: none">  Temporary sidewalk closure  LTC stop impacts  Lane restrictions  Lane restrictions <p>Website: london.ca/saskatoon-brydges</p>

9		<p>Mornington Storm Management Pond Expansion</p> <p>Work Type: Infrastructure Renewal</p> <p>Tender: Estimated \$4.7 M</p> <p>Benefits: Future upstream servicing capacity</p> <ul style="list-style-type: none">  Temporary sidewalk closure  No LTC impact  Road closure  Road closure <p>Website: london.ca/mornington</p>
10		<p>Wortley Road</p> <p>Work Type: Infrastructure Renewal</p> <p>Tender: \$2.9 M</p> <p>Benefits: Replacement of water and sewer infrastructure underground</p> <ul style="list-style-type: none">  Temporary sidewalk closure  No LTC impact  Road closure  Road closure <p>Website: london.ca/wortley</p>

2.2 Emerging Issues

There are several risks for the upcoming construction season that may impact project budgets, schedules, staff resources and project success outcomes.

COVID-19

When projects were tendered for construction to begin in 2020, the impacts of a global pandemic were just emerging. COVID-19 was declared a pandemic by the World Health Organization in March 2020. Soon after, the Government of Ontario ordered the closure of all non-essential businesses pursuant to its powers under the *Emergency Management and Civil Protection Act*. On March 23, 2020, the provincial government unveiled a list of essential workplaces that would be exempt from the closure, which was updated to include municipal construction projects. Of most importance was Schedule 3 of the Order, which required contractors to comply with all applicable health and safety laws, including the *Occupational Health and Safety Act* and the advice and instructions of public health officials, including matters regarding physical distancing, cleaning and/or disinfecting.

The COVID-19 pandemic added additional pressures to an already busy construction season and quickly became the biggest risk to the 2020 construction season.

As the economy slowed in April and May 2020, City Administration and Council grappled with how best to respond to COVID-related disruptions on integrated infrastructure projects in London. After quick and careful review of contractor ability and

commitment, Council proceeded with tender awards which not only would improve critical infrastructure, but also strengthen the local economy, creating jobs and laying the foundation for London's long-term recovery.

After a brief pause on some early 2020 projects, the construction season resumed with new contractor-led health and safety protocols in place to support safety of City staff, contractors and consultants working during the pandemic.

In addition, the Canadian Construction Association (CCA) continuously released updated versions of the COVID-19 Standardized Protocols for All Canadian Construction Sites throughout the 2020 construction season. CCA also maintained an open dialogue with stakeholders throughout the pandemic to ensure the industry remained proactive in addressing any emerging risks.

Contractors were able to keep production going, and COVID-19 did not ultimately have as large an impact on the local construction industry as originally predicted. All teams were able to focus on safety and adjust to new circumstances in a very short time frame, the most important being wearing of masks, screening daily for symptoms and working two meters apart. Productivity impacts stemming from scheduling work crews, providing training on new safety protocols, and evolving industry standards were well-managed.

City Construction Administration staff were provided the necessary equipment to work remotely to continue oversight and remain in contact with each other and with the public and stakeholders. In anticipation of communication concerns the public would have regarding projects, staff also updated the Construction Notices that were distributed to communities within the construction project limits. Staff also advised residents and property owners of the COVID-19 precautions with which the contractors were required to comply.

Today, despite the first vaccines being available, closures and changes to business operations are expected to continue - many implemented on short notice - that may affect the availability of materials, labour, and access to work sites. Safe work on construction sites will continue to include new COVID-related environmental, health and safety requirements, including any additional personal protective equipment, cleaning, maintenance, and social distancing.

The City's project teams continue to plan for COVID-related disruptions and are prepared to implement mitigation measures to minimize their effects and keep each other safe while advancing construction projects to completion.



Photographed above (left to right):

Signage about COVID-19 protocols posted at a construction site.

A hand washing station at a construction site.

Business Impacts

The volume and duration of construction in 2021 will be greater than what was experienced in 2020. Some of the impacts that typically accompany the large-scale projects include the loss of parking spaces and loading zones, diverted traffic, unexpected service interruptions, noise, and dust.

Reducing potential disruption for businesses and their customers is always a priority. The City will continue to work closely with impacted businesses by communicating in advance of construction and working together through the course of a project to identify and resolve issues. Most businesses impacted by construction continue to be located in the core and will again be supported by the City's Core Construction Program, launched in 2018. Additional support will be provided in 2021 through funds allocated from the Core Area Action Plan in 2021 for the Construction Dollars and temporary free municipal parking promotions.

Tree Impacts

With the City of London declaring a Climate Emergency, tree protection and preservation is of the utmost importance during construction projects. Despite best efforts, tree removals are often required to successfully complete infrastructure projects. To address this impact, trees requiring removal are assessed and replaced with new trees selected from an approved list of native species that is managed by the City's Forestry division. These species help to encourage pollinators and provide exceptional benefits to urban wildlife and insects.

Specialized construction methods are employed wherever reasonable to minimize the disturbance to trees and minimize root damage. The City also requires contractors to follow a rigorous tree protection plan. While City staff and their consultants diligently monitor the contractor's use of tree protection strategies, damage can still occur. Contractors who damage trees are financially penalized through the City contract process.

Construction Act Changes

The province of Ontario has updated the provincial legislation in Ontario that governs the rules for owners, contractors, and subcontractors in the construction industry. Initial changes affecting construction lien and holdback rules came into effect on July 1, 2018, while new prompt payment and adjudication processes came into effect on October 1, 2019.

The changes that came into effect on October 1, 2019 present several changes to processes that the City implemented in the 2020 construction season. These changes included:

- Timelines for processing payments to contractors
- Timelines for reviewing invoices from contractors
- Adjudication process for disputes

These changes affected a number of groups within the City, including but not limited to: Engineering and Environmental Services, Procurement, Legal, Accounts Payable, Tangible Capital Assets, Facilities, and Financial Services. A committee was developed with representatives from each team to coordinate processes and determine responsibilities using Lean Six Sigma methodology.

Additional outreach has been done by the Construction Administration group to work with service areas, contractors, and consultants to ensure all parties involved in the changes are working together in a collaborative manner. This year will bring significant challenges as all parties continue to become more familiar with the updated requirements of the new construction legislation.

Safety

Contractor and worker safety is a priority for the City. The 2020 construction season saw several incidents around the city where passing drivers endangered workers on site by not following work zone signage, temporary traffic signals and flag persons, and by speeding through construction zones. Public education and enforcement are critical in improving driver habits, and City staff are committed to working with contractors to report dangerous drivers and educate the public wherever possible on the importance of complying with construction signage.

The safety of pedestrians visiting core projects in 2020 was a concern that was identified during construction. As a result, 2021 Core Construction projects such as Phase 2 of the Dundas Street (OEV) Infrastructure Renewal project and Phase 1 of the Downtown Loop on King Street will include enhanced site security, improved lighting, additional signage, and enhanced walkways to improve public safety. These improvements for pedestrians are intended to provide a more comfortable and secure construction environment for residents, businesses, and visitors.

2.2 Coordination and Considerations

Utility Coordinating Committee

The mandate of the Utility Coordinating Committee (UCC) is to provide advanced planning of infrastructure work in the municipal right-of-way for over 20 different public and private organizations. Coordinating this work is a complex challenge compounded by hundreds of emergency and routine operational repairs undertaken by City Roads, Water, Sewer and Forestry Operation teams annually.

Advanced cumulative planning through the UCC allows the City to better respond to proposed and unplanned work and helps visualize the effects of all projects relative to others and promotes better definition of specifications around scheduling of our contracts. The City's goal is to ensure that construction is planned and sequenced in a manner that minimizes impacts on traffic and disruption to the public.

Traffic Mitigation

Congestion and disruption caused by public and private construction is disruptive to all road users. City staff manage programs to mitigate the impacts as much as possible by reviewing all projects from a traffic and construction detour impact perspective. Some projects will require road closures to complete the planned construction for the safety of the contractor and the public, while others may only require lane restrictions. In any case, a detour to safely redirect traffic around the disturbed areas and permit the work to be completed in a timely manner will be implemented.

Notwithstanding posted detour routes, increased traffic volumes are often observed on some neighbourhood streets near construction areas as drivers look for shortest routes around the closures. In some cases, temporary neighborhood traffic calming measures may be implemented to mitigate this behavior.

The City strives to minimize the disruption to the public during construction and maintain access to the maximum extent possible. Separating a construction project into stages to maintain use is often considered. However, it can often lengthen the duration of a project, creates challenges from a constructability and increased capital cost perspective. A balance needs to be established that satisfies both objectives. City staff believe this balance has been achieved with the 2021 Renew London construction Program.

Pedestrian Impacts

Accessibility around construction projects is a key consideration for all the City's construction activities. City contracts require that an accessible pathway through a construction site be maintained to the extent possible. When encountering certain project and site-specific constraints or disruptions, it is not always possible to continuously provide a safe and accessible route through a construction site. When construction activities require the temporary closure of an existing sidewalk for safety, the public will be notified of the disruption as per O. Reg. 191/11, Part IV.2, s. 80.48 (Accessibility for Ontarians with Disabilities Act, 2005, "AODA"). Where applicable, signage will be erected on site at either end of the work indicating that the sidewalk is closed. This will alert pedestrians to use an alternate route. While this alternate route may not always be most convenient way to reach a particular destination, it will ensure that the public is not entering into an unsafe situation.

Where possible, City projects include requirements to construct temporary hard surface sidewalks and, in some cases, temporary ramps to better facilitate accessible pedestrian movement. Navigational signage is also placed on site around large core area construction projects to support pedestrians and businesses.

Cyclist Impacts

Cyclists are an important consideration when designing and planning all infrastructure projects. While many of our projects include building new bike lanes and improving existing bike infrastructure, construction sites themselves are potential hazards for cyclists. When possible, the City creates detour routes for cyclists, posts signage around construction, and shares notices, public service announcements and maps online about closures.



Photographed above (left to right):

Additional bike parking and signage added around construction in Old East Village. Examples of construction signage help identify detours for cyclists.

Transit Impacts

City staff work closely with the London Transit Commission (“LTC”) to identify construction impacts affecting bus routes. LTC prepares and communicates detour routes as needed throughout construction projects. Several projects for 2021 will impact LTC routes, and these route changes will be listed on the Detours section of LTC’s website.

Driver Impacts

To optimize vehicle traffic flow in the areas affected by planned detours, the City may adjust traffic-signal timing, in addition to installing advance warning signage and optimizing apps such as Waze to recognize the closure. As an effective and highly visible tool, more electronic Portable Variable Message Signs are being utilized throughout the city to provide drivers with current updates/detour routes digitally, on a larger screen.

Communications and Customer Service

As London experiences larger and more disruptive construction projects, the City is taking important steps to enhance communication before and during construction.

Before work begins on a typical construction project, discussions take place with stakeholders to review impacts to property access, accessibility issues or special accommodation requests, and to collect feedback and contact information. Information gathered during these conversations is then used to develop the appropriate communications plan for the area impacted.

To ensure up-to-date information is always accessible, a Construction Project Manager is established and contact information shared with those impacted before construction starts. Members of the public are invited to connect with the Construction Project Manager to verify details or ask questions during the project. Clearly identifying a point of contact allows us to resolve issues in a timely manner.

Road closures, lane restrictions and sidewalk disruptions change throughout a project, making it difficult to predict what the exact impacts will be at any given time. Due to the complexity and number of construction parties involved, unforeseen delays or changes can occur. Key private partners such as transit and emergency services are kept informed on an ongoing basis through direct communication with Construction Project Managers, public service announcements, and the daily Renew London Road Report email.

While frequency of correspondence may differ depending on the project’s location, scope, duration and social impact, the following communication methods can be expected when living, working, or owning property in proximity to a City-led capital construction project:

Typical Construction Projects

- Direct line of communication with City Project Manager
- Construction notice letter
- Advanced warning / detour signage
- Updates on the Renew London website

Major Construction Projects

Any of the techniques above, plus:

- A minimum of three letters
- Project-specific web page on london.ca
- Public meeting (During COVID-19, in-person opportunities to meet have been replaced with live video webinars or recorded presentations. These presentations can also be emailed to residents, community groups, or posted online.)
- PSAs posted on london.ca/newsroom
- Social media updates posted on Facebook and Twitter

Core Construction Projects

Any of the techniques above, plus:

- Opportunity to sign up for project-specific email updates
- Project meetings held in partnership with BIA as needed

Navigation

To assist the public when navigating construction, the City continues to promote the use of the following tools:

- Waze app: Through our official partnership with Waze, City staff keep the app updated with the most current local road information.
- Renew London interactive map: By visiting london.ca/roadwork, residents can search by street to learn more about road impacts.
- Honk app: Through our official partnership with Honk, drivers can continue to find and pay for parking nearby during construction.
- LTC's online trip planner: City staff work alongside LTC to promote use of their trip planner and Google Maps, especially during construction.

Core Construction Program

London continues to experience revitalization downtown and in the core area as the city grows. Not only are there several City-led projects planned in the core in 2021, but continued private development and private utility projects will continue to occur as well.

Beginning in 2018 and the start of the Dundas Place construction, the City has supported major construction projects in the core with enhanced communication and opportunities for engagement. The program supports core area businesses and residents with additional resources such as a construction tool kit, enhanced wayfinding signage, small events, and marketing campaigns all using a consistent tagline "Connecting our future."

Recognizing the impact construction has on the city's most dense urban area, the City of London continues to create and support opportunities to engage residents, businesses, and visitors during construction.

Community Relations

Based on lessons learned between 2018-2020, the City continues to build its formalized construction mitigation program in the core. This program provides enhanced resources and communications on core construction projects to:

- Make change a positive experience for all
- Encourage movement in and around the construction zone
- Enable easy access to City services and staff
- Promote the impacted areas

- Achieve consistency and clarity in the delivery of project updates
- Foster community collaboration where possible

Program elements can be identified by its tagline: Connecting our future.



Core Area Construction Coordination Committee (CAC3)

Coordination of all construction activities in these densely developed parts of the city, which are used intensively day and night by multiple diverse users, involves collaboration across several City divisions. Constant communication is paramount internally and with the City's private partners, transit, and emergency services. City staff remain focused on anticipating and minimizing impacts and achieving equity in the travel experiences of all road users (pedestrians, cyclists, transit users and motorists) through weekly meetings during the construction season, of the Core Area Construction Coordination Committee (CAC3), established in 2018. The CAC3 was established to better coordinate transportation impacts in the core stemming from known projects and permits in or affecting right-of-way, to inform core construction communications. In 2021, the core-area boundary being monitored by the Downtown Construction Coordination Committee extends from Horton Street to Oxford Street and from the Thames River to Ontario Street.

Measurement

To better understand the effectiveness of the core construction program, the City launched a post-construction survey in early 2020 targeted towards residents, businesses, and property owners in the core area.

The most effective and well received communications identified through the survey were:

- Email notifications
- Sidewalk signs
- Construction letters and notices
- Project website
- Construction blog

The survey also identified the top five areas suggested for improvement:

- Pedestrian/sidewalk access
- Motor vehicle access
- Receiving deliveries
- Service (utility) interruptions
- Cleanliness of work site

A second post-construction survey will be planned for late 2021, asking visitors to the core to share their feedback and perspectives. City staff are using these survey results to refine our core construction program and are currently exploring ways to incorporate the feedback into other construction projects across London.

3.0 2020 Program Review

3.1 Overview of 2020 Projects

The chart below identifies the top 10 City projects in 2020, the status and tendered contract amount.

Project	Tendered Contract Amount (Millions)	Status
Dundas Street (Old East Village) Infrastructure Renewal	\$12.5 M	2-year project. Phase 1 mostly completed in 2020 with streetscape, sidewalks to be completed in 2021. Phase 2 scheduled for 2021.
Richmond Street Downtown Infrastructure Renewal	\$6.0 M	Streetscape features, sidewalk, top coat of asphalt to be completed in 2021.
Egerton Street (Phase 3) Infrastructure Renewal	\$4.6 M	Top coat of asphalt to be completed in 2021.
Wilton Grove Road Improvements	\$10.9 M	Restoration and top coat of asphalt to be completed in spring 2021.
Wonderland Road South	\$7.2 M	Restoration and top coat of asphalt to be completed in 2021.
Dundas Street & Colborne Street Cycle Tracks	\$6.3 M	Dundas streetscape and 60% of Colborne work and surface asphalt remaining.
Veterans Memorial Parkway North Extension & Huron Street Improvements	\$11.2 M	Surface asphalt on some sections remain.
Highbury Avenue – Wenige Expressway Bridge Renewal	\$8.8 M	2-year project. Phase 1 was completed in 2020. Phase 2 will begin in 2021.
Oxford Street East Infrastructure Renewal	\$0.4 M	Complete
Wellington & Exeter Intersection Improvements	\$2.9 M	Complete

In addition to the top 10 projects from 2020, several other significant projects were completed across London.

One of these noteworthy construction projects was phase 1 of the Mud Creek Rehabilitation project. This channel remediation project cost approximately \$7.5 million, was tendered in the summer of 2020, and involved specialized trenchless microtunnelling of two large diameter tunnels under the CN Rail tracks northeast of Riverside Drive and Wonderland Road South. The project was successfully completed in fall 2020 with minor work to be finished in 2021. These tunnels were constructed in preparation for the significant channel expansion of Mud Creek north and south of the

CN Rail tracks. The work is being done to better direct water flowing towards the Thames River and reduce flooding north of Proudfoot Lane.

A new link in the Thames Valley Parkway's north branch was also constructed in 2020. Two new bridges were delivered to the area and constructed over the course of the year. Between these two bridges, new multi-use recreational paths now allow path users to cross the Thames River between Ross Park and the North London Athletic Fields for the first time. Construction of the project totaled \$6.3 million and was completed in October 2020.

Minor finishing touches remain on some of 2020's construction projects. This work is often surface work including the top layer of asphalt and installation of permanent pavement markings. These finishing touches are included in 2020 tenders but generally placed on road reconstruction projects the year following construction to optimize material placement in better weather. The City plans on placing top coat of asphalt for 32 lane-kilometres of road in 2021. This work is coordinated with the 2021 construction program to ensure conflicts or constructor issues are avoided with projects in nearby areas.



Photographed above (left to right):

A large pipe is lowered into a shaft as part of the microtunneling operation for Mud Creek Phase 1.

Cyclists and pedestrians cross one of the two new bridges between Ross Park and the North London Athletic Fields along the Thames Valley Parkway.

Cyclists ride on the newly constructed separated bike lane along Dundas Street in Old East Village.

3.2 Budget and Schedule

The City managed approximately \$120 million in infrastructure construction project work in 2020. All projects nearing or at completion and are currently within the approved contract value to-date.

Construction contracts for the City of London are usually tendered based on a specified number of “working days” allowed to reach substantial completion (contract milestone). Rain days, Saturdays, Sundays, and holidays do not count towards the working day count. Contracts are sometimes configured to encourage work on weekends and nights. Additional work and unforeseen conditions may increase the number of working days allowed within a contract when there is justification. All projects completed in 2020 are within their contractually allotted number of working days. Major projects from 2020 that encountered extended project schedules due to unforeseen challenges that could not have been anticipated by the contractor, consultant, or the City include:

- Richmond Street
- Dundas Street – Old East Village Phase 1

- Wilton Grove Phase 2
- Colborne Cycle Track Extension

3.3 Accomplishments

Public Engagement (city wide)

The City of London launched a new London.ca website in 2020, and construction webpages have experienced improvements to accessibility, navigation, and content.

The City also launched improvements to its public engagement website Get Involved in 2020. This platform offers an online space for residents to provide comments, questions, and feedback on different projects across London. The improvements made to the Get Involved website allow new and different types of engagement opportunities online, and the website has been used to host information about multiple construction projects.

One of the many impacts of the COVID-19 pandemic involves public engagement and communication with Londoners regarding important City projects. As in-person opportunities to meet with residents and businesses were affected in 2020 by COVID-19, these improvements to London.ca and Get Involved have allowed the City to share construction information online differently using recorded presentations, live video webinars, and online Q&A's.

It is recognized that not all Londoners are able to access project information online. Project teams also offered a variety of other options and accommodations to ensure that everybody was able to receive this information. This included mailed letters, phone conversations, and printed construction information delivered to residents and businesses.

Email Notifications (core area)

All core construction projects provide the added benefit of direct email notifications to residents, business and property owners who choose to subscribe. Through this channel, our Construction Administration team has been able to provide advance notification about service interruptions, work occurring near properties, and major site changes. This method of communication also achieved an above-average open rate of 52.6% and was identified as the most effective communication tactic in the post-construction survey.

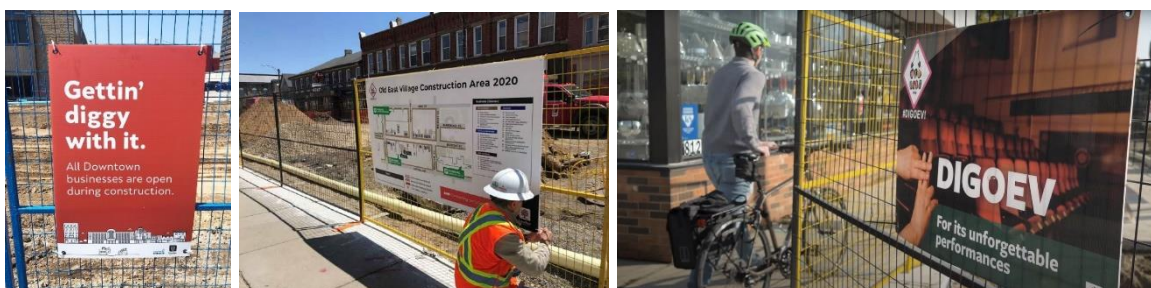
Construction Letters and Notices (city-wide)

To equip residents with more accessible, easy-to-read project information, the City of London has made all its construction letters AODA compliant with the goal of improving readability for all. Additional improvements include a reorganization of content where necessary and making information about project impacts, timelines, and options to stay informed more prominent.

Signage (core area)

The City of London and Downtown London partnered on multiple signage initiatives in the core area to offer some “surprise and delight” within construction zones. Song-themed signs with construction puns garnered a great deal of social media attention, earning thousands of impressions online and drawing more attention to our downtown core during construction. In Old East Village, the City partnered with the BIA to create signage promoting the #DIGOEV hashtag used in promoting construction and nearby

businesses. Moving forward, we will continue to work with BIAs & community members to exercise creativity through signage and other methods.



Photographed above (left to right):

A sign downtown promotes that businesses are open and was part of a series of new signs using construction themed puns.

A navigational sign shows the location of pedestrian crossings, businesses, and nearby parking in Old East Village.

A sign in Old East Village promotes #DIGOEV and that businesses are open.

Wayfinding (core area)

In 2019, improved construction signage for pedestrians was introduced to help label accessible routes within core construction zones. These additions were received positively by residents and businesses, and they were applied to 2020's core area projects. When possible, signage is now posted in advance of sidewalk closures and temporary narrow or uneven surfaces. Regularly updated, clearly labeled pedestrian navigation maps are also produced and posted where applicable. All signs have been carefully designed to clearly state the specific impact without dissuading people from travelling through the area(s) leading up to the closure.

Construction blog (core area)

Weekly blog posts were a new tactic used during Dundas Place's construction in 2018 and 2019. These blogs were posted online and sent to an email list of more than 800 subscribers every week during the construction season. While not every project is supported with blog posts, it remains a consideration for larger projects. In 2020, the City partnered with the Old East Village BIA to apply this same approach to the Dundas Street Infrastructure Renewal project helping promote the area during construction. The Old East Village blog received 5,241 visits in 2020.

Promotion of the Core during Construction (core area)

Promoting the core with the help of the area's BIAs continued in 2020. Much like during Dundas Place's construction in 2018 and 2019, radio, billboards, and other advertising were used to communicate construction impacts and support businesses.

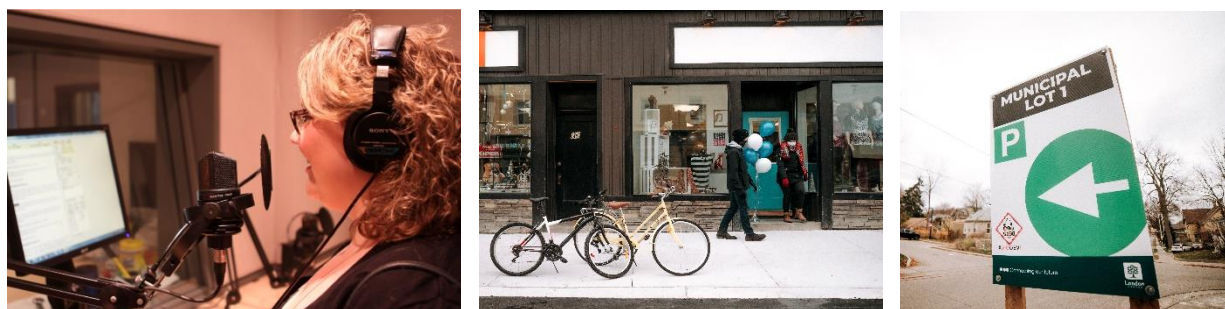
Radio advertising in partnership with the Downtown London and Old East Village BIA helped explain what the construction projects were accomplishing and promoted how visitors can reach the core during construction.

Promotional videos were filmed in partnership with the Old East Village BIA featuring businesses speaking about their community and promoting their area.

Construction Dollars as part of the Core Area Action Plan were distributed to customers in the form of contest prizes, promotions, and giveaways through the BIAs and their businesses. In total, \$55,350 Construction Dollars were spent at businesses in Old East Village and Downtown in 2020.

Parking promotions for customers were also coordinated. Discount codes for free parking were offered using the Honk app, additional bike parking was added in Old East

Village, and temporary signage was created to point towards nearby parking options for both drivers and cyclists.



Photographed above (left to right):

A downtown business owner participates in recording a radio ad promoting the core. Shoppers visit a business in Old East Village during a Construction Dollar giveaway. A sign in Old East Village promotes nearby parking during construction.

3.4 Applying Lessons Learned

Pedestrian/sidewalk access (core area)

Maintaining sidewalk access throughout construction zones, especially in the core area, continues to be a challenge when sidewalk work is required. Contractors are asked to maintain clearly labelled pedestrian maps and signage in advance of pathway closures. Where necessary, crews also provide a temporary smooth surface of plywood, asphalt, or concrete within the sidewalk area for pedestrians.

Motor vehicle access (core area)

While maintaining road access is not possible in all construction zones, free parking is being offered through the recently approved Core Area Action Plan to incentivize drivers to continue to visit despite the removal of on-street parking in the work zone. We will also assist visitors through the use of advance warning signs and the Waze app.

Receiving deliveries (core area)

Local businesses rely on the delivery of goods to operate. Understanding this, temporary loading zones have been designated in advance and will be clearly marked for retailers, suppliers, and rideshare services. In exceptional circumstances, new loading areas may be negotiated and installed. Concierge services can also be made available to assist with large or complex deliveries.

Service (utility) interruptions (core area)

Service interruptions can be extremely disruptive to businesses. Over the past few years, communication has been improved around planned service interruptions in the core area. Bi-weekly emails are sent to businesses from the project manager detailing what work has been completed, and what upcoming work is expected in the area. Tailored email notifications are also shared with impacted businesses at least 24 hours in advance of a service disruption, unless there is an emergency, in which case notice is provided as soon as possible.

Cleanliness of work site (core area)

Clean work zones are an important factor to deliver on positive experiences during construction. Sidewalk and street sweeping, sharps management, cigarette butt

disposal, periodic window-washing, garbage/recycling receptacles for the general public and waste pickup for those living and working in the area will be included in tenders where possible.

Coordination at/near key destinations (city-wide)

Major closures led by third parties at or near critical destinations, such as hospitals, schools, community and seniors' centres are critical to our community. Though internal training, increased efforts with regards to communication plans in these important locations. This includes increased oversight of third parties such as CN/CP Rail and utility groups.

Conclusion

The City has \$6.8 billion of water/wastewater infrastructure and \$2.1 billion of transportation infrastructure. The timely replacement and upgrade of these assets is critical to ensuring long term sustainability of services and managing the infrastructure gap. The Renew London Infrastructure Construction Program has been planned to address asset needs for infrastructure lifecycle renewal while at the same time ensuring that the growth requirements of the community are met in a timely manner.

The COVID-19 pandemic added additional pressures to an already busy construction season and quickly became the biggest risk to the 2020 construction season. The City's response in working with its many partners in industry was to keep moving forward, safely, by continuing to invest in infrastructure.

While COVID-19 was an undeniable impediment, the budgets for construction projects generally remained unaffected and only minor impacts to schedules experienced. Overall, 2020 was a successful construction season with the reconstruction of 80 lane kilometers of road, 15 kilometers of sanitary and storm sewers, and 12 kilometers of watermains. The City managed a portfolio of Council approved projects totalling approximately \$120 million. All of these projects are nearing or at completion and are currently within the approved contract values.

The top 10 projects for 2021 have been identified noting the downtown core will experience interruptions as the first phase of the Downtown Loop project begins on King Street and Phase 2 of the Dundas Street Infrastructure Renewal project continues in Old East Village. The Adelaide Street grade separation will also begin later in the year and will be closely coordinated with the core projects.

While the 2021 projects have been scheduled to minimize disruptions to traffic, commuting around the city will be impacted. Residents are encouraged to plan ahead and exercise patience when traveling around construction zones.

The City strives to deliver sustained, sincere, and strategic communications as part of its core construction program and city-construction projects. Lessons learned from 2020 projects and anticipated risks associated with the 2021 construction season have been communicated to project managers to support design and future project planning. The City's project teams continue to plan for potential COVID-related disruptions and are prepared to mitigate the impact of construction and keep each other safe while advancing projects to their completion.

Prepared by: Ugo DeCandido, P. Eng., Division Manager,
Construction Administration

Submitted by: Doug MacRae, P. Eng., MPA, Director, Roads and
Transportation

Recommended by: Kelly Scherr, P. Eng., MBA, FEC, Managing Director,
Environmental and Engineering Services and City
Engineer

c: Accessibility Advisory Committee
Transportation Advisory Committee
London Transit Commission
Downtown London Business Improvement Association
Old East Village Business Improvement Association

CWC – Clerks Office – Please consider this note added agenda for Item 2.7 – 2021 Construction Program for the upcoming March 30 MTG

Chair Peloza, Mayor Holder, CWC – Council Members & Kelly Scherr – Managing Director.

I know this report is marked “TO BE RECEIVED” but I look to the CWC Meeting for both leadership & direction from Council on the following;

BACKGROUND >> I attended 2 of 3 public MTG’s on the Adelaide St Underpass (# 2 in attached report from Kelly) and was assured that the then planned work in 2020 for the Colborne St Bike Path upgrade and street scape reset south of Oxford St would be complete prior to the Adelaide Underpass starting in 2021 AVOIDING CONCURRENT – North South – Inner City traffic congestion that would cause major spillover to Waterloo St which is all 4 way stops & two schools - North of Oxford. Now these two (2) projects are concurrent in 2021! Waterloo St experienced this about 4 – 5 years ago with a just a simple resurfacing & new curbs on Adelaide St north of the tracks to Oxford & Colborne St Fully Open all the way from the seminary to Oxford St & south. I have even written to Doug MacRae on this in 2019 after the public MTGs on the Under Pass to avoid this!

JUST IMAGINE the chaos this will cause with both Adelaide St & Colborne St are fully closed & partially closed concurrently for periods of 2021?

Action Required - This CWC Committee cannot let this occur and I look to your leadership along @ Kelly to find an urgent solution.

THXS – Chris Butler – 863 Waterloo St

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P. Eng., MBA, FEC, Managing Director,
Environmental and Engineering Services and City Engineer
and
Barry R. Card, Managing Director, Corporate Services and
City Solicitor

Subject: Automated Speed Enforcement – Spring 2021 Update

Date: March 30, 2021

Recommendation

That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer and the Managing Director, Corporate Services and City Solicitor, the Automated Speed Enforcement (ASE) program BE DEFERRED until the results of the Parliamentary Assistant to the Minister of Transportation's review of the ASE program are available.

Linkage to the Corporate Strategic Plan

The following report supports the Strategic Plan through the strategic focus areas of Strengthening Our Community and Building a Sustainable City. Automated speed enforcement could enable Londoners to move around the city safely and easily in a manner that meets their needs by improving safety for all modes of transportation in accordance with Vision Zero principles.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

- Civic Works Committee – May 15, 2018, [4.1 Automated Speed Enforcement](#);
- Civic Works Committee – September 24, 2019, [2.6 Automated Speed Enforcement Contract Award](#), and
- Civic Works Committee – March 10, 2020, [2.10 Automated Speed Enforcement Update](#).

1.2 Context

On October 1, 2019, Municipal Council approved the contract award for services to implement the automated speed enforcement (ASE) program. On November 28, 2019, Ontario Regulation 398/19 was passed by the Province of Ontario to permit the implementation of ASE. The regulation included operational parameters which were not contemplated by the ASE Working Group when the ASE program was developed.

On March 24, 2020 Municipal Council resolved:

- a) the program BE DEFERRED for not greater than one year, in order to fully understand the effectiveness and viability of the ASE program as amended by the Ministry of Transportation, Ontario on November 28, 2019, and to allow for the Civic Administration to provide additional information and updates to the Civic Works Committee; and,
- b) the Mayor BE REQUESTED to draft a letter to the Province of Ontario expressing the implementation complications that have been raised at the Municipal level with respect to the recent legislative changes as part of the 180-day consultation period. (2020-T08) (AS AMENDED) (2.10/4/CWC)

This report provides an update on the ASE program in Ontario over the past year including impacts related to the COVID-19 Pandemic.

2.0 Discussion and Considerations

2.1 ASE Municipal Observations

Six municipalities (Brampton, Durham, Hamilton, Ottawa, Niagara Region and Toronto) have implemented ASE with many others waiting for the outcome of the provincial review. Toronto installed their first ASE unit in December 2019; however, due to the Pandemic the first infraction was not issued until the following summer. Most of the other municipalities installed their first ASE units in the Fall of 2020.

The ASE regulation unexpectedly included additional requirements for the use of “Municipal Speed Camera Coming Soon” and “Municipal Speed Camera In Use” signs. The “Coming Soon” signs must be erected 90 days prior to the installation of the ASE camera unit and then “In Use” signs are installed at the time of activation. The “In Use” signs must be removed when the ASE camera unit is removed. There are concerns that the effectiveness of the ASE program would be lessened with these additional sign conditions, particularly for communities that were planning the rotation of cameras through a number of locations. That said, municipalities who have installed cameras are reporting that they continued to record lower speeds after the ASE units were removed. Most ASE programs have been in place for only a few months; therefore, it cannot be determined if the ASE program will result in lower speeds in the longer term.

The guidelines from the Ministry of Transportation recommended that warning notices be issued in lieu of infraction notices for the first 90 days of the ASE program and whenever an ASE unit is deployed. Thus far, the issuance of warning notices by participating municipalities has been quite limited and less than the MTO recommendation.

ASE infractions are currently part of the Provincial Courts Administration (POA) the same as police-issued speeding tickets. The demand of ASE infractions on the POA is a great concern for all municipalities and some municipalities have stated they will not implement ASE until their infractions can be moved to the Administrative Monetary Penalty System (AMPS). The Province was initially opposed to the change, but are now more open to considering allowing all automated enforcement to be part of AMPS. There is no timing for when this may occur. The proposed plan developed for London and presented to Civic Works Committee in 2020 accounted for the capacity available in the POA however administration of penalties through AMPS would provide efficiencies.

Another common theme from those municipalities with ASE is the staff resources required to operate ASE are high. Those municipalities with ASE deployment like London’s proposed program, stated that an additional staff person was required to

manage inquiries, data collection and reporting. This additional resource requirement will be reflected in future business cases.

Some municipalities have experienced problems with vandalism and theft of the ASE units. The vendor supplying the equipment is responsible for addressing these issues at no expense to the municipality; however, it does impact the effectiveness of the ASE program when the units are not operational.

2.2 COVID-19 Impacts

These past 12-months have provided unprecedented challenges worldwide and automated speed enforcement in Ontario is no exception. A review of the ASE program by the Parliamentary Assistant to the Minister of Transportation was to be conducted 180 days after the implementation start of the program. The purpose of the review is to determine if the program is operating as intended or if further legislative, regulatory or policy changes are needed. The 180-day review is on hold due to the Pandemic and no date has been provided when the review will commence. The review of the ASE program could result in changes that impact the viability of the program.

Conclusion

The few municipalities that have implemented ASE have provided some learnings. However, uncertainty and risk to program effectiveness and the reliability of the business case will remain until the Parliamentary Assistant to the Minister of Transportation's review is complete. Additional learnings from operational municipalities and provincial guidance on moving automated enforcement into the Administrative Monetary Penalty System (AMPS) will be incorporated into future business cases for Council.

It is recommended that London's ASE program be deferred until the Parliamentary Assistant to the Minister of Transportation's review is complete.

Prepared by: Shane Maguire P. Eng., Division Manager, Roadway Lighting and Traffic Control

Submitted by: Doug MacRae, P. Eng., MPA, Director, Roads and Transportation

Recommended by: Kelly Scherr, P. Eng., MBA, FEC, Managing Director, Environmental and Engineering Services and City Engineer

Recommended by: Barry R. Card, Managing Director, Corporate Services and City Solicitor

March 22, 2021/

cc. Provincial Court Administration Office
London Police Service
Transportation Advisory Committee
Community Safety and Crime Prevention Advisory Committee

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC
Managing Director, Environmental and Engineering Services
and City Engineer

Subject: Contract Award: RFT21-11
2021 Infrastructure Renewal Program
Burlington Street and Paymaster Avenue

Date: March 30, 2021

Recommendation

That on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions **be taken** with respect to the award of contract for the 2021 Infrastructure Renewal Program Burlington Street and Paymaster Avenue project:

- (a) the bid submitted by J-AAR Excavating Limited at its tendered price of \$3,620,251.92, excluding HST, for the Burlington Street and Paymaster Avenue project, **be accepted**; it being noted that the bid submitted by J-AAR Excavating Limited was the lowest of eleven bids received and meets the City's specifications and requirements in all areas.
- (b) AECOM Canada Ltd, **be authorized** to carry out the resident inspection and contract administration for the Burlington Street and Paymaster Avenue project in accordance with the estimate, on file, at an upset amount of \$276,894.20, including 10% contingency, 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 (RFT21-11); and
- (f) the Mayor and City Clerk **be authorized** to execute any contract or other documents, if required, to give effect to these recommendations.

Executive Summary

Purpose

This report recommends award of a tender to a contractor and continuation of consulting engineer services for the 2021 Infrastructure Renewal Program Burlington Street and Paymaster Avenue project. This project will reconstruct Burlington Street from Burlington Crescent to Scenic Drive and Paymaster Avenue.

Context

Burlington Street and Paymaster Avenue have been identified for reconstruction under the annual Infrastructure Renewal Program as the sanitary sewer, storm sewer and watermain within the project limits are at the end of their useful life. A location map depicting the approximate limits of the reconstruction project is provided in Appendix 'B'.

Linkage to the Corporate Strategic Plan

This recommendation supports the following 2019-2023 Strategic Plan areas of focus:

- Building a Sustainable City:
 - London’s infrastructure is built, maintained, and operated to meet the long-term needs of our community.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

- Civic Works Committee – July 14, 2020, Appointment of Consulting Engineers, Infrastructure Renewal Program, Recommendation a) (ii).

2.0 Discussion and Considerations

2.1 Project Description

The Burlington Street and Paymaster Avenue project includes the following improvements:

- Watermain replacement including water service renewal to the property line,
- Storm sewer and sanitary sewer replacement,
- Partial replacement of existing private drain connections,
- New sidewalk installation on Paymaster Avenue,
- Replacement of existing sidewalk on Burlington Street, and
- Full road reconstruction including new asphalt, curb, and gutter.

Infrastructure replacement needs have been coordinated within the Environmental and Engineering Services Department. The funding for this project comes from the approved 2021 Wastewater and Treatment, Water, and Transportation capital works budgets.

2.2 Public Consultation

The initial project notice (dated August 28, 2020) was mailed out to properties within and flanking the project limits. Included with the notice was a survey that residents were invited to fill out and return to the City’s project team to provide information on their property and input for consideration.

The subsequent pre-construction notice (dated January 22, 2021) was mailed out to properties within and flanking the project limits. Included in this notice was an invitation for residents to view narrated project information videos posted on the project webpage. Typically, the City would hold an in-person project update meeting for Infrastructure Renewal Program projects; however, due to the COVID-19 pandemic, adjustments were made to ensure public safety and to follow restrictions on public gatherings. The narrated project information videos conveyed the same information as would have been presented at an in-person project update meeting. Residents can continue to contact the City’s project manager directly with questions.

2.3 Service Replacement

In conjunction with the construction of this project, the City is replacing existing sewer private drain connections to approximately two metres behind the curb, where applicable, to help minimize future roadway excavations and to extend the service life of the roadway. As part of this project the water service connections will be replaced to the roadway property line. The property owner may elect to replace their private side water service connection at their own cost. Property owners may also be eligible to participate in the City’s Lead Service Replacement Loan Program.

3.0 Financial Impact/Considerations

3.1 Tender Summary

The tender for the 2021 Infrastructure Renewal Program Burlington Street and Paymaster Avenue project closed on February 10, 2021. Eleven contractors submitted tender prices as listed below, excluding HST. All tenders received include a contingency of \$340,000.00.

Table 1: Summary of submitted tender prices

Contractor	Tender Price Submitted
J-AAR Excavating Limited	\$3,620,251.92
L82 Construction Ltd	\$3,634,785.20
Bre-Ex Construction Inc	\$3,641,605.81
CH Excavating (2013)	\$3,656,842.33
Blue-Con Construction	\$3,698,000.00
Elgin Construction	\$3,745,973.28
Omega Contractors Inc.	\$3,828,698.17
291 Construction Ltd	\$3,850,823.36
Amico Infrastructure (Oxford) Inc.	\$3,901,355.30
Nabolsy Contracting Inc.	\$4,272,793.50
Sierra Infrastructure Inc	\$4,385,391.72

All tenders have been checked by the Environmental and Engineering Services Department and AECOM Canada Ltd. No mathematical errors were found. The results of the tendering process indicate a competitive process. The tender estimate prior to tender opening was \$3,900,000, including contingency, excluding HST.

3.2 Consulting Engineer Services

AECOM Canada Ltd was awarded the detailed design of the Burlington Street and Paymaster Avenue project by Council on July 21, 2020. 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 resident inspection and contract administration for the project. AECOM Canada Ltd submitted a proposal which includes an upset limit of \$276,894.20, including 10% contingency, excluding HST.

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 Canada Ltd 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.

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, civic administration is recommending that AECOM Canada Ltd be

authorized to carry out the remainder of engineering services, as construction administrators, for a fee estimate of \$276,894.20, including 10% contingency, excluding HST. These fees are associated with the construction resident inspection and contract administration 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 \$476,885.20, including 10% contingency, excluding HST, for both detailed design and construction administration.

3.3 Operating Budget Impacts

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

Table 2: Summary of annual operating cost increase

Division	Rationale	Annual Operating Cost Increase
Sewer Operations	Additional manholes, catchbasins and oil grit separator	\$600.00
Water Operations	Additional valve and hydrants.	\$150.00
Transportation Operations	Additional 45m of new sidewalk on Paymaster Avenue.	\$71.00
Total	Total of the above adjustments.	\$821.00

Conclusion

Civic Administration has reviewed the tender bids and recommends J-AAR Excavating Limited be awarded the construction contact for the Burlington Street and Paymaster Avenue 2021 Infrastructure Renewal Program project.

AECOM Canada Ltd 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 resident inspection and contract administration services as it is in the best financial and technical interests of the City.

Prepared by: Aaron Rozentals, GDPA, P.Eng., Division Manager, Water Engineering

Submitted by: Scott Mathers, MPA, P.Eng., Director, Water and Wastewater

Recommended by: Kelly Scherr, P.Eng., MBA, FEC, Managing Director, Environmental and Engineering Services and City Engineer

CC: D. Gough, C. Ginty, K. Chambers, A. Rammeloo

Appendix 'A' – Sources of Financing

Appendix 'B' – Location Map

Appendix "A"

#21031

March 30, 2021
(Award Contract)

Chair and Members
Civic Works Committee

RE: RFT21-11 - 2021 Infrastructure Renewal Program - Burlington Street and Paymaster Avenue
(Subledger WS21C00B)

Capital Project ES241421 - Infrastructure Renewal Program - Sanitary Sewers

Capital Project ES254021 - Infrastructure Renewal Program - Stormwater Sewers and Treatment

Capital Project EW376521 - Infrastructure Renewal Program - Watermains

J-AAR Excavating Limited - \$3,620,251.92 (excluding HST)

AECOM Canada Ltd. - \$276,894.20 (excluding HST)

Finance and Corporate Services Report on the Sources of Financing:

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

Estimated Expenditures	Approved Budget	Committed To Date	This Submission	Balance for Future Work
ES241421 - Infrastructure Renewal Program - Sanitary Sewers				
Engineering	2,000,000	6,426	84,530	1,909,044
Construction	11,615,864	519,261	1,105,191	9,991,412
City Related Expenses	25,000	0	0	25,000
ES241421 Total	13,640,864	525,687	1,189,721	11,925,456
ES254021 - Infrastructure Renewal Program - Stormwater Sewers and Treatment				
Engineering	2,000,000	0	84,530	1,915,470
Construction	7,944,576	510,914	1,105,190	6,328,472
City Related Expenses	100,000	0	0	100,000
ES254021 Total	10,044,576	510,914	1,189,720	8,343,942
EW376521 - Infrastructure Renewal Program - Watermains				
Engineering	2,500,000	0	112,708	2,387,292
Construction	13,719,930	1,303,896	1,473,587	10,942,447
EW376521 Total	16,219,930	1,303,896	1,586,295	13,329,739
Total Expenditures	\$39,905,370	\$2,340,497	\$3,965,736	\$33,599,137

Sources of Financing

ES241421 - Infrastructure Renewal Program - Sanitary Sewers

Capital Sewer Rates	9,140,864	525,687	0	8,615,177
Drawdown from Sewage Works Reserve Fund	2,250,000	0	0	2,250,000
Federal Gas Tax	2,250,000	0	1,189,721	1,060,279
ES241421 Total	13,640,864	525,687	1,189,721	11,925,456

ES254021 - Infrastructure Renewal Program - Stormwater Sewers and Treatment

Capital Sewer Rates	820,480	510,914	0	309,566
Drawdown from Sewage Works Reserve Fund	6,974,096	0	0	6,974,096
Federal Gas Tax	2,250,000	0	1,189,720	1,060,280
ES254021 Total	10,044,576	510,914	1,189,720	8,343,942

Appendix "A"

#21031

March 30, 2021
(Award Contract)

Chair and Members
Civic Works Committee

RE: RFT21-11 - 2021 Infrastructure Renewal Program - Burlington Street and Paymaster Avenue
(Subledger WS21C00B)

Capital Project ES241421 - Infrastructure Renewal Program - Sanitary Sewers

Capital Project ES254021 - Infrastructure Renewal Program - Stormwater Sewers and Treatment

Capital Project EW376521 - Infrastructure Renewal Program - Watermains

J-AAR Excavating Limited - \$3,620,251.92 (excluding HST)

AECOM Canada Ltd. - \$276,894.20 (excluding HST)

Sources of Financing continued	Approved Budget	Committed To Date	This Submission	Balance for Future Work
EW376521 - Infrastructure Renewal Program - Watermains				
Capital Water Rates	11,672,800	1,303,896	949,775	9,419,129
Drawdown from Capital Water Reserve Fund	3,910,610	0	0	3,910,610
Federal Gas Tax	636,520	0	636,520	0
EW376521 Total	16,219,930	1,303,896	1,586,295	13,329,739
Total Financing	\$39,905,370	\$2,340,497	\$3,965,736	\$33,599,137

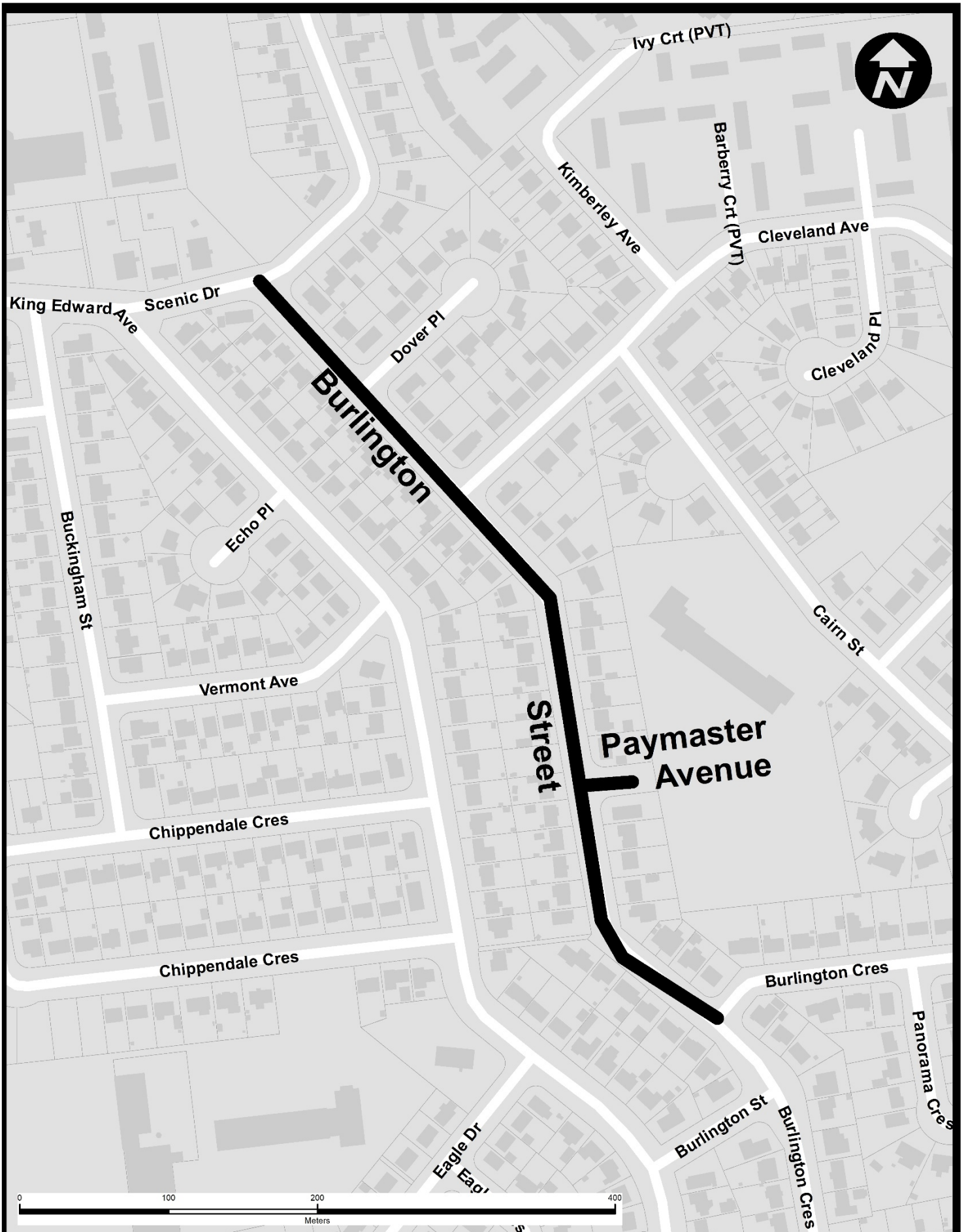
Financial Note: Construction	ES241421	ES254021	EW376521	Total
Contract Price	\$1,086,076	\$1,086,075	\$1,448,101	\$3,620,252
Add: HST @13%	141,190	141,190	188,253	470,633
Total Contract Price Including Taxes	1,227,266	1,227,265	1,636,354	4,090,885
Less: HST Rebate	-122,075	-122,075	-162,767	-406,917
Net Contract Price	\$1,105,191	\$1,105,190	\$1,473,587	\$3,683,968

Financial Note: Engineering	ES241421	ES254021	EW376521	Total
Contract Price	\$83,068	\$83,068	\$110,758	\$276,894
Add: HST @13%	10,799	10,799	14,399	35,997
Total Contract Price Including Taxes	93,867	93,867	125,157	312,891
Less: HST Rebate	-9,337	-9,337	-12,449	-31,123
Net Contract Price	\$84,530	\$84,530	\$112,708	\$281,768
Total Construction and Engineering	\$1,189,721	\$1,189,720	\$1,586,295	\$3,965,736

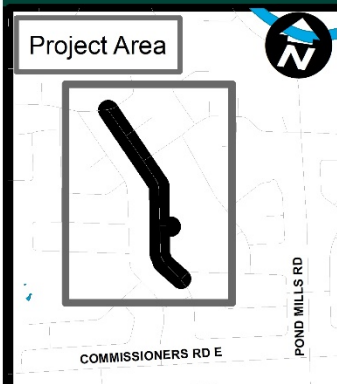
Note 1: There will be additional annual operating costs of \$600 for Sewer Operations, \$150 for Water Operations and \$71 for Transportation Operations.

Jason Davies
Manager of Financial Planning & Policy

jg



LOCATION MAP



**2021 Infrastructure Renewal Program
Contract 3**

Burlington Street from Scenic Drive to Burlington Crescent (north east leg)
Paymaster Avenue from Burlington Street to east limit

 Project Area

Map Produced by
the Sewer
Engineering
Division

February 25 2021 CM



London
CANADA

300 Dufferin Avenue,
PO Box 5035
London, Ontario
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www.London.ca

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC
Managing Director, Environmental and Engineering Services
and City Engineer

Subject: Appointment of Consulting Engineer for Construction
Administration Services
2021 Infrastructure Renewal Program
Talbot Street

Date: March 30, 2021

Recommendation

That on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions **be taken** with respect to the appointment of consulting services for the construction administration of the 2021 Infrastructure Renewal Program Talbot Street project:

- (a) R.V. Anderson Associates Limited, **be authorized** to carry out the resident inspection and contract administration for the Talbot Street project in accordance with the estimate, on file, at an upset amount of \$309,524.60, including 10% contingency, excluding HST, in accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy.
- (b) the financing for this project **be approved** as set out in the Sources of Financing Report attached, hereto, as Appendix 'A'.
- (c) the Civic Administration **be authorized** to undertake all the administrative acts that are necessary in connection with this project.
- (d) the approval given, herein, **be conditional** upon the Corporation entering into a formal contract; and
- (e) the Mayor and City Clerk **be authorized** to execute any contract or other documents, if required, to give effect to these recommendations.

Executive Summary

Purpose

This report recommends the continuation of consulting engineer services for construction administration of the 2021 Infrastructure Renewal Program Talbot Street project. This project will reconstruct Talbot Street from Victoria Street to Huron Street.

Context

Talbot Street has been identified for reconstruction under the annual Infrastructure Renewal Program as the sanitary sewer, storm sewer and watermain within the project limits are at the end of their useful life. A location map depicting the approximate limits of the reconstruction project is provided in Appendix 'B'.

Linkage to the Corporate Strategic Plan

This recommendation supports the following 2019-2023 Strategic Plan areas of focus:

- Building a Sustainable City:
 - London's infrastructure is built, maintained, and operated to meet the long-term needs of our community.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

- Civic Works Committee – July 17, 2017, Appointment of Consulting Engineers, Infrastructure Renewal Program 2017-2019, Recommendation b) (v).

2.0 Discussion and Considerations

2.1 Project Description

The Talbot Street project includes the following improvements:

- Watermain replacement including water service renewal to the property line,
- Storm sewer and sanitary sewer replacement,
- Partial replacement of existing private drain connections,
- Renewal of existing sidewalk where required, and
- Full road reconstruction including new asphalt, curb, and gutter.

Infrastructure replacement needs have been coordinated within the Environmental and Engineering Services Department. The funding for this project comes from the approved 2021 Wastewater and Treatment, Water, and Transportation capital works budgets.

2.2 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 following table provides the length of combined sewer replacement achieved for this project in relation to the DAP targets.

Table 1: Summary of Domestic Action Plan Targets

2016 – 2025 Combined Sewer DAP Target (km)	Prior DAP Combined Sewer Removed/Separated (km)	This Project – Combined Sewer Removed/Separated (km)	Remaining Combined Sewer (km) to Achieve Target
17 km	6.6 km	0.2 km	9.4 km*

*includes Brydges Street, Swinyard Street, Muir Street (RFT21-12) and Talbot Street (RFT21-10) sewer separation.

The Talbot Street project achieves the removal of approximately 200 meters of combined sewer, as the City continues to work towards achieving its DAP targets.

3.0 Financial Impact/Considerations

3.1 Consulting Engineer Services

R.V. Anderson Associates Limited was awarded the detailed design of the Talbot Street project by Council on July 25, 2017. 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 resident inspection and contract administration for the project. R.V. Anderson Associates Limited submitted a proposal which includes an upset limit of \$309,524.60, including 10% contingency, excluding HST.

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 R.V. Anderson Associates Limited 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.

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, civic administration is recommending that R.V. Anderson Associates Limited be authorized to carry out the remainder of engineering services, as construction administrators, for a fee estimate of \$309,524.60, including 10% contingency, excluding HST. These fees are associated with the construction resident inspection and contract administration 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 \$491,734.60, including 10% contingency, excluding HST, for both detailed design and construction administration.

Conclusion

R.V. Anderson Associates Limited 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 resident inspection and contract administration services, as it is in the best financial and technical interests of the City.

Prepared by: Aaron Rozentals, GDPA, P.Eng., Division Manager,
Water Engineering

Submitted by: Scott Mathers, MPA, P.Eng., Director, Water and
Wastewater

Recommended by: Kelly Scherr, P.Eng., MBA, FEC, Managing Director,
Environmental and Engineering Services and City
Engineer

CC: D. Gough, C. Ginty, K. Chambers, A. Rammeloo

Appendix 'A' – Sources of Financing

Appendix 'B' – Location Map

Appendix "A"

#21033

March 30, 2021

(Appoint Consulting Engineer)

Chair and Members

Civic Works Committee

RE: Construction Administration Services - 2021 Infrastructure Renewal Program - Talbot Street

(Subledger WS18C004)

Capital Project ES241421 - Infrastructure Renewal Program - Sanitary Sewers

Capital Project ES254021 - Infrastructure Renewal Program - Stormwater Sewers and Treatment

Capital Project EW376520 - Infrastructure Renewal Program - Watermains

R.V. Anderson Associates Limited - \$309,524.60 (excluding HST)

Finance and Corporate Services Report on the Sources of Financing:

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

Estimated Expenditures	Approved Budget	Committed To This Date	This Submission	Balance for Future Work
ES241421 - Infrastructure Renewal Program - Sanitary Sewers				
Engineering	2,000,000	120,568	94,491	1,784,941
Construction	11,615,864	2,978,915	0	8,636,949
City Related Expenses	25,000	0	0	25,000
ES241421 Total	13,640,864	3,099,483	94,491	10,446,890
ES254021 - Infrastructure Renewal Program - Stormwater Sewers and Treatment				
Engineering	2,000,000	114,142	94,492	1,791,366
Construction	7,944,576	2,970,567	0	4,974,009
City Related Expenses	100,000	0	0	100,000
ES254021 Total	10,044,576	3,084,709	94,492	6,865,375
EW376520 - Infrastructure Renewal Program - Watermains				
Engineering	3,077,209	2,915,735	125,989	35,485
Construction	14,814,352	12,193,015	0	2,621,337
Utilities	1,457	1,457	0	0
City Related Expenses	96	96	0	0
EW376520 Total	17,893,114	15,110,303	125,989	2,656,822
Total Expenditures	\$41,578,554	\$21,294,495	\$314,972	\$19,969,087

Sources of Financing

ES241421 - Infrastructure Renewal Program - Sanitary Sewers				
Capital Sewer Rates	9,140,864	849,483	94,491	8,196,890
Drawdown from Sewage Works Reserve Fund	2,250,000	0	0	2,250,000
Federal Gas Tax	2,250,000	2,250,000	0	0
ES241421 Total	13,640,864	3,099,483	94,491	10,446,890
ES254021 - Infrastructure Renewal Program - Stormwater Sewers and Treatment				
Capital Sewer Rates	820,480	820,480	0	0
Drawdown from Sewage Works Reserve Fund	6,974,096	14,229	94,492	6,865,375
Federal Gas Tax	2,250,000	2,250,000	0	0
ES254021 Total	10,044,576	3,084,709	94,492	6,865,375

Appendix "A"

#21033

March 30, 2021

(Appoint Consulting Engineer)

Chair and Members

Civic Works Committee

RE: Construction Administration Services - 2021 Infrastructure Renewal Program - Talbot Street
(Subledger WS18C004)

Capital Project ES241421 - Infrastructure Renewal Program - Sanitary Sewers

Capital Project ES254021 - Infrastructure Renewal Program - Stormwater Sewers and Treatment

Capital Project EW376520 - Infrastructure Renewal Program - Watermains

R.V. Anderson Associates Limited - \$309,524.60 (excluding HST)

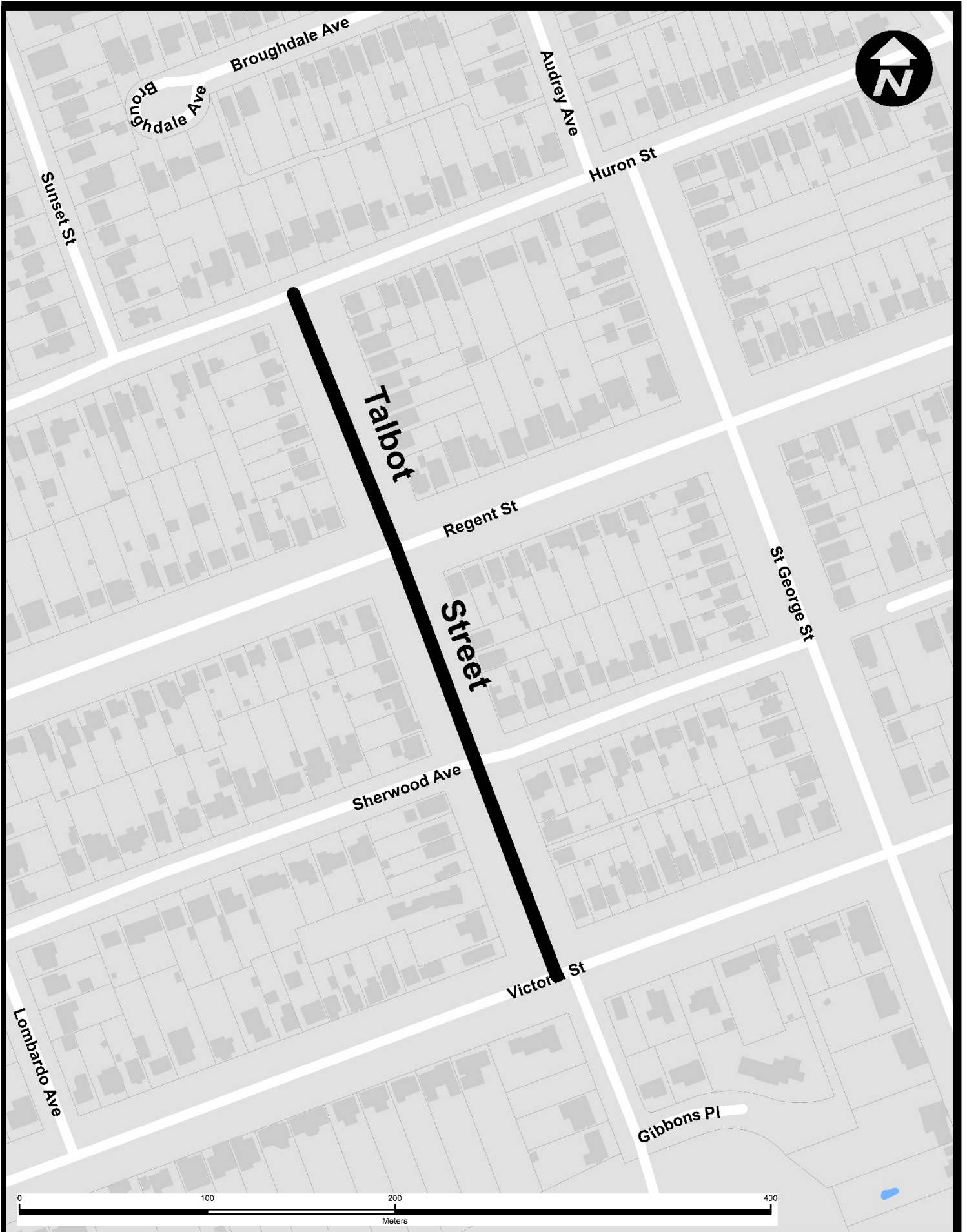
Sources of Financing continued	Approved Budget	Committed To This Date	This Submission	Balance for Future Work
EW376520 - Infrastructure Renewal Program - Watermains				
Capital Water Rates	10,753,000	10,753,000	0	0
Drawdown from Capital Water Reserve Fund	7,140,114	4,357,303	125,989	2,656,822
EW376520 Total	17,893,114	15,110,303	125,989	2,656,822
Total Financing	\$41,578,554	\$21,294,495	\$314,972	\$19,969,087

Financial Note:	ES241421	ES254021	EW376520	Total
Contract Price	\$92,857	\$92,858	\$123,810	\$309,525
Add: HST @13%	12,071	12,072	16,095	40,238
Total Contract Price Including Taxes	104,928	104,930	139,905	349,763
Less: HST Rebate	-10,437	-10,438	-13,916	-34,791
Net Contract Price	\$94,491	\$94,492	\$125,989	\$314,972

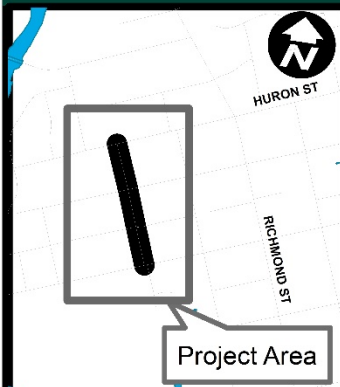
Jason Davies
Manager of Financial Planning & Policy

jg

APPENDIX 'B'



LOCATION MAP



2021 Infrastructure Renewal Program
Contract 13

Talbot Street from Victoria Street to Huron Street

Map Produced by
the Sewer
Engineering
Division

March 1 2021 CM



London
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300 Dufferin Avenue,
PO Box 5035
London, Ontario
N6A 4L9
www.London.ca

 Project Area

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC, Managing Director,
Environmental & Engineering Services and City Engineer

Subject: Adelaide Street Underpass Project: Subway Construction
Agreement and Crossing and Maintenance Agreement

Date: March 30, 2021

Recommendation

That on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, the following actions be taken with respect to the Adelaide Street Underpass Project:

- a) the attached proposed by-law (Appendix “A”) being “A by-law to approve and authorize the Subway Construction Agreement between Canadian Pacific Railway Company (“CP”) and The Corporation of the City of London (the “Road Authority”) for the construction of the Adelaide Street Subway located at approximately Mile 113.73 of the Galt Subdivision, Ontario to be installed by the Adelaide Underpass Project”, BE INTRODUCED at the Municipal Council Meeting to be held on April 13, 2021; and,
- b) the attached proposed by-law (Appendix “B”) being “A by-law to approve and authorize the Crossing and Maintenance Agreement between Canadian Pacific Railway Company (“CP”) and The Corporation of the City of London (the “City”) for the crossing and maintenance of the Adelaide Street Subway located at approximately Mile 113.73 of the Galt Subdivision, Ontario to be installed by the Adelaide Underpass Project”, BE INTRODUCED at the Municipal Council Meeting to be held on April 13, 2021.

Linkage to the Corporate Strategic Plan

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.

A new road-rail grade separation on Adelaide Street at the CP crossing will increase roadway safety by removing the potential for conflict between pedestrians, cyclists, commuters and CP operations, improve traffic flow by managing congestion and provide route reliability for emergency services and local transit. The grade separation provides an opportunity to improve active transportation choices and connectivity for the community. The implementation of the grade separation is a strategic component of London’s comprehensive program of transportation improvements.

Executive Summary

This report seeks approval to enter into a Subway Construction Agreement and a Crossing and Maintenance Agreement with the Canadian Pacific Railway Company (“CP”) in respect to a new subway located at approximately Mile 113.73 of the Galt Subdivision, Ontario as part of the Adelaide Underpass Project. These Agreements are supported by an earlier Memorandum of Understanding between the City and CP that was executed in 2019.

1.0 Background Information

1.1 Previous Reports Related to this Matter

- Environment and Transportation Committee – November 28, 2005 – Priority Setting Factors for Future Rail / Road Grade Separations
- Civic Works Committee – June 19, 2012 – London 2030 Transportation Master Plan
- Civic Works Committee – October 28, 2013 – Adelaide Street North / Canadian Pacific Railway Grade Separation Report
- Strategic Priorities and Policy Committee – June 23, 2014 – Approval of 2014 Development Charges By-Law and DC Background Study
- Civic Works Committee – January 5, 2016 – Environmental Assessment Appointment of Consulting Engineer
- Civic Works Committee – December 12, 2016 – Environmental Assessment Update
- Civic Works Committee – September 26, 2017 – Transport Canada Grade Crossing Regulations and Railway Funding Application
- Civic Works Committee – May 28, 2018 – Railway Rationalization
- Civic Works Committee – August 13, 2018 – Environmental Study Report
- Civic Works Committee – January 8, 2019 – Detailed Design & Tendering Appointment of Consulting Engineer
- Civic Works Committee – June 18, 2019 – Memorandum of Understanding with Canadian Pacific Railway Company

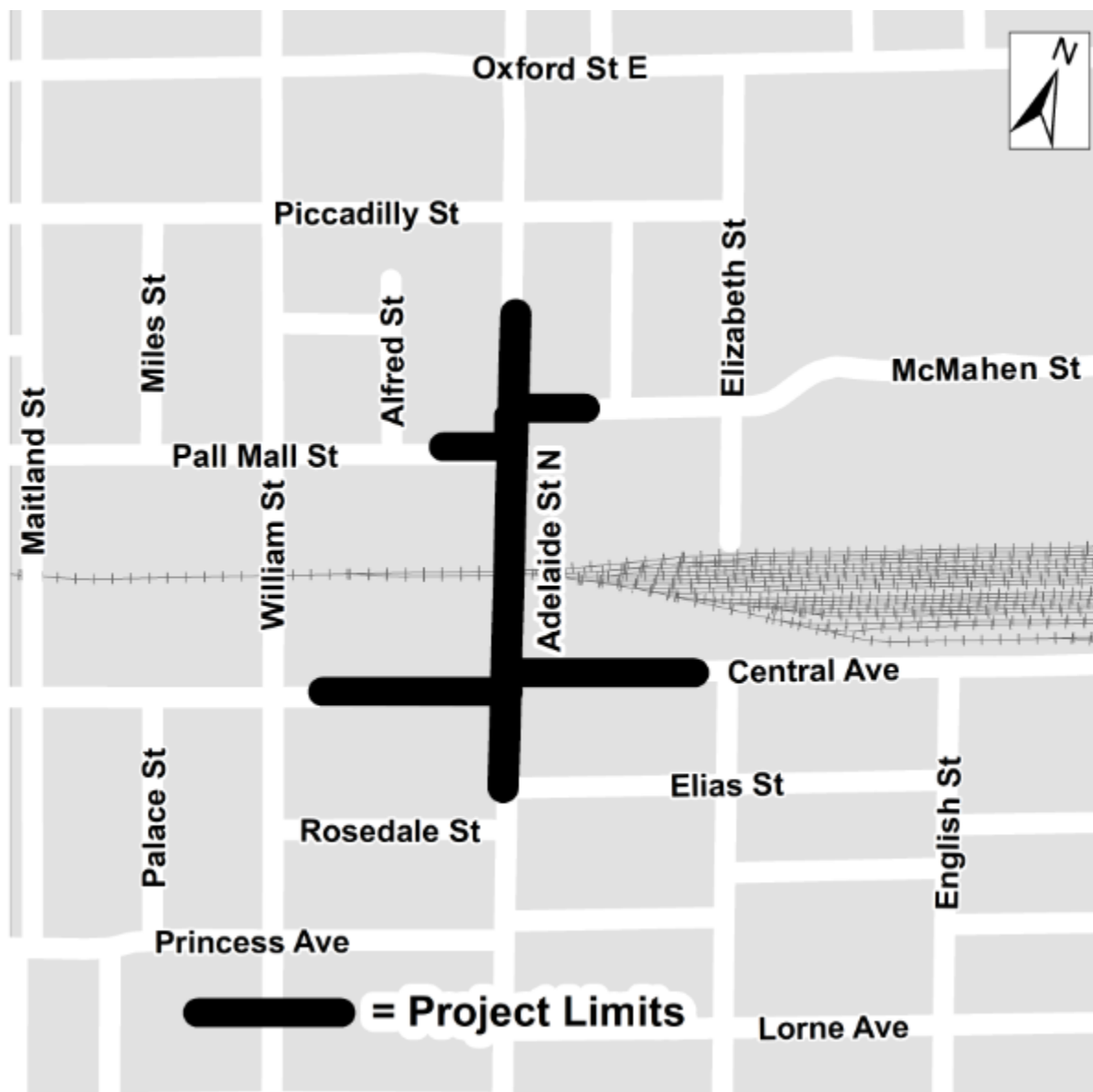
2.0 Context

Adelaide Street North is a major transportation corridor designed to carry high volumes of traffic. Improvements to install a new grade separation (railway subway) will accommodate pedestrians, cyclists and vehicular traffic in a safe and efficient manner and increase mobility within the surrounding community.

In 2018, the Civic Administration completed an Environmental Study Report for the Adelaide Underpass Project which addressed improvements to the transportation system, creating a safe crossing of the CP Tracks, and readied the Project with respect to future infrastructure funding programs. The CP crossing of Adelaide Street North has previously been identified as the City's highest priority candidate for a new rail-road grade separation. The crossing, located on Mile 113.73 of CP's Galt Subdivision, comprises two tracks across Adelaide Street North, which reduces to a single-track west of Adelaide Street North. The Galt Subdivision is a critical route for CP's service between Canada and America, including local customers in the London area. CP's rail yard operates to the east of Adelaide Street North and functions as a primary train assembly point including shunting operations and a crew hub.

The Adelaide Street Underpass Project was first identified in the 2014 Transportation Development Charges Background Study with a recommendation for construction in 2031. Due to the area's strategic location, the Smart Moves 2030 Transportation Master Plan (TMP) also identifies the need for traffic capacity optimization and transit priority on this corridor. The Project timing was subsequently adjusted in the 2018 capital budget update and the Development Charges Study for near-term implementation. The budget amendment considered the fastest possible project implementation with construction beginning as early as 2021, subject to utility relocations, property acquisition and railway concurrence.

The Adelaide Underpass Project will benefit the City and CP by improving safety at the crossing and eliminating conflicts between road users and train traffic. The Agreements detail respective CP and City responsibilities for the construction, operation and maintenance of the new subway. These Agreements are standard for new CP projects and have been used on similar projects such as the Western/Wharncliffe Grade Separation Project.



Adelaide Street North – CP Grade Separation Project Limits

3.0 Discussion and Considerations

Project Description

The Adelaide Underpass Project is a large complex project involving numerous property acquisitions, utility relocations and approvals. The proximity of the grade separation to the CP yard and the constrained nature of the site provide unique challenges for both design and construction of this Project.

A temporary construction road detour will be created on the east side of Adelaide Street North to allow for the effective movement of transportation choices throughout construction. Once complete, Adelaide Street North will include a new four-lane underpass grade separation with elevated pathways, a permanent utility corridor on the east side of Adelaide Street, new storm and ground water management infrastructure and enhanced streetscaping elements.

Construction of this Project is predominantly planned to start in the Fall of 2021. The Project schedule envisions the CP bridge construction commencing in 2022 with early works such as the temporary road detour being completed in 2021. Due to the

complexity of the project, the construction duration is expected to be approximately two years with a construction warranty period that spans into a third year. The majority of the underpass construction can be completed while traffic is routed around the construction area utilizing the temporary road detour.

Prior to the City constructing the Adelaide Underpass Project, the Subway Construction and the Crossing and Maintenance Agreement needs to be executed by both the City and CP to assign responsibilities for this Project during and after construction. CP will be making a financial contribution to this Project and having these Agreements executed will allow the City to be able to recover funds from CP. Both the Subway Construction Agreement and the Crossing and Maintenance Agreement have been reviewed by the City Solicitor's Office, Financial Services and Risk Management. Risk Management identified that the indemnity provisions requested by CP to be included in the Agreements, which are standard for new federally regulated railway crossings, expose the Corporation to potential liability. Similar provisions have been included in other agreements with CP and should not prevent the Corporation from entering into the Agreements recognizing that CP is a financial partner in the Project. In addition, construction risk will be transferred to the City's contractor as part of the construction contract.

Conclusion

Implementation of the City's highest priority grade separation at Adelaide Street North and CP is a strategic component of London's comprehensive program of transportation improvements that will mitigate the impact of rail activity in the City of London.

Adelaide Street North is a major transportation corridor. Improvements to this rail crossing will accommodate pedestrians, cyclists and vehicular traffic in a safe and efficient manner and improve mobility within the surrounding community.

The Subway Construction Agreement and the Crossing and Maintenance Agreement have been reviewed by the City Solicitor's Office, Financial Services and Risk Management. Risk Management identified that the indemnity provisions requested by CP to be included in the Agreements, which are standard for new federally regulated railway crossings, expose the Corporation to potential liability. Similar provisions have been included in other agreements with CP and should not prevent the Corporation from entering into the Agreements recognizing that CP is a financial partner in the project. In addition, risk during construction will be transferred to the City's contractor as part of the construction contract.

Prepared by: Garfield Dales, P.Eng., Division Manager, Transportation Planning and Design

Submitted by: Doug MacRae, P. Eng., MPA, Director, Roads and Transportation

Recommended by: Kelly Scherr, P. Eng., MBA, FEC, Managing Director, Environmental and Engineering Services and City Engineer

Attach: Appendix "A": By-law – Subway Construction Agreement
Appendix "B": By-law – Crossing and Maintenance Agreement

cc: Jennifer Benedict – CP
Peter Kavcic

Bill No.
By-law No.

A by-law to approve and authorize the Subway Construction Agreement between Canadian Pacific Railway Company and The Corporation of the City of London (the "Road Authority") for the construction of the Adelaide Street Subway located at approximately Mile 113.73 of the Galt Subdivision, Ontario to be installed by the Adelaide Underpass Project.

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 "Road Authority") to enter into a Subway Construction Agreement (the "Agreement") with Canadian Pacific Railway Company ("CP") for the construction of the Adelaide Street Subway located at approximately Mile 113.73 of the Galt Subdivision, Ontario within Adelaide Street.

AND WHEREAS it is deemed 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 "1" to this by-law, being a Subway Construction Agreement between Canadian Pacific Railway Company ("CP") and The Corporation of the City of London (the "Road Authority") for the construction of the Adelaide Street Subway located at approximately Mile 113.73 of the Galt Subdivision, Ontario within Adelaide Street is hereby AUTHORIZED AND APPROVED.
2. The Mayor and City Clerk are authorized to execute the Agreement authorized and approved under section 1 this by-law.
3. This by-law shall come into force and effect on the day it is passed.

PASSED in Open Council , 2021

Ed Holder
Mayor

Catharine Saunders
City Clerk

First Reading
Second Reading
Third Reading

Schedule “1” – Subway Construction Agreement

CANADIAN PACIFIC RAILWAY COMPANY

- AND -

THE CORPORATION OF THE CITY OF LONDON

SUBWAY CONSTRUCTION AGREEMENT

In respect of the Adelaide Street Subway located at approximately
Mile Post 113.73 of CP’s Galt Subdivision in the City of London, Ontario

Dated: _____,2021

SUBWAY CONSTRUCTION AGREEMENT

This Agreement is dated: _____, 2021.

BETWEEN:

CANADIAN PACIFIC RAILWAY COMPANY, a company incorporated under the laws of Canada and having its head office in the City of Calgary, Alberta ("**CP**")

- and -

THE CORPORATION OF THE CITY OF LONDON (the "**Road Authority**")

RECITALS

- A. CP is a federally regulated railway and its Railway Operations, rights-of-way and facilities are subject to the jurisdiction, decisions and orders of the Agency and Transport Canada, and subject to federal legislation, including the *Canada Transportation Act* and the Act.
- B. In order to facilitate road development, the Road Authority wishes to construct the Subway across and over a portion of the Railway Lands at Mile 113.73 of the Galt Subdivision for the purpose of carrying vehicular, bicycle and/or pedestrian traffic.

NOW THEREFORE THIS AGREEMENT WITNESSES that in consideration of the covenants herein contained and good and valuable consideration paid by each Party to the other, the receipt and sufficiency of which are hereby respectively acknowledged, the Parties agree as follows.

ARTICLE 1 - DEFINITIONS AND SCHEDULES

- 1.1 **Definitions.** In this Agreement the following words and phrases shall have the meanings set out below.
- (a) "**Access Protocols**" has the meaning ascribed in Schedule "D".
 - (b) "**Act**" means the *Railway Safety Act* (Canada), as amended and replaced from time to time or any statute or statutes passed in substitution therefor, together with all regulations made from time to time under the Act.
 - (c) "**Affiliate**" has the meaning ascribed in the *Canada Business Corporations Act*, as amended and replaced from time to time or in any statute or statutes passed in substitution therefor.
 - (d) "**Agency**" means the Canadian Transportation Agency and any successor or successors of the Agency.
 - (e) "**Agreement**" means this agreement, the recitals and the schedules hereto.
 - (f) "**Applicable Laws**" means all applicable federal, provincial, municipal and local laws, statutes, ordinances, by-laws and regulations and all orders, directives and decisions rendered by, and policies, standards, guidelines and similar guidance of, any Governmental Authority, ministry, department or administrative or regulatory agency or court having jurisdiction over the Parties, the Work, or the Project, and includes Environmental Laws and Safety Laws.
 - (g) "**Business Days**" means any day other than Saturdays, Sundays and statutory holidays in the Province of Ontario.
 - (h) "**CTA Guide**" means the *Guide to Railway Charges for Crossing Maintenance and Construction* published by the Agency, as amended from time to time.

- (i) "**Construction Schedule**" has the meaning ascribed in Section 4.1(b).
- (j) "**Contractor**" means the contractor(s) engaged by the Road Authority to construct and complete the Road Authority Work and the Project.
- (k) "**CP Indemnified Group**" means, collectively, CP, its Affiliates, officers, directors, employees, and agents.
- (l) "**CP Safety Requirements**" means the *Minimum Requirements for Contractors Working on CP Property in Canada*, as references in Schedule "D".
- (m) "**CP Work**" means the work and undertakings of CP set out in Schedule "C".
- (n) "**Emergency Situation**" means a situation arising that causes or may cause an immediate and serious threat or danger to, *inter alia*:
 - (i) the environment or human health;
 - (ii) the property of CP, including, without limitation, the Railway Lands;
 - (iii) the safety of the public or the CP Indemnified Group; or
 - (iv) Railway Operations,
 in each case as determined by CP in its sole and unfettered discretion.
- (o) "**Environmental Laws**" means all applicable federal, provincial, municipal and local laws, statutes, ordinances, by-laws and regulations and all orders, directives and decisions rendered by, and policies, standards, guidelines and similar guidance of, any Governmental Authority, ministry, department or administrative or regulatory agency or court (which, for certainty, in each case shall be deemed to have the force of law), including any obligations or requirements arising at law, relating to the protection of the environment, human and other animal health and safety or the release, manufacture, processing, distribution, use, treatment, storage, presence, disposal, packaging, labelling, recycling, transport, handling, containment, clean-up or other remediation or corrective action of or in respect of any Hazardous Substances.
- (p) "**Environmental Management Plan**" means an environmental management plan to be developed, implemented and maintained by the Road Authority to ensure:
 - (i) compliance with Environmental Laws; and
 - (ii) adverse environmental impacts due to the Project are avoided,
 as further described in Schedule "E".
- (q) "**Governmental Authority**" means any government, parliament, legislature, or any governmental, quasi-governmental or regulatory authority, agency, commission, department or board, ministry, department or administrative or regulatory agency or court (which, for certainty, in each case shall be deemed to have the force of law), any political subdivision thereof, or any court or any other law (including any obligations or requirements arising at law), regulation or rule-making entity, having jurisdiction in the relevant circumstances, or any person acting under the authority of any of the foregoing (including any court or any arbitrator with the authority to bind the Parties at law) or any other authority charged with the administration or enforcement of legal requirements.

- (r) **"Hazardous Substances"** means any substance, class of substance or mixture of substances, or such quantity of an otherwise non-hazardous substance or substances, which are or may be detrimental to the environment or human health including, without limitation:
- (i) radioactive, explosive, poisonous, corrosive, flammable or toxic substances or materials;
 - (ii) any substance that if added to any water, would degrade or alter the quality of the water to the extent that it is detrimental to its use by man or by any animal, fish or plant;
 - (iii) any solid, liquid, gas or odour or combination of any of them that, if released, creates or contributes to a condition that:
 - (A) endangers the health, safety or welfare of persons;
 - (B) interferes with the normal enjoyment of life or property; or
 - (C) causes damage to plant life, animal life or to property;
 - (iv) toxic substances, which shall include, without limitation, asbestos, polychlorinated biphenyls, all chemicals and substances known or suspected to cause cancer or reproductive toxicity;
 - (v) any substance, chemical or material, declared to be hazardous or toxic under any Applicable Laws or ordinance enacted or promulgated by any legislative, Governmental Authority having jurisdiction over the Parties; and
 - (vi) any medical waste or hazardous biological material.
- (s) **"Interference"** means to endanger, hinder or interfere with or materially affect Railway Operations.
- (t) **"Loss"** or **"Losses"** means any and all injuries, claims, suits, demands, awards, actions, proceedings, losses, costs, damages, expenses, charges (including all penalties, loss of profit, loss of income or consequential damages or losses with respect to Rolling Stock, Railway Operations or otherwise) by whomsoever made, brought or prosecuted which a Party suffers, sustains, pays or incurs and includes reasonable costs of legal counsel (on a solicitor-client basis) and other professional advisors and consultants incurred in connection therewith.
- (u) **"Mile"** means a CP rail mile on the Subdivision.
- (v) **"Minister"** has the meaning ascribed in the Act.
- (w) **"Notice"** has the meaning ascribed in Section 3.1(a).
- (x) **"Subway"** means the grade separated subway and multi-lane roadway known as the Adelaide Street underpass, including but not limited to the roadway, the bridge substructure, superstructure, ramps, approaches, permanent or temporary support structures, retaining walls, piers, signs, lights, drains, ditches, water conveyances and other associated works and improvements passing on, over, under or adjacent to the Railway Lands as detailed in the Project Plans.
- (y) **"Subway Completion"** has the meaning ascribed in Section 8.1.
- (z) **"Parties"** means CP and the Road Authority and **"Party"** means either CP or the Road Authority.

- (aa) "**Personnel**" means the employees and agents of the Road Authority and all individual persons engaged or retained by the Road Authority, whether directly or indirectly, in connection with the Project, including the Contractor and its contractors.
- (bb) "**Project**" means all works and undertakings related to the Subway to be carried out by the Parties, including the reconstruction and expansion of the existing subway currently carrying vehicular and pedestrian traffic under CP's right of way at approximately Mile Post 113.73 of the Galt Subdivision.
- (cc) "**Project Plans**" has the meaning ascribed in Section 4.1.
- (dd) "**Project Site**" means that portion of the Railway Lands upon which the Work is to be located.
- (ee) "**Proponent**" has the meaning ascribed in the Act.
- (ff) "**Railway Lands**" means that portion of the Galt Subdivision located approximately at CP Mile Post 113.73.
- (gg) "**Railway Operations**" means the operations, business and undertaking of CP, including, without limitation:
 - (i) the use, repair, maintenance, storage, transportation, movement, pick-up and delivery of Rolling Stock;
 - (ii) transporting, *inter alia*, freight, commodities and goods;
 - (iii) transloading, *inter alia*, freight, commodities and goods;
 - (iv) the use, operation, repair, maintenance and undertaking of Utility Works and Third Party Fibre Systems;
 - (v) the installation, alteration, relocation, maintenance and removal of, *inter alia*, railway tracks, signals and communications equipment thereon, trackage, switches, signals, electric service lines, fibre optic and communications systems (including, without limitation, conduits, cables, fibres, towers, associated equipment, appurtenances and facilities), radio and radio repeater stations and all other appurtenances, equipment, improvements and facilities now or hereafter erected or placed on, over or under the Railway Lands for the purpose of such operations; and
 - (vi) any access to CP's lands or infrastructure (including tracks) granted to a Third Party.
- (hh) "**Railway Work**" has the meaning ascribed in the Act.
- (ii) "**Road Authority Work**" means the work and undertakings of the Road Authority set out in Schedule "B".
- (jj) "**Rolling Stock**" includes, *inter alia*, trains, locomotives, railcars, boxcars, gondolas, railway machinery, vehicles, equipment of every nature, and the contents of same.
- (kk) "**Safety and Security Protocols**" has the meaning ascribed in Schedule "D".
- (ll) "**Safety and Emergency Response Plan**" means the safety and emergency response plan to be implemented and maintained by the Road Authority to ensure compliance with Safety Laws and Schedule "D".
- (mm) "**Safety Laws**" means:
 - (i) all Applicable Laws related to the safety of Railway Operations;

- (ii) the regulations, orders, specifications, and directives of Transport Canada, the Agency and any other authority having jurisdiction in respect of Railway Operations or Railway Lands; and

all Applicable Laws related to the Railway Lands in force with respect to health or occupational health and safety.

- (nn) "**Subdivision**" means those certain railway right-of-way parcels of land owned by CP located at or near the City of London, Ontario, and all improvements, railway lines and structures situated therein or thereon.
- (oo) "**Third Party Fibre Systems**" means fibre optic and communications systems owned and operated by a Third Party (including conduits, cables, fibres, towers, associated equipment and facilities).
- (pp) "**Third Parties**" means a person, corporation or other entity other than CP or the Road Authority.
- (qq) "**Utility Crossing**" means any Utility Works crossing under, on or above the Railway Lands installed or erected in accordance with Section 101 of the *Canada Transportation Act* that are required to be installed or relocated (whether in whole or in part) as part of the Project, whether temporarily or permanently.
- (rr) "**Utility Works**" means oil, gas and water pipelines, power lines, telephone lines, railway facilities, drains, sewers, pipes, fibre optic, signal and communications systems (including conduits, cables, fibres, towers, associated equipment and facilities), Third Party Fibre Systems and related structures.
- (ss) "**Work**" means collectively, the CP Work and the Road Authority Work.

1.2 Schedules. The following schedules are attached to and form part of this Agreement:

Schedule "A" - Preliminary Scope of Project;
Schedule "B" - Road Authority Work;
Schedule "C" - CP Work;
Schedule "D" - Access Protocols and Safety and Security Protocols; and
Schedule "E" - Environmental Requirements.

ARTICLE 2 - SAFE RAILWAY OPERATIONS

2.1 Railway Operations. The Parties acknowledge that pursuant to the Act, the safety of the public, the Parties, their respective employees, Personnel and Railway Operations are and must be paramount at all times during the term of this Agreement and the Project. The Parties further acknowledge that because CP must maintain train movements and freight traffic volumes through the Project Site, continuous, uninterrupted and unhindered Railway Operations are required for CP to meet its service requirements as set out in the *Canada Transportation Act* and its service obligations to its customers. Therefore, the Parties shall carry out all of their respective activities and undertakings contemplated in this Agreement in such a manner as to ensure safe, continuous, uninterrupted and unhindered Railway Operations.

ARTICLE 3 - REGULATORY REQUIREMENTS AND APPROVALS

3.1 Regulatory Requirements. In respect of the Project, the Road Authority will be responsible for all obligations of a Proponent, including:

- (a) preparing and serving all notices of proposed Railway Works as required under the Act ("**Notice**");
- (b) responding to any objection received in respect of a Notice; and

- (c) if an objection to a Notice remains outstanding, obtaining approval of Transport Canada or the Minister for such Railway Works that may be required under the Act.

3.2 Additional Approvals. The Road Authority shall forthwith obtain at its sole cost all approvals, permits and authorizations required in respect of the Project, including approvals from owners of Third Party Fibre Systems to protect or relocate such Third Party Fibre Systems.

3.3 Conditions. The Road Authority shall, at its sole cost, satisfy all on-going monitoring or other conditions set out in all approvals, permits and authorizations.

ARTICLE 4 - COMMENCEMENT OF THE PROJECT

4.1 Project Plans. Prior to commencement of the Project, the Road Authority shall provide the following to CP (collectively, the "**Project Plans**"):

- (a) a detailed scope of work confirming all necessary activities to be undertaken in respect of the Work;
- (b) a construction schedule for the Project (the "**Construction Schedule**");
- (c) detailed engineering drawings, designs and specifications for the Project to be stamped by a professional engineer, as required by CP, including:
 - (i) alignment, profile, general arrangement and structural plans for the Subway (including drainage flows);
 - (ii) Utility Crossing encasement plans; and
 - (iii) detailed plans regarding Utility Works that require protection or relocation (whether in whole or in part), with the objective to minimize interference with any Utility Works on Railway Lands;
- (d) detailed drainage and grading design plans of the proposed Subway and completed facilities to be constructed by the Road Authority, confirming that drainage will be directed to a location off the Railway Lands;
- (e) its Safety and Emergency Response Plan and Environmental Management Plan, including provisions for protective structures (including without limitation fencing or netting) to preclude construction materials, waste or debris from falling onto, or accumulating within, the Railway Lands, and/or causing any Interference or Emergency Situation;
- (f) proposed measures to avoid incidents or any damage to the Railway Lands, including a track settlement monitoring plan;
- (g) a list of the construction equipment and machinery to be used for the Project;
- (h) proposed access location(s) to and from the Project Site and safety and security measures for the proposed access location(s) to preclude access to the Project Site by any non-Personnel;
- (i) a general description of proposed arrangements for the exchange of information and reports including, without limitation, the holding of informational meetings and anticipated timeframes for the delivery of information and written reports; and
- (j) any other information or documentation reasonably required by CP to complete the Project.

- 4.2 Further Information and Documentation.** Notwithstanding Section 4.1, CP may require the Road Authority to provide such further information and documentation that CP deems necessary to evaluate compliance and proceed with the Project.
- 4.3 Commencement of Construction.** Work on the Project shall not commence on the Railway Lands until the Road Authority has received confirmation from CP that:
- (a) CP has reviewed the Project Plans, such confirmation to be provided to the Road Authority on the later of:
 - (i) sixty (60) calendar days from receiving the last of the Project Plans, or reasonable parts thereof, and any amendments required by CP pursuant to Section 4.2; and
 - (ii) such additional time as reasonably required by CP engineering personnel;
 - (b) all approvals referred to in Article 3 have been obtained; and
 - (c) the Road Authority is in compliance with the provisions of Schedule "D".
- 4.4 Approval of Project Plans.** The Parties agree that the approvals, permits and authorizations required under this Agreement are necessary for the purpose of the Construction Schedule. Neither Party, nor its respective directors, officers, employees or agents, shall be liable for the safety, adequacy, soundness or sufficiency of anything approved herein by reason of the giving of any such approvals, permits and authorizations to the other Party nor shall the giving of such approvals, permits and authorizations by a Party constitute a waiver or release from any duty or liability owed to the other Party.

ARTICLE 5 - ROAD AUTHORITY WORK

- 5.1 Road Authority Work.** The Road Authority shall:
- (a) at its sole cost, in good and workmanlike manner, in accordance with the Project Plans, carry out or cause the Contractor to carry out the Road Authority Work and all necessary or desirable work, other than the CP Work, as may be required to complete the Project; and
 - (b) comply with the provisions of this Agreement.
- 5.2 Changes to Road Authority Work.**
- (a) CP will provide the Road Authority with prior written notice of any proposed changes to the Road Authority Work and the Project Plans (including any other construction specifications), such changes, if any, being to ensure that the Project is carried out and completed:
 - (i) in accordance with all Applicable Laws and all applicable standards, conditions and requirements of Governmental Authorities;
 - (ii) in accordance with CP labour agreements;
 - (iii) in accordance with CP standard engineering and operating requirements; and
 - (iv) in a manner that ensures safe, continuous, uninterrupted and unhindered Railway Operations.
 - (b) The Road Authority will review any proposed changes to the Road Authority Work and the Project Plans (including any other construction specifications) and respond to same in writing within fifteen (15) days of receipt of same from CP.

- (c) Notwithstanding the foregoing, CP may make changes to the Road Authority Work and the Project Plans without providing prior written notice to the Road Authority if such changes are required to respond to or prevent any Emergency Situation or Interference.
- (d) If any Road Authority Work is re-allocated to be part of the CP Work pursuant to Section 5.2, CP shall use commercially reasonable efforts to ensure that the cost for such re-allocated Work remains substantially the same as the Road Authority's cost for such Work.

5.3 Cost and Quality of the Road Authority Work.

- (a) Except as stated in 5.3(b), all of the Road Authority Work (including for certainty the design and construction of the Subway), including that which arises from changes made by CP under Section 5.2, shall be carried out at the sole cost and expense of the Road Authority. For certainty, CP shall not be responsible for nor apportioned any costs whatsoever with respect to the design and construction of the Subway or the Construction Project. Maintenance of the Overhead Bridge following construction shall be in accordance with a separate Crossing and Maintenance Agreement which the parties shall enter into.
- (b) CP shall contribute a fixed amount of \$8.75 million (CAD). The payment schedule shall be agreed mutually by both parties. Upon the Road Authority's receipt of the \$8.75 million (CAD) contribution from CP, the Road Authority shall release CP from any further financial contributions toward the Construction Project.
- (c) Maintenance of the Subway following construction shall be in accordance with a separate Crossing and Maintenance Agreement which the parties shall enter into.
- (d) All Road Authority Work, including all construction methods, and the quality and quantity of materials, shall be completed in accordance with: (i) all Applicable Laws; (ii) all applicable standards and specifications of Governmental Authorities; (iii) the standards and specifications of CP with respect to railway work, rail/road interface or subways; and (iv) the Project Plans. CP shall, as between the Parties, be the sole judge, acting reasonably, of the adequacy and quality of the Road Authority Work with respect to: (i) any Interference with Railway Operations or Emergency Situation; (ii) railway work; (iii) rail/road interface; and (iv) the suitability of and adherence with the Project Plans.

5.4 As Is Basis.

- (a) The Road Authority hereby accepts the Project Site as the location it has chosen for the Subway on the Railway Lands.
- (b) The Road Authority acknowledges that it has had the opportunity for inspection and testing of the Railway Lands and acknowledges that the Railway Lands have been used for Railway Operations and/or industrial purposes.
- (c) The Road Authority agrees and acknowledges that it shall be conclusively deemed to be satisfied with the condition of the Railway Lands in its existing condition and on an "as is" basis and hereby waives, against the CP Indemnified Group, all rights and recourses of any nature whatsoever in respect of any defects within the Railway Lands.
- (d) The Road Authority agrees and acknowledges that CP has made no agreement, representation or warranty of any kind as to the condition, nature, composition or use (past, present or future) of the Railway Lands, accuracy or completeness of any materials or information provided by CP,

the fitness or suitability of the Railway Lands for the Work, or the existing or potential environmental liabilities in relation to the Railway Lands.

5.5 Monitoring and Inspection by CP. For the purposes of allowing CP to monitor and inspect the Road Authority Work and the Project, the Road Authority shall:

- (a) from time to time, and at any time, permit CP full access to the:
 - (i) Project Site;
 - (ii) Road Authority documentation in respect of the Project; and
 - (iii) Personnel;
- (b) provide the written reports referred to in Section 4.1(i);
- (c) meet with CP at the Project Site to review the progress of and any issues relating to the Project, and for the purposes thereof shall arrange for reasonably acceptable meeting facilities at or near the Project Site; and
- (d) provide Project Site supervision as reasonably required by CP, such supervision to be provided at the sole cost and expense of the Road Authority.

5.6 Liens. The Road Authority shall keep the Railway Lands free from any and all liens and similar claims and encumbrances that arise due to the Road Authority Work. To the fullest extent permitted by Applicable Laws, the Road Authority waives all rights of such liens, claims and encumbrances. If the Road Authority fails to release and discharge any such lien, claim or encumbrance within five (5) Business Days of receiving notice thereof from CP, CP may, at its option discharge or release the lien, claim or encumbrance, or otherwise deal with the claimant thereunder, and the Road Authority shall pay CP any and all costs and expenses of CP in so doing, including reasonable legal fees and expenses (on a solicitor-client basis full indemnity basis) incurred by CP. The provisions of this Section 5.6 shall survive the expiration or termination of this Agreement.

ARTICLE 6 - CP WORK

6.1 CP Work. CP shall carry out or cause its contractors to carry out, at the sole cost and expense of the Road Authority, the CP Work and any other Work expressly agreed to in writing by CP or re-allocated by CP pursuant to Section 5.2. All such CP Work is to be carried out by CP or its contractors in accordance with the Construction Schedule. The CP Work shall be carried out in accordance with the requirements of all Governmental Authorities, to the engineering and operating requirements of CP and in a manner that ensures safe, continuous, uninterrupted and unhindered Railway Operations.

6.2 Changes to CP Work. Upon ten (10) days' prior written notice to the Road Authority, CP may make such changes to the CP Work as are necessary to complete the Project in accordance with this Agreement. CP will use commercially reasonable efforts to provide the Road Authority with a cost estimate for such changes to the CP Work concurrently with the notice for same. For certainty, any additional CP Work arising from any such changes shall remain at the sole cost and expense of the Road Authority. Notwithstanding the foregoing, CP may make changes to the CP Work without providing prior written notice to the Road Authority if such changes are required to respond to or prevent any Emergency Situation or Interference.

6.3 Quality of CP Work. CP shall, as between the Parties, be the sole judge of the adequacy and quality of the CP Work judged against CP standards for railway work carried out by or on behalf of CP, and in the event of any dispute with regard thereto the decision of CP shall be final, subject to the dispute resolution procedure in Section 13.1.

6.4 Payment by the Road Authority for CP Work. CP shall periodically provide invoices to the Road Authority for the CP Work. Each such invoice shall constitute a requisition for payment, and the Road Authority shall pay the full amount reflected in each invoice forthwith upon receipt. CP shall prepare all invoices for the CP Work on the basis of rates and charges stipulated in the most recent CTA Guide. In the event the Agency shall discontinue publishing the CTA Guide, invoices to the Road Authority for the CP Work shall be prepared in accordance with such standard rates as set out in any alternate document that will succeed the CTA Guide. Until such alternate document is publicly available, the standard rates shall be those set out in the most recent published version of the CTA Guide indexed by the Consumer Price Index for the transportation sector published by Statistics Canada. The provisions of this Section 6.4 shall survive the expiration or termination of this Agreement.

6.5 Coordination. The Parties will use commercially reasonable efforts to coordinate the CP Work with the Road Authority Work. The Parties acknowledge that coordination of their respective personnel and contractors is an important component of the Construction Schedule and timing of the Work under this Agreement.

ARTICLE 7 - UTILITY AND CROSSINGS AGREEMENTS

7.1 Utility Crossings and Utility Works.

- (a) The Road Authority shall carry out all necessary Work as may be required to install, protect and/or re-locate (temporarily or permanently) any Utility Crossing identified in the Project Plans or as required to complete the Subway.
- (b) The Road Authority shall, at its sole cost and expense, locate, protect or re-locate any and all Utility Crossings owned by CP or any Third Parties.
- (c) The Road Authority shall not attach any Subway facilities or structures to Utility Works except with the express written consent of the owner thereof.
- (d) The Road Authority shall maintain a three (3) foot separation from all Utility Works except with the express written consent of CP and the owner of the Utility Works.
- (e) If any Work is to be carried out in the vicinity of Third Party Fibre Systems, the Road Authority shall ensure a fibre optic locate is undertaken to the satisfaction of CP and that a Third Party Fibre System representative is present during any such Work.
- (f) The provisions of this Section 7.1 shall survive the expiration or termination of this Agreement.

7.2 Crossing Agreements. In furtherance of Section 7.1, the Road Authority agrees and acknowledges that prior to commencing any Work on the Railway Lands, CP must have entered into all necessary Utility Crossing agreements with Third Parties, utilizing CP standard form agreements and all to the satisfaction of CP. The Road Authority shall assist CP in obtaining all necessary Utility Crossing agreements with Third Parties.

ARTICLE 8 - SUBWAY COMPLETION

8.1 Subway Completion. Subway completion ("**Subway Completion**") shall occur when:

- (a) construction of the Subway in accordance with the Project Plans has been completed;
- (b) the Road Authority has provided confirmation from the engineer of record that the Project has been completed in accordance with the Project Plans;

- (c) Railway Operations on the Galt Subdivision over the Subway are at the same track speed and capacity as before the commencement of the Project;
- (d) all Work has been completed; and
- (e) the Parties have performed joint inspections of the Project and the Subway that CP deems necessary and desirable and all Work has been completed to both Parties' satisfaction.

8.2 **As Built Plans.** The Road Authority shall provide CP with "as built" plans from the Contractor approved by the Road Authority showing the location of the Subway within five (5) days of approving same and in any event not later than one hundred eighty (180) days from Subway Completion.

ARTICLE 9 - WAIVER AND INDEMNITY

9.1 The Road Authority shall, and cause any Contractor to, be liable for and indemnify and hold harmless the CP Indemnified Group from and against any and all Losses suffered or incurred by the CP Indemnified Group that arise out of, result from, are based upon or are in any way connected with:

- (a) this Agreement;
- (b) the Project;
- (c) anything to be done or maintained by the Road Authority hereunder;
- (d) anything not done or not maintained by the Road Authority as required hereunder;
- (e) claims under workers' compensation legislation;
- (f) third party claim arising in connection with the Project;
- (g) acts or omissions by or attributable to the Road Authority or its Personnel; and
- (h) the breach of the timing or conditions of any track block or flagging;

9.2 The Road Authority shall make no claim or demand against the CP Indemnified Group, and shall cause any Contractor to make no claim or demand against the CP Indemnified Group, for any Losses (including death) or damage to property (including destruction) suffered or sustained by the Road Authority, Personnel or any other Person which arises out, results from, or is based upon or are in any way connected with:

- (a) this Agreement;
- (b) the Project;
- (c) anything to be done or maintained by the Road Authority hereunder;
- (d) anything not done or not maintained by the Road Authority as required hereunder;
- (e) claims by Personnel under workers' compensation legislation;
- (f) a claim based on the interest of a third party;
- (g) acts or omissions by or attributable to the Road Authority or its Personnel; and
- (h) the breach of the timing or conditions of any track block or flagging;

and hereby waives as against and releases the CP Indemnified Group all such claims and demands.

- 9.3 The provisions of this Article 9 shall survive the expiration or termination of this Agreement.

ARTICLE 10 - INSURANCE

10.1 Insurance.

- (a) The Road Authority shall at its sole cost and expense, obtain and maintain (or cause to be obtained and maintained by the Contractor) during the term of this Agreement, and any extension hereof, with an insurer licensed under the *Insurance Act* (Ontario), the following policies of insurance:
- (i) *"Wrap-Up" Commercial General Liability* insurance covering the Road Authority and its Personnel, including agents, contractors and sub-contractors who perform work at the Project Site and including architects and engineers with a limit of not less than **fifty million dollars (\$50,000,000)** for any one loss or occurrence for personal injury, bodily injury, or damage to property including loss of use thereof, business interruption and consequential damages arising out of the Project. This insurance policy shall by its wording or by endorsement include but not be limited to the following:
- (A) the CP Indemnified Group as named insured;
 - (B) "cross liability" or "severability of interest" clause which shall have the effect of insuring each entity named in the policy as an insured in the same manner and to the same extent as if a separate policy had been issued to each;
 - (C) blanket contractual liability;
 - (D) broad form products and completed operations, not less than twenty-four (24) months completed operations coverage;
 - (E) shall not exclude operations on or in the vicinity of the railway right-of-way, if applicable;
 - (F) non-owned auto liability;
 - (G) employer's liability;
 - (H) broad form property damage;
 - (I) owner's and contractor's protective liability;
 - (J) employees as additional insured;
 - (K) coverage for damage to existing structures;
 - (L) property damage due to explosion, collapse and underground property damage; and
 - (M) sudden and accidental pollution liability.
- (ii) *"All Risk" Builders Risk or Course of Construction* insurance covering all work and material for the full replacement value of the work and material. Coverage shall be in the name of the Road Authority, any contractors, subcontractors, or agents, and CP. The policy shall contain a loss payable clause in favor of CP as their interests may appear. When the extent of the loss or damage is determined, the Road Authority shall proceed to restore the work to the satisfaction of CP. To the extent that any loss or damage occurs on or to the

work before completion that is not covered by the Road Authority's policy, the Road Authority shall, without compensation from CP, bear such loss or damage and shall restore the work so damaged.

- (iii) *Automobile Liability* insurance covering bodily injury and property damage in an amount not less than **two million dollars (\$2,000,000)** per accident, covering the ownership, use and operation of any motor vehicles and trailers which are owned, leased or controlled by the Road Authority and used in regards to this Agreement. The Road Authority's contractors and their subcontractors shall independently maintain automobile liability insurance covering bodily injury and property damage in an amount not less than **two million dollars (\$2,000,000)** per accident, covering the ownership, use and operation of any motor vehicles and trailers which are owned, leased or controlled by the Contractor and/or its subcontractors and used in connection with the Project.

- (iv) *Contractor's Pollution Liability* insurance, including naming the CP Indemnified Group as an additional insured, with a limit of not less than **five million dollars (\$5,000,000)** for any one loss or pollution event. Coverage shall include, but not be limited to, claims for bodily injury, death, damage to property including the loss of use thereof, clean-up costs and associated legal defense expenses arising from pollution conditions caused by, and/or exacerbated by, services performed by the Road Authority. The policy shall be endorsed to contain a blanket contractual liability endorsement. If this policy is written on a "claims-made" basis it shall remain in effect for no less than twenty-four (24) months after the expiry or termination of this Agreement.

- (v) For operations not covered by the "Wrap-Up" Commercial General Liability Policy outlined in (i), the Road Authority shall obtain and maintain until completion of the Agreement, a *Commercial General Liability* policy with a limit of not less than **one hundred million dollars (\$100,000,000)** for any one loss or occurrence for personal injury, bodily injury, or damage to property, including loss of use thereof, business interruption, and consequential damages. This policy shall by its wording or by endorsement include but not be limited to the following:
 - (A) the CP Indemnified Group as an additional insured;
 - (B) "cross liability" or "severability of interest" clause which shall have the effect of insuring each entity named in the policy as an insured in the same manner and to the same extent as if a separate policy had been issued to each;
 - (C) blanket contractual liability,
 - (D) broad form products and completed operations;
 - (E) shall not exclude operations on or in the vicinity of the railway right of way;
 - (F) non-owned auto liability;
 - (G) sudden and accidental pollution liability; and
 - (H) contingent employer's liability.

- (b) The Road Authority shall ensure that it and the Contractor comply with the *Workplace Safety and Insurance Act, 1997 (Ontario)*, as amended and replaced from time to time or any statute or statutes passed in substitution

therefor, together with all regulations made from time to time under such act. Upon request, the Road Authority will provide CP with written confirmation from the Ontario Workplace Safety and Insurance Board that the Contractor is registered under and in compliance with the requirements of the *Workplace Safety and Insurance Act, 1997 (Ontario)*, as amended and replaced from time to time or any statute or statutes passed in substitution therefor, together with all regulations made from time to time under such act.

- (c) Concurrently with execution and delivery of this Agreement by the Road Authority, the Road Authority shall provide CP with a copy of detailed certificates of insurance evidencing the above insurance. Such certificates shall be sent by email to cprail@ebix.com. CP may at its option require the Road Authority to annually provide CP with a copy of updated certificates of insurance evidencing the renewal of the above insurance. CP shall have no obligation to examine such certificates or to advise the Road Authority in the event its insurance is not in compliance herewith. Acceptance of such certificates which are not compliant with the stipulated coverage shall in no way whatsoever imply that CP has waived the insurance requirements of the Road Authority.
- (d) The Road Authority agrees that the insurance coverage required to be obtained and maintained by it under the provisions of this Agreement shall not limit or restrict its liabilities under this Agreement.
- (e) The Road Authority agrees that the insurance coverage is primary and not excess of any other insurance that may be available.
- (f) The Road Authority agrees that unless otherwise provided above, all insurance coverage shall take place in the form of an occurrence based policy and not a claims made policy. If any policy is written on a "claims-made" basis it shall remain in effect for no less than twenty-four (24) months after the expiry or termination of this Agreement.
- (g) The Road Authority shall provide CP with written notice and all reasonable particulars and documents related to any Losses, incidents, claims and potential claims concerning this Agreement as soon as practicable after the Loss, incident or claim has been discovered.
- (h) The insurance policies shall be endorsed to provide CP with not less than thirty (30) days' written notice in advance of cancellation, material change or amendments restricting coverage (with the exception of the automobile policies). Such notice shall be sent to:

Canadian Pacific Railway Company
7550 Ogden Dale Road, SE
Calgary, AB T2C 4X9
Attention: Director of Risk Management
- (i) If at any time the Road Authority fails to obtain or maintain (or cause to be obtained or maintained as the case may be), any of the policies of insurance required pursuant to this Article 10, then upon written notice from CP, the Road Authority and the Contractor shall immediately stop all work on the Project until otherwise advised by CP.
- (j) CP reserves the right to maintain the insurance in good standing at the Road Authority expense and to require the Road Authority to obtain additional insurance where, in CP's opinion, acting reasonably, the circumstances so warrant.

ARTICLE 11 - TERM AND TERMINATION

11.1 Term. Subject to the express rights of a Party to terminate this Agreement, this Agreement shall be effective as of the date first written above and continue in effect until the later of the following events:

- (a) Subway Completion; and
- (b) CP has received full and final payment of all amounts owing to it pursuant to this Agreement.

11.2 Termination by the Road Authority. The Parties agree that the Road Authority may terminate this Agreement, upon providing CP with sixty (60) days' prior written notice, if any approvals set out in Article 3 are not obtained to the satisfaction of the Road Authority, acting reasonably.

11.3 Termination by CP. The Parties agree that CP may terminate this Agreement, upon providing the Road Authority with sixty (60) days' prior written notice, if the Road Authority:

- (a) fails to construct the Work in accordance with the Project Plans and such failure may, in the sole discretion of CP, cause an Emergency Situation or Interference; or
- (b) fails to pay CP any amount due and owing under this Agreement; or
- (c) is in material breach of its obligations hereunder and such material breach has not been remedied to CP's reasonable satisfaction following the Road Authority's receipt of prior written notice pertaining thereto.

11.4 Termination.

- (a) Upon termination pursuant to this Article 11, whether or not any of the steps required for implementation thereof have been commenced or completed, CP shall have the right to recover from the Road Authority payment for:
 - (i) all the materials ordered and costs and expenses incurred pursuant to this Agreement to and including the date of termination;
 - (ii) any outstanding amounts payable by the Road Authority to CP under this Agreement;
 - (iii) the cost of such further work as may be necessary in the opinion of CP to return Railway Operations along the Galt Subdivision to not less than its capacity and standard of operating capability and safety as existed immediately prior to the commencement of the Work; and
 - (iv) any Losses CP may sustain as a result of termination of this Agreement.
- (b) The provisions of this Section 11.4 shall survive the expiration or termination of this Agreement.

ARTICLE 12 - NOTICES

12.1 Notices. Any notice or communications required to be given by either Party under this Agreement shall be given by courier or facsimile, or if mailed, by registered letter, prepaid to the Party at its respective addresses as follows:

(a) If to CP:

Canadian Pacific Railway Company
7550 Ogden Dale Road, SE
Calgary, AB T2C 4X9
Attention: Manager Public Works – Ontario
Facsimile: (403) 319-3883

With a copy to:

Canadian Pacific Railway Company
7550 Ogden Dale Road, SE
Calgary, AB T2C 4X9
Attention: Cameron Greaves, Legal Counsel
Facsimile: (403) 319- 6770

(b) If to the Road Authority:

The Corporation of the City of London
300 Dufferin Avenue
London, ON N6A 4L9
PO BOX 5035

Attention: Mr. Doug MacRae, P.Eng., MPA
Director, Roads & Transportation City of London
Phone: (519) 661 – 2489 ext. 4936.
Facsimile: (519) 661 - 4734

or such other address as may be furnished from time to time by either Party. Any notice, if delivered by courier or facsimile, shall be deemed to have been given or made on the date delivered or the date that a confirmation of receipt of the facsimile was recorded by the sender and if mailed correctly, shall be deemed to have been received on the third Business Day after mailing. In the event of actual or imminent disruption or postal service, any notice shall be delivered, by courier or facsimile.

ARTICLE 13 - DISPUTE RESOLUTION

13.1 Resolution of Disputes. Subject to, and without prejudice to the rights of termination set forth in Article 11, the Parties shall attempt, in good faith, to resolve or cure all disputes and claims with respect to the interpretation of this Agreement and the performance of their respective obligations hereunder before initiating any legal action or attempting to enforce any rights or remedies at law or in equity. If a Party believes that a breach of this Agreement by the other Party has occurred, then the Parties shall attempt to resolve such dispute in the following manner:

- (a) the Party who believes that a breach of this Agreement by the other Party has occurred shall provide notice and the Parties will attempt to resolve the dispute within thirty (30) days;
- (b) if the dispute remains unresolved, in whole or in part, after thirty (30) days, the issue(s) in dispute will be escalated to a CP vice president and the Deputy Minister of Transportation on behalf of the Road Authority, who will have thirty (30) days to attempt to resolve such remaining issue(s) in dispute; and

- (c) if the Parties are still unable to resolve the dispute after such thirty (30) day period pursuant to Section 13.1(b), then either Party may pursue all legal remedies available to it.

ARTICLE 14 - MISCELLANEOUS

- 14.1 Relationship of Parties.** The Parties agree and acknowledge that they are not partners in any business or a joint-venture or a member of a joint or common enterprise.
- 14.2 Entire Agreement.** This Agreement contains the entire agreement between the Parties with respect to the subject matter hereof and the Parties have not relied upon any statement, representation, agreement or warranty except such as are set out in this Agreement.
- 14.3 No Modification.** No amendment, modification, or supplement to this Agreement shall be valid or binding unless set out in writing and executed by Parties in the same manner as the execution of this Agreement.
- 14.4 Assignment and Subcontracting.** This Agreement may only be assigned by the Road Authority with the prior written consent of CP. CP agrees and acknowledges that the Road Authority will cause the Contractor to carry out certain of its obligations in this Agreement; provided that the Road Authority shall remain liable for and shall not be released or relieved of any of its obligations and liabilities in this Agreement.
- 14.5 Enurement.** This Agreement shall enure to the benefit of and be binding upon the Parties and their respective successors and permitted assigns.
- 14.6 No Waiver.** Neither Party shall be deemed to have waived the exercise of any right that it holds under this Agreement unless such waiver is made in writing. No waiver made with respect to any instance involving the exercise of any such right shall be deemed to be a waiver with respect to any other instance involving the exercise of that right or with respect to any other right.
- 14.7 Applicable Law and Construction.** This Agreement shall be construed and enforced in accordance with the laws of the Province of Ontario and the federal laws of Canada applicable therein and shall be treated in all respects as an Ontario contract. Time is of the essence of this Agreement. The captions of the Articles and Sections are included for convenience only and shall have no effect upon the construction or interpretation of this Agreement. References to dollar amounts are references to Canadian dollar amounts.
- 14.8 Construed Covenants and Severability.** All of the provisions of this Agreement are to be construed as covenants and as though the words importing such covenants and agreements were used in each separate Article hereof. Should any provision of this Agreement be or become invalid, void, illegal or not enforceable, it shall be considered separate and severable from this Agreement and the remaining provisions shall remain in force and be binding upon the Parties as though such provision had not been included.
- 14.9 Survival.** The obligations of the Parties herein that are expressly described to survive the termination, cancellation, completion or expiration of this Agreement shall survive.
- 14.10 No Option.** This Agreement becomes effective only upon execution and delivery hereof by the Parties.
- 14.11 Further Assurances.** The Parties covenant and agree that they shall execute and deliver all such further assurances and do or perform or cause to be done or performed all such acts and things as may be required to be performed to fully carry out the provisions and intent of this Agreement.
- 14.12 Subway Crossing and Maintenance Agreement.** Crossing rights and ongoing

access and maintenance obligations in respect of the Subway shall be governed by a *Crossing and Maintenance Agreement*, which remains to be negotiated by the Parties.

14.13 Project-Specific Agreement. The Parties agree and acknowledge that this Agreement is specific to the Project and the terms hereof shall not be deemed or interpreted to be a precedent that binds the Parties in respect of future negotiations of railway grade separation, or subway, agreements.

14.14 Counterparts and Electronic Delivery. This Agreement may be executed in any number of counterparts and delivered via facsimile or email in PDF, each of which shall be deemed to be an original and all of which taken together shall be deemed to constitute one and the same instrument, provided that any Party delivering this Agreement via facsimile or email in PDF shall deliver an originally executed copy of this Agreement forthwith thereafter to the other Party.

IN WITNESS WHEREOF the Parties have caused their duly authorized officers to execute this Agreement as evidenced below as of the date first above written.

CANADIAN PACIFIC RAILWAY COMPANY

Per: _____
Name:
Title:

THE CORPORATION OF THE CITY OF LONDON

Per: _____
Name:
Title:

Per: _____
Name:
Title:

SCHEDULE "A"

SCOPE OF THE PROJECT

(see attached on next page)

SCHEDULE "B"

ROAD AUTHORITY WORK

The Road Authority Work shall consist of the following.

- 1.1 Supply and install all right-of-way access control fencing and access gate as required and shown on the final detailed plan.
- 1.2 Ordering, transporting and supplying all materials not supplied by CP for the Project.
- 1.3 Designing and constructing drainage ditches, supply and installation of drainage culverts and structures.
- 1.4 Designing and constructing all Utility Crossing encasements as per approved plans, including CP owned and Third Party Fibre Systems. The Road Authority shall be responsible for relocating any Utility Works that must be moved as a result of the Project, and any associated costs charged by Third Party owners of the Utility Works or incurred by CP.
- 1.5 Designing and constructing the Subway as per approved Project Plans.
- 1.6 Monitoring of any track settlement.
- 1.7 Re-vegetation of all disturbed areas as required.
- 1.8 Highway flagging protection for work in and around the Project Site area related to CP and the Road Authority's activities.
- 1.9 Preparation of all documents, reports and schedules, relating to the above, including monthly reports.
- 1.10 Attendance at meetings with CP related to safety, schedule preparation, construction issues, standards, changed conditions.
- 1.11 Attendance at regular progress update meetings as required.
- 1.12 Planning, coordinating, scheduling, monitoring, managing, supervising the Road Authority Work.
- 1.13 Providing appropriate staff resources to be available to CP for the purposes of providing advice, assistance, construction coordination and review.
- 1.14 Any collaborative effort required by the Road Authority, its contractors or consultant to progress the Road Authority Work.

SCHEDULE "C"

CP WORK

The CP Work shall consist of the following.

- 1.1 Track flagging protection and associated requirements as required to protect operations on CP property.
- 1.2 Providing supervision and labour for the CP Work.
- 1.3 Planning, coordinating, scheduling, monitoring, managing and supervising the CP Work.
- 1.4 Reviewing construction plans and documents.
- 1.5 Attendance at meetings with the Road Authority and its consultants and contractors related to schedule preparation, construction issues, standards, changed conditions and other matters.
- 1.6 Attendance at regular progress update meetings as required.
- 1.7 Reviewing progress reports to be provided by the Road Authority. CP will require a monthly progress report and updated schedule.
- 1.8 Periodic Project Site inspections to monitor construction quality.
- 1.9 Preparation of deficiency lists, reporting on same, and monitoring correction.
- 1.10 Final inspection and acceptance of all railway related infrastructure.

SCHEDULE "D"

ACCESS PROTOCOLS AND SAFETY AND SECURITY PROTOCOLS

1. **Access Requirements**. In order to ensure compliance with Safety Laws, the safety of all Personnel, CP employees and CP Operations, the Road Authority's access to the Railway Lands will be subject to the following conditions (collectively, the "**Access Protocols**").
 - (a) The Road Authority shall deliver notice to CP by contacting the designated CP representative not less than five (5) Business Days prior (or such longer period as CP may reasonably determine from time to time to ensure flagging protection and all safety measures can be scheduled) to the date upon which the Road Authority seeks to enter upon the Railway Lands, together with such other information as CP may reasonably require.
 - (b) No work of any nature shall be undertaken without scheduled flagging protection, unless otherwise agreed in writing by CP.
 - (c) The Road Authority shall contact the CP Operations Center in Calgary at 1.800.795.7851 (or such other contact number CP may publish from time to time) not less than five (5) Business Days prior to the proposed access date to determine the location of any Utility Works or structures under or on the Railway Lands.
 - (d) The Road Authority shall provide notice to and obtain consents from owners of Utility Works (including Third Party Fibre Systems) who may be affected by the Project, including those Third Parties who are required to give consents to protect or relocate such utilities
2. **Safety and Security Requirements**. In addition to the Access Protocols, the Parties agree that any Work carried out on the Railway Lands will be subject to the following safety and security conditions (collectively, the "**Safety and Security Protocols**").
 - (a) The Road Authority shall be solely responsible for ensuring the safety and health of all Personnel and for compliance with all Applicable Laws.
 - (b) The Road Authority agrees to ensure that all Personnel (including any contractors) wear photo identification badges at all times while on the Railway Lands to comply with CP security requirements.
 - (c) The Road Authority agrees to comply with and to ensure the Contractor complies with security regulatory directives and requirements as communicated by CP from time to time.
 - (d) The Road Authority shall be responsible for developing, implementing and maintaining its own Safety and Emergency Response Plan for the Project Site and all Personnel and for ensuring that all Personnel understand and comply with the practices and procedures set out in such plan. In addition to the minimum requirements stipulated in Subsection 2(c) of this Schedule, the Safety and Emergency Response Plan must include:
 - (i) reporting and response procedures in the event of an incident or accident;
 - (ii) emergency response service providers and contacts and their phone numbers; and
 - (iii) incident reporting phone numbers, including phone numbers for CP incident reporting and local CP personnel.
 - (e) The Road Authority and all Personnel shall adhere to the directions of any CP flag persons, inspectors and supervisory personnel (including engineering and technical support) as CP may require to supervise any Work on the Railway Lands. Instructions

may include orders with respect to security restrictions, safety requirements or emergency situations.

- (f) The Road Authority acknowledges that CP has limited resources available for flagging protection and that flagging protection is subject to the availability of qualified flagpersons who must be allocated by CP across its service area for ongoing Railway Operations and other concurrent construction and maintenance projects. As a result, a maximum of two (2) flag persons will be available for the Project, for a maximum of forty (40) hours per week per flag person (including travel time to the Project Site), Monday through Friday; CP will not grant any requests to provide flagpersons to work any additional days or overtime.
- (g) Notwithstanding CP consent to commence construction and provide access to the Railway Lands, if an Emergency Situation arises over, on or under the Railway Lands, or the presence of the Road Authority or their activities are causing an Interference, CP may direct that the Road Authority and its Personnel exit from the Railway Lands for such period of time as CP deems appropriate. Any Interference caused by the Road Authority must be remedied to complete satisfaction of CP prior to CP allowing the Road Authority and its Personnel to resume access onto the Railway Lands. CP shall not be responsible for any costs incurred by the Road Authority or any of their Personnel for any delays to the Project, Construction Schedule or construction costs due to an evacuation or shutdown pursuant to this Subsection 2(g).
- (h) Any machinery or equipment used for the Project must meet applicable safety regulations and requirements.
- (i) The Road Authority shall not store any fuel, oil or lubricants on the Railway Lands or permit any fuelling or servicing of any machinery or equipment on Railway Lands.
- (j) The Road Authority shall not cause, suffer or permit the use of the Project Site or Railway Lands by any person other than the Road Authority Personnel required to be on or about the Project Site for the purposes of completing the Project.
- (k) The Road Authority shall be solely responsible, at its own cost and expense, for the installation and maintenance of construction security fences and lockable gates, as directed by CP. The Road Authority shall keep gates locked, except when entering or exiting from the Railway Lands, to secure the site from entry by members of the public, trespassers and non-Personnel.
- (l) The Road Authority agrees to ensure that all Personnel adhere to CP safety requirements including the publication *Minimum Requirements for Contractors Working on CP Property in Canada*, and such other applicable safety stipulations and rules as communicated by CP from time to time, a copy of which is attached hereto as Appendix 1.

Appendix 1 to Schedule “D”

Minimum Requirements for Contractors Working on CP Property in Canada.



Minimum Safety Requirements for Contractors Working on CP Property in Canada



Approval Authority:	Corporate Risk	Effective Date:	January 20, 2020
Version:	4.0	Review Date:	January 20, 2023

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Introduction

At Canadian Pacific (CP), safety is an integral part of the way we do business. We expect everyone working on Canadian Pacific's property to be unconditionally committed to safety. Safety must be given top priority and will take precedence over deadlines, production schedules, and all other considerations.

1 Application

1.1 Application

- 1.1.1 These Minimum Safety Requirements are applicable to all who work on CP property (except as noted in 1.13 and 1.14 below) including Contractors and other persons performing Work or otherwise providing services to Canadian Pacific on CP Property in Canada.
- 1.1.2 These Minimum Safety Requirements cannot be waived or altered, in whole or in part, without a prior Risk Assessment specific to the Work conducted and the Manager-In-Charge has provided written consent.
- 1.1.3 Notwithstanding the foregoing, these Minimum Safety Requirements do not apply to other railway companies who only operate trains on CP Property

under various trackage or interchange agreements.

- 1.1.4 Further, notwithstanding the foregoing, these Minimum Safety Requirements may not apply to Work or services provided in CP Property in Canada that are Office Premises, in which case, CP's Minimum Safety Requirements for Contractors Working In CP's Office Premises may apply.

2 Definitions and Interpretation

2.1 Definitions

- 2.1.1 In these Minimum Safety Requirements, the following capitalized terms shall have the ascribed meaning below:
- (a) **"Applicable Legislation"** means all applicable legislation, regulations, by-laws, codes, rules, standards, policies, procedures, promulgated by any federal, state, and municipal governmental body, including those of its agencies, having authority over CP and, or a Contractor in relation to the Work in the matter of health and safety of the person, property and, or the environment;
 - (b) **"Canadian Pacific"** or **"CP"** means Canadian Pacific Railway Company Ltd., and its subsidiaries and affiliates, and includes each of their respective directors, officers, employees, agent, and representatives;
 - (c) **"CP Personnel"** means CP's employees, agents, and representatives;
 - (d) **"CP Property"** means any building, facility, yard, track, right of way or other property owned or controlled by CP;
 - (e) **"Contractor"** means the company or person, and their respective employees and authorized agents, representative and subcontractors who are providing goods or services to CP; or on behalf of a third party working on CP property.
 - (f) **"Contractor Personnel"** means the Contractor's employees, and authorized agents, representative and subcontractors;
 - (g) **"Co-mingled Work"** means Work where Contractor Personnel works directly with or, in close proximity (time or space) to CP Personnel;
 - (h) **"eTest"** an efficiency test. It is a planned procedure to evaluate compliance with rules, instructions and procedures, with or without the employee's knowledge.
 - (i) **"Foul of Track"** means the placement of an individual or equipment within 4' feet of the outside rail of a railway track that could be struck by a moving train or on-track work equipment (e.g. Hi-rail equipment).
 - (j) **"Hazardous Materials"** means any substance, which is hazardous to persons or property and includes, without limiting the generality of the foregoing:
 - (i) radioactive, explosive, poisonous, or toxic substances;
 - (ii) any substance that if added to any water, would degrade or alter the quality of the water to the extent that it is detrimental to its use by man or by any animal, or plant;
 - (iii) any solid, liquid, gas or odour or combination of any of them that, if emitted into the air, would create or contribute to the creation of a condition of the air that endangers the health, safety, or welfare of persons, or the health of animal life, or causes damage to plant life or to property; and

- (iv) substances declared to be hazardous, toxic or dangerous under any law or regulation now or hereafter enacted by any governmental authority having jurisdiction.
- (k) **“Manager-in-Charge”** means a CP manager as designated or otherwise identified by CP as being responsible for overseeing the Work to be performed, such Manager-in-Charge may include, but is not limited to Local CP Management, Regional Superintendents, Division Engineers, and Project Managers.
- (l) **“Mobile Equipment”** means any motorized and self-propelled equipment, excluding Railway equipment and highway vehicles, but including, for example, forklifts, tractors, cranes, ATVs, mules, motorized scissor lifts, and similar equipment that are not designed to operate or move on railway tracks;
- (m) **“Office Premises”** means any building, facility, or portion thereof, or other premises, whether owned or controlled by CP, which is used solely for clerical or administrative purposes and which does not contain heavy equipment or machinery, as designated by CP from time to time;
- (n) **“Qualified and Authorized”** means a status attained by a person who has successfully completed any required training and demonstrated proficiency in the duties of a particular position or function and who has been given the right to act.
- (o) **“Railway equipment”** means trains, locomotives, railcars, track units, hi-rail vehicles and any other equipment designed to operate or move on railway tracks;
- (p) **“Site Safety Plan”** means a contractors’ documented plan which set out how Work is to be conducted in a safe manner, as required by Applicable Legislation see 3.16;
- (q) **“Third Party Project”** means any work being performed on CP property that CP is not managing (i.e, road authority, utility company, commuter agency, or other similar entity, are on CP property for their own purposes, and not a project sponsored or managed by CP.
- (r) **“Work”** means the provision of products and services and related activities;
- (s) **“Work Site”** means any CP Property where CP Personnel or Contractor Personnel are present, or permitted to be present, while engaged in any Work, including any railway equipment, Mobile Equipment and highway vehicles operated by or used to convey a person engaged in such Work. This applies also to work immediately adjacent to CP property, which can pose a risk to safe railway operations (i.e., blasting, excavation next to Right-of-Way (ROW), etc.).

2.2 Interpretation & Application

- 2.2.1 Where legislation is referred to in these Minimum Safety Requirements, it shall include all amendments and replacements thereto as promulgated from time to time.
- 2.2.2 Where standards, such as those of the Canadian Standards Association (CSA), is referred to in these Minimum Safety Requirements, they shall include all amendments and replacements thereof from time to time.
- 2.2.3 Where there is any ambiguity, inconsistencies, or omissions between or among any agreements with CP, expressed or implied; any Applicable Legislations; any applicable CP policies and practices; and any applicable industrial standards and practices, Contractor and Contractor Personnel

shall adhere to that which is most stringent and current.

3 Contractor Compliance & Responsibilities

3.1 General Compliance

- 3.1.1 Contractor shall be fully and solely responsible for ensuring the safety and health of Contractor Personnel and for ensuring that its Work and other activities do not compromise the health and safety of CP Personnel or any other party, the protection of the environment, the protection of CP's property and those of any other party, and do not interfere with the safety of CP's railway operations.
- 3.1.2 Contractor shall comply with and shall ensure all of Contractor Personnel are trained and qualified to safely perform the Work and that they comply with all Applicable Legislation pertaining to the protection against fire, safety, health, and environmental hazards, and with any license, permits, authorizations issued by the respective authority.
- 3.1.3 Contractor shall comply with and shall ensure all of Contractor Personnel comply with all terms and conditions of all agreements, expressed or implied, between Contractor and CP, and all applicable CP policies and practices.
- 3.1.4 Subject to the requirements of CP's Access Control Procedures, the contractor shall provide CP eRailsafe training for each employee engaged in work on CP property. Where there is no agreement between CP and the Contractor, the Contractor is responsible for meeting the additional requirements outlines within CP's Access Control Procedures.
- 3.1.5 Contractor shall provide Contractor Personnel, at its own expense, all safety equipment required to protect against injuries during the performance of the Work and shall ensure that Contractor Personnel are knowledgeable of and utilize safe practices in performing the Work.
- 3.1.6 The Contractor shall have a copy of the following documents at the Work Site at all times, and shall produce them as and when requested by CP:
 - (a) These Minimum Safety Requirements for Contractors Working on CP Property;
 - (b) Licenses, Certifications, permits, training records or other documents required by Applicable Legislation or these Minimum Safety Requirements;
 - (c) Contractor's Site Safety Plan;
 - (d) Contractor's Emergency Information Sheet (see Attachment A); and
 - (e) Any additional documents required by Contract or by agreement with Manager-in-Charge.
 - (f) Employee identification (eRailsafe badge – see 9.1.1).

3.2 Compliance Assurance

- 3.2.1 CP reserves the right to observe, inspect, test and audit Contractor and Contractor Personnel for compliance with all requirements herein, and to demand and receive all relevant records, documentation, and materials evidencing compliance, at any time, and from time-to-time.
- 3.2.2 Failure of the Contractor or Contractor Personnel to comply with any applicable provisions herein may be considered a material breach, and in addition to all

other remedies available, CP may without prejudice:

- (a) take over control of that Work or activity;
- (b) order the Work to stop; and/or
- (c) order Contractor Personnel to leave CP Property.

3.2.3 Upon the earlier of the completion of the Work, the expiration of the applicable agreement, or the request of a Manager-in-Charge, Contractor and Contractor Personnel shall return all identification, badges, access cards, and decals, issued or provided by CP to the Manager-in-Charge.

4 Site Safety Plan

4.1 General Requirements

4.1.1 Prior to starting any Work on CP Property, the Contractor must have a written Site Safety Plan that identifies:

- (a) All applicable legislation, rules, policies and work practices in relation to the Work being performed;
- (b) Specific hazards that are associated with the Work being performed on CP property for CP, and Work being performed not for CP:

For example:

- (i) Construction, maintenance or inspections of buildings;
 - (ii) Working on or adjacent to railroad tracks;
 - (iii) Maintenance or inspection of railroad tracks, crossings or signal systems;
 - (iv) Maintenance, reconstruction or construction of railway crossings, crossing approaches, grade separations, passenger facilities, passenger platforms, utility crossings or any other work which may affect the safe movement of trains;
 - (v) Operating Railroad Equipment on CP tracks; or
 - (vi) When/where Contractor Personnel work directly with or in proximity (time or space) to CP Personnel; and
- (c) Methods of verifying compliance.

4.1.2 The Contractor will provide Manager-in-Charge with a copy of this Safety Management Plan on reasonable request.

4.1.3 The Contractor must be able to demonstrate an awareness of applicable legislation, rules, policies and work practices in relation to the work being performed.

5 Safety Training

5.1 Minimum Training & Qualifications

5.1.1 At its sole cost and expense, Contractor shall ensure that all Contractor Personnel be fully trained and qualified for the Work they will be performing. Contractors and Contractor Personnel shall meet, or exceed, all applicable legislation requirements relating to training and qualification.

5.1.2 Additionally, Contractor Personnel training and qualification shall meet or

exceed all applicable industry standards.

5.2 Proof of Training & Qualification

- 5.2.1 Contractor Personnel shall at all times have proof of such training and qualifications and shall produce them as and when requested by the Manager-in-Charge.
- 5.2.2 CP reserves the right to inspect qualification certificates, licenses, training records and/or Work-history records for any Contractor Personnel, and, or to be provided with copies thereof, on reasonable request. In addition, CP reserves the right to perform eTests on contractor employees, and request discipline for non-conformance.

6 Safety Orientation

6.1 General Requirements

- 6.1.1 Prior to beginning Work, all Contractor Personnel shall participate in a CP authorized safety orientation, including on-site orientation presented by the Manager-in-charge or designate.
- 6.1.2 Any time the scope of Work, location, condition or supervision changes, Contractor Personnel may be required to attend additional safety orientation sessions.
- 6.1.3 After successful completion of such safety orientation, Contractors must be able to produce company identification or an eRailsafe photo identification badge authorizing access to CP property unescorted for the purposes of conducting work. Managers have the ability to enter the tracking code into CM (Compliance management). Third parties who hire subcontractors must ensure required compliance while on CP property. The eRailsafe identification card shall be worn or be made visible at all times, or produced upon request and cannot be transferred under any circumstances.

7 Job Safety Briefing

- 7.1.1 Contractor Personnel shall attend all Job Safety Briefings as and when conducted. Contractor Personnel shall be solely and fully responsible for understanding the content of the Job Safety Briefing, and at a minimum shall:
 - (a) have an understanding of the scope of Work to be performed and an appreciation of the nature of the location, environment, and conditions where such Work is to be performed;
 - (b) be aware of specific or unusual hazardous condition, existing or potential and the control measures required to protect against, control, mitigate, or where possible, avoid said hazard; and
 - (c) Have emergency response plan/evacuation procedures.
- 7.1.2 Where Contractor Personnel are working directly with or in proximity (time or space) to CP Personnel, job briefings must include both CP Personnel and Contractor Personnel, and any other affected third parties. The Job Safety Briefing shall identify nature and extent of the interaction between the Work being performed by Contractor Personnel, and those performed by CP Personnel or other third parties. Contractor Personnel shall inform CP Personnel, and any other third parties of known or potential unsafe conditions and hazards that may be created by, resulting from, or inherent in their Work and the corresponding preventative, mitigation, and/or control measures at

all job safety briefings prior to commencing Work, or as soon as Contractor Personnel becomes aware of such conditions.

7.1.3 In all situations, all Contractor Personnel are expected to:

- (a) continually identify hazards and assess risk of hazards and to continually and clearly communicate all hazards to the Manager-in-Charge and to all other parties that may be affected at job briefings, and at any other time as and when appropriate or necessary;
- (b) take actions that are within their assigned responsibility to eliminate or control hazards and risks; and
- (c) immediately notify their supervisor or the Manager-in-charge of hazards that pose unacceptable risk that they are unable to eliminate or control.

7.1.4. Where Contractor Personnel are unable to eliminate or control a hazard, Contractor Personnel shall take interim measures to protect people, property, equipment and the environment until the hazard can be properly assessed and appropriate corrective actions taken.

8 Application Legislation

8.1 General Requirements

- 8.1.1 Contractor and Contractor Personnel shall be solely responsible for identifying and complying with all Applicable Legislation. Contractors and Contractor Personnel providing Work to CP are likewise required to comply with all Applicable Provincial and Federal Legislations. At a minimum, Contractor and Contractor Personnel shall comply with the federal legislations set out below which list is intended solely for general guidance, and not as a comprehensive list of all applicable legislation.
- 8.1.2 Additionally, the Railway Association of Canada (RAC) is an industry association which can provide support and guidance on matters related to railway safety and the transportation of dangerous goods.

8.2 Transportation of Dangerous Goods

- 8.2.1 When Work involves the handling or transportation of dangerous goods, that Work must comply with the federal *Transportation of Dangerous Goods Act*, (TDG). Contractor shall be solely responsible for ensuring that all Contractor Personnel who handles, offers for transport and/or transports dangerous goods by any transportation mode be trained and holds a valid training certificate or is working under the direct supervision of someone who is trained and holds a valid training certificate. The training must be based on the Work that the person is expected to perform and the DG that the person is expected to handle, offer for transport or transport.
- 8.2.2 Contractors shall be solely responsible for ensuring that Contractor Personnel who handles, offers for transport and/or transports dangerous goods by any transportation mode are trained and hold a valid training certificate or is working under the direct supervision of someone who is trained and holds a valid training certificate. That training must be based on the Work that the person is expected to perform and the dangerous goods that the person is expected to handle, offer for transport or transport.
- 8.2.3 Transport Canada enables the Transportation of Dangerous Goods Act to publish Transportation of Dangerous Goods Regulation. The TDG Regulations divide dangerous goods into 9 classes according to the type of

hazard they present

8.3 Canada Labour Code

- 8.3.1 Where Work is being performed that may create a risk to the health and safety of CP Personnel, Contractor Personnel must comply with Part II of the Canada Labour Code.
- 8.3.2 Additionally, Contractor and Contractor Personnel shall comply with all applicable provisions of the Occupational Health and Safety Regulations (COHS) which are intended to prevent accidents and injuries to employees working for federally regulated companies. Compliance with these regulations may extend to Contractors, depending on the type of Work being done and their proximity to CP Personnel (i.e. Co-mingled Work). Alternatively, provincial occupational health & safety regulations will govern Contractors.

8.4 Railway Safety Act

The *Railway Safety Act* (RSA) governs all federally certified railways in Canada and some provincial railways through various agreements with Transport Canada. The RSA addresses all

- 8.4.1 matters relating to the construction, alteration, operation, inspection and maintenance of railway works and railway equipment, and contains training and qualification requirements for certain types of Work. When applicable, Contractor and Contractor Personnel shall perform Work in accordance with the RSA, as if directly bound by it.

8.5 Environmental Protection Act

- 8.5.1 Where Work is being performed that may impact the environment, that Work must comply with all applicable federal and provincial environmental acts and regulations. Some examples of applicable legislations includes the Canadian Environmental Protection Act; Fisheries Act, Navigable Waters Protection Act; Species at Risk Act; Migratory Birds Convention Act; and all corresponding Regulations. Provincial requirements are normally set out in a general Environmental Protection Act which is complemented by numerous regulations addressing more specific areas of concern. Canadian Environmental Protection Act <http://laws-lois.justice.gc.ca/eng/acts/C-15.31/>

9 Security Access to CP Property

9.1 Access to CP Property

- 9.1.1 All Contractor Personnel must have the following identification in their possession at all times while on CP Property, and present them for review to any Manager-in-Charge, other CP managers and employees, Police Officer, security guard, or regulatory officer upon request:
 - (a) photo identification (e.g. driver's license);
 - (b) proof of employment document or card;
 - (c) identification card, or other proof of safety orientation issued by CP;
 - (d) access pass, issued and signed by a CP manager, where Work requires Contractor Personnel to ride in any locomotive or other non-passenger rolling stock;
 - (e) security identification card, where required by CP; and
 - (f) building access pass, where required by CP or by a third party having control of the premises.

- (g) Valid eRailsafe card
- 9.1.2 Where any Work requires Contractor Personnel to ride in locomotive or other non-passenger railroad equipment, the Contractor must also possess a CP ACCESS PASS for riding non-passenger railroad equipment, signed by the responsible operating manager.

Such a signed pass must be presented to the train crew or operator when boarding the equipment. Failure to possess such a pass will result in the equipment not moving, removal from the equipment, and/or the filing of trespasser charges.

9.2 Security Awareness

- 9.2.1 The Contractor shall conduct such background check as is necessary to ensure that Contractor Personnel do not pose a security risk to CP, such security risk includes the risk of the commission of terrorist activities, sabotage, vandalism, theft, and violence. CP reserves the right, at all times, to require that Contractor undertake certain security training and/or perform background checks of Contractor Personnel, prior to allowing such Contractor Personnel to enter onto CP Property.
- 9.2.2 On request CP can make available a copy of CP's Railway Security Awareness program for use by Contractor Personnel.

9.3 Firearms & Explosives

- 9.3.1 Firearms (loaded or empty) are not permitted on CP Property, except for Police officers and other designated government officials when authorized to do so.
- 9.3.2 No explosives will be permitted on CP Property without written approval by the Manager-in-Charge.

9.4 Reporting

- 9.4.1 Contractor Personnel must report any security concern, security incident, criminal activity (known or suspected), suspicious happenings and/or suspicious persons on CP Property to the Manager-in-Charge or to CP Police Services in accordance with Section 18.

10 Personal Conduct

10.1 Drug and Alcohol Standards

- 10.1.1 The Contractor and Contractor Personnel shall comply with CP's Alcohol and Drug Policy and Procedure while under contract to perform services for CP. Any contravention of these requirements will be considered a breach of contract.
- 10.1.2 The Contractor and Contractor Personnel shall report fit to work and remain fit for work as scheduled and when on scheduled call and be able to perform their duties free from the negative effects, including the after effects of alcohol, legal recreational cannabis, illicit or illegal drugs, other mood altering substances or medications including medical marijuana, any of which can have the potential to adversely affect the way a person thinks, feels or acts.
- 10.1.3 It is prohibited to be in control of a CP vehicle or moving equipment (either on or off duty), while under the influence of alcohol and/or drugs, including the after effects of such use.

- 10.1.4 All Contractors must comply with these requirements when scheduled on call and/or subject to duty.
- 10.1.5 If there are grounds to believe a contract worker is unfit for work, the worker will be removed from CP property in a safe manner under the care of another adult person, to a safe place for example, to their local place of residence, or provided the opportunity to arrange the same or an escort is arranged to the nearest appropriate medical facility if there is a medical problem that requires immediate attention. The primary contractor is required to ensure appropriate investigation, follow up and a fitness for duty assessment is conducted to ensure the contractor

is fit to return to work prior to any return to CP property or work. CP reserves the right not to allow a contractor back on CP property or to CP work.

- 10.1.6 In the event a contract worker is directly involved in a significant work related incident as described by CP's Alcohol and Drug Policy and Procedure, the worker may be subject to Post Incident Testing under the CP Testing Program. They may be removed from CP premises pending the results of the investigation, including receipt of alcohol and drug testing results. Depending on the test results and the outcome of the investigation, a fitness for work medical assessment may also be required through the primary contractor before the Contractor can return to CP premises or work. CP reserves the right not to allow a contractor back on CP property or to CP work.
- 10.1.7 CP reserves the right to request drug and alcohol testing for Contractor Personnel performing Safety Critical and Safety Sensitive duties under CP's workplace testing program requirements as and where permitted by law.

10.2 Inappropriate Behavior

- 10.2.1 CP is committed to maintaining a Work environment that supports the dignity of all individuals. No person working at CP may be subjected to any form of discrimination or harassment, including sexual harassment.
- 10.2.2 Acts or threats of violence are unacceptable at all times on CP Property. Uttering of threats or committing acts of violence will result in the removal of the responsible Contractor Personnel from CP Property, termination of the Contract, and/or criminal charges.
- 10.2.3 Horseplay, practical jokes, fighting or any other activity that may create a safety hazard will not be tolerated.
- 10.2.4 Inappropriate language directed at any CP employee or agent of CP, will not be tolerated.

10.3 Electronic Entertainment and Communication Devices

- 10.3.1 The use of personal entertainment devices, including portable audio and video devices such as compact DVD, CD, video game players, tablets, SMART watches and MP3 players, is prohibited:
 - (a) while working on CP Property;
 - (b) while transporting CP personnel, whether on and off CP property; and
 - (c) while operating any CP highway vehicles, Railroad Equipment or Mobile Equipment, when on and off CP property
- 10.3.2 The use electronic communication devices, including cell phones, Smart

Phones, Blackberries, walkie-talkies, PDAs, iPads, tablets, GPS navigation units, portable computers and similar devices, is prohibited:

- (a) while operating a highway vehicle, unless it is stopped and parked in a safe location;
- (b) while operating or assisting in the operation of any railroad equipment or mobile equipment;
- (c) while operating power tools, equipment or machinery;
- (d) when Foul of Track for any reason;
- (e) whenever use of such a device creates an unsafe condition.

10.3.3 Notwithstanding the foregoing, company cell phones, radios, walkie-talkies, GPS units, iPads, tablets, and other communication devices may be used solely for the conduct of business when authorized by the CP Manager-in-Charge and where not prohibited by state or municipal legislation. Any electronic communication device may be used when it is necessary to communicate an emergency condition.

10.4 Smoking

10.4.1 Smoking, including the use of e-cigarettes is prohibited on all CP Property, and in or on all highway vehicles, Railroad Equipment, and Mobile Equipment, except for CP designated outdoor smoking areas.

11 Personal Protection

11.1 Work Clothing

11.1.1 The Contractor must ensure that Contractor Personnel wear clothing that meets Applicable Legislation and is suitable to perform the Work safely. This includes at minimum ankle length pants and waist length shirts with a minimum quarter-length sleeves at all times. Clothing must not interfere with vision, hearing or use of hands and feet.

11.2 Personal Protective Equipment (PPE)

11.2.1 The Contractor shall ensure that Contractor Personnel wear personal protective equipment required by Applicable Legislation, regulations, codes and industry standards as necessary to protect against personal injuries while on Railway property. All personal protective equipment shall be approved by the Canadian Standards Associations (CSA) or by the American National Standards Institute (ANSI), and shall be in good condition and be properly fitted.

11.2.2 The following mandatory personal protective equipment ("PPE") shall be supplied by the Contractor at its own expense, and shall be worn at all times by Contractor Personnel while on CP Property:

- (a) safety hard hat, meeting CSA standard Z94.1 or ANSI 89.1 standards;
- (b) safety boots with protective toe caps and soles, meeting CSA standard, Z195 (Green Triangle - Grade 1);
- (c) safety glasses with permanently attached side shields, meeting CSA standard Z94.3;
- (d) high visibility fluorescent outerwear with retro reflective striping (meeting CSA standard Z96, class 2 level 2), with such high visibility fluorescent outerwear not covered by other clothing or equipment, except where

- necessary for safety reasons such as where fall protection or pole climbing equipment is being used; and
- (e) any other PPE as required by Applicable Legislation, CSA standard, or otherwise required to protect Contractor Personnel from injuries.

11.2.3 In addition to the foregoing minimum requirements, the following table contains further recommendations in relation to specific types of PPE:

Type of Protection	Additional Recommendations
Hard Hats	Have hi-visibility characteristics which are not obscured by markings or decals
Safety Eye & Face Protection	<p>Tinted safety eyewear must meet Canadian standards for red signal recognition if operating railway equipment (safety eyewear meeting this requirement is available from Acklands-Grainger; ask for CP approved tinted safety eyewear)</p> <p>Transition lenses are discouraged and should be worn with caution when working in changing light conditions</p> <p>Personal sunglasses are discouraged and must not be worn when operating railway equipment</p> <p>Wear mesh face shields over top safety glasses when using any striking tool while performing on track maintenance work (e.g. spiking, snapping on/off anchors, etc.). If working alongside CP employees you will be required to comply with this practice.</p>
Safety Footwear	<p>Have defined heels</p> <p>Be laced and tied securely for ankle support</p> <p>When snow and ice conditions are present wear anti-slip winter footwear</p>
High-Visibility Apparel	Lime-green is recommended when working on, or near tracks, or when performing Co- mingled Work

11.2.3 Contractor and Contractor Personnel shall be solely and fully responsible for assessing the risks related to the Work and determining whether additional PPE may be required such as:

- (a) Nomex or Proban fire-retardant protective gear when performing certain TDG Work and or handling certain Hazardous Materials or performing specialized Work.
- (b) hearing protection when working in any area where noise exposure levels:
- (i) are consistently greater than 84 dBA);
 - (ii) exceed 115 dBA at any time; and
 - (iii) any other Work areas where posted, or so notified by CP management.
- (c) respiratory protection where Contractor Personnel may be exposed to occupational dusts/particulates, fumes, mists, gases and vapors, in which case, in which case Contractors must have a written Respiratory Protection Program that meets or exceeds Applicable Legislation;
- (d) additional eye and face protection meeting CSA standard Z94.3 (i.e. face shields, impact/splash goggles, welding/cutting goggles and welding helmets); and
- (e) fall protection systems and equipment meeting appropriate CSA standards as required by Applicable Legislation and appropriate for the related fall hazards.

- (f) fall protection when working on an unguarded surface over water, where the water is deeper than 1.2 meters (4 feet), or where there is a hazard of drowning due to terrain, winter conditions, water velocity or current; contractors must use a fall protection system or a personal floatation device (PFD) meeting approved standards.

12 Railroad Track Protection

Contractor's Responsibilities for the Protection of Railroad Traffic and Property

- 12.1.1 Where the Work Site is in close proximity to, or is located on, above, or below railroad tracks, special attention, care and precautions shall be taken to ensure the safety of all Contractor Personnel, CP Personnel, all other third parties and to protect CP's property and railroad operations.
- 12.1.2 Contractor shall ensure that Contractor Personnel is made aware of all unique and inherent hazards in working near, on, above or below railroad tracks and shall ensure that all Contractor Personnel are fully trained and equipped to work safely.
- 12.1.3 Contractor Personnel shall at all times remain alert to the movement of trains, rolling stock and other Railway equipment.
- 12.1.4 No temporary structure, materials, or equipment shall be permitted closer than 3.66 meters (12 feet) to the nearest rail of any track without prior approval in writing of the Manager-In-Charge.
- 12.1.5 Contractor Personnel shall be especially alert in yards and terminal areas as
 - (a) Railway equipment that appears to be stationary may be moving;
 - (b) the rate of movement of Railway equipment may be faster than it appears;
 - (c) Railway equipment change tracks often; and
 - (d) movements may be occurring simultaneously on adjacent tracks
- 12.1.6 The Contractor shall, at all times, conduct its operations in a wholly responsible manner to avoid damage to CP's tracks or property.

12.2 15 m (50 ft.) Clearance Requirement

- 12.2.1 All work shall be performed as far away from railway tracks as possible.
- 12.2.2 Unless authorized by CP, Contractor Personnel, equipment, and vehicles are not permitted within 15 m (50 ft.) of the closest track centerline.
- 12.2.3 In the event work must be carried out within 15 m (50 ft.) of the closet track centerline, written authorization must be obtained from the Manager-in-Charge, and Contractor Personnel must still remain at the maximum practicable distance from all railway tracks at all times.
- 12.2.4 When crossing tracks, Contractor Personnel shall ensure a minimum of 15 m (50 ft.) separation between standing Railway equipment, stay at least 15 feet away from the end of the nearest equipment, and look both ways before crossing tracks, and if clear, walk at a right angle to the tracks. The 15 meters (50 feet) distance must take in account the swing radius of work equipment, vertical grade differences, and overhead work distances.
- 12.2.5 No work activities or processes are allowed within 15 m (50 feet) of the track while trains are passing through the work site unless specifically authorized.

12.3 Flagging Protection

- 12.3.1 When the Work requires Contractor Personnel to be within 15 m (50 ft.) of any

railway tracks, Contractor or Contractor Personnel shall notify and obtain the written approval of the Manager- in-Charge in advance of the intended start date, and when approved, shall only perform Work strictly in accordance with all terms and conditions of that approval.

- 12.3.2 Unless otherwise indicated by the Manager-in-Charge, proper protection against the movement of trains, rolling stock and other Railway equipment shall be deemed required at all times

whenever Work or Contractor Personnel must be within 50 feet (approximately 15 metres) of the closest track centerline. Protection may be provided only by a qualified CP employee through use of a flag person, Canadian Railway Operating Rules (CROR) Track Occupancy Protection (TOP), mechanical blue flag protection or other protection methods designated by the Manager-in-Charge.

- 12.3.3 Where CP determines that flagging is required, then Work must be strictly conducted under the direction of a CP flag person or such other person designated by the Manager-in-Charge.

- 12.3.4 Contractor Personnel shall ensure that there is clear communication at all times between Contractor Personnel and any CP flag person. Contractor Personnel shall ensure that they are aware of:

- (a) flagging distance limits;
- (b) time limits; and
- (c) any adjacent tracks where movement of Railway equipment may still occur.

- 12.3.5 Contractor Personnel shall not assume that a train movement is being stopped or cleared unless clear communication is received directly from the CP flag person.

- 12.3.6 A job safety briefing between the CP flag person and all Contractor Personnel must occur before beginning any Work on or Foul of Track, or within CP's ROW depending on the nature of the site.

- 12.3.7 Blue flag protection is used to indicate that CP or Contractor Personnel are working on, under or between Railway equipment and movement of trains or other Railway equipment is prohibited. Blue flags must not be tampered with or obstructed. Blue flags can only be removed by the person or group of persons who originally applied it. Application, use, and removal of blue flags, when appropriate, may only be done under the authorization and guidance of the Manager-in-Charge.

- 12.3.8 Red flag protection is used to indicate that CP or Contractor Personnel are working on or Foul of Track, or the track is out of service and movement of trains or other Railway equipment is prohibited. Red flags must not be tampered with or obstructed. Application, use, and removal of red flags, when appropriate, may only be done under the authorization and guidance of the Manager-in-Charge. Similarly, as with all other flags; blue, yellow and green flags.

12.4 Working on or near Tracks

- 12.4.1 When authorized to perform Work Foul of Track or otherwise be near railway tracks, Contractor Personnel shall ensure at Contractor Personnel, equipment, and vehicles are kept as far away from railway tracks as practicable, and shall at all times:

- (a) be alert to train movements and shall expect the movement of trains,

- engines, cars, or other mobile Railway equipment at any time, on any track, and in any direction, even if they appear to be stationary or in storage;
- (b) not rely on others to protect them from train movement;
 - (c) stay at least 15 feet (approximately 5 meters) away from the ends of stationary railway equipment when crossing the track;
 - (d) ensure a minimum of 50 feet (approximately 15 meters) separation prior to crossing between railway equipment;
 - (e) look both ways before crossing tracks, and if clear, walk at a right angle to them.
 - (f) never climb on, under or between railway equipment;
 - (g) be aware of the location of structures or obstructions where track clearances are close;
 - (h) not stand on the track in front of an approaching engine, car or other equipment;
 - (i) when possible, stand at least 20 feet back from the track(s) when there is a passing movement of trains, engines, cars, or other mobile Railway equipment, to prevent injury from flying debris or loose rigging and shall observe the train as it passes and be prepared to take evasive action in the event of an emergency;
 - (j) not stand on or between adjacent tracks in multiple track territory when a train is passing;
 - (k) not walk, stand or sit on the rails, between rails or on the end of ties, unless absolutely necessary. As the rail surface can be extremely slippery, personnel must step over the rails when crossing tracks. Personnel shall also be aware railway ties can also be slippery and that railway ballast can shift while walking on top of it. Situational awareness and use of proper footwear is important;
 - (l) not remain in a vehicle that is within 15.2 meters (50 feet) of a passing train unless specifically authorized, or where this is not possible, park the vehicle as far away from the tracks as possible and walk to as safe a distance whenever trains pass.
 - (m) keep away from track switches as remotely operated switch points can move unexpectedly with enough force to crush ballast rock. Personnel shall stay away from any other railway devices they are unsure of. Personnel shall not disturb or foul the ballast at any time.
 - (n) Third party work that has a potential to impact rail traffic must take into account machine swing radius, vertical grade differences, overhead work, etc to ensure it will not impact a passing train; work and equipment must maintain a distance of 15.2 meters (50 feet) of a passing train.
 - (o) When exiting on track machinery as trains are passing; exit on the opposite side.
 - (a) use 3-point contact when getting on/off any vehicle, equipment or track unit;
 - (b) face the vehicle or equipment/track unit when getting on/off
 - (c) place handheld items onto equipment/track unit or seek help prior to getting on/off
 - (d) get on/off on the operators side when possible

12.5 Equipment on or near tracks

- 12.5.1 Contractor Personnel shall not be Foul of Track with any piece of equipment

without a CP flag person or other authorized track protection;

- 12.5.2 Contractor Personnel shall not move equipment across the tracks except at established road crossings, or unless under the protection and authorization of a CP flag person and only if the Work Site has been properly prepared for such a move. Tracked equipment will require a CP flag person any time railroad tracks are crossed.
- 12.5.3 Contractor Personnel shall not move equipment across railroad bridges or through tunnels, except as expressly authorized and only under such conditions as stipulated by the Manager- in-Charge.
- 12.5.4 Contractor Personnel shall move equipment away from the tracks at least 50 feet, or where not possible, park the equipment as far away from the tracks as possible, and walk to a safe distance whenever trains pass.
- 12.5.5 Buckets, shovels, and loads on cranes must be lowered to the ground to rest, and cranes without a load must have their load line tightened or retracted to prevent movement, whenever there are passing trains.

12.6 Railway Signs, Signals, Flags and other Communication Infrastructure

- 12.6.1 Signs, signals and flags shall not be obstructed, removed, relocated, disabled or altered in any way without proper authorization and qualification.
- 12.6.2 Only qualified Contractor Personnel who are authorized by CP are permitted to operate switches, derails, electric track mechanisms, signal and communication systems or other track control appliances.
- 12.6.3 Railway pole lines carry electric power and should be treated as any other power lines.
- 12.6.4 The Contractor shall keep all Contractor Personnel informed of current weather conditions. Personnel shall stay alert for possible high water conditions, or flash floods. During severe weather conditions:
 - a) Personnel shall be prepared to take cover in the event of a tornado;
 - b) Personnel shall not work while lightning is occurring;
 - c) If storm conditions arise unexpectedly, Contractor Personnel shall ensure that equipment is in the clear of the tracks and secured before seeking cover. Contractor Personnel shall stay away from railroad tracks when visibility is poor, such as during fog or blizzard conditions.

Any Contractor personnel discovering a hazardous or potentially unsafe condition, which may affect the safe passage of railway traffic, must advise CP Police immediately by calling the CP Police Communications Centre – 1-800-716-9132

Excavation

- 12.7.1 Before starting excavation operations, the Contractor shall ascertain that there are no underground wires, fiber optic cables, pipelines or other utilities which could be damaged or, if present, that such installations are properly protected. Fiber optic cables are present on most segments of the right-of-way. Prior to commencing any excavation, the Contractor shall contact the proper authority to obtain the necessary permit and to locate and protect such cables or other underground utilities.
- 12.7.2 Excavations shall not be left unattended unless they are properly protected;

and the Manager- in-Charge shall be notified.

- 12.7.3 Contractors MUST obtain and maintain utility locates in accordance with applicable law.

13 WHMIS

- 13.1.1 If at any time Contractor's Work involves the use, handling, storage, or disposal of Hazardous Materials ("Handling of Hazardous Materials"), Contractor Personnel must inform the Manager- in-Charge.
- 13.1.2 Contractors shall ensure that all Contractor Personnel are fully trained in the Handling of Hazardous Materials and that Contractor and Contractor Personnel are in full compliance with all Applicable Legislation, and as directed by the Manager-in-Charge.
- 13.1.3 Contractor Personnel shall have appropriate processes, systems and controls in place to prevent or otherwise mitigate potential environmental, health and safety risks associated with the Handling of Hazardous Materials.

13.2 Access to Safety Data Sheets (SDS)

- 13.2.1 Prior to beginning any Work that may expose CP Personnel to Hazardous Materials, Contractor or Contractor Personnel shall:
- (a) provide a copy of the respective Safety Data Sheet (SDS) to the Manager-in-Charge; and
 - (b) keep a copy of the SDS at the Work Site and shall such that it is readily available at all times.

13.3 Hazardous Material Incident or Spill

- 13.3.1 In the event of a hazardous material incident or spill, the Contractor must:
- (a) ensure that no Contractor or CP Personnel have or will be exposed;
 - (b) take all reasonable actions to contain the spill;
 - (c) respond in accordance with its emergency response plan; and
 - (d) notify CP immediately in accordance with Section 18.

14 Operation of Highway Vehicles

14.1 Highway Vehicles

- 14.1.1 The following requirements apply to all highway vehicles, when operated on CP Property; or used to transport CP Personnel.

14.2 Regulations and Inspection

- 14.2.1 Before using a highway vehicle, Contractor Personnel shall:
- (a) complete a pre-trip inspection;
 - (b) maintain an inspection log;

- (c) ensure periodic inspections are completed at official testing locations as required;
 - (d) ensure the vehicle is maintained and in safe operating conditions at all times; and
 - (e) ensure the vehicle is in compliance with applicable motor vehicle regulations and license requirements.
- 14.2.2 Vehicle maintenance, inspection records and logs must be made available to the Manager-in- Charge on request.

14.3 Vehicle Operator Requirements

- 14.3.1 Operation of highway vehicles is restricted to those Contractor Personnel who are licensed, qualified and authorized to do so. Such Contractor Personnel shall be responsible for the safety of all passengers at all times. For greater certainty, such Contractor Personnel shall:
- (a) hold a valid license for the class of vehicle being operated, in accordance with applicable local, state and federal requirements, and
 - (b) strictly comply with all posted traffic signs, signals, and all shall obey all Applicable Legislations; and
 - (c) maintain the required driver log, and make the log available to the Manager-in-Charge on request, and
 - (d) comply with the requirements on the use of electronic devices as set out in Section 10 above.

14.4 Driving on CP Property

- 14.4.1 In addition to the requirements set out above, while on CP Property, Contractor Personnel shall:
- (a) travel only on designated roadways unless otherwise instructed;
 - (b) keep daytime running lights on (if so equipped);
 - (c) not exceed 15 mph unless otherwise posted;
 - (d) come to a full stop at all blind corners, rail and roadway crossings;
 - (e) yield the right of way to all Mobile Equipment and other non-highway equipment or service vehicles;
 - (f) not operate vehicles (or any internal combustion equipment) inside buildings or enclosed structures unless adequate ventilation is provided;
 - (g) not park Foul of Track unless on-track protection is provided;
 - (h) not leave vehicles running unnecessarily;
 - (i) park only in pre-determined or designated areas;
 - (j) always use the parking brake (or wheel chocks) when leaving an unoccupied vehicle running;
 - (k) prior to operation of a vehicle the driver must conduct a walk around of the vehicle to identify any obstacles, clearance restrictions, or adjacent vehicles that may interfere with executing a safe movement.
 - (l) where safe and practicable, pull vehicles through or back into marked parking spaces to avoid reverse collisions when exiting.
 - (m) If a passenger is present, he exit the vehicle prior to a reverse movement to provide guidance and direction to the driver during the reverse movement and applies to commercial vehicles and vehicles with restricted rear views
- 14.4.2 All Contractor Personnel who will be operating a highway vehicle or Mobile

Equipment in any CP intermodal facilities must complete a Driver Safety Orientation program prior to first entry, and from time-to-time thereafter as directed by the Manager-in-Charge.

14.5 Seat Belts

- 14.5.1 Seat belts must always be worn while operating or riding in any equipped vehicle unless Contractor Personnel is actively engaged in inspections requiring said Contractor Personnel to be free of such restraint, and then only when the vehicle is operating at less than 25 km/h.

14.6 Loads

- 14.6.1 Contractor Personnel shall ensure vehicles are loaded according to weight and dimensional requirements as authorized by state regulations and permits, and properly load and secure tools, material, equipment and freight to avoid shifting, falling, leaking or otherwise escaping from vehicles during operation.

14.7 Riding in CP Vehicles

- 14.7.1 Contractor Personnel are prohibited from operating or riding in any CP vehicles unless authorized to do so, or in case of emergency.

15 Tools, Equipment and Machinery

15.1 General Safety Requirements Respecting All Tools, Equipment and Machinery

- 15.1.1 Contractor Personnel shall ensure that all tools, equipment, and machinery used be:
- (a) in compliance with all applicable legislation;
 - (b) in good working order, properly serviced and maintained;
 - (c) safe for their proposed use and used only for purposes specified by the manufacturer;
 - (d) operated and maintained only by persons properly trained and qualified for that duty;
 - (e) seat belts (if present on equipment) must be worn while operating or riding any such equipped mobile equipment;
 - (f) if mobile, equipped with appropriate safety devices (e.g. lights, horns, back-up alarms, safety beacons), and prevented from moving through use of the hand brake, wheel blocking, wheel chocking and/or a derail where applicable.
- 15.1.2 The Contractor shall provide adequate lighting when performing work between sunset and sunrise.
- 15.1.3 Use of CP tools, equipment and machinery by Contractor Personnel is prohibited unless specifically authorized by local CP management.

15.2 Hazardous Energy Control- Lockout/Tagout

- 15.2.1 Contractor Personnel shall employ such hazardous energy lockout/tagout procedures as required to eliminate the accidental or unexpected start-up, energizing, or release of stored (residual) energy during maintenance, repair and/or servicing activities.
- 15.2.2 All tools, equipment and machinery must be made safe and isolated from all energy sources rendering the machine, equipment, or process inoperative prior to performing maintenance, repair or servicing related tasks.

- 15.2.3 No Contractor Personnel can remove any CP applied lock or tag, including bad-order tag.
- 15.2.4 Notwithstanding the foregoing, if Contractor's Work may create an energy hazard to any CP Personnel, then all affected parties must follow the requirements set forth in CP's Lockout – Hazardous Energy Control Policy and Code of Practice.
- 15.2.5 If CP Personnel and Contractors are jointly performing maintenance, repair or servicing activities on the same machine, equipment or using the same energy source, then they must apply a multi-

lock hasp and individual locks and tags (as per CP's Lockout – Hazardous Energy Control Policy and Code of Practice).

15.3 Electrical Safety Requirements

- 15.3.1 In addition to the hazardous energy control lockout requirements above, all electrical Work must comply with Applicable Legislation, CSA and National Fire Protection Association (NFPA) requirements.
- 15.3.2 Contractor Personnel Working on electrical systems must:
 - (a) if in proximity to CP Personnel, inform them of:
 - (i) existing or potential electrical hazards;
 - (ii) any specific additional personal protective equipment that may be required;
 - (iii) applicable safe Work practices;
 - (iv) applicable emergency and evacuation procedures; and
 - (v) apply lock out procedures as per section above on Hazardous Energy Control-Lockout
 - (b) have practices, procedures and training that comply with:
 - (i) applicable sections of CSA-Z462 Workplace Electrical Safety Standards;
 - (ii) Canadian Electrical Code Parts 1 and 2; and
 - (iii) any other Applicable Legislation
 - (c) not operate or allow cranes or other mobile equipment to approach closer to any live electrical power line than is permitted by CSA Z150 Standards for mobile cranes.

15.4 Lifting Devices

- 15.4.1 All lifting devices, including but not limited to jacks, cranes, cables, slings, chains and hooks shall:
 - (a) meet Applicable Legislation governing design, inspection, maintenance and operation;
 - (b) be safety certified and labeled or tagged with load capacity limits where required;
 - (c) have sufficient capacity for the planned lift;
 - (d) have sufficient footing or support area to properly distribute the load during a lift.

15.5 Welding and Torch Cutting

- 15.5.1 When welding or torch cutting, Contractor Personnel shall:

- (a) be properly trained and qualified;
- (b) ensure that all closed containers have been properly purged;
- (c) direct flame or sparks away from other Workers, equipment and flammable material;
- (d) have a fire extinguisher readily available;
- (e) keep compressed gas and oxygen cylinders stored in a secure, vertical position, with regulators removed and caps applied, labeled properly and located in vented cabinets or other designated locations.

15.6 Explosive Actuated Tools

- 15.6.1 Only Contractor Personnel who are qualified and licensed in accordance with Applicable Legislation, and authorized by CP, may use explosives or explosive actuated tools.

15.7 Unattended Equipment or Machinery

- 15.7.1 Tools, Equipment and Machinery shall not be left unattended at any time and shall not be stored on CP Property, unless expressly permitted pursuant to a written agreement with CP or by the Manager-in-Charge in writing, and where so permitted, Contractor shall ensure that:
 - (a) storage shall be restricted to the designated area, or as otherwise specified by CP.
 - (b) all such tools, equipment and machinery shall be secured in a safe position well clear of all tracks to prevent accidental contact with trains and moving equipment and to not restrict train crew sightlines;
 - (c) as much as possible, tools, equipment and machinery shall be stored in locations out of public view.
 - (d) Machines must be secured in accordance with on-track machinery rules.

16 Emergency Response

16.1 Emergency Response Plan

- 16.1.1 The Contractor must maintain a current emergency response plan and make it available to CP on request. Emergency response plans must include at a minimum:
 - (a) contractor reporting procedures in the event of an incident or spill;
 - (b) emergency response contacts and phone numbers, including phone numbers for CP incident reporting and local CP managers (See Attachment A); and
 - (c) containment measures to be taken in the event of an incident or spill.

16.2 Initial Response

- 16.2.1 Initial response to any emergency condition must follow the following sequence:
 - (a) Protect the safety and security of all individuals and communities
 - (b) Provide environmental protection and mitigation
 - (c) Conduct incident investigation and evidence preservation
 - (d) Restore railroad operations

16.3 First Aid

- 16.3.1 Contractor Personnel must have sufficient First Aid qualified personnel and the required First Aid kit and any other required First Aid equipment at the Work Site, suitable for the crew size, nature of Work being performed and location, all of which shall, at a minimum, comply with Part II of the Canada Labour Code.

16.4 Fire Protection

- 16.4.1 The Contractor must have appropriate fire extinguishers, suitable in type, size and quantity having regards to the nature of Work and Applicable Legislation, readily available at all times on:
- (a) the Work Site; and
 - (b) all Contractor equipment, machinery and highway vehicles.
- 16.4.2 Contractor Personnel shall ensure that all necessary precautions are taken to prevent fires, including the following:
- (a) storing flammable material (e.g., paper, rubbish, sawdust, oily or greasy rags, etc.) in proper containers;
 - (b) storing and transporting fuel, gasoline or other flammable liquids in approved containers. Use of unapproved containers is prohibited;
 - (c) proper disposal of flammable material daily;
 - (d) preventing static electricity when dispensing or transferring flammable liquids by using proper grounding and bonding techniques;
 - (e) avoid using cutting or welding torches during the last one-half hour of shifts, if possible;
 - (f) taking special precautions with fusees, including:
 - (i) store and transport in approved containers;
 - (ii) do not allow fusees to come in contact with any combustible material, including railroad ties or wooden timbers; and
 - (iii) fully extinguish fusees before leaving the location where used;
 - (g) promptly advise CP management of any fire on CP Property; and
 - (h) fully extinguish or provide protection for any fire prior to leaving the Work Site.
- 16.4.3 Contractors Working on the CP right-of-way where a high risk of fire exists (e.g., during rail grinding, rail welding) must have:
- (a) appropriate fire prevention and suppression plans (including emergency numbers for CP, local firefighters and fire control districts); and
 - (b) additional firefighting equipment and trained Contractor Personnel on site, as required by Applicable Legislation or the Manage In Charge.

17 Confined Space

17.1 Confined Space

- (a) Qualified and authorized Contractor Personnel must follow all required confined space entry procedures in accordance with applicable legislation and standards prior to entering into a confined space.

- (b) Rescue procedures and equipment must readily available when required to enter a confined space.

18 Reportable Accidents, Incidents and Injuries

18.1 Reportable Injuries

18.1.1 Reportable injuries include any personal injury to:

- (a) Contractor Personnel;
- (b) any CP Personnel; or
- (c) to any third party on CP Property.

18.2 Reportable Accidents

18.2.1 Reportable accidents include any occurrence that results in:

- (a) damage to railroad tracks, right of way, buildings or other CP Property;
- (b) damage to railroad equipment;
- (c) damage to CP highway vehicles;
- (d) release or potential for release of hazardous material;
- (e) damage to a container, spill or loss of transported commodities; and
- (f) any threat to the environment.

18.3 Reportable Incidents

18.3.1 Reportable incidents include:

- (a) unintended movement of railroad equipment;
- (b) failure to provide track protection for Workers when required;
- (c) movement of railroad equipment beyond authorized limits;
- (d) operation of railroad equipment by an unqualified person;
- (e) unauthorized handling of a track switch;
- (f) damage, vandalism or tampering with any railroad signals, structures or railroad safety device;
- (g) seepage, leakage, spills of, or other contamination from, Hazardous Materials;
- (h) actual, threaten or suspected security related incidents;
- (i) slides, washouts or other on-track obstructions; or
- (j) any occurrence that may disrupt the movement of trains or affect safe rail operations.

19 Reporting

19.1 Emergency Reporting

19.1.1 In the case of an emergency, Contractor Personnel must call:

- (a) 911, where this emergency response system exists, or
- (b) the local police, fire or emergency department in all cases; and
- (c) **CP Police Services Communication Center- 1-800-716-9132.**

19.2 Accident, Incident, Injury Reporting

19.2.1 When an accident, incident or injury occurs on CP Property, the Contractor must:

- (a) immediately report it to the
 - (i) **CP Police Services Communication Center 1-800-716-9132**; and
 - (ii) **CP Manager-in-Charge**
- (b) follow all instructions given to protect the scene.

19.2.2 CP does not report Contractor Personal Injuries to WCB. Such WCB reporting remains the Contractor's responsibility.

19.3 Information to Report

19.3.1 Information required with the initial report includes:

- (a) type of incident;
- (b) date and time of occurrence;
- (c) location (mileage, subdivision, building, yard or other physical description);
- (d) identity of person(s) involved or injured (company & name);
- (e) description of any hazardous materials involved;
- (f) type & unit number of any railroad equipment or vehicle involved;
- (g) description of occurrence, damage and/or injury, and cause if known;
- (h) description of any emergency response;
- (i) name and contact information of person making the report; and
- (j) any such other information that CP may require.

19.4 Environmental Incidents and Spills

19.4.1 In the event of an environmental incident spill, leak or potential release of a hazardous material, the Contractor must immediately:

- (a) immediately report the incident to:
 - (i) CP Police Services Communication Center 1-800-716-9132;
 - (ii) CP Manager-in-Charge,
 - (iii) Designated CP contact as per the governing agreement relating to the Work; and
 - (iv) Regulatory authorities that require notification related to the nature of the incident.
- (b) follow all instructions given to protect the scene.
- (c) take all reasonable actions to contain the spill;
- (d) respond in accordance with its emergency response plan; and
- (e) provide CP with the following information;
 - (i) description of location and surrounding area, including any sensitive environmental areas nearby (e.g., rivers, parks, sewers);
 - (ii) type and quantity of substance released;
 - (iii) cause of spill or deposit, if known; and
 - (iv) details of any immediate action taken or action proposed to be taken to contain spill and recover substance.
 - (v) details of any external or regulatory agency reporting completed as a result of the incident.

19.5 Additional Contractor Requirements

19.5.1 Contractor and Contractor Personnel must:

- (a) ensure an appropriate emergency response is initiated;
- (b) protect any evidence until released by the CP Manager-in-Charge;
- (c) cooperate fully with any CP investigation;
- (d) cooperate fully with any investigating government agency; and
- (e) notify CP if information is requested by any investigating government agency.

20 Contractor & Contractor Personnel Acknowledgement

Acknowledgement

20.1.1 Contractor and Contractor Personnel who Work on CP Property shall be deemed to have read and understood the content of these Minimum Safety Requirements for Contractors While Working on CP Property in Canada, as amended from time to time, and to agree to be bound by them.

20.1.2 These Minimum Safety Requirements for Contractors While Working on CP Property in Canada are subject to change without prior notice. The most current version of these Minimum Safety Requirements can be viewed at www.cpr.ca or by contacting the Manager-in-Charge.



Home Safe™ is a commitment to be vigilant about personal safety and the safety of co-workers.

NOTES:

20 Attachment A – Emergency Information Sheet

Emergency Contact Information

Emergency Contacts	Phone	Location
CP Calgary Operations Center	1-800-795-7851	•
CP Police Services	1-800-716-9132	
CP Railroad Traffic Controller Radio Channel		
Manager-in-Charge		
Local Police Services		
Local Fire Services:		
Local EMS		
Hospital		
Physician		
Aircraft Service, (if applicable):		
Watercraft Service, (if applicable):		
Other Emergency Services		

Emergency Evacuation Route

(Describe nearest evacuation assembly location OR Provide sketch on back)

Work Site Information

	Phone	Location
Work Site Location Name		
Railroad Subdivision & Mileage		
Address, Number and Street		
Nearest Town		
CP Manager-in-Charge		
Emergency Site Access Route (Describe route from nearest emergency services location in detail including access roads & physical landmarks OR provide sketch on back.)		
Contractor Supervisor		
Site Telephone		
Certified First Aid Attendant		
Location of First Aid Supplies at Site		
Location of Fire Extinguishing Equipment:		
Location of WHIMS data sheets		

Utility Information

Utilities Contact	Phone	Location

Natural Gas:	()	
Electrical:	()	
Fiber Optic Line:	()	
Water & Sewer:	()	
Telephone:	()	
Cable System:	()	
Qualified employee(s) in:	()	
Confined Space Entry, (if applicable):	()	
Equipment requirements for Confined Space Entry, (if applicable):	()	
Other:		

SCHEDULE "E"

ENVIRONMENTAL REQUIREMENTS

1. **Environmental Management Plan.** The Road Authority shall, at its own expense, comply with all Environmental Laws and develop, implement and maintain a site-specific Environmental Management Plan to ensure:
 - (a) that the Road Authority Work and the Project Plans comply with all Environmental Laws;
 - (b) that it has appropriate systems and controls in place to avoid or mitigate potential environmental, health and safety risks with respect to the Project Site and any adjacent lands and watercourses, including silt fences, spill kits and erosion controls;
 - (c) that any construction debris or waste of any kind (whether hazardous or not and including contaminated soil excavated from the Railway Lands) resulting from the Road Authority Work is not disposed of on the Project Site or Railway Lands; and
 - (d) the Road Authority's response to any incident involving a release, leak, deposit or spill is handled in accordance with the provisions of this Schedule "E".

2. **Spill Prevention.** The Road Authority shall undertake the Road Authority Work and related activities in a manner that avoids, minimizes, or mitigates the risk of a release or other safety hazard. The Road Authority shall provide spill containment as necessary to protect the ground and capture any spills that may occur in accordance with its Environmental Management Plan.

3. **Storage of Hazardous Substances.** The Road Authority shall not install any fuelling tanks or fuelling stations on the Railway Lands or store any Hazardous Substances including any fuel, oil, grease, petroleum, gas or chemicals on the Railway Lands.

4. **Incidents.** The Road Authority covenants as follows.
 - (a) The Road Authority shall immediately report any incident involving a release, leak, deposit or spill of a Hazardous Substance arising from the

Road Authority Work or Project activities to the CP Operations Centre in Calgary at 1.800.795.7851 (or such other contact number CP may publish from time to time) whether or not such releases are required to be reported to any federal, provincial or local authority, and to any regulatory authorities (including CANUTEC) as required by law.

- (b) The Road Authority shall immediately respond to such incident described in Subsection 4(a) and take all reasonable actions to contain the spill and respond in accordance with its Safety and Emergency Response Plan; provided, however, that CP may elect to remediate, repair and restore the roadbed, track and related structures on the Railway Lands impacted by any Hazardous Substance, at the expense of the Road Authority.
- (c) The Road Authority shall provide a written follow-up report to CP within five (5) Business Days of such incident which constitutes an offence or is reportable under any laws, by-laws, or regulations relating to the protection of the environment, or is in breach thereof. Such follow-up report will describe the incident, substance and volume released, and measures undertaken or planned to cleanup and remove the released substance and any contaminated soil, water and materials and waste and identify the name and address of the proposed disposal facility.
- (d) The Road Authority shall provide CP with copies of any and all reports made to any Governmental Authorities that relate to such incidents or releases. In addition, the Road Authority shall provide CP with a copy of any alleged violation of applicable Environmental Laws relating to the Road Authority Work or activities at the Project Site, as well as a copy of any written responses made by the Road Authority to Governmental Authorities regarding said violations.
- (e) The Road Authority shall commence and complete, at the request of CP, the cleanup, disposal, and remediation of any spill or environmentally unsound condition occurring on the Railway Lands or any CP property as a result of the Road Authority Work. The Road Authority shall completely clean up any such spill or condition (including any contaminated soil excavated from Railway Lands); shall dispose of any contaminated soil or waste in a properly licensed disposal facility and maintain a copy of the manifest to verify such proper disposal; and shall replace contaminated soils with clean fill as appropriate under the circumstances. The Road Authority shall demonstrate to the satisfaction of CP, acting reasonably, that any impacted lands (including the Railway Lands and any impacted adjacent lands) have been restored to a condition existing prior to the commencement of the Project.
- (f) The Road Authority shall be solely responsible for all costs related to the clean-up and remediation of any releases or incidents resulting from the Road Authority Work or any of its related construction activities on the Railway Lands.
- (g) If CP and the Road Authority are in disagreement as to whether any such incident has been completely cleaned up, the contaminated soil or waste properly disposed of and replaced with appropriate clean fill, the Road Authority shall retain a reputable environmental consulting firm to review the Road Authority activities and report whether the Road Authority has fulfilled its obligations hereunder. If the Road Authority obligations have not been fulfilled, the Road Authority shall take further action as is necessary to rectify any deficiencies and obtain a report from the environmental consultant verifying the same.

Appendix “B”

Bill No.
By-law No.

A by-law to approve and authorize the Crossing and Maintenance Agreement between Canadian Pacific Railway Company (“CP”) and The Corporation of the City of London (the “City”) for the crossing and maintenance of the Adelaide Street Subway located at approximately Mile 113.73 of the Galt Subdivision, Ontario to be installed by the Adelaide Underpass Project.

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 enter into a Crossing and Maintenance Agreement (the “Agreement”) with Canadian Pacific Railway Company for the crossing and maintenance of the Adelaide Street Subway located at approximately Mile 113.73 of the Galt Subdivision, Ontario within Adelaide Street.

AND WHEREAS it is deemed 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 “1” to this by-law, being a Crossing and Maintenance Agreement between Canadian Pacific Railway Company and The Corporation of the City of London (the “City”) for the crossing and maintenance of the Adelaide Street Subway located at approximately Mile 113.73 of the Galt Subdivision, Ontario within Adelaide Street is hereby AUTHORIZED AND APPROVED.
2. The Mayor and City Clerk are authorized to execute the Agreement authorized and approved under section 1 this by-law.
3. This by-law shall come into force and effect on the day it is passed.

PASSED in Open Council , 2021

Ed Holder
Mayor

Catharine Saunders
City Clerk

First Reading
Second Reading
Third Reading

Schedule "1" - Crossing and Maintenance Agreement

CANADIAN PACIFIC RAILWAY COMPANY

- AND -

THE CORPORATION OF THE CITY OF LONDON

CROSSING AND MAINTENANCE AGREEMENT

In respect of a Subway located at approximately Mile 113.73 of the Galt Subdivision,
Ontario

_____, 2021

CROSSING AND MAINTENANCE AGREEMENT

This Agreement is dated _____, 2021.

BETWEEN:

CANADIAN PACIFIC RAILWAY COMPANY, a company
incorporated under the laws of Canada and having its head
office in the City of Calgary, Alberta (**CP**)

- and -

THE CORPORATION OF THE CITY OF LONDON (The Road Authority)

RECITALS.

- A. CP is a federally regulated railway and its Railway Operations, rights-of-way and facilities are subject to the jurisdiction, decisions and orders of the Agency, Transport Canada and federal legislation, including the *CTA* and the *RSA*.
- B. CP and The Road Authority will be parties to a *Grade Separation Construction Agreement* pursuant to which CP authorizes The Road Authority to construct the Subway at the location shown on The Road Authority plans bearing numbers _____ attached as Schedule "A" (collectively, the **Plans**).

- C. Crossing Rights are necessary for the ongoing occupancy, operation over, use and Maintenance of the Subway by The Road Authority.
- D. CP intends to file a copy of this Agreement with the Agency pursuant to Section 101 of the CTA, and thereby become an order of the Agency.

NOW THEREFORE THIS AGREEMENT WITNESSES THAT, in consideration of the covenants herein contained and good and valuable consideration paid by each Party to the other, the receipt and sufficiency of which are hereby respectively acknowledged, the Parties agree as follows.

- 1 **Definitions.** In this Agreement the following words and phrases shall have the meanings set out below.
- (a) **Access Protocols** has the meaning ascribed in Schedule "C".
 - (b) **Affiliate** has the meaning ascribed in the *Canada Business Corporations Act*, as amended and replaced from time to time or in any statute or statutes passed in substitution therefor.
 - (c) **Agency** means the Canadian Transportation Agency and any successor or successors of the Agency.
 - (d) **Agreement** includes all schedules attached hereto, as may be amended or modified from time to time.
 - (e) **Alteration Plans** has the meaning ascribed in Section 6(a).
 - (f) **Applicable Laws** means all applicable federal, provincial, municipal and local laws, statutes, codes and standards, ordinances, by-laws and regulations and all orders, directives and decisions rendered by, and policies, standards, guidelines and similar guidance of, any Governmental Authority, ministry, department or administrative or regulatory agency or court having jurisdiction over the Parties, the Railway Lands, the Subway, and includes Environmental Laws and Safety Laws.
 - (g) **Business Day** means any day other than Saturdays, Sundays and statutory holidays in Ontario and Alberta.
 - (h) **CP Indemnified Group** means, collectively, CP, its Affiliates, officers, directors, employees, and agents.
 - (i) **CP Safety Requirements** means the *Minimum Requirements for Contractors Working on CP Property in Canada*, as referenced in Schedule "C".
 - (j) **CTA** means the *Canada Transportation Act*, as amended and replaced from time to time or any statute or statutes passed in substitution therefor, together with all regulations made from time to time under the act.
 - (k) **CTA Guide** means the *Guide to Railway Charges for Crossing Maintenance and Construction* published by the Agency, as amended from time to time.
 - (l) **Contractor** means any contractor engaged by The Road Authority to perform Maintenance.
 - (m) **Cost** or **Costs** means the rates and charges set by the most recent CTA Guide.
 - (n) **Crossing Area** means that portion of the Railway Lands under or upon which the Subway is located, as outlined on the location and profile attached hereto as Schedule "B".

- (o) **Crossing Rights** means the rights granted by CP to The Road Authority within the Crossing Area described in Section 2(a).
- (p) **Emergency Situation** means a situation arising that causes an immediate and serious threat or danger to the public, CP employees, Personnel, the Railway Lands, or Railway Operations.
- (q) **Environmental Laws** means all applicable federal, provincial, municipal and local laws, statutes, ordinances, by-laws and regulations and all orders, directives and decisions rendered by, and policies, standards, guidelines and similar guidance of, any Governmental Authority, ministry, department or administrative or regulatory agency or court (which, for certainty, in each case shall be deemed to have the force of law), including any obligations or requirements arising at law, relating to the protection of the environment, human and other animal health and safety or the release, manufacture, processing, distribution, use, treatment, storage, presence, disposal, packaging, labelling, recycling, transport, handling, containment, clean-up or other remediation or corrective action of or in respect of any Hazardous Substances.
- (r) **Environmental Management Plan** means an environmental management plan developed, implemented and maintained by The Road Authority to ensure:
 - (i) compliance with Environmental Laws; and
 - (ii) adverse environmental impacts due to Maintenance are avoided,
 as further described in Schedule "D".
- (s) **Governmental Authority** means any government, parliament, legislature, or any governmental, quasi-governmental or regulatory authority, agency, commission, department or board, ministry, department or administrative or regulatory agency or court (which, for certainty, in each case shall be deemed to have the force of law), any political subdivision thereof, or any court or any other law (including any obligations or requirements arising at law), regulation or rule-making entity, having jurisdiction in the relevant circumstances, or any Person acting under the authority of any of the foregoing (including any court or any arbitrator with the authority to bind the Parties at law) or any other authority charged with the administration or enforcement of legal requirements.
- (t) **Hazardous Substances** means any substance, class of substance or mixture of substances, or such quantity or concentration of an otherwise non-hazardous substance or substances, which are or may be detrimental to the environment or human health including, without limitation:
 - (i) radioactive, explosive, poisonous, corrosive, flammable or toxic substances or materials;
 - (ii) any substance that if added to any water, would degrade or alter the quality of the water to the extent that it is detrimental to man or any animal, fish or plant;
 - (iii) any solid, liquid, gas or odour or combination of any of them that, if released, creates or contributes to a condition that:
 - (A) endangers the health, safety or welfare of persons;
 - (B) interferes with the normal enjoyment of life or property; or
 - (C) causes damage to plant life, animal life or to property;

- (iv) toxic substances, including, without limitation, asbestos, polychlorinated biphenyls, all chemicals and substances known or suspected to cause cancer or reproductive toxicity;
 - (v) any substance, chemical or material, declared to be hazardous or toxic under any Applicable Laws or ordinance enacted or promulgated by any Governmental Authority; and
 - (vi) any medical waste or hazardous biological material.
- (u) **Interference** means to endanger, hinder, interfere with or materially affect Railway Operations.
- (v) **Losses** means any and all injuries, claims, suits, demands, awards, actions, proceedings, losses, costs, damages, expenses, charges (including all penalties, loss of profit, loss of income or consequential damages or losses with respect to Rolling Stock, Railway Operations or otherwise) by whomsoever made, brought or prosecuted which a Party suffers, sustains, pays or incurs and includes reasonable costs of legal counsel (on a solicitor-client basis) and other professional advisors and consultants incurred in connection therewith.
- (w) **Maintain or Maintenance** means all activities necessary to safely operate the Subway including the Substructure on which the Subway shall run (including in cases of emergency) including, but not limited to, activities that require access to the Railway Lands, together with any required mitigative measures within the Crossing Area in accordance with the terms of this Agreement and Applicable Laws, but does not include a Material Alteration.
- (x) **Material Alteration** means:
- (i) constructing any new rail track on the Subway within the Crossing Area, including for the purpose of expansion; or
 - (ii) upgrades or repairs, such as altering, removing, reconstructing and relocating the Subway within the Crossing Area. **Material Alteration Notice** has the meaning ascribed in Section 6(a).
- (y) **Parties** means The Road Authority and CP and **Party** means either The Road Authority or CP.
- (z) **Personnel** means the employees and agents of The Road Authority and all individual persons engaged or retained by The Road Authority, whether directly or indirectly, in connection with Maintenance.
- (aa) **RSA** means the *Railway Safety Act (Canada)*, as amended and replaced from time to time or any statute or statutes passed in substitution therefor, together with all regulations made from time to time under the act.
- (bb) **Railway Line** means all improvements, railway lines and structures situated within or upon the Railway Lands.
- (cc) **Railway Operations** means the operations, business and undertaking of CP in respect or in furtherance of Rolling Stock over CP's network of railway lines, as well as the operation of switches, signals, fibre optic, signal and communications systems (including conduits, cables, fibres, towers, associated equipment and facilities), whether on the Railway Lands or elsewhere.
- (dd) **Railway Work** means:
- (i) inspecting, maintaining, repairing, altering, modifying, expanding, relocating, replacing or reconstructing the Railway Line;

- (ii) constructing a new rail facility; and
 - (iii) such other operations as may be required from time to time.
- (ee) **Remove or Removal** means the physical removal of the Subway or any part or parts thereof from the Crossing Area and restoration of subsurface and ground surface to the satisfaction of CP, acting reasonably.
- (ff) **Rolling Stock** means trains, locomotives, railcars, boxcars, gondolas, railway machinery, vehicles, equipment of every nature, and the contents of same.
- (gg) **Routine Maintenance** means inspection and maintenance activities conducted wholly within the Subway in accordance with the terms of this Agreement and Applicable Laws and, for greater certainty, in no circumstance includes any access to the surface or subsurface of the Railway Lands.
- (hh) **Safety and Emergency Response Plan** means the safety and emergency response plan to be implemented and maintained by The Road Authority to ensure compliance with Safety Laws and Schedule "B".
- (ii) **Safety Laws** means:
- (i) all Applicable Laws related to the safety of Railway Operations;
 - (ii) the regulations, orders, specifications, and directives of Transport Canada, the Agency and any other Governmental Authority having jurisdiction in respect of Railway Operations or the Railway Lands; and
 - (iii) all Applicable Laws related to the Railway Lands in force with respect to health or occupational health and safety.
- (jj) **Subdivision** means the Mactier Subdivision and all improvements, railway lines and structures situated therein or thereon.
- (kk) **Superstructure** means the deck span above the substructure.
- (ll) **Substructure** means the underlying support structure below the subway deck, including but not limited to the abutments and piers.
- (mm) **Subway** means the grade separated subway and multi-lane roadway known as the Adelaide Street underpass, including but not limited to the roadway, bridge substructure, superstructure, permanent or temporary support structures, rail track, retaining walls, signs, lights, drains, ditches, water conveyances and other associated works and improvements passing on, over or adjacent to the Railway Lands as detailed in the Plans.
- (nn) **Third Party Fibre Systems** means fibre optic and communications systems owned and operated by a Third Party (including conduits, cables, fibres, towers, associated equipment and facilities).
- (oo) **Third Parties** means a Person other than The Road Authority or CP.
- (pp) **Track Block** means the act of blocking or mechanically prohibiting Rolling Stock from accessing the Crossing Area.
- (qq) **Utility Crossing** means any Utility Works crossing under, on or above the Railway Lands installed or erected in accordance with Section 101 of the CTA.
- (rr) **Utility Works** means oil, gas and water pipelines, railway lines and facilities, power lines, telephone lines, drains, sewers, pipes, fibre optic,

signal and communications systems (including conduits, cables, fibres, towers, associated equipment and facilities), Third Party Fibre Systems and related structures.

2 **Grant.**

- (a) CP hereby grants to The Road Authority, insofar as it has the right to do so, the right to occupy, operate, and use the Crossing Area, including the right to maintain the Subway within the Crossing Area, subject to the terms and conditions contained in this Agreement.
- (b) The Road Authority agrees that it has no right to:
 - (i) perform a Material Alteration; or
 - (ii) conduct any activities other than as specified in Section 2(a),
within the Crossing Area except as expressly agreed to by CP in accordance with the terms of this Agreement.
- (c) This Agreement shall commence on the date first written above and shall remain in effect continuously thereafter until a further order of the Agency is granted.
- (d) The Road Authority agrees and acknowledges that it has no right to construct any improvements or facilities within the Railway Lands, whether inside or outside the Crossing Area.

3 **Paramourncy of Railway Operations.**

- (a) The Road Authority covenants that the Crossing Rights shall in no way preclude or interfere with the full, free, complete, safe, continuous, uninterrupted and unhindered Railway Operations and any other purpose or use of the Railway Lands by CP.
- (b) In furtherance of CP's paramourncy of Railway Operations, The Road Authority agrees and acknowledges that, for the purposes of Railway Work:
 - (i) the Subway may have to be relocated, protected, modified, altered or lowered; or
 - (ii) Subway Operations may have to be modified or delayed,and that, in either circumstance, CP shall not be responsible to The Road Authority for any resulting costs, expenses, losses or damages incurred or suffered by The Road Authority.
- (c) The Road Authority acknowledges the Crossing Area may contain Utility Works. CP may in the future require additional railway and expansions, or be ordered by the Agency to grant rights to Third Parties and such rights may require the subsurface or overhead use of portions of the Crossing Area which are parallel to, under or over the Subway. As a result of the foregoing, CP and such Third Parties shall, at all times, but subject to the rights granted in this Agreement and the requirements of Applicable Laws, have unrestricted access to and use of the Crossing Area for the maintenance of existing and future Utility Works.

4 **Designation.** Ownership of the Subway shall remain solely with The Road Authority.

5 **Maintenance.**

- (a) Following completion of the Project, maintenance costs shall be apportioned in accordance with the Canadian Transportation Agency (CTA)

maintenance cost guidelines for a subway as follows: the Railway company pays all maintenance costs of the substructure and the superstructure of a subway with the exception of aesthetic repairs and the Road Authority pays all other maintenance costs of a subway, including cost of maintaining the road approaches, retaining walls, road surfaces, sidewalks, drainage and lighting.

6 **Material Alteration.**

- (a) If The Road Authority wishes to undertake a Material Alteration, The Road Authority shall deliver to CP a request in accordance with Section 21 (a **Material Alteration Notice**), together with design plans identifying the Material Alteration (**Alteration Plans**) not less than one hundred and eighty (180) days prior to the date on which The Road Authority intends to commence such Material Alteration.
- (b) CP reserves the right to charge a reasonable administration fee for the review and, if applicable, approval of Alteration Plans.
- (c) The Road Authority acknowledges that it shall be solely responsible for all costs of any Material Alteration and the ongoing and future Maintenance thereof.
- (d) Prior to commencing any Material Alteration, The Road Authority shall enter into CP's then standard form *Grade Separation Construction Agreement* and *Crossing and Maintenance Agreement*, and/or any other agreement CP may require.

7 **Signs/Markers.** The Road Authority, at its sole expense, shall install and maintain signs prominently marking the Subway, at locations satisfactory to CP (or as required by any Governmental Authority).

8 **Environmental Obligations.** The Road Authority shall:

- (a) provide to CP, and maintain throughout the term of this Agreement, its Safety and Emergency Response Plan and its Environmental Management Plan, including provisions for protective structures (including without limitation fencing or netting) to any Interference or Emergency Situation;
- (b) carry out all measures CP may reasonably consider appropriate to avoid creating a hazardous, unsafe, unhealthy or environmentally unsound condition in or upon the Railway Lands, including without limitation:
 - (i) appropriate drainage measures and improvements to ensure roadway drainage is not directed on to the Railway Lands; and
 - (ii) that Hazardous Substances and debris accumulations will not drain directly into or upon the Railway Lands;
- (c) notify any Governmental Authorities as required by Applicable Laws, and provide a written report to CP within ten (10) Business Days of:
 - (i) the detection of a Hazardous Substance on the Railway Lands that could impact Railway Operations; or
 - (ii) any event on or affecting the Railway Lands which constitutes an offence of or is reportable under any Applicable Laws,

and such written report shall describe the incident, the Hazardous Substance, volume and concentration of Hazardous Substance released and measures undertaken or planned to clean up and remediate the Hazardous Substance and any contaminated soil, water, materials and waste from the Railway Lands;

- (d) coordinate with CP to:
 - (i) carry out all work required by Applicable Laws or any Governmental Authorities to remediate any Hazardous Substance from in or upon the Railway Lands; and
 - (ii) remediate and clean up, to the satisfaction of CP, any Hazardous Substance in or upon the Railway Lands resulting from or in connection with the Subway and caused by The Road Authority or by those for whom The Road Authority is in law responsible; provided that CP may elect to perform some of the work, but all such work shall be at the sole cost and expense of The Road Authority.

9 **Insurance Obligations.**

- (a) The City shall obtain and maintain (or cause to be obtained and maintained by the Contractor) during the term of this Agreement, and any extension hereof, with an insurer licensed under *The Insurance Act* (Ontario), the following policies of insurance:
 - (i) "*Wrap-Up*" *Commercial General Liability* insurance covering the City and its Personnel, including architects, engineers contractors and subcontractors (but not for professional liability) with a limit of not less than **twenty-five million dollars (\$25,000,000)** (or such greater amount that CP may require from time to time) for any one Loss or occurrence for personal injury, bodily injury, or damage to property including Loss of use thereof, business interruption and consequential damages. This insurance policy shall by its wording or by endorsement include the following:
 - (i) the CP Indemnified Group as additional insured;
 - (ii) "cross liability" or "severability of interest" clause which shall have the effect of insuring each entity named in the policy as an insured in the same manner and to the same extent as if a separate policy had been issued to each;
 - (iii) blanket contractual liability;
 - (iv) broad form products and completed operations, not less than twenty-four (24) months completed operations coverage;
 - (v) shall not exclude operations on or in the vicinity of the railway right-of-way, if applicable;
 - (vi) shall not exclude crane operations;
 - (vii) non-owned auto liability;
 - (viii) contingent employer's liability;
 - (ix) broad form property damage;
 - (x) the City's and Contractor's protective liability;
 - (xi) employees as additional insured; and
 - (xii) property damage due to explosion, collapse and underground property damage;
 - (xiii) shall not exclude loss or damage to existing structures or infrastructure including that of CP.
 - (ii) *Automobile Liability* insurance covering bodily injury and property damage in an amount not less than **two million dollars (\$2,000,000)**

(or such greater amount that CP may require from time to time) per accident, covering the ownership, use and operation of any motor vehicles and trailers which are owned, leased or controlled by the City and used in regards to this Agreement. The City's Contractors and their subcontractors shall independently maintain automobile liability insurance covering bodily injury and property damage in an amount not less than **five million dollars (\$5,000,000) (or such greater amount that CP may require from time to time)** per accident, covering the ownership, use and operation of any motor vehicles and trailers which are owned, leased or controlled by such Contractors and/or its subcontractors and used in connection with the Project.

- (iii) *Contractor's Pollution Liability* insurance, including naming the CP Indemnified Group as an additional insured, with a limit of not less than **five million dollars (\$5,000,000) (or such greater amount that CP may require from time to time)** for any one Loss or pollution event. Coverage shall include claims for bodily injury, death, damage to property, including Losses, clean-up costs and associated legal defense expenses arising from pollution conditions caused by, and/or exacerbated by, work performed by the City and/or its Contractors. The policy shall be endorsed to contain a blanket contractual liability endorsement. If this policy is written on a "claims-made" basis it shall remain in effect for no less than twenty four (24) months after the expiration or Termination of this Agreement.
- (iv) *Commercial General Liability* policy with a limit of not less than **ten million dollars (\$10,000,000) (or such greater amount that CP may require from time to time)** for any one Loss or occurrence for personal injury, bodily injury, or damage to property, including Losses. This policy shall by its wording or by endorsement include the following:
 - (i) the CP Indemnified Group as an additional insured with respect to obligations of the Contractor under this Agreement and incidental thereto;
 - (ii) "cross liability" or "severability of interest" clause which shall have the effect of insuring each entity named in the policy as an insured in the same manner and to the same extent as if a separate policy had been issued to each;
 - (iii) blanket contractual liability, including the insurable liabilities assumed by such Contractors under this Agreement;
 - (iv) products and completed operations;
 - (v) shall not exclude operations on or in the vicinity of the railway right of way;
 - (vi) non-owned auto liability;
 - (vii) sudden and accidental pollution liability; and
 - (viii) contingent employer's liability.
- (b) The Road Authority shall ensure that it and the Contractor comply with the *Workplace Safety and Insurance Act, 1997 (Ontario)*, as amended and replaced from time to time or any statute or statutes passed in substitution therefor, together with all regulations made from time to time under such act. Upon request, the Road Authority will provide CP with written confirmation from the Ontario Workplace Safety and Insurance Board that the Contractor is registered under and in compliance with the requirements of the *Workplace Safety and Insurance Act, 1997 (Ontario)*, as amended

and replaced from time to time or any statute or statutes passed in substitution therefor, together with all regulations made from time to time under such act.

- (c) All policies of insurance stipulated in this Section 9 shall be with insurers acceptable to CP, and the City shall provide CP with a copy of certificates of insurance evidencing the above insurance to the satisfaction of CP. Such certificates shall be sent by email to Risk_Management@CPR.ca. CP may, at its option, require the City to annually provide CP with a copy of updated certificates of insurance evidencing the renewal of the above insurance. CP shall have no obligation to examine such certificates or to advise the City in the event its insurance is not in compliance herewith. Acceptance of such certificates which are not compliant with the stipulated coverage shall in no way whatsoever imply that CP has waived the insurance requirements of the City.
- (d) The City agrees that the insurance coverage required to be obtained and maintained by it under the provisions of this Agreement shall not limit or restrict its liabilities under this Agreement.
- (e) Unless otherwise provided above, all insurance coverage shall take place in the form of an occurrence basis policy and not a claims made policy.
- (f) The City agrees that the insurance coverage is primary and not excess of any other insurance that may be available.
- (g) The maximum deductible under each policy of insurance required to be maintained hereunder shall be **fifty thousand dollars (\$50,000)** unless approved by CP in writing.
- (h) The City shall provide CP with written notice and all reasonable particulars and documents related to any damages, Losses, incidents, claims and potential claims concerning this Agreement as soon as practicable after the damage, Loss, incident or claim has been discovered.
- (i) The insurance policies shall be endorsed to provide CP with not less than thirty (30) Business Days written notice in advance of cancellation, material change or amendments restricting coverage.
- (j) CP reserves the right to maintain the insurance in good standing at the City's expense and to require the City to obtain additional insurance where, in CP's opinion, the circumstances so warrant.
- (k) If at any time the City fails to obtain and maintain (or cause to be obtained and maintained by its Contractors) any of the insurance required under this Agreement, on notice from CP the City and its Contractors shall immediately stop all work on the Project and on the CP Yard and neither the City nor its Contractors shall access (whether directly or indirectly) the CP Yard until each has received written approval from CP.
- (l) The provisions of this Section 9 shall survive the expiration or Termination of this Agreement.

10 **Costs, Fees and Liens.**

- (a) CP shall contribute a fixed amount of eight million and seven hundred fifty thousand dollars (\$8,750,000) to the project.
- (b) CP will pay the contribution annually in four (4) installments, starting in the first year of construction, but no earlier than January 2020.
- (c) All other costs arising in connection with the construction of the Subway pursuant to the terms of this Agreement shall be paid by the Road Authority.

- (d) CP will invoice The Road Authority for any and all Costs and fees payable hereunder and The Road Authority shall pay such Costs or fees, including CTA overheads, within thirty (30) days after receipt of a written statement of such Costs or fees.
- (e) In the event the Agency shall discontinue publishing the CTA Guide, the accounts shall be prepared in accordance with such standard rates as set out in any alternate document that will succeed the CTA Guide. Until such alternate document is publicly available, the standard rates shall be those set out in the most recent published version of the CTA Guide indexed by the Consumer Price Index for the transportation sector published by Statistics Canada.
- (f) The Road Authority shall keep title to the Railway Lands free from any and all liens and similar claims and encumbrances that arise due to Maintenance or other work conducted by The Road Authority within or affecting the Crossing Area. To the fullest extent permitted by Applicable Laws, The Road Authority waives all rights of such liens, claims and encumbrances. If The Road Authority fails to release and discharge any such lien, claim or encumbrance within five (5) Business Days of receiving notice from CP, CP may, at its option, discharge or release the lien, claim or encumbrance, or otherwise deal with the claimant thereunder, and The Road Authority shall pay CP any and all costs and expenses of CP in so doing, including legal fees and expenses (on a solicitor-client basis) incurred by CP.
- (g) The Road Authority shall indemnify CP from and against all taxes or assessments of any description whatsoever levied by any Governmental Authority in respect of the Subway.

11 **Waiver and Indemnity.**

- (h) The Road Authority shall, and cause the Contractor to, indemnify and hold harmless the CP Indemnified Group from and against any and all Losses suffered or incurred by the CP Indemnified Group that arise out of, result from, are based upon or are in any way connected with:
 - (i) this Agreement;
 - (ii) Maintenance;
 - (iii) Routine Maintenance;
 - (iv) anything to be done or maintained by The Road Authority hereunder;
 - (v) anything not done or maintained by The Road Authority as required hereunder;
 - (vi) claims by Personnel under workers' compensation legislation;
 - (vii) acts or omissions by or attributable to The Road Authority or its Personnel; and
 - (viii) the breach of the timing or conditions of any Track Block approved by CP with respect to Maintenance.
- (i) The Road Authority shall make no claim or demand against the CP Indemnified Group for any Losses (including death) or damage to property suffered or sustained by The Road Authority, Personnel or any other Person which arises out, results from, or is based upon or are in any way connected with:
 - (i) this Agreement;

- (ii) Maintenance;
- (iii) Routine Maintenance;
- (iv) anything required to be done or maintained hereunder;
- (v) anything not done or maintained as required hereunder;
- (vi) claims by Personnel under workers' compensation legislation;

and hereby waives as against and releases the CP Indemnified Group all such claims and demands.

- (j) If Maintenance or Routine Maintenance is disrupted or delayed at any time for any cause, including the occurrence of an event of force majeure, expiration of a Track Block, or maintenance required by CP, The Road Authority shall have no claim against the CP Indemnified Group for any Losses resulting from any such disruption or delay, and The Road Authority hereby waives and releases the CP Indemnified Group from any such claim.

12 **Removal and Restoration.**

- (a) If at any time The Road Authority elects to Remove, The Road Authority shall provide CP with a Material Alteration Notice at least one hundred and eighty (180) days prior to the date on which The Road Authority intends to commence the Removal.
- (b) The Road Authority shall, at its sole risk and expense, diligently pursue the Removal, and complete the Removal no later than twelve (12) months after the date on which The Road Authority indicated in the Material Alteration Notice that it intended to commence the Removal. In doing so, The Road Authority shall leave the Crossing Area in a neat, clean and level state, in good order and condition, free of any environmental contamination resulting from The Road Authority's occupation or use thereof, all to the reasonable satisfaction of CP and in accordance with Applicable Laws.
- (c) The Removal may be subject to the supervision and conditions of CP and shall be in accordance with Access Protocols and any other terms set out by CP.
- (d) The Road Authority shall be responsible for all Costs incurred in relation to the Removal. Upon completion of the Removal, the Parties shall notify the Agency and request that the Agency terminate the order in respect of this Agreement.
- (e) Upon termination of the order by the Agency, this Agreement shall concurrently terminate.
- (f) Prior to commencing any Removal, The Road Authority shall enter into CP's then standard from pipeline removal agreement, or such other form of agreement required by CP.

13 **Moving/Alterations.** Should CP be ordered by the Agency, Transport Canada or other authority having jurisdiction, to make such changes in CP's tracks, structures or facilities that:

- (a) would necessitate the moving or alteration of the Subway; or
- (b) deem it necessary in order to protect its tracks, structures or property to make any change in the location or construction of the Subway,

The Road Authority shall at its own expense and to the entire satisfaction of CP perform all such work of moving or altering or carrying out protective measures to

safeguard the Subway as may be necessary within one (1) month after receipt of notice so to do.

- 14 **Remedies.** If The Road Authority fails to or neglects to perform any act or if The Road Authority is otherwise in default of its obligations under this Agreement, CP may provide written notice thereof to The Road Authority. If The Road Authority fails to promptly respond and rectify the matters described in such written notice, CP shall be entitled to, but is under no obligation to, undertake such reasonable measures as CP may consider appropriate, at the sole cost and risk of The Road Authority, and The Road Authority shall pay to CP all Costs incurred by CP within thirty (30) days of demand thereof. Without limiting the generality of the foregoing, if CP carries out work as an agent for The Road Authority pursuant to this Section 14, The Road Authority shall pay to CP the Costs.
- 15 **Termination.** CP may terminate this Agreement upon providing The Road Authority with sixty (60) days' prior written notice if The Road Authority fails to undertake Maintenance in accordance with this Agreement and such failure may, in the sole discretion of CP, cause an Emergency Situation or materially affect Railway Operations.
- 16 **Resolution of Disputes.** Subject to and without prejudice to the rights of termination set forth in Section 15, the Parties shall attempt, in good faith, to resolve or cure all disputes and claims with respect to the interpretation of this Agreement and the performance of their respective obligations hereunder before initiating any legal action or attempting to enforce any rights or remedies at law or in equity. If a Party believes that a breach of this Agreement by the other Party has occurred, then the Parties shall attempt to resolve such dispute in the following manner:
- (a) the Party who believes that a breach of this Agreement by the other Party has occurred shall provide notice and the Parties will attempt to resolve the dispute within sixty (60) days;
 - (b) if the dispute remains unresolved, in whole or in part, after sixty (60) days, the issue(s) in dispute will be escalated to a CP vice president and a The Road Authority vice president, who will have thirty (30) days to attempt to resolve such remaining issue(s) in dispute;
 - (c) if the Parties are not able to resolve the issue(s) in dispute pursuant to Sections 16(a) and 16(b), the Parties shall refer the matter to the Agency's mediation program (if the mediation program exists at such time) and negotiate with the assistance of a mediator for a further period of up to thirty (30) days; and
 - (d) if the Parties are still unable to resolve the dispute after such thirty (30) day period pursuant to Section 16(c) (or if the mediation program does not exist at such time), then either Party may pursue legal remedies available to it, including applying to the Agency for a determination of the matter.
- 17 **No Other Rights.** The Road Authority covenants, acknowledges and agrees that, notwithstanding the Crossing Rights granted herein, CP is not conveying title to any real property, including the Crossing Area and, notwithstanding any use of the Railway Lands, it is not the Parties' intention that The Road Authority acquire any, other or further right, title or interest in and to the Crossing Area, by adverse possession or otherwise, save and except for the rights granted pursuant to this Agreement.
- 18 **Assignment.**
- (a) This Agreement shall not be transferred or assigned by The Road Authority without the prior written consent of CP, which consent may be arbitrarily withheld.

- (b) The Road Authority may, without the prior written consent of CP, arrange to have any of the obligations of this Agreement carried out by contractors or consultants; provided that in the event The Road Authority does so, The Road Authority shall remain liable for and shall not be released or relieved of any of the obligations and liabilities assumed under this Agreement.
- 19 **Further Assurances.** The Parties covenant and agree that they shall execute and deliver all such further assurances and do or perform or cause to be done or performed all such acts and things as may be required to be performed to fully carry out the provisions and intent of this Agreement.
- 20 **Compliance with Applicable Laws.** Both Parties shall at all times comply with all Applicable Laws. The minimum applicable technical standards therein shall apply to both Parties unless more stringent standards are provided for in this Agreement. If compliance with any provision of this Agreement would result in a violation of any Applicable Laws, such Applicable Law shall prevail and this Agreement shall be amended accordingly.
- 21 **Notices.** Any notice, request, demand and other communication hereunder (each a **notice**) shall be in writing and shall be furnished to the Parties at the addresses given below.
- (a) in the case of CP, to:
- Canadian Pacific Railway Company
1290 Central Parkway West, Suite 600
Mississauga ON L5C 4R3
Attention: Manager Public Works Ontario
Facsimile: 905-803-3412
- (b) in the case of The Road Authority, to:
- City of London -- require address:
- Attention: Mr. Doug MacRae, P.Eng., MPA
Director, Roads & Transportation City of London
Phone: (519) 661 – 2489 ext. 4936.
Facsimile: (519) 661 – 4734
- All notices required to be given hereunder may be delivered by hand, mailed by registered mail, or sent by facsimile. If mailed, the notice shall be deemed to have been given and received five (5) Business Days after the mailing thereof. If delivered by hand, the notice shall be deemed to have been given and received on the day on which it was delivered, or if delivered after regular business hours, it shall be deemed to have been given and received on the following Business Day. If sent by facsimile, the notice shall be deemed to have been given and received on the first Business Day following the day it was dispatched. Either Party may from time to time change its address for service by giving notice to the other Party.
- 22 **Miscellaneous.**
- (g) The Parties agree and acknowledge that they are not partners in any business or a joint-venture or a member of a joint or common enterprise.
- (h) This Agreement contains the entire agreement between the Parties with respect to the subject matter hereof and the Parties have not relied upon any statement, representation, agreement or warranty except such as are set out in this Agreement.
- (i) No amendment, modification, or supplement to this Agreement shall be valid or binding unless set out in writing and executed by Parties in the same manner as the execution of this Agreement.

- (j) This Agreement shall enure to the benefit of and be binding upon the Parties and their respective successors and permitted assigns.
- (k) Neither Party shall be deemed to have waived the exercise of any right that it holds under this Agreement unless such waiver is made in writing. No waiver made with respect to any instance involving the exercise of any such right shall be deemed to be a waiver with respect to any other instance involving the exercise of that right or with respect to any other right.
- (l) This Agreement shall be construed and enforced in accordance with the laws of the Province of Ontario and the federal laws of Canada applicable therein and shall be treated in all respects as an Ontario contract. The Parties attorn to the exclusive jurisdiction of the Ontario Superior Court of Justice, Toronto Region. All actions or proceedings arising out of or relating to this Agreement shall be litigated in such court and the Parties unconditionally accept the jurisdiction of the said court and waive any defense of *forum non-conveniens*, and irrevocably agree to be bound by any judgment rendered thereby in connection with this Agreement.
- (m) Time is of the essence of this Agreement.
- (n) References to dollar amounts, if any, are references to Canadian dollar amounts.
- (o) The captions of the Articles and Sections are included for convenience only and shall have no effect upon the construction or interpretation of this Agreement.
- (p) All of the provisions of this Agreement are to be construed as covenants and as though the words importing such covenants and agreements were used in each separate Article hereof.
- (q) Should any provision of this Agreement be or become invalid, void, illegal or not enforceable, it shall be considered separate and severable from this Agreement and the remaining provisions shall remain in force and be binding upon the Parties as though such provision had not been included.
- (r) The covenants, obligations, and liabilities of The Road Authority herein shall survive expiration or termination of this Agreement.
- (s) This Agreement becomes effective only upon execution and delivery hereof by the Parties.
- (t) The Parties agree and acknowledge that this Agreement is specific to subject matter hereof and the terms hereof shall not be deemed or interpreted to be a precedent that binds the Parties in respect of future negotiations of utility crossings.
- (u) The Parties agree that the terms of this Agreement are confidential and The Road Authority shall not disclose the terms hereof to any person; except where:
 - (i) disclosure is required by Applicable Laws and The Road Authority has provided prior written notice to CP; or
 - (ii) disclosure to a The Road Authority's officers, agents, employees, consultants, professional advisors or lenders is necessary to carry out the purpose and intent of this Agreement.
- (v) The Parties agree that when this Agreement is filed with the Agency, CP may do so confidentially.
- (w) This Agreement may be executed in any number of counterparts and delivered via facsimile or email in PDF, each of which shall be deemed to

be an original and all of which taken together shall be deemed to constitute one and the same instrument, provided that any Party delivering this Agreement via facsimile or email in PDF shall deliver an originally executed copy of this Agreement forthwith thereafter to the other Party.

IN WITNESS WHEREOF, the Parties have caused their duly authorized officers to execute this Agreement as evidenced below as of the date first above written.

CANADIAN PACIFIC RAILWAY COMPANY

Per: _____

[Name]
[Title]

THE CORPORATION OF THE CITY OF LONDON

Per: _____

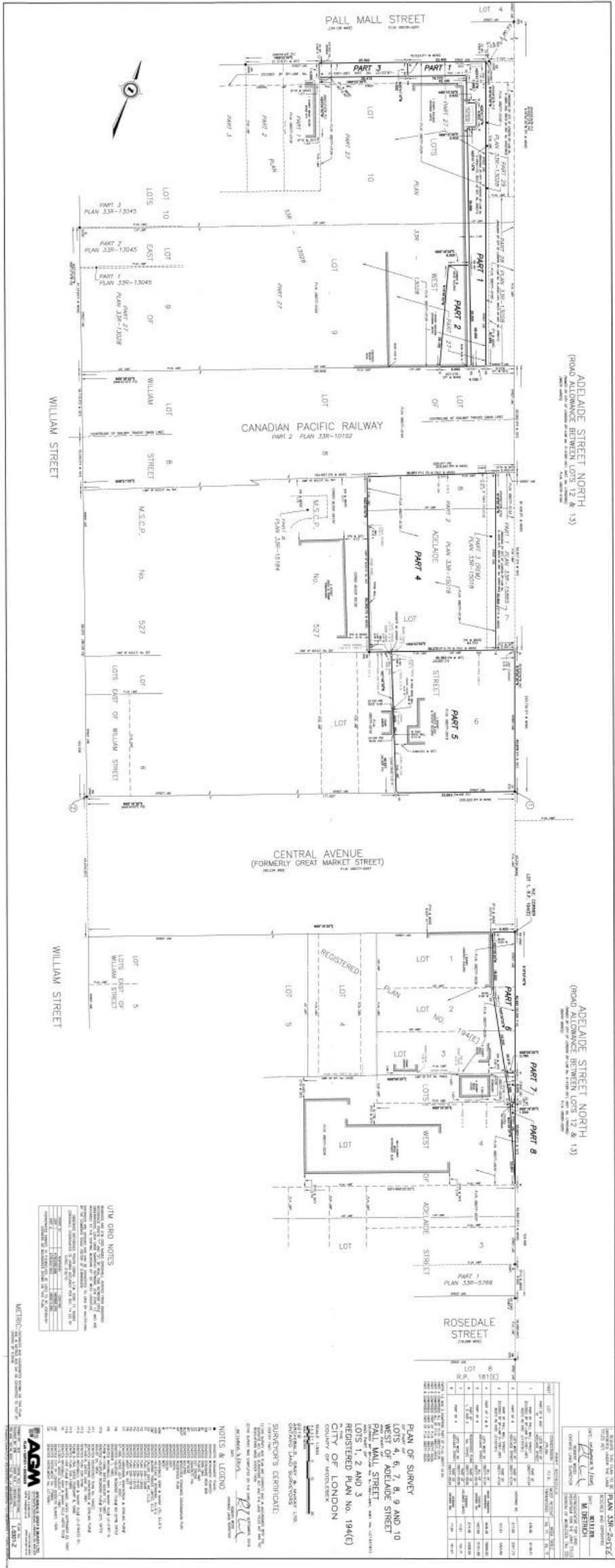
[Name]
[Title]

SCHEDULE "A"

PLANS

(see attached on next page)

SCHEDULE "B"
(CROSSING AREA – LIMITS OF RAILWAY LANDS)
(see attached on next page)



ADELAIDE STREET NORTH
(ROAD ALIQUANT STREET LOTS 1 & 13)
PART 1 PLAN 338-10702

ADELAIDE STREET NORTH
(ROAD ALIQUANT BETWEEN LOTS 12 & 13)
PART 2 PLAN 338-10702

LOT	REGISTERED	SECTION	AREA	PLAN	DATE
1	1	1	1000	338-10702	1944
2	2	2	1000	338-10702	1944
3	3	3	1000	338-10702	1944
4	4	4	1000	338-10702	1944
5	5	5	1000	338-10702	1944
6	6	6	1000	338-10702	1944
7	7	7	1000	338-10702	1944
8	8	8	1000	338-10702	1944
9	9	9	1000	338-10702	1944
10	10	10	1000	338-10702	1944

PLAN OF SUBDIVISION
LOTS 6, 7, 8, 9 AND 10
OF
ADELAIDE STREET
PALL MALL STREET
LOTS 1, 2 AND 3
REGISTERED PLAN NO. 194(E)
CITY OF LONDON
COUNTY OF MIDDLESEX

SURVEYOR'S CERTIFICATE:
I, the undersigned, being a duly qualified Surveyor, do hereby certify that the above is a true and correct copy of the original plan as registered in the office of the Surveyor for the City of London, County of Middlesex, on the 14th day of August, 1944.

NOTES & LEGEND
1. THE BOUNDARIES OF THE LOTS ARE SHOWN BY DOTTED LINES.
2. THE BOUNDARIES OF THE LOTS ARE SHOWN BY DOTTED LINES.
3. THE BOUNDARIES OF THE LOTS ARE SHOWN BY DOTTED LINES.

UTM GRID NOTES
THE UTM GRID IS SHOWN BY DOTTED LINES.
THE UTM GRID IS SHOWN BY DOTTED LINES.
THE UTM GRID IS SHOWN BY DOTTED LINES.



SCHEDULE "C"

ACCESS PROTOCOLS AND SAFETY AND SECURITY REQUIREMENTS

1. **Access Requirements.** In order to ensure compliance with Safety Laws, the safety of all Personnel, CP employees and Railway Operations, The Road Authority's access to the Railway Lands will be subject to the following conditions (collectively, the **Access Protocols**).
 - (a) The Road Authority shall deliver notice to CP by contacting the designated CP representative not less than five (5) Business Days prior (or such longer period as CP may reasonably determine from time to time to ensure flagging protection and all safety measures can be scheduled) to the date upon which The Road Authority seeks to enter upon the Railway Lands, together with such other information as CP may reasonably require.
 - (b) No work of any nature shall be undertaken without scheduled flagging protection, unless otherwise agreed in writing by CP.
 - (c) The Road Authority shall contact the CP Network Management Centre in Calgary at 1-800-795-7851 (or such other contact number CP may publish from time to time) not less than five (5) Business Days prior to the proposed access date to determine the location of any Utility Works or structures under or on the Railway Lands.
 - (d) The Road Authority shall provide notice to and obtain consents from owners of Utility Works (including Third Party Fibre Systems) who may be affected by Maintenance, including those Third Parties who are required to give consents to protect or relocate such utilities.
 - (e) In the event The Road Authority requires emergency access to the surface or subsurface of the Railway Lands, The Road Authority shall contact CP Police at 1-800-716-9132, or such other contact number CP may publish from time to time.

2. **Safety and Security Requirements.** In addition to the Access Protocols, the Parties agree that Maintenance carried out on the Railway Lands will be subject to the following safety and security conditions (collectively, the **Safety and Security Protocols**).
 - (a) The Road Authority shall be solely responsible for ensuring the safety and health of all Personnel and for compliance with all Applicable Laws.
 - (b) The Road Authority agrees to ensure that all Personnel (including any Contractor) wear photo identification badges at all times while on the Railway Lands to comply with CP security requirements.
 - (c) The Road Authority agrees to comply with and to ensure the Contractor complies with security regulatory directives and requirements as communicated by CP from time to time.
 - (d) The Road Authority shall be responsible for developing, implementing and maintaining its own Safety and Emergency Response Plan and all Personnel and for ensuring that all Personnel understand and comply with the practices and procedures set out in such plan. In addition to the minimum requirements stipulated in Subsection 2(c) of this Schedule, the Safety and Emergency Response Plan must include:
 - (i) reporting and response procedures in the event of an incident or accident;
 - (ii) emergency response service providers and contacts and their phone numbers; and

- (iii) incident reporting phone numbers, including phone numbers for CP incident reporting and local CP personnel.
- (e) The Road Authority and all Personnel shall adhere to the directions of any CP flag persons, inspectors and supervisory personnel (including engineering and technical support) as CP may require to supervise any Maintenance. Instructions may include orders with respect to security restrictions, safety requirements or Emergency Situations.
- (f) The Road Authority acknowledges that CP has limited resources available for flagging protection and that flagging protection is subject to the availability of qualified flagpersons who must be allocated by CP across its service area for ongoing Railway Operations and other concurrent construction and maintenance projects. As a result, a maximum of two (2) flag persons will be available for Maintenance, for a maximum of forty (40) hours per week per flag person (including travel time to the Crossing Area), Monday through Friday; CP will not grant any requests to provide flagpersons to work any additional days or overtime.
- (g) Notwithstanding CP consent to provide access to the Railway Lands, if an Emergency Situation arises over, on or under the Railway Lands, or the presence of The Road Authority or their activities are causing an unauthorized Interference, CP may direct that The Road Authority and its Personnel exit from the Railway Lands for such period of time as CP deems appropriate. Any unauthorized Interference caused by The Road Authority must be remedied to complete satisfaction of CP prior to CP allowing The Road Authority and its Personnel to resume access onto the Railway Lands. CP shall not be responsible for any costs incurred by The Road Authority or any of their Personnel for any delays to Maintenance due to an evacuation or shutdown pursuant to this Section 2(g).
- (h) Any machinery or equipment used for Maintenance must meet applicable safety regulations and requirements.
- (i) The Road Authority shall not store any fuel, oil or lubricants on the Railway Lands or permit any fuelling or servicing of any machinery or equipment on Railway Lands.
- (j) The Road Authority shall not cause, suffer or permit the use of the Crossing Area or Railway Lands by any Person other than The Road Authority Personnel required to be on or about the Crossing Area for the purposes of completing Maintenance.
- (k) The Road Authority shall be solely responsible, at its own cost and expense, for the installation and maintenance of construction security fences and lockable gates, as directed by CP. The Road Authority shall keep gates locked, except when entering or exiting from the Railway Lands, to secure the site from entry by members of the public, trespassers and non-Personnel.
- (l) The Road Authority agrees to ensure that all Personnel adhere to CP safety requirements including the publication "Minimum Requirements for Contractors Working on CP Property in Canada", and such other applicable safety stipulations and rules as communicated by CP from time to time.

SCHEDULE "D"

ENVIRONMENTAL REQUIREMENTS

1. **Environmental Management Plan.** The Road Authority shall, at its own expense, comply with all Environmental Laws and develop, implement and maintain a site-specific Environmental Management Plan to ensure:
 - (a) that Maintenance complies with all Environmental Laws;
 - (b) that it has appropriate systems and controls in place to avoid or mitigate potential environmental, health and safety risks with respect to the Railway Lands and any adjacent lands and watercourses, including silt fences, spill kits and erosion controls;
 - (c) that any construction debris or waste of any kind (whether hazardous or not) resulting from Maintenance is not disposed of on the Railway Lands; and
 - (d) The Road Authority's response to any incident involving a release, leak, deposit or spill is handled in accordance with the provisions of this Schedule "D".
2. **Spill Prevention.** The Road Authority shall undertake Maintenance and related activities in a manner that avoids, minimizes, or mitigates the risk of a release or other safety hazard. The Road Authority shall provide spill containment as necessary to protect the ground and capture any spills that may occur in accordance with its Environmental Management Plan.
3. **Storage of Hazardous Substances.** The Road Authority shall not install any fuelling tanks or fuelling stations on the Railway Lands or store any Hazardous Substances including any fuel, oil, grease, petroleum, gas or chemicals on the Railway Lands.
4. **Incidents.** The Road Authority covenants as follows.
 - (a) The Road Authority shall immediately report any incident involving a release, leak, deposit or spill of a Hazardous Substance arising from Maintenance to the CP Network Management Centre in Calgary (1-800-795-7851), or such other number as directed by CP in writing, whether or not such releases are required to be reported to any federal, provincial or local authority, and to any regulatory authorities (including CANUTEC) as required by law.
 - (b) The Road Authority shall immediately respond to such incident described in Subsection 4(a) and take all reasonable actions to contain the spill and respond in accordance with its Safety and Emergency Response Plan; provided, however, that CP may elect to remediate, repair and restore the roadbed, track and related structures on the Railway Lands impacted by any Hazardous Substance, at the expense of The Road Authority.
 - (c) The Road Authority shall provide a written follow-up report to CP within five (5) Business Days of such incident which constitutes an offence or is reportable under any laws, by-laws, or regulations relating to the protection of the environment, or is in breach thereof. Such follow-up report will describe the incident, substance and volume released, and measures undertaken or planned to cleanup and remove the released substance and any contaminated soil, water and materials and waste and identify the name and address of the proposed disposal facility.
 - (d) The Road Authority shall provide CP with copies of any and all reports made to any Governmental Authorities that relate to such incidents or releases. In addition, The Road Authority shall provide CP with a copy of any alleged violation of applicable Environmental Laws relating to Maintenance at the

Railway Lands, as well as a copy of any written responses made by The Road Authority to Governmental Authorities regarding said violations.

- (e) The Road Authority shall commence and complete, at the request of CP, the cleanup, disposal, and remediation of any spill or environmentally unsound condition occurring on the Railway Lands or any CP property as a result of Maintenance. The Road Authority shall completely clean up any such spill or condition; shall dispose of any contaminated soil or waste in a properly licensed disposal facility and maintain a copy of the manifest to verify such proper disposal; and shall replace contaminated soils with clean fill as appropriate under the circumstances. The Road Authority shall demonstrate to the satisfaction of CP, acting reasonably, that any impacted lands (including the Railway Lands and any impacted adjacent lands) have been restored to a condition existing prior to the commencement of Maintenance, as the case may be.
- (f) The Road Authority shall be solely responsible for all costs related to the clean-up and remediation of any releases or incidents resulting from Maintenance or any related activities on the Railway Lands.
- (g) If CP and The Road Authority are in disagreement as to whether any such incident has been completely cleaned up, the contaminated soil or waste properly disposed of and replaced with appropriate clean fill, The Road Authority shall retain a reputable environmental consulting firm to review The Road Authority activities and report whether The Road Authority has fulfilled its obligations hereunder. If The Road Authority obligations have not been fulfilled, The Road Authority shall take further action as is necessary to rectify any deficiencies and obtain a report from the environmental consultant verifying the same.

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC, Managing Director,
Environmental & Engineering Services & City Engineer

Subject: Cycling and Transportation Demand Management Upcoming
Projects

Date: March 30, 2021

Recommendation

That the on the recommendation of the Managing Director, Environmental & Engineering Services & City Engineer, the following actions be taken with respect to the 2021 key cycling and TDM projects:

- a. this report **BE RECEIVED** for information;
- b. Civic Administration **BE AUTHORIZED** to set a minimum 250 e-scooters to be placed in the Request for Proposals for an e-scooter Pilot Project as part of a potential combined bike share and e-scooter share micromobility project; and
- c. Civic Administration **BE DIRECTED** to prepare a plan and initiate a process to determine how a Cargo e-Bike Pilot Project might be undertaken in London including the advantages and disadvantages of a program, key stakeholder input, potential restrictions on where cargo e-bikes may be used and parked, other operating and safety parameters, amendments that would be required to City by-laws, and seek community input.

Executive Summary

The purpose of this report is to provide a brief update to Committee and Council on key cycling and Transportation Demand Management (TDM) projects in 2021 in the areas of: measuring progress on cycling, bike parking, cycling infrastructure, measuring progress on Transportation Demand Management, Business Travel Wise Program, development of a Transportation Management Association (TMA), development of a Bike Share System, permitting E-scooter use and potential pilot project, and permitting cargo e-bikes.

This report also provides details to allow Committee and Council to approve the recommended minimum number of e-scooters as 250 in the micromobility request for proposal (RFP). This report also seeks direction to develop a plan and initiate a process to allow cargo e-bikes in London. The Province has recently permitted a five year pilot framework subject to a municipality passing a by-law containing the operating parameters and requirements for cargo e-bikes.

Linkage to the Corporate Strategic Plan

Municipal Council's 2019-2023 Strategic Plan for the City of London continues to recognize the importance of active transportation, cycling, and the need for a more sustainable and resilient city.

On April 23, 2019, the following was approved by Municipal Council with respect to climate change:

Therefore, a climate emergency be declared by the City of London for the purposes of naming, framing, and deepening our commitment to protecting our economy, our eco systems, and our community from climate change.

Personal transportation is the largest source of greenhouse gas emissions in London. Transportation Demand Management, including the role of cycling to replace vehicle trips, has been a priority action for London's community energy planning activities since the mid-2000s and will remain a key part of London's upcoming Climate Emergency Action Plan.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

Relevant reports that can be found at www.london.ca under Government (City Council and Civic Administration) include:

- Active Transportation Manager submitted by Councillors E. Pelozo and S. Lewis (June 23, 2020 meeting of the Civic Works Committee - CWC, Agenda Item #4.1)
- Proposed Approach to Review E-Scooters in London (January 7, 2020 meeting of CWC, Agenda Item # 2.8)
- Environmental Programs Annual Overview Update (April 16, 2019 meeting of CWC, Agenda Item # 2.6)
- London ON Bikes Cycling Master Plan (September 7, 2016 meeting of CWC, Agenda Item # 3)

2.0 Discussion and Considerations

Listed below and summarized on the following pages are the upcoming key cycling and TDM activities for 2021:

2.1 Measuring Progress on Cycling

2.2 Bike Parking

- 2.2.1 Bike Lockers
- 2.2.2 Bike Parking Posts and Corrals
- 2.2.3 Neighbourhood Bike Parking Guidelines
- 2.2.4 Business Bike Rack Program
- 2.2.5 Bike Parking Plan

2.3 Cycling Infrastructure

2.4 Measuring Progress on Transportation Demand Management (TDM)

2.5 Business Travel Wise Program

2.6 Development of a Transportation Management Association (TMA)

2.7 Development of a Bike Share System

2.8 Permitting E-scooter Use and Potential Pilot Project

2.9 Permitting Cargo E-bikes

2.1 Measuring Progress on Cycling

A cycling performance measures program will help City staff track progress towards measuring the increasing number of trips made by bicycle across London, develop effective solutions that meet Londoners' needs, and prioritize investments.

Planning, designing and implementing projects and programs for cyclists requires performance measures to help prioritize projects, evaluate appropriate cycling infrastructure types, and track initiatives and programs over time. Meaningful and context-sensitive performance measures dedicated to cycling are valuable for many reasons, including:

- demonstrating the value and tracking progress of cycling projects and programs to citizens, businesses and the community;
- informing cycling investments through local and other data-driven measures of success;

- providing information and feedback to engage cyclists and all road users;
- capturing the value of new and innovative data collection methods and use of existing data sets for cycling;
- supporting current funding requirements and requests; and
- producing a better built environment for cycling.

The cycling performance measures program will detail how cycling facilities and supports are being used, how they can be tracked and what data are required. This program will assist staff in documenting how cycling projects and supports relate to the Strategic Plan, the current and future Transportation Master Plans, the Cycling Master Plan, and the Climate Emergency Action Plan. Examples of cycling performance measures by category include:

Monitoring Categories	Examples of Measurement Area
1. Bicycle Use Data	<ul style="list-style-type: none"> • Mode share • Bike travel distance (average trip length) • Bike counts (Eco-counters) • Bike ownership
2. Cycling Infrastructure	<ul style="list-style-type: none"> • Facility lengths by types • Route level of connectivity • Bike parking • Business Bike Rack Program
3. Cycling Experience and Quality	<ul style="list-style-type: none"> • Perceived safety when cycling • Type of cyclist served by facility • On-route commuting (travel time) • On-route experiences (recreational) • Cycling information, events • Cyclist level of comfort (Level of Service - LoS) • Collision data and locations
4. Costs and Economic Benefits	<ul style="list-style-type: none"> • Cost/benefit analysis • Cycle tourism • Adjacent (to routes) property values
5. Environmental and Climate Action Benefits	<ul style="list-style-type: none"> • Climate Change – greenhouse gas reduction • Exposure to air pollutants • Air quality impacts

This project is currently underway with the collection of background information, noting some delays experienced due to the ongoing pandemic.

Next Steps and Timeline

- Complete review of cycling performance measures used by other municipalities and guidebooks developed by North American transportation organizations and finalize draft list of London cycling performance measures and tracking processes (Spring/Summer 2021).
- Seek partner input in Spring/Summer 2021.
- Determine how to present annual progress to the public and decision-makers.
- Finalize report in Summer/Fall 2021.

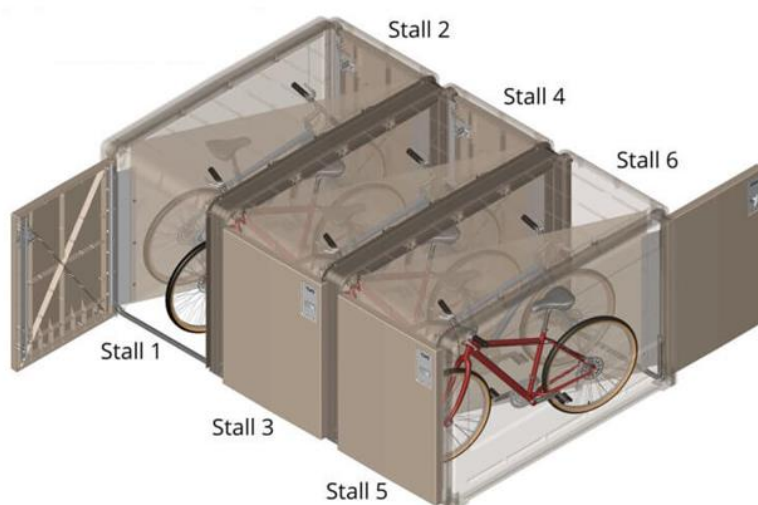
2.2 Bike Parking

Below is a list of the bike parking actions underway in 2021, including the development of a Bike Parking Plan for London.

2.2.1 Bike Lockers

To continue to address the 2016 Cycling Master Plan's Action #8 - Enhancing Bicycle Parking, the City purchased nine bike lockers (capacity for 18 bikes) as part of a pilot project to provide secure bike parking in and around downtown.

A bike locker is a large box in which up to two bicycles can be locked separately. They provide a higher level of security and convenience for Londoners riding a bike. Bike lockers help prevent theft, provide weather protection, and deter casual vandalism. The lockers provide a number of advantages over the traditional bike parking currently used in London on public property including posts, racks and corrals.



Bank of Six Lockers

(Source: <https://cyclesafe.com/bike-parking/bike-lockers/propark-bike-locker-bank/>)

Three sets of three lockers (6 individual bikes) will be installed in downtown London this Spring:

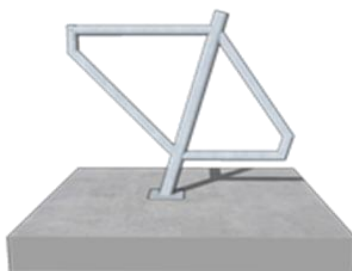
- parking garage of Covent Garden Market;
- north-east corner of Dundas and Wellington at the end of the newly-constructed Dundas cycle tracks; and
- a third location closer to Richmond Row and Victoria Park

Next Steps and Timeline

- Complete installation and approve rental fees for use during the pilot project.
- Track locker usage for defined periods of time in 2021.
- Determine the need to relocate based on usage and potential demand in other areas.
- Obtain details from users to assist with additional bike parking needs, including additional indoor facilities (e.g., bike parking facilities with controlled access, etc.)

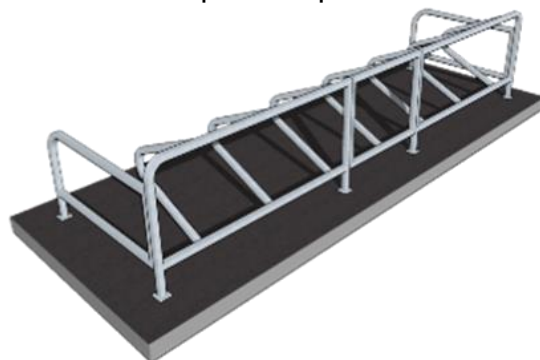
2.2.2 Bike Parking Posts and Corrals

The City continues to install more short-term bike parking in the public right-of-way as resources allow. For 2021, ten TeMo-style bike posts have been ordered. These are London-designed and manufactured posts that each allow two bikes to be locked to them. They will be installed in the furniture zone along sidewalks. Specific locations for their installation will be determined based on need and virtual public input.



TeMo Bike Post

The City is also adding two new bike corrals to its existing set of two corrals. A bike corral is installed in an on-street parking spot. It allows parking for up to fourteen bikes in the space required for one motor vehicle. The City's two existing corrals are being relocated due to downtown construction. Locations for the four corrals will be determined based on need and virtual public input.



Bike Parking Corral

Next Steps and Timeline

- Seek public input on locations in Spring 2021.
- Installation of posts and corrals starting in early Spring through Fall 2021.

2.2.3 Neighbourhood Bike Parking Guidelines

The Neighbourhood Bike Parking Guidelines, a companion document to the City of London's 2018 Complete Streets Design Manual, will provide several design and installation options for short-term bike parking in the municipal road right-of-way, specifically near transit stops. This document will be used by City staff and contractors working on projects that include short-term bike parking as part of their scope of work. The Neighbourhood Bike Parking Guidelines include preferred bike rack design styles and recommended site planning to ensure consistency across London.

For London cyclists, these guidelines will help city builders recognise the importance of having a convenient place to park a bike that is well-designed and located in a visible spot.

The draft Neighbourhood Bike Parking Guidelines document was developed with input from several City service areas and partners, including:

- Transportation Planning & Design
- Major Projects
- Roads Operations
- City Building & Design
- Parks Planning & Operations
- London Transit Commission
- London Police Service

Next Steps and Timeline

- Seek input from the Cycling Advisory Committee and others in Spring 2021.
- Finalize the document and distribute to City staff and others in Summer 2021.

2.2.4 Business Bike Rack Program

The City is regularly contacted by local businesses seeking bike parking. The Business Bike Rack Program has been developed to offer businesses a bike rack at cost for installation on their property. It is an element of the Business Travel Wise Program (see Section 2.5).

Next Steps and Timeline

- Contact businesses who have already requested more information.
- Monitor program uptake and plan for future demand.

2.2.5 Bike Parking Plan

The Bike Parking Plan will build on past City actions to increase and maintain short and long-term bike parking. It will apply lessons from the Neighbourhood Bike Parking Guidelines to include items such as budget, neighbourhoods and areas that need increased bike parking, associated timelines, and winter maintenance. It will also address the need for permanent secure bike parking. A review of bike parking plans in other municipalities is currently underway.

Next Steps and Timeline

- Engage with City of London service areas and partners for input starting in Spring 2021.
- Develop London's draft Bike Parking Plan in Summer 2021.
- Distribute draft plan to City service areas and other partners for review in late Summer 2021.
- Present final draft Bike Parking Plan for Committee and Council review and approval in late 2021, early 2022.

2.3 Cycling Infrastructure

The City is well underway with construction of a number of new cycling infrastructure projects that will improve connections through and into the downtown area. The Dundas cycle track, the Colborne cycle track extension, and the Dundas-Thames Valley Parkway (TVP) connection represent 2.6 kilometres of new cycling infrastructure, and an \$8 million municipal investment in the City's active transportation network in 2020/2021.

New cycling infrastructure is also considered and implemented as part of ongoing infrastructure renewal projects. For 2021, this includes projects such as protected bike lanes on Dundas Street in OEV and new bike lanes on Brydges Street between Egerton and Highbury.

In order to support the implementation of future cycling and active transportation infrastructure initiatives, interviews for a new Program Manager, Active Transportation within Environmental & Engineering Services is underway and the position is expected to be filled later this year.

2.4 Measuring Progress on TDM

There is a need to develop methods to quantify and show progress in the TDM projects and programs the City is implementing. The City continues to implement projects that enhance opportunities for using options other than driving alone, including walking, cycling, taking transit, and carpooling. A performance measures program will help City staff track progress, develop effective solutions for Londoners' needs, and prioritize investments.

The TDM Performance Measures Program will detail how the measures can be tracked and what data are required. The Program will also assist staff in documenting how TDM projects and interventions relate to the Strategic Plan. Examples of TDM performance measures include:

Monitoring Categories	Examples of Measurement Area
1. Mode Use Data	<ul style="list-style-type: none">• Mode share• Average trip length by mode
2. Infrastructure	<ul style="list-style-type: none">• Access to transportation options• Quality of available transportation options
3. Experience Using Mode	<ul style="list-style-type: none">• Perceived safety of modes• Populations served• Available information for using modes

Monitoring Categories	Examples of Measurement Area
	<ul style="list-style-type: none"> • Multi-Modal Level of Service (LoS) • Collision data and locations
4. Costs and Economic Benefits	<ul style="list-style-type: none"> • Cost/benefit analysis • Travel time to reach destination
5. Environmental and Climate Action Benefits	<ul style="list-style-type: none"> • Energy consumption of various modes • Climate Change – greenhouse gas reduction • Exposure to air pollutants • Air quality impacts

This project includes the following actions:

- Review performance measures used by other municipalities and guidebooks developed by North American transportation organizations;
- Develop the list of London TDM performance measures;
- Develop the tracking process;
- Seek City service areas and partner input;
- Determine how to present annual progress to the public and decision-makers; and
- Finalize report detailing the program.

Next Steps and Timeline

- Seek partner input in Fall 2021.
- Identify new learnings from Business Travel Wise Program (Section 2.5) and TMA work (Section 2.6) that may contribute to measuring progress.
- Finalize in Winter 2021/2022.

2.5 Business Travel Wise Program

Since the early 2000s, the London’s Business Travel Wise Program has been the City’s means of engaging the London business community on employee commuter programs. Programs of this nature are typically the first step towards establishing more formal Transportation Management Associations (TMAs, Section 2.6)

Over the last few years, these activities were promoted under the banner of Commute Ontario, which is a program to expand commuter programs across Ontario. It is lead by SustainMobility, a non-profit working on Transportation Management Association efforts in the Greater Toronto and Hamilton Area (GTH-A). The Commute Ontario program ends in April 2021. One major element of the Business Travel Wise Program is the Regional Rideshare web-based carpool-matching service, operated by Pathways Intelligence on behalf of the City of London and our regional partners. This service was suspended at the beginning of the COVID-19 pandemic but re-launched in the Fall of 2020 with COVID guidance in place. Its operations are also coming to an end in April 2021 due to reasons unrelated to the pandemic.

This presents an opportunity for the municipal partnership (including London) to analyze the need to provide this service, especially with future commuting behaviour changes for some Londoners as a result of the pandemic (e.g., a shift towards working from home for knowledge workers). City staff are researching other existing carpool ridematching services that are in operation in Ontario as the need for carpooling will resume once the pandemic has been resolved, particularly for those Londoners unable to work from home who work in areas where transit service does not meet their needs.

Next Steps and Timeline

- Determine next steps from Commute Ontario learnings Spring-Summer 2021.
- Determine next steps for Regional Rideshare Spring 2021.
- Determine what components can be offered to employers city-wide Fall 2021 into 2022, as work on Transportation Management Association develops.

2.6 Development of a Transportation Management Association (TMA)

In early 2020, City staff started work, funded by the federal Public Transit Infrastructure Fund (PTIF), to help determine whether a Transportation Management Association – a collaborative approach that helps local employers pool their resources and needs to support options other than single-occupant vehicle commuting – is a timely initiative for employers, the City, and local partners to pursue. This work included conducting a series of employee and employer surveys.

By connecting employers, employees, and government agencies, a TMA can provide a variety of services that encourage more efficient use of transportation and parking resources – things like incentives for choosing options like transit, cycling and walking, carpool matching and discount programs, parking management, and telework.

The COVID-19 pandemic disrupted the work that had been planned and many post-pandemic workplaces in London are expected to look different than they did in early 2020. It is expected that working-from-home will play a much larger role in the future. As noted by international consultancy, McKinsey & Company, with offices in five Canadian cities:

...about 20 to 25 percent of the workforces in advanced economies could work from home between three and five days a week. This represents four to five times more remote work than before the pandemic and could prompt a large change in the geography of work, as individuals and companies shift out of large cities into suburbs and small cities (The Future of Work after COVID-19, February 18, 2021)

What is not clear is how these potential changes will unfold in cities like London versus cities located in the GTH-A. In addition, how these changes may or may not impact London's Business Travel Wise Program and evolution towards a TMA and what new challenges and opportunities may result.

Next Steps and Timeline

- Complete the feasibility study based on available information and potential scenarios and develop next steps.
- Report to Committee and Council.
- Hold virtual workshop for employers and partners in Fall 2021 to assess post-pandemic employee commuting.

2.7 Development of a Bike Share System

Bike Share is a service where bicycles are made available for shared use by individuals on a short-term basis for a price. The service allows a user to borrow a bike from one location and return it to another location.

A Request for Proposal (RFP) was issued in August 2020 for proposals to run a bike share system in London. As a result of the extenuating circumstances surrounding the pandemic, the City cancelled the RFP in late 2020. However, City staff did learn a lot more about the current state of the bike share service market, including the greater role that electric-assisted bicycles (e-bikes) are expected to play in new systems, as well as the operating cost benefits of providing both bikes and e-scooters as part of a coordinated micromobility service. As a result, City staff is developing a new micromobility RFP that better meets the needs of Londoners and the City, pending Council approval to allow e-scooter use in London as part of a pilot project.

Next Steps and Timeline

- Release new micromobility (bike and e-scooter) share RFP in April or May 2021.
- Review proposals late Spring, early Summer 2021.
- Present recommended micromobility service proposal to Committee and Council for approval in Summer 2021.
- Work with operator, depending on outcome and Council approval, to identify service area locations in Summer 2021 and launch, if approved, in late 2021 or early 2022.

2.8 Permitting E-scooter Use and Potential Pilot Project

An e-scooter is a stand-up scooter powered by an electric motor. They are generally designed for use by adults with a large deck in the centre upon which the rider stands. They are a micromobility option (along with bike share and e-bike share) that is becoming more popular in many North American cities.



An e-scooter share system is a service in which electric motorized scooters are made available to use for short-term rentals. E-scooters are typically "dockless", meaning that they do not have a fixed home location and are dropped off and picked up from certain locations in a designated service area. The e-scooters are generally rented through a mobile app, although some system operators have provisions for those without mobile data access. They are meant for short point-to-point trips.

In January 2020, the Province of Ontario launched a five-year e-scooter pilot program. The pilot is intended to evaluate the use of both personal and shared e-scooters to examine their ability to safely integrate with other vehicle types and determine whether existing provincial rules of the road are adequate. As part of the pilot, Ontario municipalities first need to pass by-laws to define where e-scooters can operate and where they can be parked (e.g., setting up designated parking locations). More information on the provincial pilot is available at <http://www.mto.gov.on.ca/english/vehicles/electric/electric-scooters.shtml>

Recent Ontario Activities

Activity in Ontario slowed down in 2020 due to the pandemic. Recent activities include:

- Ottawa has passed a by-law allowing personal and shared e-scooters. E-scooter share services were launched in 2020;
- Hamilton has passed by-laws to allow personal e-scooter use and shared e-scooter services;
- Mississauga has passed a by-law allowing personal e-scooters and is studying shared e-scooters;
- Windsor is looking at a by-law to allow shared e-scooter services in a designated pilot area;
- Waterloo Region (in 2019) ran an e-scooter share service on private property (specifically, property owned by the University of Waterloo). Waterloo Region is now seeking input on the use of personal e-scooters and shared e-scooter service on public property; and
- Brampton also ran a short-term, small-scale e-scooter share pilot project in one municipal park.

Immediate Needs – Minimum Number of e-Scooters for a London Pilot Project

City staff recommend that the new micromobility RFP state a minimum of 250 e-scooters be provided. This number is based on experience in other Canadian e-scooter pilot municipalities, as well as the average number of e-scooters in systems across North America of London's size. Having 250 e-scooters to 100 bikes represents an

almost three-to-one ratio with one provider delivering both e-scooter and bike services, noting that the RFP proponent can propose more bikes or e-scooters with the rationale provided.

Background details to support this number (250 e-scooters) include:

- The North American Bikeshare Association's (NABSA) 2019 Shared Micromobility State of the Industry Report states that for medium cities across North America, the average number of e-scooters per system was 280. Medium cities are defined as 200,000-500,000 population (p. 10 of report <https://nabsa.net/wp-content/uploads/2020/10/NABSA-2020-State-of-the-Industry-Report.pdf>)
- Experience with other cities in Canada includes:
 - Ottawa launched with 600 e-scooters in their 2020 pilot (three service providers);
 - Kelowna launched with 760 e-scooters permitted over four companies;
 - Calgary permitted 2,800 in their pilot and scaled back to 1,500 for full operation;
 - Edmonton launched with 200 e-scooters across two companies. One company was permitted to bring in up to 1,500 e-scooters.

Further Research and Future Report

City staff will provide CWC and Council with recommendations on allowing personal and shared e-scooters in London at an upcoming CWC meeting. The recommendations will be developed based on what other Ontario municipalities have permitted, input from City service areas, partner organizations and the public.

By-laws have recently been passed in Ottawa and Hamilton:

City of Ottawa <https://ottawa.ca/en/living-ottawa/laws-licences-and-permits/laws/law-z/e-scooters-law-no-2020-174#e-scooters-law-no-2020-174>

City of Hamilton Personal E-scooters
<https://www.hamilton.ca/sites/default/files/media/browser/2020-12-21/20-269.pdf>

City of Hamilton Shared E-scooters
<https://www.hamilton.ca/sites/default/files/media/browser/2020-12-21/20-270.pdf>

These example by-laws will also be used by City staff to form the basis for engaging service areas, partners and the public.

Next Steps and Timeline

- Release new micromobility (bike and e-scooter) share RFP in April or May 2021.
- Seek internal service area and external partners' written feedback on allowing e-scooters use through briefing in Spring 2021.
- Seek preliminary public feedback on private e-scooter and public e-scooter share interest in Spring/early Summer 2021.
- Report to Council end of Summer/early Fall 2021 with proposed e-scooter use by-law.

2.9 Permitting Cargo E-bikes

Cargo e-bikes are a type of electric-powered bike with a platform or box to carry larger items like packages and boxes for deliveries. Individuals use them for transporting larger items for personal use or children as passengers. Businesses use them as another way to deliver products.

In March 2021, the Province of Ontario launched a five-year cargo e-bike pilot program. The pilot is intended to evaluate the use of cargo e-bikes for both personal and commercial purposes. As part of the pilot, Ontario municipalities first need to pass by-laws to define where they can operate, where they can be parked (e.g., within spots for motor vehicles), and the operating parameters for cargo e-bike operators and businesses. Figure 1 and 2 are examples provided on the provincial website.



Figure 1 Example of Cargo e-Bike



Figure 2 Example of Cargo e-Bike

The Province released Guidelines for Municipalities (Appendix A). More information on the provincial pilot is available at <https://www.ontario.ca/page/cargo-e-bike-pilot-program> along with the Regulation: <https://www.ontario.ca/laws/regulation/210141>

Further Research and Future Report

City staff will provide CWC and Council with recommendations on allowing personal and commercial use of cargo e-bikes in London at a future CWC meeting. The recommendations will be developed based on input from City service areas, partner organizations and the public. This engagement will run alongside the engagement process to determine how or if e-scooters should be permitted to operate in London.

The staff report will also include a discussion of possible cargo e-bike use in London's municipal fleet operations.

Next Steps and Timeline

- Seek internal service area and external partners' written feedback on allowing cargo e-bike use through briefing and analysis in Spring 2021.
- Seek public feedback on private cargo e-bike interest in Spring/early summer 2021.
- Report to Council end of Summer/early Fall 2021 with proposed cargo e-bike by-law.

Conclusion

This report identified a number of cycling and TDM projects on the go in 2021 and into 2022 that will have lasting benefits for Londoners' mobility and accessibility. Together they address several of Council's Strategic priorities, including taking action on climate change.

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Recommended by: Kelly Scherr, P.Eng., MBA, FEC, Managing Director, Environmental & Engineering Services & City Engineer

Appendix A Ontario Cargo e-Bike Pilot Programs: Guidelines for Municipalities

c Transportation Advisory Committee
 Cycling Advisory Committee

APPENDIX A

Ontario Cargo e-Bike Pilot Programs: Guidelines for Municipalities

Increasing options for businesses to meet delivery demands

Ontario has created a five-year pilot framework for permitting the use of larger cargo power-assisted bicycles (cargo e-bikes) on Ontario roads, should municipalities choose to allow their use within municipal boundaries.

Municipalities that want to allow cargo e-bikes to operate on their roads must pass by-laws to permit their use and set out specific requirements, based on what is best for their communities.

Municipalities may also inform the Ministry of Transportation that they are participating in the pilot by sending a notification to SPDB@ontario.ca.

The Province has established the broad regulatory framework for cargo e-bikes. This includes the following vehicle and operating requirements.

Provincial Requirements

Provincial Vehicle Requirements

The vehicle is a pedal-driven bicycle of conventional exposed fork-and-frame bicycle design and appearance that:

- has two or three wheels
- is fitted at all times with pedals that are always operable to propel the bicycle
- has a platform, basket, or container for carrying cargo, parcels or goods
- has steering handlebars
- has a width not exceeding 1.3 meters
- has a length not exceeding 4 meters
- has a height not exceeding 2.2 meters
- has wheels that have a width of not less than 35 millimeters and a diameter of not less than 350 millimeters
- does not have any structure that fully encloses the occupant area
- has an electric motor with a continuous rated output power not exceeding 1000 watts that is incapable of providing propulsion assistance when the motor vehicle attains a speed of 32 kilometres per hour or more

Provincial Operating Requirements

- No drugs or alcohol permitted when operating a cargo e-bike (consequences under the Criminal Code of Canada may apply)
- Where permitted, the vehicle must be operated in the bicycle lane or to the right-most side of the roadway
- Operator must be age 16 or over
- Not permitted to tow devices or vehicles
- Not permitted to carry dangerous or hazardous goods
- Not permitted to leave the vehicle in a location that is intended for the passage of vehicles or pedestrians (i.e., bicycle lane or sidewalk)
- Helmets are required for all riders regardless of age

- Passengers are permitted if the passenger is using a seat designed for passenger use that is manufactured for the vehicle
- When operated at a time (i.e., night-time or in poor weather) where persons and vehicles are not clearly discernible at a distance of 150 metres or less, cargo e-bikes must carry a lighted lamp displaying a white or amber light at the front and a lighted lamp displaying a red light at the rear (must be affixed to the vehicle, not the operator)

Municipal Considerations

Municipal Operating Parameters

Municipalities that want to allow cargo e-bikes to operate within their boundaries may wish to consider the below:

- Developing operating parameters for cargo e-bike companies and operators.
- Whether cargo e-bikes may be allowed to operate on sidewalks - sidewalks are for pedestrians, and operators should be considerate of persons with disabilities and/or limited mobility. Municipalities may wish to clearly communicate with companies about their expectations and requirements around contracts, business Licences, operating agreements, etc.

Municipalities to consider:

- What are the most appropriate mechanisms to monitor, track and report on the use of cargo e-bikes under the pilot, including collisions?
- Where should cargo e-bikes be allowed to travel (e.g., bicycle lane, on roadways, bikepaths, etc.)?
- A limit on the number of cargo e-bikes allowed in certain areas to combat congestion?
- How will cargo e-bikes integrate with other road users (e.g., pedestrians, cyclists, and people using personal mobility devices)?
- Whether a visible numerical identifier may be required for each vehicle in use?
- What contractual terms are required for commercial operators to provide data (such as GPS coordinates) to municipalities?
- Where and when should vehicles be permitted to stop/park for deliveries?
- What mechanism is in place for citizens to provide feedback or complaints (i.e., surveys or use of 311 lines)?
- How to ensure training for operators to meet all Occupational Health and Safety Act requirements?

Parking

The pilot program requires cargo e-bikes to be parked within spots for motor vehicles as these vehicles are not permitted to stop in places of passage for

motor vehicles or pedestrians. In addition, municipalities may wish to consider clearly defining where cargo e-bikes can park (e.g., setting up designated parking locations). Designated parking locations provides control over their use and reduces interference with the public.

Municipalities may consider:

- Should there be overnight responsibility for cargo e-bike parking non-compliance.
- Who may receive the penalty if a cargo e-bike is not parked in a designated location.
- What penalty structure should apply if a cargo e-bike is not parked in a designated location?

Liability

Municipalities may consider:

- What are the possible options for commercial cargo e-bike companies to indemnify the municipality and hold appropriate insurance requirements with a distinction in insurance coverage required for commercial cargo e-bikes?
- What is the possible appropriate insurance coverage for commercial cargo e-bikes -the type and coverage amount?

Offences

Similar to bicycles, *Highway Traffic Act* (HTA) rules of the road apply to the operation of cargo e-bikes in Ontario. Penalties in HTA s. 228(8) also apply to violations of the pilot regulation (fine of \$250 to \$2,500). By-law offences may also apply. There are serious consequences for a cargo e-bike operator impaired by drugs, alcohol or both under the *Criminal Code of Canada*.

Data Collection

The Ministry of Transportation (MTO) requires data from municipalities to evaluate this pilot and determine any potential amendments required, if needed. Municipalities are required to provide information to the ministry if a municipal by-law is enacted to permit the use of cargo e-bikes on any roads within the municipality during the term of the pilot.

MTO will be evaluating the road safety impact of the pilot program and will require accurate and reliable data on all cargo e-bike collisions to do this effectively. Collisions, as defined in the Highway Traffic Act (HTA), must be reported using the Motor Vehicle Collision Report (MVCR) form (SR-LD-401) or an electronic collision data system when a reportable collision involving a

cargo e-bike occurs. Collisions involving cargo e-bikes that do not meet the criteria of a reportable collision should be documented using your jurisdiction's incident reporting procedures. Municipalities are required to remit incident/collision and injury- related data to the province.

More Information

This document is a guide only. For official purposes, please refer to the Ontario Highway Traffic Act and its regulations. For more information, please visit [Ontario.ca/MTO](https://www.ontario.ca/MTO).

Source: Province of Ontario <https://www.ontario.ca/page/ontario-cargo-e-bike-pilot-program-guidelines-municipalities>

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC
Managing Director, Environmental & Engineering Services,
City Engineer

Subject: Green Bin Program Design - Community Engagement
Feedback

Date: March 30, 2021

Recommendation

That, on the recommendation of the Managing Director, Environmental & Engineering and City Engineer the following actions **BE TAKEN**:

- a) this report **BE RECEIVED** for information;
- b) the Civic Administration **BE AUTHORIZED** to undertake a Request for Proposals procurement process to:
 - i) select a company or companies to supply a kitchen container for indoor use to recover organics;
 - ii) select a company or companies to supply and deliver to London homes a Green Bin curbside container (approximate size 45 litres); and
 - iii) select a company or companies to supply and deliver a larger Green Bin curbside container (approximate size 80 litres or 120 litres) potentially for use in some townhome complexes where a smaller Green Bin is not practical;
- c) the Civic Administration **BE AUTHORIZED** to undertake the Request for Proposals procurement process for a Green Bin material processor(s) that can compost and/or anaerobically digest:
 - i) Mix #1 - Food waste, non-recyclable/soiled paper, cooking oils and grease, and household plants; and/or
 - ii) Mix #2 - Food waste, non-recyclable/soiled paper, cooking oils and grease, household plants; and pet waste (e.g., dog, cat, other);it being noted that processors will have to clearly state what types of products will be created (e.g., compost categories AA, A, B, digestate, renewable natural gas, electricity, etc.) as well as describe the final end uses for these products.
- d) the Civic Administration **BE AUTHORIZED** to design a Green Bin program that permits the use of the following liners, if a liner is deemed necessary by the household:
 - i) Newsprint/household paper;
 - ii) Purchased paper liners/bags; and
 - iii) Purchased certified compostable bag liners;it being noted that should Mix #2 be selected all pet waste must contained inside a purchased certified compostable bag (leak free and tied tightly) to be an eligible item for the Green Bin.
- e) the Civic Administration **BE DIRECTED** to report back on the outcome of the procurement processes and provide details on the preferred mix of materials to collect in the Green Bin and any final design adjustments based on new information; and
- f) the Civic Administration **BE DIRECTED** to report back by September 2021 on municipal programs options, advantages, disadvantages and estimated costs to address bi-weekly garbage concerns.

Executive Summary

The Green Bin Community Engagement process was conducted to engage the community and solicit feedback in designing London's Green Bin program. The community engagement focused on five key decision areas for overall program design which influence one another: types of materials accepted, size of curbside container, type of kitchen container and type of bin liners permitted. The engagement process also asked Londoners what concerns they may have with bi-weekly garbage collection.

The City's community engagement online platform, GetInvolved.ca, was used to provide information, and collect feedback on each of the key decision areas. Feedback was collected over an 8-week period from January 11, 2021 to March 5, 2021. The online feedback form received 3,777 responses, the webpage had 9,180 unique visitors and about 54,000 total page views. Key highlights of the resident feedback are:

- a large majority supported a Green Bin material mix that includes food waste (99%), soiled paper (79%), cooking oils and grease (63%) and household plants (73%). 45% of respondents wanted to also include pet waste, and 21% wanted to also include diapers/sanitary products (includes adult incontinence products and feminine hygiene products);
- the 'medium' curbside container size (80 litres) was preferred over the 'small' bin (45 litres) by 57% to 35% (with others undecided, etc.);
- a tight-fitting lid to reduce odours/fruit flies was the most important kitchen container feature (80%), followed by a handle (64%). Only about 20% did not need or want a kitchen container;
- almost 70% indicated that purchased certified compostable liners should be permitted, and about 45% indicated paper liners (purchased, or household paper) be permitted. Only 7% thought that plastic bags should be permitted;
- the most common concern (48%) for bi-weekly garbage collection was that it would be four weeks between collection if they missed a collection. About 25% indicated concerns about holding on to diapers and about 25% indicated concerns about holding on to pet waste over a longer collection cycle.

Staff recommendations for all five decisions are provided in the Recommendation section of this report and are based on details from:

- review and discussions with municipalities delivering a Green Bin program;
- experience from the Green Bin Pilot Project conducted in London between October 2011 and November 2012;
- feedback received from online engagement and previous engagement opportunities and comments received; and
- City staff experience from viewing Green Bin programs in operation and similar programs and/or program parameters offered in London.

Funding for the Green Bin program as part of the 60% Waste Diversion Action Plan was approved on March 2, 2020 and with budget amendments made and approved on January 12, 2021. The estimated amount allocated for the Green Bin program and related matters is \$5 million annually with a capital cost estimated between \$12 million and \$15 million. These estimates were prepared in 2018.

Linkage to the Corporate Strategic Plan

Municipal Council continues to recognize the importance of solid waste management and the need for a more sustainable and resilient city in the development of its 2019-2023 Strategic Plan for the City of London. Specifically, London's efforts in solid waste management address the three following areas of focus: Building a Sustainable City; Growing our Economy; and Leading in Public Service.

On April 23, 2019, the following was approved by Municipal Council with respect to climate change:

Therefore, a climate emergency be declared by the City of London for the purposes of naming, framing, and deepening our commitment to protecting our economy, our eco systems, and our community from climate change.

The 60% Waste Diversion Action Plan, including the Green Bin program, addresses various aspects of climate change mitigation within the waste management services area including greenhouse gas (GHG) reduction.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

Some relevant reports that can be found at www.london.ca under Council and Committees meetings include:

- Community Engagement on Green Bin Program Design (November 17, 2020 meeting of the Civic Works Committee (CWC), Item #2.3)
- Business Case 1 – 60% Waste Diversion Action Plan – 2020-2023 Multi -Year Budget (January 30, 2020 meeting of the Strategic Priorities & Policy Committee (SPPC), Item #4.12a)
- 60% Waste Diversion Action Plan – Updated Community Feedback (September 25, 2018 meeting of the CWC, Item #3.2)
- Public Participation Meeting 60% Waste Diversion Action Plan – Additional Information (September 25, 2018 meeting of the CWC, Item #3.2)
- 60% Waste Diversion Action Plan (July 17, 2018 meeting of the CWC, Item #3.1)

2.0 Discussion and Considerations

2.1 Overview of Green Bin Community Engagement and Results

The Green Bin Community Engagement process was conducted to engage the community and solicit feedback in designing London's program. The City's community engagement online platform, Get Involved, was used to provide information and collect feedback on each of these five key decision areas for the overall Green Bin program design:

1. What materials should be placed inside the Green Bin?
2. What size of curbside container should be used?
3. What type of kitchen (indoor) container should be provided?
4. What type of container liners should be permitted?
5. What are the concerns about bi-weekly garbage collection (pickup)?

A communications campaign promoted the community engagement opportunities to Londoners. The campaign included social and traditional media such as newspaper ads, radio ads, City Newsletter e-News, Social Media (Instagram, Facebook, Twitter) and digital billboards.

The Green Bin community engagement overview details and summary is available in Appendix A. The community engagement process was conducted over an eight-week period from January 11 to March 5, 2021 using the City's community engagement online platform, Get Involved:

- 3,777 responses were received;
- 1,325 general comments regarding support for the Green Bin program, waste diversion programs, ideas for program design and environmental benefits were provided;

- 9,180 unique visitors (number of individual devices – such as a phone, iPad, or computer - visiting the Get Involved page and viewed at least one page) were recorded; and
- 54,000 total page views (number of total pages viewed on the Green Bin Get Involved page. This includes all clicks on the home page, photos, videos, and background information) were recorded.

The one-night Green in the City series event presented an overview of London’s Green Bin program development. A portion of the presentation included municipal staff from the Region of Waterloo and City of Hamilton to share their Green Bin program experiences. This event had 105 attendees.

Each of the five key decision areas for the Green Bin Program design are described and evaluated in the Appendices B through F. Each key decision area is presented with the following sections: overview, summary of the choices, Green Bin municipalities, London’s experience with similar and existing programs, resident feedback results, operational and technical considerations, and staff recommendations.

2.2 Key Decision #1 – What Materials Should Be Placed Inside the Green Bin?

Choices

A decision about the type of material permitted in the Green Bin is perhaps the most critical decision because it will impact other operational decisions. Seven types of materials can be grouped into three categories:

- ‘Clean’ organics typically include food waste, non-recyclable/soiled paper, cooking oils and grease, and household plants;
- ‘Dirty’ organics typically include pet waste (e.g., dog waste, cat waste/litter, other pet waste/litter) and diapers and sanitary products (includes adult incontinence products and feminine hygiene products); and
- Yard waste (including grass clippings, trimmings, etc.).

Green Bin Municipalities

A review of 15 Ontario municipalities and three Canadian programs found that all municipalities have a material mix that includes food waste, soiled paper, cooking oils and grease and household plants. About half of municipalities allow pet waste and only two municipalities (York Region and Toronto) allow diapers/sanitary products.

Resident Feedback

Online Feedback Form Question: What Materials Should Be Placed Inside the Green Bin?

Material Type (check all that apply)	Responses (%)	Number of Responses
Food waste	99%	3,691
Soiled paper	79%	2,941
Cooking oils and grease	63%	2,335
Household plants	73%	2,738
Pet waste (dog and cat feces and kitty litter)	45%	1,679
Diapers/sanitary products ¹	21%	778
Yard waste	53%	1,990
Total Responses		3,734

¹Diapers includes adult incontinence products and sanitary products refers to feminine hygiene products.

These results are consistent with in-person feedback received from 260 participants at the January 2020 Lifestyle Home Show where approximately 50% selected a 'clean-only' material mix only. Approximately 50% also selected pet waste and about 30% also selected diapers/sanitary products.

Staff Recommendation

1. Obtain pricing from the marketplace on two mixes of Green Bin materials to be processed:
 - Mix #1 - Food waste, non-recyclable/soiled paper, cooking oils and grease, and household plants; and
 - Mix #2 - Food waste, non-recyclable/soiled paper, cooking oils and grease, household plants; and pet waste (e.g., dog, cat, other).

Rationale for Recommendation

Mix #1 contains materials that are:

- the most commonly collected materials in other municipalities;
- generally ranked higher from resident feedback;
- easiest materials to compost or digest;
- likely to have lower processing costs;
- likely to create the cleanest possible end-product; and
- represent more than 65% of available organics.

Mix #2 also includes pet waste (e.g., dog waste, cat waste and litter, other pet waste) which is found in approximately half the homes in London. This will:

- add to challenges for compost or digest and likely increase processing costs;
- may require a change in handling practices if plastic bags are currently being used for 'poop and scoop' practices;
- be an extra cost to households if they are switching to certified compostable bags, from plastic pet waste bags (which cost less) or reusing retail plastic bags;
- increase the Green Bin 'yuk factor' and may discourage general use of the Green Bin if it becomes soiled with pet waste, and particularly over the winter when cleaning with an outdoor hose may not be possible;
- may have an impact on end-product quality; and
- targets an additional 20% of available organics to increase total target to 85% of available organics.

Diapers/sanitary products should be excluded from both mixes because:

- diapers/sanitary products are not really composted or digested; therefore, they still end up in the landfill, and their presence in the mix will negatively impact the ability to produce a higher quality end-product;
- most households with diapers use them for a transition period and although managing them for this period is a challenge, there are other preferred options that can be explored to assist those households (e.g., permitting no-charge depot drop-off, permitting an extra bag at the curbside, etc.); and

Yard waste should not be added to the Green Bin program because:

- the cost of processing yard waste with Green Bin materials is approximately double that of processing yard waste collected in a separate collection;
- it may discourage the use of the Green Bin for kitchen organics if householders fill their bin with yard waste, leaving less room for food scraps;
- the current Green Week collection program that includes trimmings, plant materials, brush, branches, leaves is still required; and
- yard waste will continue to be permitted at the EnviroDepots.

Next Steps

1. Prepare details for a Request for Proposals for processing London's Green Bin Materials that includes pricing options for Mix #1 and Mix #2 materials.
2. Undertake further research on how municipalities work with residents regarding pet waste, diapers/sanitary products and related matters.

2.3 Key Decision #2 – What Size of Curbside Container Should Be Used?

Choices

The curbside container is used to store organic materials and will be set out to the curbside on collection day. Staff have narrowed the Green Bin container choice to two size options (based on previous public feedback and research including what is most used in other municipalities):

- ‘small’ size Green Bin typically about 45 litres; and
- ‘medium’ size Green Bin typically 80 litres.

Green Bin Municipalities

A review of 15 Ontario municipalities found that ten programs use the small Green Bin, four programs use a medium Green Bin ranging from 80 to 100 litres and one municipality that collected the Green Bin bi-weekly uses a large (240 litre) Green Bin. Those using the medium or large containers (carts) also use semi or automated collection vehicles to assist crews with collection of the heavier bins.

Resident Feedback

Online Feedback Form Question: What size of curbside Green Bin would you like?

Green Bin Size (check one)	Responses (%)	Number of Responses
Small (40 to 50 litres in size)	35%	1,336
Medium (70 to 80 litres in size)	57%	2,155
Undecided	5%	170
I do not wish to receive a Green Bin	3%	107
Total Responses		3,768

These results are consistent with in-person feedback received at the January 2020 Lifestyle Home Show where approximately 60% of the 260 respondents selected the medium bin and 40% selected the small bin.

Staff Recommendation

1. Design London’s Green Bin program to use the small size (approximately 45 litres) Green Bin container.

Rationale for Recommendation

- the small Green Bin will hold 20 to 30 kilograms of organics;
- the average quantity of organics generated in London households is:
 - about 4 kilograms per week of Mix #1 materials (and potentially up to 4 times that amount in peak periods)
 - about 5 kilograms per week of Mix #2 materials (and potentially up to 4 times that amount in peak periods)
- for health and safety reasons London’s weight limit for collectors manually lifting garbage is 20 kilograms. It will be the same for Green Bins;
- if a larger Green Bin container is used, all collection vehicles would require a mechanical lift assist and this feature would increase vehicle costs by as much as \$12,000 to \$15,000 per vehicle;
- the small Green Bins (45 litres) cost between \$35 and \$40 and the 80 litres containers cost between \$70 and \$75 (i.e., more than double the price between containers sizes or potentially about \$5 million difference in price if it were one or the other being offered); and
- the medium 80 litre bin may result in more yard waste being placed in the bin because there will be extra capacity, which will mean higher fees for managing yard waste.

It is important to note that resident feedback favoured the medium-sized Green Bin. However, based on waste audit data the small Green Bin will be large enough to handle the average quantities of organics from most London households. A solution is needed for households that find that the small bin is not adequate as they generate large quantities of organic waste (e.g., the provision of a second Green Bin, or of a larger bin in some instances). There will be no limit to the quantity of Green Bin materials that will be collected from households, as is the case with Blue Box recyclables, as long as the materials are from the household participating in the program.

Next Steps

1. Prepare details for a Request for Proposals for purchase and distribution of the small Green Bin.
2. Undertake research of advantages and disadvantages of registering/tracking Green Bins and the associated costs to determine if this feature should be included in the Green Bin RFP specification.
3. To accommodate households and townhome complexes that require more capacity the option of providing a second Green Bin or other alternatives will be reviewed.
4. A small percent of respondents indicated they do not wish to be supplied with a Green Bin. Experience with other communities suggest some householders do not wish to participate because they compost/digest their organics or do not wish the added work. Staff will explore means of potentially allowing Londoners to opt out of the delivery, returning the unwanted Green Bin, exchanging the unwanted Green Bin, etc. to determine practicality and cost savings potential.

2.4 Key Decision #3 – What Type of Kitchen Container Should Be Provided?

Choices

Generally, a kitchen container is supplied to households at the same time as the curbside container. The kitchen container helps to make the routine of collecting kitchen organics convenient and thus increase participation in the program to increase chances of success.

There are different types of kitchen containers, with some differences in the features they provide (e.g., handle, carbon filter, size). Other considerations include:

- would residents prefer to be given a retail coupon to purchase a container of their choice; and
- would residents prefer not to receive a kitchen container.

Green Bin Municipalities

The general practice is the provision of a kitchen container with each Green Bin at the start of the program. An opt-out option or retail discount coupon was not found in other municipalities.

Resident Feedback

Online Feedback Form Question: Kitchen Containers: What features are important to you?

Kitchen Container Features (check all that apply)	Responses (%)	Number of Responses
Smaller size bin (approximately 7 litres)	39%	1,476
Larger size bin (approximately 9 litres)	35%	1,335
A handle	64%	2,411
A carbon filter to reduce odours (filters are optional and will need to be purchased)	42%	1,584

Kitchen Container Features (check all that apply)	Responses (%)	Number of Responses
A tight-fitting lid to reduce odours and fruit flies	80%	3,015
I prefer to use my own container (e.g., plastic ice cream tub, coffee can)	7%	256
I already have a container and do not need another	13%	490
I prefer to be provided a coupon towards the purchase of a container of my choice from a local retailer	18%	662
I have no preference	3%	105
I am undecided	2%	75
Other (please specify)	2%	91
Total Responses		3,769

Staff Recommendation

- Provide a kitchen container with a tight-fitting lid with each Green Bin (curbside).

Rationale for Recommendation

- a kitchen container helps to increase chances of success by providing a convenient way to collect kitchen organics;
- a system to conveniently collect and store kitchen scraps is an important step towards creating new habits in the household, which are important to establish at the onset of a new program;
- distribution of discount retail coupon would not ensure that each household that wishes to participate will have a kitchen container when the program starts; and
- aligns with a large majority of resident feedback indicating they do want to be provided with a kitchen bin;

Next Steps

1. Prepare details for a Request for Proposals for the purchase of a kitchen container with the distribution of the Green Bin.

2.5 Key Decision #4 – What Type of Container Liners Should Be Permitted?

Choices

Households may wish to line their kitchen container and/or Green Bin. Lining kitchen container or the Green Bin protects helps the material to slide out of the bin, keeps the bin cleaner, reducing odours and insects, and will reduce liquids that can splash on collectors or the street. Liner choices include:

- Newsprint/household paper;
- Purchased paper liners/bags;
- Purchased certified compostable bag liners;
- Plastic bags (non-degradable); and
- No liner.

Green Bin Municipalities

The liner material permitted is contingent on which materials are permitted in the Green Bin; for example, municipalities that accept diapers/sanitary products also permit the use of plastic bag liners. Most municipalities do not require liner use, but some municipalities that accepted pet waste in the Green Bin require it to be placed in an acceptable liner for collection. Due to Covid-19 a few municipalities do require the use of plastic bag liners.

Experience has shown that there is an evolution in the types of liners being used, the cost and availability of these liners, the public reaction to liner use and how collectors react to different types of liners.

Additional information on this matter continues to be compiled by City staff.

Resident Feedback

Online Feedback Form Question: What type of liners should be used?

Bin Liner Type (check all that apply)	Responses (%)	Number of Responses
Newsprint or other household paper	43%	1,599
Purchased paper bags	45%	1,687
Purchased compostable liners (i.e., certified compostable bags)	67%	2,530
Non-degradable plastic liners (e.g., plastic grocery bags)	7%	269
No liner	25%	948
I have no preference	9%	343
I am undecided	6%	221
Total Responses		3,759

Staff Recommendation

1. [If London's Green Program is based on Mix #1] Allow residents the choice of no-liner, paper, or certified compostable liners, and not allow the use of regular plastic bag liners.
2. [If London's Green Program is based on Mix #2 (Mix #1 plus pet waste)] Allow residents the choice of no-liner, paper, or certified compostable liners, and not allow the use of plastic bag liners. Pet waste would need to be bagged in a certified compostable bag, that is leak free and tied tightly for the safety of the collector. It could still go in the garbage if it were in a regular plastic bag.

Rationale for Recommendation

- allowing households the choice of liner options will accommodate varying household routines and budgets, and encourage program participation;
- offers choice for residents including no-cost options and aligns with resident feedback – only 7% would like to use plastic bags;
- permitting the use of paper and certified compostable liners, and not permitting plastic bags, is consistent with the recommendation to not include diapers/sanitary in the material mix; and
- requiring the use of certified compostable bags when pet waste is placed in the Green Bin is consistent with the desire to keep normal plastic out of the Green Bin. Letting just one item contained in plastic be placed in the Green Bin opens the door for other plastic bags. Residents could place pet waste in plastic bags directly into the garbage as per the current system.

Next Steps

1. Notify liner suppliers/retailers to advise them of permitted liner choices so that they may ensure that product is available for purchase by Londoners in sufficient time prior to the launch of the Green Bin program.

2.7 Key Decision #5 – What are the Concerns About Bi-weekly Garbage Collection?

General Comments

The 60% Waste Diversion Action Plan (approved by Municipal Council in 2018) identified that a switch to bi-weekly, same-day garbage collection and weekly recycling and Green Bin collection (on the same day) would be less costly than weekly garbage collection. Bi-weekly garbage collection was also considered as key to encouraging greater participation of the Green Bin program.

Green Bin Municipalities

Garbage collection frequency is summarized in the table below.

Garbage Collection Frequency for Large Municipalities with Green Bin Collection

Garage Collection Frequency	Municipality
Weekly	Dufferin County, Hamilton ¹ , Kingston
Weekly	St. Thomas ²
Bi-weekly	Barrie, Durham, Guelph, Halton, Niagara ³ , Ottawa, Peel, Simcoe County ⁴ , Toronto, Waterloo, York (Other Canadian: Calgary, Halifax, Vancouver)

Table Notes:

¹ Reviewing bi-weekly garbage collection

² Weekly garbage, bi-weekly green bin and recycling

³ Changed to bi-weekly garbage collection in October 2020

⁴ Changed to bi-weekly garbage collection in February 2020

Resident Feedback

Online Feedback Form Question: What concerns might you have about bi-weekly garbage collection?

Bi-Weekly Garbage Concerns (check all that apply)	Responses (%)	Number of Responses
Too long to hold diapers/sanitary products	24%	902
Too long to hold pet waste	24%	906
Too much garbage will be accumulated over a two-week period	33%	1,250
Missing a pickup will mean four weeks between collection days	48%	1,813
I have some concerns, but I support the decision of bi-weekly garbage collection and weekly recycling and Green Bin pickup	38%	1,425
I do not have concerns about bi-weekly garbage collection	26%	982
I am undecided	2%	70
Other (please specify)	4%	149
Total Responses		3,760

Staff Recommendation

1. Prepare a report on how municipalities work with residents to address bi-weekly garbage collection concerns (e.g., managing diapers and related matters) including advantages, disadvantages and estimated costs.

Rationale for Recommendation

- reduced garbage collection frequency relative to Green Bin collection will encourage increased participation in the Green Bin program;
- the Green Bin will manage wet organic and smelly household waste weekly (except for diaper waste) leaving mostly dry waste to be placed in the garbage;
- municipalities with Green Bin programs have found that the amount of organic material collected in the Green Bin increases by 50% to 100% with the introduction of bi-weekly garbage collection. Blue Box recycling rates also increased; and
- resident feedback indicates some specific concerns about reduced garbage collection frequency, however almost 40% noted that they still supported bi-weekly garbage, and about 25% had no concerns.

Managing diapers/sanitary products

Holding diapers/sanitary products for a two-week period may be a challenge for some households. Other municipalities offer programs to assist with diapers/sanitary products. These include a special collection for registered households, an exception to the curbside limit, and no-charge drop-off at depots. Generally, these programs require registered users to place garbage in clear plastic bags so the contents can be checked.

Next Steps

1. Design an information campaign to prepare for collection schedule changes and Green Bin program implementation.
2. Undertake further research on how municipalities work with residents regarding pet waste, diapers/sanitary products and related matters.

3.0 Financial Impact/Considerations

Funding for the Green Bin program as part of the 60% Waste Diversion Action Plan was approved on March 2, 2020 and with budget amendments made and approved on January 12, 2021. The estimated amount allocated for the Green Bin program and related matters is \$5 million annually with a capital cost estimated between \$12 million and \$15 million. These estimates were prepared in 2018.

All items to be purchased through competitive procurement will be provided to Committee and Council for approval and include final decisions on the selection of:

- a company or companies to supply a kitchen container for indoor use to recover organics;
- a company or companies to manufacture and deliver to London homes a Green Bin curbside container (approximate size 45 litres);
- a company or companies to supply and deliver a larger Green Bin curbside container (approximate size 80 litres or 120 litres) potentially for use in some townhome complexes where a smaller Green Bin is not practical; and
- a Green Bin material processor(s) that can compost and/or anaerobically digest Mix #1 and/or Mix #2 materials.

Conclusion

The eight-week Green Bin community engagement program attracted a lot of attention and feedback was received from many Londoners. This information was fairly consistent with experience from other Ontario municipalities and a few communities in other parts of Canada. Previous and related experience with London pilot projects has contributed to staff analysis.

It must be noted that like the Blue Box program, there are innovations, new ideas and new learnings on a regular basis with Green Bin programs. City staff will ensure that, where possible, these kinds of opportunities can be introduced to improve program design and implementation for the purpose of containing/reducing cost, increasing customer experience and satisfaction, and maintaining customer and worker health and safety.

All next steps associated with this report have been identified in the Recommendation section on the first page.

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Appendix A Summary of Green Bin Community Engagement

Appendix B Key Decision #1 – What Materials Should Be Placed Inside the Green Bin?

Appendix C Key Decision #2 – What Size Bin Should London’s Green Bin Be?

Appendix D Key Decision #3 – What Type of Kitchen Container Should Be Provided?

Appendix E Key Decision #4 – What Type of Container Liners Should Be Used?

Appendix F Key Decision #5 – What Are the Concerns About Bi-weekly Garbage Collection?

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Appendix A – Summary of Green Bin Community Engagement

Online Engagement and Resident Feedback

The Green Bin Community Engagement process was conducted to engage and solicit resident feedback in designing London’s Green Bin Program.

Resident feedback was collected over an eight-week period from January 11 to March 5, 2021. The City of London’s community engagement online platform, Get Involved getinvolved.london.ca/greenbin, was used to provide information and collect resident feedback on each of the five key decision areas for the overall Green Bin program design:

- 1) what materials should be placed inside the Green Bin?
- 2) what type of kitchen container should be provided?
- 3) what type of bin liner should be permitted?
- 4) what size of bin should London's Green Bin be? Small or medium?
- 5) what concerns could there be with bi-weekly garbage collection?

In addition to the five key decision questions, four general questions were asked:

- The City of London is adapting its community engagement to follow event restrictions and physical distancing guidelines to help slow the spread of Covid-19. How would you prefer to engage with London’s Green Bin program in the future?
- Would you like to be contacted in the future about London’s Green Bin program? Please include your email.
- What is your postal code?
- Do you have any additional comments or feedback?

Londoners were made aware of this engagement and feedback opportunity through a communications campaign that included the following communication methods:

- newspaper ads;
- radio ads;
- City website information including Our City e-news;
- social media; and
- digital billboards.

A promotional digital billboard was displayed on rotation for approximately three weeks (January 20 to February 12, 2021) at the four following locations:

- Wellington Street at Front Street;
- Wellington Street at Bathurst Street;
- Richmond Street at Horton Street; and
- Wharncliffe Road at Baseline Road.

The communication campaign details are provided in Table A1. The newspaper advertisements were provided at no cost through the Resource Recovery and Recovery Authority (RPRA) in-kind advertising program.

Table A1 – Community Engagement Communications Campaign

Communication Type	Date(s) of advertisement
Newspapers	January 23, 2021 – London Free Press January 27 and January 28, 2021 – Londoner
Radio advertising (Jack FM, AM 980, Fresh FM, Classic Rock 98.1)	January 18 to February 7, 2021
Social media (Twitter, Facebook, Instagram)	January 11 to March 3, 2021 (26 posts)

Communication Type	Date(s) of advertisement
Green in the City virtual event	106 attended, 172 registered
Digital Billboards	January 20 to February 12, 2021 (4 locations)
Other digital media	February 4, 2021 – Our City (9,330 emails)

It is important to note that this feedback method (online resident feedback) is non-random sampling, meaning it is not clear what the odds or probability that the data represents the total population (i.e., statistical validity cannot be determined). Online feedback methods are often referred to as unrestricted, self-selected surveys. They are a form of convenience sampling. Care must be used in interpreting the results.

The key highlights of the resident feedback received through the Get Involved feedback form are:

- 3,777 completed feedback forms (75% who started completed it);
- 54,140 total page views (number of total pages viewed on the Green Bin Get Involved page. This includes all clicks on the home page, photos, videos and background information);
- 9,180 unique visitors (number of individual devices – such as phone, iPad or computer - visiting the Get Involved page and viewed at least one page);
- 1,335 provided additional general comments on the feedback form; and
- 2,210 requested to be contacted for future engagement and provided their email addresses.

Overall, of the 3,777 respondents, 38% (1,418) provided a method on how they would like to engage and receive information regarding London's Green Bin program in the future. Some respondents provided multiple methods for communication and others had no preference. The methods of communication listed by residents can be summarized into the following categories:

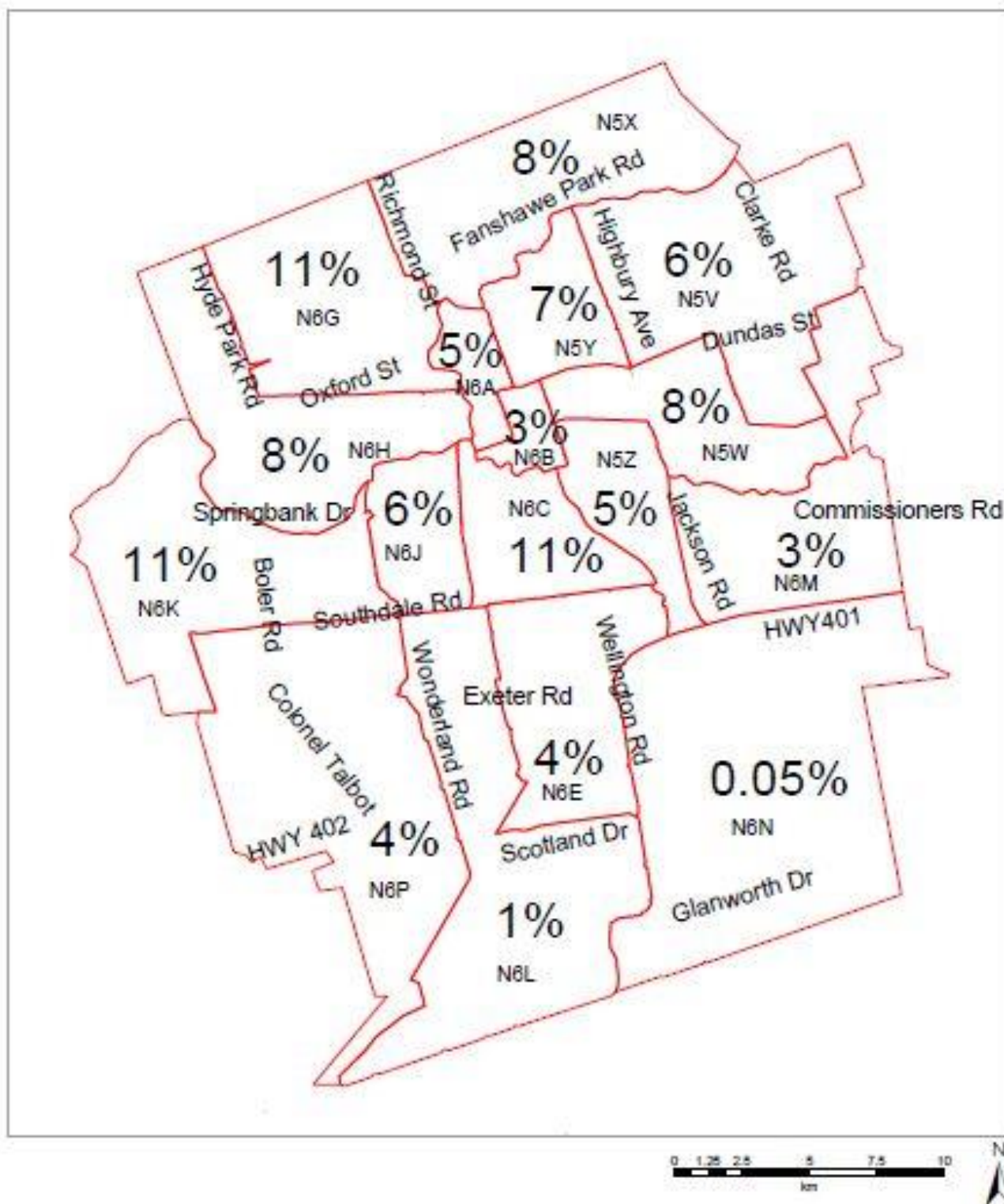
- online (City website, Get Involved website) – 42%
- email – 48%
- virtual presentations (Zoom, webinar) – 13%
- social media (Facebook, Twitter, Instagram) – 11%
- other (print, radio, community groups) – 2%
- no preference – 6%

Of the 3,777 respondents, 2,781 (74%) provided a postal code. Of these 7 respondents indicated that they were non-London residents. The resident feedback received represented all areas of the city. To summarize the distribution, examples of City Planning Districts with the corresponding Canada Post FSA (Forward Sortation Area, first three letters of postal code) are as follows:

- Huron Heights, Uplands, Stoney Creek (N5V, N5X, N5Y) – 21%
- Central London, Highland (N6A, N6B, N6C) – 19%
- Sunningdale, Hyde Park, Oakridge (N6G, N6H) – 19%
- Byron, Southcrest, Bostwick (N6J, N6K) – 17%
- Crumlin, Hamilton Rd, Glen Cairn (N6M, N5W) – 15%
- Lambeth, Tempo (N6P, N6L) – 5%
- Glanworth, White Oak (N6E, N6N) – 4%

A detailed city-wide distribution of the proportion of feedback forms completed is displayed in Figure 1.

Figure 1: Online Feedback Form – Postal Code Distribution of Respondents



Overall, there was a range of general additional comments received. Of the 3,777 respondents, 35% (1,335) provided one or more comments at the end of the feedback form, with most of the comments received being positive. The most common comment received (72%) expressed support of a Green Bin program for London. The other common comments received expressed views on:

- waste diversion programs such as backyard composting or recycling;
- apartments and businesses participating in the Green Bin program;
- ideas for Green Bin program design – promotion and education, bin design for pest control;
- Green Bin program operations – processing, marketing of end products, costs; and;
- environmental benefits of the Green Bin program.

Based on staff’s review of the general comments, approximately 70% of the written feedback was related to the Green Bin program and is addressed by this staff report. Approximately 25% of the written feedback was related to other waste management

programs and the remaining 5% was tied to other items dealing with the environment. The general comments were tallied by categories; therefore, residents may have provided more than one general comment, the proportion of comments was determined from all tallied comments not by the number of residents who provided a general comment.

Green in the City event – Developing London’s Green Bin Program

A virtual Green in the City event included City staff presentations and presentations from municipal staff of the Region of Waterloo and City of Hamilton who shared information about their mature Green Bin programs.

The event had 106 residents attend and 172 registered. At the end of the presentation there was a question-and-answer period where residents had the opportunity to find out more about London’s Green Bin program design. Some examples of the questions asked were regarding the differences in the environmental impacts of processing pet waste and diapers/sanitary products materials and where London will be shipping the Green Bin materials for processing.

Additional Green Bin Resident Feedback Received in 2020

In early 2020 Londoners were solicited for feedback to assist with narrowing down some of the program design options.

An interactive display was featured at the January 2020 Lifestyle Homeshow, Western Fair District Agriplex (January 31 – February 2, 2020) where 260 people provided in-person feedback. The overall results were:

- 90% of participants plan to use the Green Bin;
- the vast majority would put food waste and soiled paper products in the Green Bin (95% and 80% respectively);
- 60% would put pet waste in the Green Bin;
- 30% would put diaper/sanitary products in the Green Bin; and
- 60% say the medium size (80 litre) Green Bin is best for them.

Resident feedback was also collected at four smaller community events in 2020:

- January 10, 2020 at the London Knights House of Green Goes Green event;
- February 26, 2020 at the Lambeth Legion during the W12A Landfill Expansion Environmental Assessment Open House;
- February 27, 2020 at the Earl Nichols Arena during the W12A Landfill Expansion Environmental Assessment Open House;
- March 7, 2020 at the Carling Heights Optimist Centre for Seedy Saturday; and
- Other planned events were cancelled due to the COVID-19 pandemic.

Overall, from these four events approximately 60 residents completed an in-person feedback form and the results were consistent with the in-person feedback received at the January 2020 Lifestyle Homeshow.

Appendix B – Key Decision #1 – What Materials Should Be Placed Inside the Green Bin?

Overview

The type of materials permitted in the Green Bin is the most critical decision as it will impact other aspects of the program, including processing costs, availability of processing operations, user participation and convenience, waste diversion rate, landfill costs, and greenhouse gas emissions.

Choices

Food waste, including cooking oil and grease, and non-recyclable/soiled paper are the most common materials collected in Green Bin programs. A key decision is required on the types of materials permitted. Seven types of materials can be grouped into three categories:

- ‘Clean’ organics typically include food waste, non-recyclable/soiled paper, cooking oils and grease, and household plants;
- ‘Dirty’ organics typically include pet waste (e.g., dog waste, cat waste and litter and other pet waste) and diapers/sanitary products (includes adult incontinence products and feminine hygiene products); and
- Yard waste (including grass clippings, trimmings, etc.).

The online resident feedback form listed all seven material choices and asked Londoners to check any they want to include in London’s Green Bin program.

Green Bin Municipalities

A review of 15 Ontario and three Canadian municipal Green Bin programs found that all municipalities have a material mix that includes food waste, soiled paper, cooking oils and grease and houseplants (note: Hamilton stopped accepting houseplants and yard waste in April 2019). Half of the 18 programs accept ‘clean’ organics; seven allow pet waste but do not allow diapers/sanitary products; and two municipalities (York Region and Toronto) allow pet waste and diapers/sanitary products. Table B1 provides details on Green Bin materials collected in the 18 municipalities.

Table B1 - Summary of Materials included in Other Green Bin Programs

Municipality	Food	Soiled paper	Cooking oils and grease	Household plants	Pet waste	Diapers/Sanitary Products	Yard waste
City of Toronto	x	x	x	x	x	x	
Region of York	x	x	x	x	x	x	
City of Guelph	x	x	x	x	x		
Region of Niagara	x	x	x	x	x		
City of Ottawa	x	x	x	x	x		x
Simcoe County	x	x	x	x	x		
City of St Thomas	x	x	x	x	x		x
Region of Waterloo	x	x	x	x	x		
City of Barrie	x	x	x	x			
Dufferin County	x	x	x	x			
Region of Durham	x	x	x	x			

Municipality	Food	Soiled paper	Cooking oils and grease	Household plants	Pet waste	Diapers/Sanitary Products	Yard waste
City of Hamilton	x	x	x				
Region of Halton	x	x	x	x			
City of Kingston	x	x	x	x			x
Region of Peel	x	x	x	x			
Other Canadian							
City of Vancouver	x	x	x	x			x
City of Calgary	x	x	x	x	x		x
City of Halifax	x	x	x	x			x

Many of the Ontario Green Bin programs are mature and have been in place for several years. Municipal staff from these municipalities were asked about any changes they have made to material mixes since the beginning of the program. These changes are listed in Table B2 and provide some insight about which materials have become problematic for their programs. Municipal staff were also asked for their comments on materials they consider to be problematic and should not be included in the Green Bin program (Table B3).

Table B2 – Changes to Green Bin Material Mixes Since Program Inception

Changes to Material Mix	Municipality
Removed disposable paper cups	Niagara, Halton
Removed dirt/vacuum sweepings	Waterloo
Removed leaf and yard waste	Hamilton (2019)
Added grease and cooking oils	Kingston
Added pet waste and kitty litter	Simcoe County (2019), Ottawa (2019)

Table B3 – Materials to Avoid in Municipal Green Bin Programs

Materials to Avoid	Municipality
Compostable plastics	Toronto, Guelph
Plastic bags	Niagara, Peel
Diapers/sanitary products	Niagara, Simcoe, Hamilton, Peel
Pet waste	Halton (in-vessel composting)
Others (dirt/vacuum sweepings, dryer lint, microwave popcorn bags)	Waterloo, Hamilton

London's Experience with Similar Existing Programs

The Green Bin Pilot Project that operated in London between October 2011 and November 2012 had a 'clean' program material mix including the option to 'top-up' with yard waste. The contamination rate (i.e., the percent of materials that do not belong) was measured twice during the pilot project and was approximately 3%. This is significantly "cleaner" than Green Bin programs that allow plastic materials such as diapers/sanitary products or plastic bags as liners.

London's curbside yard waste collection program allows for the use of paper bags, certified compostable bags, or reusable containers. However, prior to 2010 the program permitted the use of plastic bags, but it was changed to decrease the yard waste processing costs, reduce plastic bag use, and increase the quality of the compost end-

product as it would have less contaminants. A ‘cleaner’ processed end-product with less contaminants allows for more versatility with end markets.

Resident Feedback Results

Results from the 2021 online resident feedback form on what type of materials should be placed inside the Green Bin can be found below in Table B4.

Table B4 – Online Feedback Form Question: What Materials Should Be Placed Inside the Green Bin?

Material Type (check all that apply)	Responses (%)	Number of Responses
Food waste	99%	3,691
Soiled paper	79%	2,941
Cooking oils and grease	63%	2,335
Household plants	73%	2,738
Pet waste (dog and cat feces and kitty litter)	45%	1,679
Diapers/sanitary products ¹	21%	778
Yard waste	53%	1,990
Total Responses		3,734

¹ Diapers includes adult incontinence products and sanitary products refers to feminine hygiene products

Noting that the question asked was somewhat different, these results are consistent with resident feedback received from 260 participants at the January 2020 Lifestyle Home Show, where approximately 50% selected a ‘clean only’ material mix, and approximately 50% selected pet waste and about 30% selected diapers/sanitary products.

Operational and Technical Considerations

In general, the ‘clean’ organics option would be a less costly choice for the City. Restricting the material mix to these materials means that a smaller and less costly curbside bin can be used (as extra capacity for items like diapers would not be required), and processing operations will be more available (as fewer processors are able to process ‘dirty’ organics), and the per tonne cost of processing will be less.

Yard Waste

Yard waste, such as grass clippings or plant trimmings can be a problem as it is not a cost-efficient way to manage this material and there is not sufficient capacity within the Green Bin to contain it. The cost of processing yard waste with Green Bin materials is approximately twice as much compared to yard waste collected on a separate collection. If yard waste is permitted in the Green Bin it could have the effect of discouraging the use of the Green Bin for kitchen organics if householders fill their bin with yard waste, leaving less room for food scraps.

Pet Waste and Diapers/Sanitary Products

Including pet waste or diapers/sanitary products in the material mix could have some advantages such as user convenience and increased waste diversion of these materials through the Green Bin. However, including these materials in the mix will increase processing costs and make the Green Bin materials more difficult to process.

Adding pet waste in the material mix could increase diversion through the Green Bin by 10% and 20% and including both pet waste and diapers/sanitary products could increase

diversion by 15% to 25%. It is important to note that the diapers/sanitary products are not really composted or digested; therefore, they still end up in the landfill. Depending on the type of pre-processing system used, many dog waste bags may not open to permit exposure of the contents for further processing. Including pet waste and diapers/sanitary products could increase the processing costs between 20% to 40%.

Not accepting pet waste and diapers/sanitary products in the Green Bin will mean that a large percentage of London households will need to store this material for a longer period between garbage collections. Approximately 50% of London homes have dogs or cats and approximately 10% of homes in London have diapers/sanitary products.

Pet waste in the Green Bin would need to be bagged in a certified compostable bag, leak free and tied tightly for the safety of the collector. This requirement may cause a change in household 'poop and scoop' handling practices and introduce extra costs if households are switching to certified compostable bags, from plastic pet waste bags or reusing retail plastic bags. Including pet waste may also increase the Green Bin 'yuk factor' and discourage general use of the Green Bin if it becomes soiled with pet waste, particularly in the winter months when cleaning with an outdoor hose may not be possible.

Currently the City sells a home digester unit that can be used to 'digest' dog waste. In 2020 a small pilot project was conducted with volunteer households to test the use of the digester. The results of this pilot were favourable and suggest this could be a potential solution to handle dog waste for some households. This will be investigated further as reducing the price of the digester (and home composters) is an action item that is to be implemented as part of the 60% Waste Diversion Action Plan.

As noted, both products make the Green Bin materials more difficult and costly to process. However, including these materials in the Green Bin will make it easier for residents to accept bi-weekly garbage collection; provide minor landfill cost savings; and further reduce greenhouse gas emissions.

Between these two materials types, pet waste would be considered the higher priority as it involves for more households in London.

Staff Recommendations and Next Steps

It is recommended that staff obtain pricing from the marketplace on two mixes of Green Bin materials to be processed and prepare the details for a Request for Proposals for:

- Mix #1 - Food waste, non-recyclable/soiled paper, cooking oils and grease, and household plants; and
- Mix #2 - Food waste, non-recyclable/soiled paper, cooking oils and grease, household plants; and pet waste (e.g., dog, cat, other).

Staff will also undertake further research on how municipalities work with residents regarding diapers/sanitary products and related matters.

Appendix C – Key Decision #2 – What Size Bin Should London’s Green Bin Be?

Overview

Residents will be supplied with a curbside bin to store Green Bin materials and place at the curbside on collection day. The mix of materials permitted and needing capacity in the Green Bin will be a factor in the size selection of the curbside bin used.

Choices

To help respondents make a choice, the Get Involved site included information and photographs on two size options. Through preliminary research and initial public feedback, City staff had narrowed the curbside container choice to two options:

- ‘small’ size Green Bin typically 45 litres; and
- ‘medium’ size Green Bin typically 80 litres.

Green Bin Municipalities

These sizes are common in other Ontario municipalities (Table C1). For comparison, the larger Blue Box used in London is 90 litres and the maximum size of garbage can permitted is 125 litres.

Table C1 – Green Bin Sizes

Municipality	Green Bin Sizes in Use (litres)	Number of Material Categories Collected (Table B-1 out of 7)	Kg/year Single Family Households	Percentage Diversion of Total Residential Waste
City of Toronto	97 ¹	6	340	20%
Region of York	45	6	310	26%
City of Guelph	80	5	340	18%
Region of Niagara	46	5	70	6%
City of Ottawa	46, 80	6	260	22%
Simcoe County	46	5	90	9%
City of St Thomas	240	6	300	23%
Region of Waterloo	46	5	170	13%
City of Barrie	46	4	110	8%
Dufferin County	46	4	140	15%
Region of Durham	46	4	130	11%
City of Hamilton	46, 120	3	80	6%
Region of Halton	46	4	160	14%
City of Kingston	80	5	80	9%
Region of Peel	100	4	180	12%

Notes:

¹ City of Toronto changed from 46 litre size when automatic/semi-automated was implemented. Smaller bin is still used in area where automatic collection is not possible due to space restrictions.

London’s Experience with Similar Existing Programs

The Green Bin pilot project had residents choose from a 45 litre, 80 litre or 120 litre bin based on their needs and storage space. The residents who participated had requested a specific Green Bin size as follows:

- 45 litre – 150 (40%)
- 80 litre – 186 (50%)
- 120 litre – 41 (10%)

Resident Feedback Results

Results from the 2021 online resident feedback form on the size of curbside Green Bin can be found below in Table C2.

Table C2 – Online Feedback Form Question: What size of curbside Green Bin would you like?

Green Bin Size (check one)	Responses (%)	Number of Responses
Small (40 to 50 litres in size)	35%	1,336
Medium (70 to 80 litres in size)	57%	2,155
Undecided	5%	170
I do not wish to receive a Green Bin	3%	107
Total Responses		3,768

Operational and Technical Considerations

Larger Green Bin sizes (100 to 120 litres) are not being considered for London at this time. The larger bin would require a semi or fully automated lift mechanism style collection truck, which would increase collection costs. The larger bin size is also more likely to be used by residents for yard waste because there will be extra capacity, which will increase Green Bin processing costs.

The estimated cost of the bins is \$35 to \$40 for the small bin (45 litres) and \$70 to \$75 for the medium bin (80 litres); a difference of approximately \$5 million in capital costs. Bin size will be a factor in collection operations planning; a small bin can be lifted manually, but a larger Green Bin container will require a mechanical lift to assist on all collection vehicles and this feature would increase vehicle costs by as much as \$12,000 to \$15,000 per vehicle.

The small Green Bin will hold 20 to 30 kilograms of organics. Waste audits indicate that the average weight of organics generated in London households is:

- about 4 kilograms per household per week of ‘clean’ or Mix #1 materials (and potentially up to 4 times that amount in peak periods); and
- about 5 kilograms per household per week of Mix #2 (Mix #1 plus pet waste) (and potentially up to 4 times that amount in peak periods).

If either Mix #1 or Mix #2 is selected, then 4 or 5 kg/household/week on average is available in the waste stream for diversion through the Green Bin. The small bin size would have sufficient capacity to manage this quantity of weekly organic material, and the extra quantities on weeks when more than average quantities are generated in the household. It is important to note that this estimate assumes that 100% of the organic mix will be diverted from the garbage into the Green Bin. However, based on other municipal programs and London’s pilot project, reaching 100% diversion of organics is not expected, and even with enforcement measures in place, 100% capture of the material mix would not be typical.

Based on density of food waste in the range of 0.50 kg/litre to 0.70 kg/ litre it is estimated that the small Green Bin (45 litre) could hold approximately 20 to 30 kilograms of food waste and the medium Green Bin (80 litres) would hold approximately 40 to 60 kilogram of food waste (Source: *Residential GAP – Manual on Generally Accepted Principles for Calculating Municipal Solid Waste System Flow*, CSR, 2003).

As noted, the small bin will be sufficient for both average household quantities and peak generation times. Noting the maximum container weight (set in the by-law) for curbside garbage collection is 20 kilograms, the smaller bin option also ensures that bins are less likely to be overweight. There will be no limit on the quantity of Green Bin materials collected from households. To accommodate households that require more capacity, and to avoid Green Bins becoming overweight, a second small Green Bin may be provided to household that require it. This option will be reviewed.

Green Bin manufactures may provide an option of embedding containers with Radio Frequency Identification (RFID) tags to register Green Bins by address. As Green Bins are distributed city-wide each Green Bin becomes assigned to a municipal address and input into a tracking system. The advantages of RFID technology are assisting with managing carts as a municipal asset and tracking weekly usage (scanning) in real time. RFID technology also allows confirmation of delivery when the cart is delivered to a household and throughout the lifecycle of the cart. RFID technology is an added cost in the cost of the Green Bin production and the on-going program. Staff will undertake research on the need and benefits of the RFID technology.

Staff Recommendations and Next Steps

Staff recommend that London's Green Bin program be designed to use the smaller (45 litre) curbside container, and for staff to prepare the details for a Request for Proposal for the purchase and distribution of the small Green Bin.

Staff will undertake research of the advantages and disadvantages of registering/tracking Green Bins and the associated costs to determine if this feature should be included in the Green Bin RFP specification.

To accommodate households that require more capacity the option of providing a second Green Bin will be reviewed.

There may be some locations (e.g., bulk collection areas in townhome complexes) where an 80 litre or larger Green Bin may provide certain advantages for users. This option or other alternatives will be reviewed.

A small percentage of respondents indicated they do not wish to be supplied with a Green Bin. Experience with other communities suggest some householders do not wish to participate because they compost/digest their organics or do not wish the added work. Staff will explore means of potentially allowing Londoners to opt out of the delivery, returning the unwanted Green Bin, exchanging the unwanted Green Bin, etc. to determine the practicality and cost savings potential.

Appendix D – Key Decision #3 – What Type of Kitchen Container Should Be Provided?

Overview

Generally, a kitchen container is supplied to households at the same time as the curbside container. To make the collection of organics more convenient in the kitchen, a container is used to store materials (e.g., under the sink, in a cupboard, or on the counter). Depending on how much food waste is generated in a household, it is emptied into the Green Bin daily or 2 to 3 times per week. Kitchen containers have a snap lid and may have a charcoal filter to trap and reduce odours.

During door-to-door delivery a how-to guide would be placed inside the kitchen container and then inside the Green Bin. The kitchen container helps to make the routine of collecting kitchen organics convenient and thus increase participation in the program to ensure success. Establishing a convenient way to collect kitchen organic waste in each household is critical to a successful Green Bin program.

Choices

There are different types of kitchen containers, with some differences in the features they provide (e.g., handle, carbon filter, size). Other considerations include:

- would residents prefer to be given a retail coupon to purchase a container of their choice; and
- would residents prefer not to receive a kitchen container and use their own repurposed container or a ‘do-it-yourself’ (DIY) version.

Green Bin Municipalities

There are many different kitchen container options available for purchase in other Ontario municipalities. An opt-out option or retail discount coupon was not found in other municipalities. Various sizes designed to fit under the sink or on the kitchen counter should be considered.

London’s Experience with Similar Existing Programs

The Green Bin Pilot Project that operated in London between October 2011 and November 2012 included 762 households and had residents choose from three types of kitchen containers. Approximately half of the households requested a specific model (Table D1). The other households were randomly distributed kitchen containers from the three types listed below. At that time the standard manufactured kitchen container from Orbis and a similar sized model from Sure-Close was the most popular with 90% of those residents who requested a specific model choosing them and 10% selecting the smaller model by Busch.

Table D1 – 2011-2012 Green Bin Pilot Project Kitchen Container Selection

Kitchen Container Selection	Responses (%)	Number of Responses
Orbis (7 litre standard size)	30%	115
Sure-Close (with air holes, about 7 litres)	60%	217
Busch (small, about 5 litres)	10%	45
Total Responses		377

There are also learnings from households that successfully compost food scraps using a backyard composter. These households keep a kitchen container within easy reach to collect food scraps as meals are being prepared and during meal clean-up. The size of

the kitchen container is an important factor. It needs to be small enough for placement on the counter and stored when not in use and large enough to contain food scraps for a day or more. Other features include a lid that controls odours and fruit flies, a handle for easy carrying, and an opening that facilitates receiving food scraps off plates and easily tipping the food scraps into the Green Bin. If a liner is used with the kitchen container, then the size and shape may also be a factor to ensure that the liners fit the container. Some models also include charcoal filters to help with odours.

Resident Feedback Results

Details from the 2021 online resident feedback form on kitchen containers and what features are important to Londoner's can be found in Table D2.

Table D2 – Online Feedback Form Question: Kitchen Containers: What features are important to you?

Kitchen Container Features (check all that apply)	Responses (%)	Number of Responses
Smaller size bin (approximately 7 litre)	39%	1,476
Larger size bin (approximately 9 litre)	35%	1,335
A handle	64%	2,411
A carbon filter to reduce odours (filters are optional and will need to be purchased)	42%	1,584
A tight-fitting lid to reduce odours and fruit flies	80%	3,015
I prefer to use my own container (e.g., plastic ice cream tub, coffee can)	7%	256
I already have a container and do not need another	13%	490
I prefer to be provided a coupon towards the purchase of a container of my choice from a local retailer	18%	662
I have no preference	3%	105
I am undecided	2%	75
Other (please specify)	2%	91
Total Responses		3,769

Operational and Technical Considerations

Resident feedback on low and no-cost options was included on the Get Involved feedback form, including no-cost DIY bin such as a large metal coffee can or plastic ice cream tub, or lower-cost option of a retail discount coupon.

There are many different kitchen container options available for purchase, and many London households currently use repurposed containers for home composting, that work well for them. When planning the launch of a City-wide Green Bin program providing the same container to all households in London may be the most cost-effective option.

Green Bin manufacturers generally also supply kitchen containers. Purchasing both containers from the same supplier may be a preferred option based on cost.

Staff Recommendations and Next Steps

It is recommended that staff obtain pricing from the marketplace and prepare the details for the Request for Proposals for the purchase and distribution of a kitchen container with each Green Bin (curbside).

Appendix E – Key Decision #4 – What Type of Container Liners Should Be Used?

Overview

Residents may wish to line their kitchen container and/or Green Bin. Lining kitchen containers or the Green Bin helps keep containers clean, reduce odours and fruit flies, and helps empty the material out and prevent food scraps from sticking to the bottom of the bins. If wet food scraps freeze and stick to the bottom of the bins, not all the contents will be emptied during collection. It will also reduce liquids that can splash on collectors or the street.

Choices

Typically, a liner of some type is often used to line the kitchen container and/or Green Bin. Liner types include:

- newsprint/household paper;
- purchased paper liners/bags;
- purchased certified compostable liners; and
- plastic bags (non-degradable).

No liners is an acceptable choice in most municipalities.

Green Bin Municipalities

Table E1 provides details on Green Bin liners used in Ontario and some other Canadian municipalities. In 2019 Ottawa began to allow plastic bags as a convenience. The liner material permitted is contingent on which materials are permitted in the Green Bin; for example, municipalities that accept diapers/sanitary products also permit the use of plastic bag liners.

Most Ontario municipalities do not make liner use mandatory; however, some municipalities require the use of an approved liner when pet waste is placed in the Green Bin. Before the pandemic only Durham and Halton Regions required the use of liners, and due to Covid-19 a few other municipalities now require the use of plastic bag liners.

Table E1 – Summary of Acceptable Green Bin Liners

Municipality	Paper	Certified Compost-able	Non-degradable plastic	Are liners mandatory?	Kg/year Single Family Households
City of Toronto	x		x	partially ¹	340
Region of York	x	x	x	yes/no ²	310
City of Guelph	x	x		no	340
Region of Niagara	x	x		partially ¹	70
City of Ottawa	x	x	x	partially ¹	260
Simcoe County	x	x	during Covid-19 ³	partially ¹	90
City of St. Thomas	x	x		no	300
Region of Waterloo	x	x	during Covid-19 ³	yes ³	170
City of Barrie	x	x		no	110
Dufferin County	x	x		no	140

Municipality	Paper	Certified Compost-able	Non-degradable plastic	Are liners mandatory?	Kg/year Single Family Households
Region of Durham	x	x		yes/no ²	140
City of Hamilton	x	x		no	80
Region of Halton	x	x		yes ⁴	160
City of Kingston	x	x		no	80
Region of Peel	x	x		no	180
Other Canadian					
City of Vancouver	x			no	-
City of Calgary	x	x		partially ¹	-
City of Halifax	x			no	-

Notes:

¹ Pet waste must be contained in one of the approved liners for collection.

² Variations exist in Region of Durham and Region of York as lower tier municipalities have most of the responsibility for collection. Some municipalities make liners mandatory.

³ Green Bin materials must be bagged during Covid-19.

⁴ This was enacted during Covid-19, but the plan is to make this permanent.

London's Experience with Similar Existing Programs

By way of a London example, reusable containers can be used for yard waste collection. However, most Londoners choose to pay between 35 and 50 cents per bag to purchase paper yard waste bags.

In the 2011-2012 London Green Bin Pilot Project paper liners and certified compostable liners were permitted. Plastic bags liners were not allowed.

Resident Feedback Results

Details from the 2021 online resident feedback form on what type of bin liners should be allowed can be found below in Table E2.

Table E2 – Online Feedback Form Question: What type of bin liners should be allowed if the household wishes to purchase them?

Bin Liner Type (check all that apply)	Responses (%)	Number of Responses
Newsprint or other household paper	43%	1,599
Purchased paper bags	45%	1,687
Purchased compostable liners (i.e., certified compostable bags)	67%	2,530
Non-degradable plastic liners (e.g., plastic grocery bags)	7%	269
No liner	25%	948
I have no preference	9%	343
I am undecided	6%	221
Total Responses		3,759

Operational and Technical Considerations

The type of liner permitted will depend on which materials are permitted in the Green Bin. It is not recommended that diapers/sanitary products be an acceptable material. Prohibiting the use of plastic bag liners would be consistent with this recommendation.

Liners can be purchased from hardware and grocery stores, as well as online. The approximate cost per bag varies depending on the product, the amount purchased, and where it is purchased. Some examples on the price ranges:

- Small Green Bin liners: Between \$0.40 to \$1.50 per bag;
- Medium Green Bin liners: Between \$0.80 to \$1.50 per bag; and
- Kitchen container liners: Between \$0.15 to \$0.70 per bag.

Purchasing liners will be a new expense for many households. The average annual cost could range from about \$35 to \$115 depending on how often liners are used and the type of liners. Households can avoid a cost by using no-cost options such as household paper and paper bags (e.g., newsprint, paper grocery bags, etc.). No-cost options may be less convenient, but they will be a preferred option for some. Paper retail bags are becoming more common as many stores move away from plastic bags. Municipalities promote creative origami methods of reusing household paper to wrap food waste.

Staff Recommendations and Next Steps

There are two options depending upon the material mix of London's Green Bin program:

3. If London's Green Program is based on Mix #1, that residents be allowed the choice of no-liner, paper, or certified compostable liners, and not allowed the use of plastic bag liners.
4. If London's Green Program is based on Mix #2 (Mix #1 plus pet waste), the same liner choices be permitted as above. Most important, if pet waste is placed in the Green Bin it would be required to be bagged in certified compostable bag, that is leak free and tied tightly for the safety of the collector. If residents wish to use plastic bags for pet waste it would be required to be placed in the garbage as per the current system.

It is recommended that not permitting plastic liners would also allow for a range of composting or anaerobic digestion processors which could result in a production of high quality and readily marketable materials.

Staff will notify liner suppliers and retailers to advise them of the permitted liner choices in sufficient time to have liner product options available in London prior to the launch of the Green Bin program.

Additional work will be undertaken to determine if other suitable liners and/or bags become available to assist with pet waste recovery solutions through the Green Bin or other opportunities.

Appendix F – Key Decision #5 – What Are the Concerns About Bi-weekly Garbage Collection

Overview

During the development of the 60% Waste Diversion Action Plan (approved by Municipal Council in 2018), it was identified that a switch to bi-weekly, same day garbage collection and weekly recycling and Green Bin collection (same day) would be less costly than weekly garbage pickup. Bi-weekly garbage collection was also viewed as key to higher use of the Green Bin. It is expected that this change to the collection schedule will occur at the same time as Green Bin collection begins.

Through the engagement process City staff did endeavor to understand the concerns and challenges of a reduced garbage collection schedule for London households. These challenges and concerns are described below under Operational and Technical Considerations and include waiting four weeks between collections, if a collection is missed; holding onto diapers/sanitary products; and pet waste and/or accumulating garbage over a two-week period.

Green Bin Municipalities

Bi-weekly garbage collection is the common service level in large Ontario municipalities. Municipalities with Green Bin programs that did not initially have bi-weekly collection found that the amount of organic material collected increased by 50% to 100% with the introduction of bi-weekly garbage collection. Collection of Blue Box recyclables also increased with the introduction of bi-weekly garbage collection. Twelve of the fifteen largest Ontario municipalities with a Green Bin program have bi-weekly garbage collection (Table F1), and two of the other programs are reviewing the option or in transition to go to bi-weekly collection.

Table F1 – Garbage Collection Frequency for Large Municipalities with Green Bin Collection

Garage Collection Frequency	Municipality
Weekly	Dufferin County, Hamilton ¹ , Kingston
Weekly	St. Thomas ²
Bi-weekly	Barrie, Durham, Guelph, Halton, Niagara ³ , Ottawa, Peel, Simcoe County ⁴ , Toronto, Waterloo, York Other Canadian: Calgary, Halifax, Vancouver

Notes:

¹ Reviewing bi-weekly garbage collection

² Weekly garbage, bi-weekly green bin and recycling

³ Changed to bi-weekly garbage collection in October 2020

⁴ Changed to bi-weekly garbage collection in February 2020

London's Experience with Similar Existing Programs

The 2011 to 2012 Green Bin Pilot Project tested a modified garbage collection schedule. The modified garbage collection schedule consisted of weekly garbage collection during the summer (April to September) and bi-weekly collection during the winter (October to March). Testing the modified collection schedule helped to determine public acceptance and the cost savings/increases with this type of collection schedule. This schedule was accepted by pilot project participants.

Resident Feedback Results

Details from the 2021 online resident feedback form on the concerns of bi-weekly garbage collection can be found below in Table F2.

Table F2 – Online Feedback Form Question: What concerns might you have about bi-weekly garbage collection?

Bi-Weekly Garbage Concerns (check all that apply)	Responses (%)	Number of Responses
Too long to hold diapers/sanitary products	24%	902
Too long to hold pet waste	24%	906
Too much garbage will be accumulated over a two-week period	33%	1,250
Missing a pickup will mean four weeks between collection days	48%	1,813
I have some concerns, but I support the decision of bi-weekly garbage collection and weekly recycling and Green Bin pickup	38%	1,425
I do not have concerns about bi-weekly garbage collection	26%	982
I am undecided	2%	70
Other (please specify)	4%	149
Total Responses		3,760

Residents also provided additional comments about bi-weekly garbage collection. Of the 3,760 who answered the feedback form, 28% provided one or more additional comments. Based on staff’s review of the comments, over 95% of the comments are addressed by this staff report:

- 55% are related to accumulating garbage/too long to hold garbage;
- 25% are concerning nuisance factors such as pests and odours; and
- 15% were about holding diapers/sanitary products and pet waste.

The other 5% were regarding illegal dumping of garbage. The bi-weekly garbage comments were tallied by categories; therefore, residents may have provided more than one general comment, the proportion of comments was determined from all tallied comments not by the number of residents who provided a general comment.

Operational and Technical Considerations

Managing garbage over a two-week period will vary for each household, with potentially a greater impact on large households and those using diapers/sanitary products. The number of containers that will be permitted at the curb every two weeks will be the subject of a future report to Committee and Council as the number is tied into other waste diversion initiatives as well. The key concerns regarding bi-weekly garbage collection are:

Missing a pickup

The most frequently noted concern of respondents was about those occasions when collection was missed and there would be a wait of four weeks between collections. For most households this may not be a common occurrence but could happen if they were away from home or failed to set garbage out to the curb on collection day.

While this is recognized as a challenge for some residents, there are options in place to manage these instances. Like all new programs there will be an adjustment phase that includes changing behaviour to adjust to the new program. Adjustments could also include relying on a neighbour to place garbage at the curb.

Bagged garbage is accepted at EnviroDepots for \$1.50 per bag, and tags can be purchased (\$1.50 per bag tag) for curbside pick-up of extra garbage.

Larger volume of garbage created over a two-week period

Less frequent garbage collection means that more garbage will accumulate, and households will have to store it for a longer period. Making full use of the City's waste diversion programs could make a significant reduction in the amount of waste needing to be stored. For example, using the Green Bin for as much food waste as possible will reduce the quantity of wet and smelly garbage that needs to be held for up to two weeks.

Waste audit data identifies that some households could improve their recycling efforts. The audits show that some households continue to place Blue Box and other recyclables (e.g., electronics, scrap metal, batteries, etc.) in the garbage. The City will provide reminder information about the recycling programs that are available to help ensure that these materials are not being put in the garbage.

Garbage tags for curbside pickup (\$1.50/ tag) and EnviroDepot drop-off (\$1.50/bag) will continue to be available for households that have garbage above the collection limit.

Diapers and Sanitary Products

Not permitting diapers/sanitary products in the Green Bin and storing them for a two-week period may be the hardest challenge of the bi-weekly schedule, and especially when storage in a garage or shed is not an option.

Some other Ontario municipalities offer programs to assist with diapers/sanitary products. These include a special collection for registered households, an exception to the curbside limit, and no-charge drop-off at depots. Generally, these programs require registered users to place garbage in clear plastic bags so the contents can be checked by staff. Table F3 below lists some options that have been used in other Ontario municipalities.

Table F3 – Municipal special programs to deal with diapers/sanitary products

Municipality	Special Programs to Deal with Diapers/Sanitary Products
Niagara Region	A diaper exemption program where eligible residents can apply for an exemption to their bi-weekly waste collection on weeks when garbage is not collected.
City of Ottawa	A sign-up program for the collection of diapers/sanitary products, on weeks when garbage is not collected.
Waterloo Region	Free diaper drop-off at depots (see-through plastic bags are mandatory), and a Medical Exemptions program.
City of Barrie	From May 1 – October 31, residents can dispose of a maximum of 2 clear bags of diapers/sanitary products (only) per week at the landfill at no charge.
Halton Region	A diaper bag tag program where households may receive diaper bag tags that allow them to exceed the three-bag limit without having to purchase a \$2 bag tag. The diaper bag tag also allows households to drop-off their diaper waste free of charge at the Halton landfill.
Peel Region	Initially allowed residents that wanted an option to dispose diapers/sanitary products on a weekly basis to register for an exemption that would allow them to bring diapers/sanitary products to drop off depots, but uptake was very low.

Smelly Food Waste

Currently in London food waste is collected with garbage on a six-day collection schedule. When Green Bin collection begins, food waste (in the Green Bin) will be collected more frequently than it is currently. A weekly collection of the Green Bin will be an encouragement for households to participate in the Green Bin program, ensuring food waste goes into the Green Bin and not the garbage.

Pet Waste

If pet waste is not permitted in the Green Bin, storing it for a two-week period will be more of a challenge. Some households have found that dog waste is easily managed using a backyard digester (sold at the EnviroDepots). However, digesters cannot manage kitty litter, and may not be practical for some households.

Staff Recommendations and Next Steps

Staff will undertake further research and prepare a report on how municipalities work with residents to address bi-weekly garbage collection concerns (e.g., managing diapers/sanitary products) including advantages, disadvantages, and estimated costs. To help with making residents aware of this collection schedule change staff will design and implement a communications campaign to prepare for collection schedule changes and Green Bin program implementation.

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC
Managing Director, Environmental & Engineering Services
and City Engineer

Subject: 2020 Ministry of the Environment, Conservation and Parks
Inspection of the City of London Drinking Water System

Date: March 30, 2021

Recommendation

That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, the following report on the Ministry of the Environment, Conservation and Parks Inspection of the City of London Drinking Water System, **BE RECEIVED** for information.

Executive Summary

Purpose

This purpose of this report is to inform Council regarding the outcome of the annual inspection of the City of London drinking water system performed by Ministry of the Environment, Conservation and Parks.

Context

The Ontario Ministry of the Environment, Conservation and Parks (MECP) performs rigorous annual inspections to ensure that municipalities are operating water systems in compliance with all applicable legal requirements.

The MECP recently completed the 2020 inspection of London's drinking water system, and outlined its findings in the *City of London Distribution System Inspection Report*.

No issues of regulatory non-compliance were identified during the inspection, and the City of London received a 2020 Final Inspection Rating of 100.00%.

Linkage to the Corporate Strategic Plan

This report supports the 2019 – 2023 Strategic Plan through the strategic focus area of Leading in Public Service, by demonstrating leadership and accountability in the management and provision of quality programs and services.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

2019 Ministry of the Environment, Conservation and Parks Inspection Report for the City of London Water Distribution System, Civic Works Committee, May 12, 2020.

1.2 Overview

Municipal drinking water systems in Ontario are held to very high standards. The Ontario Ministry of the Environment, Conservation and Parks (MECP) ensures that these standards are being met through two separate mechanisms.

For the good management of water systems, the MECP developed a Drinking Water

Quality Management Standard (DWQMS) based on existing ISO 9001 and HACCP standards. Municipalities must maintain quality management systems in accordance with the DWQMS, and annual system audits confirm conformance. The 2020 DWQMS audit results were reported to the Civic Works Committee on March 2, 2021.

To ensure that municipalities are operating water systems in accordance with all applicable legal requirements, the MECP performs rigorous annual inspections to ensure compliance with provincial regulations and the conditions prescribed in MECP-issued Drinking Water Works Permits and Municipal Drinking Water Licences.

MECP inspections include staff interviews and facility inspections, as well as reviews of operating procedures, water analysis reports, operational records, and staff certification and training records. If an Inspector finds that system operators did not properly comply with any applicable requirements, these are recorded as incidents of non-compliance.

MECP Inspections are used to generate Drinking Water System Inspection Rating Records. Each incident of non-compliance results in a subtraction from a possible score of 100%. The annual rating records for all municipal drinking water systems in Ontario are made available to the public.

2.0 Discussion and Considerations

2.1 Inspection Findings

MECP inspections can be in the form of “detailed” inspections, or less stringent “focused” inspections. For 2020, the MECP conducted a focused inspection of London’s water system and explained the rationale for that decision in the inspection report as follows: “This system was chosen for a focused inspection because the system’s performance met the ministry’s criteria, most importantly that there were no deficiencies as identified in O.Reg. 172/03 over the past 3 years”.

On March 2, 2021, the MECP issued the City of London Distribution System Inspection Report for the 2020 inspection. No incidents of non-compliance were identified and the City of London received a Final Inspection Rating of 100.00%.

The following summarizes London’s Final Inspection Ratings for the last 5 years:

- 2016 – 96.05%
- 2017 – 84.06%
- 2018 – 100.00%
- 2019 – 100.00%
- 2020 – 100.00%

The complete 2020 City of London Distribution System Inspection Report is available to members of the public on the City of London website.

Conclusion

The Ministry of the Environment, Conservation and Parks recently completed the 2020 inspection of London’s drinking water system, and outlined its findings in the City of London Distribution System Inspection Report. No issues of regulatory non-compliance were identified and the City of London received a Final Inspection Rating of 100.00%.

Prepared by: John Simon, P.Eng.
Division Manager, Water Operations

Submitted by: Scott Mathers, MPA, P. Eng., Director, Water And Wastewater

Recommended by: Kelly Scherr, P. Eng., MBA, FEC
Managing Director, Environmental and Engineering
Services and City Engineer

CC: Dan Huggins, Water Quality Manager

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC
Managing Director, Environmental & Engineering Services,
City Engineer

Subject: Proposed Draft Environmental Assessment Study Report for
the Expansion of the W12A Landfill

Date: March 30, 2021

Recommendation

That, on the recommendation of the Managing Director, Environmental & Engineering Services, City Engineer, and with the support of the Waste Management Working Group, the:

- a) The report *Draft Environmental Assessment of the Proposed W12A Landfill Expansion, City of London* **BE RECEIVED**;
- b) The report *Draft Environmental Assessment of the Proposed W12A Landfill Expansion, City of London* **BE CIRCULATED** for review and comment by the Government Review Team, Indigenous Communities, stakeholders and the general public from April 20, 2021 to May 19, 2021 or longer;
- c) the Civic Administration **BE DIRECTED** to consider the feedback from the consultation noted in b), above, and revise the report *Draft Environmental Assessment of the Proposed W12A Landfill Expansion, City of London* as appropriate; and
- d) in accordance with Council Policy, the revised report noted in c), above, **BE POSTED** on the City of London's website at least 30 days prior to a public participation meeting to be held by the Civic Works Committee, to consider the revised report.

Executive Summary

The Environmental Assessment (EA) for the proposed expansion of the W12A Landfill was completed in accordance with the Terms of Reference (ToR) and recommends that the W12A Landfill be expanded vertically over the existing waste footprint. The vertical expansion will increase the maximum height of the landfill by 26 metres and the disposal volume of the landfill by 13,800,000 m³. It is expected the landfill expansion will accommodate 9,900,000 tonnes of waste and take 25 years to fill.

All aspects of the EA process need to be documented in an Environmental Assessment Study Report (EASR) and submitted to the Ministry of the Environment, Conservation and Parks (MECP) for approval. A draft EASR (titled *Environmental Assessment of the Proposed W12A Landfill Expansion, City of London*) has been prepared to receive feedback from stakeholders prior to submission to the MECP. It is recommended the draft EASR be circulated to obtain feedback from the Government Review Team (GRT), Indigenous Communities, general public and other stakeholders.

The Waste Management Working Group, on March 16, 2021, supported the circulation of the report.

A revised report that considers the feedback received will be taken to a public participation meeting to be held by the CWC (tentatively scheduled for July 27, 2021).

The City continues to seek feedback on the potential update to the Community Enhancement and Mitigative Measure (CEMMP) Program. This project started in November 2020. A report to CWC is expected in summer 2021.

City staff are also compiling various proposed waste disposal policies and an implementation framework that will be part of future disposal operations (e.g., the use of new capacity for disposal of waste from outside the boundaries of London). This work is part of the overall Residual Waste Disposal Strategy.

Linkage to the Corporate Strategic Plan

Municipal Council continues to recognize the importance of solid waste management and the need for a more sustainable and resilient city in the development of its 2019-2023 - Strategic Plan for the City of London. Specifically, London's efforts in solid waste management address three Areas of Focus, at one level or another; Building a Sustainable City, Growing our Economy and Leading in Public Service.

On April 23, 2019, the following was approved by Municipal Council with respect to climate change:

Therefore, a climate emergency be declared by the City of London for the purposes of naming, framing, and deepening our commitment to protecting our economy, our eco systems, and our community from climate change.

Both the Resource Recovery Strategy and Residual Waste Disposal Strategy (including the EA) address various aspects of climate change mitigation and climate change adaptation. These elements are also a requirement that must be addressed as part of EA documentation.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

Some relevant reports that can be found at www.london.ca under Council and Committees meetings include:

- Environmental Assessment Process – Updates and Preferred Method to Expand the W12A Landfill (September 22, 2020 meeting of the Civic Works Committee (CWC), Item 2.11)
- Proposed Terms of Reference - Environmental Assessment of the Proposed W12A Landfill Expansion (September 25, 2018 meeting of the CWC, Item #3.1)
- Draft Proposed Terms of Reference – Environmental Assessment of the Proposed W12A Landfill Expansion (April 17, 2018 meeting of the CWC, Item #3.3)

Some relevant reports that can be found at www.london.ca under City Hall (Meetings – Advisory and other Committee Meetings) include:

- Proposed Draft Environmental Assessment Study Report for the Expansion of the W12A Landfill (March 16, 2021 meeting of the Waste Management Working Group (WMWG)), Item #4.1
- Environmental Assessment Process (August 13, 2020 meeting of the WMWG), Item #4.2
- Environmental Assessment Process (December 18, 2019 meeting of the WMWG, Item #4.2)
- Proposed Terms of Reference (August 15, 2018 meeting of the WMWG, Item #2.1)
- Proposed Amended Terms of Reference (April 18, 2019 meeting of the WMWG, Item #3.2)

2.0 Discussion and Considerations

2.1 Background

An EA under the *EA Act* is a planning study that assesses environmental effects and advantages and disadvantages of a proposed project. The environment is considered in broad terms to include the natural, social/cultural and economic aspects of the environment. There are different classes (types) of EAs depending on the type and complexity of the undertaking (project). The most rigorous EA is an Individual EA. An Individual EA is less prescribed than the more common class EAs and is used for large-scale projects like landfill sites.

The first phase of the Individual EA process is the development and approval of a ToR by the Minister of the Environment, Conservation and Parks. Development of the ToR began in March 2017. The ToR becomes the framework or work plan for the preparation and review of the Individual EA. The ToR allows the proponent to produce an EA that is more direct and easier to be reviewed by interested persons. The Amended ToR for the proposed expansion of the W12A Landfill was approved on July 30, 2019.

The second phase of the Individual EA process is completion and approval of an EA. The proponent completes the EA in accordance with the approved ToR. All aspects of the EA process are documented in the EASR. The EASR is submitted to the MECP for approval by the Minister of Environment, Conservation and Parks.

2.2 EA Terminology

The EASR has a different title depending how far along it is in the approval process. For clarity these various titles are listed below in Table 1.

Table 1 - EA Terminology

Title	Definition
Preliminary Draft EASR (completed)	An early draft of the Draft EASR. The MECP does a preliminary screening of the Preliminary Draft EASR to ensure all documentation requirements have been met. The MECP provided 17 comments. Majority were minor requests to add further details.
Draft EASR (underway – Appendix A)	Comments from the MECP on the Preliminary Draft EASR have been addressed. Council approves release of the Draft EASR for feedback. The Draft EASR is submitted to GRT, public and other stakeholders for review and comment.
EASR	Comments from the GRT, public and other stakeholders on the Draft EASR have been addressed. Council approves submission of the EASR to the MECP for approval.
Amended EASR	The MECP often ask for revisions to the EASR to address comments and/or concerns prior to MECP staff submitting the EASR to the Minister for approval. These comments/concerns may come from the MECP or be received by the MECP from other stakeholders during their consultation period.
Approved EASR (or Approved Amended EASR)	EASR as approved by the Minister of Environment, Conservation and Parks.

2.3 Development of the EA

Development of the EA began on September 19, 2019 with the release of the Notice of Commencement and the start of the Community Engagement Program. The Community Engagement Program included:

- Series of Open Houses in February 2020 and November 2020. Each series of open houses was followed by a virtual open house on the project website;
- Project Website (Getinvolved.London.ca/WhyWasteDisposal) which had over 2,000 visitors during the EA phase including 565 visitors during the comment period following the November 2020 Open Houses and 437 visitors during the comment period following the February 2020 Open Houses:
- Indigenous Community engagement including two workshops;
- Updates provided to various stakeholder groups (residents within 2 kilometres of the landfill, landfill customers, community groups, key government agencies (referred to as the government review team), City advisory committees (ACE, AAC, and EEPAC), Indigenous Communities, W12A Landfill Public Liaison Committee and the Waste Management Community Liaison Committee, other interested persons who signed up to receive updates, etc.); and,
- Traditional media and social media advertising.

The EA was completed in accordance with the ToR which involved:

- addressing the List of Commitments made in the Terms of Reference to be completed in the EA (see Appendix B). 18 of the 20 commitments have been completed. Two commitments related to public engagement are on-going until the final EASR is completed;
- completing numerous technical studies examining all aspects of the environment (natural environment, socio-economic and technical);
- comparing three expansion alternatives and determining the preferred expansion alternative;
- an impact assessment of the preferred expansion alternative on the environment;
- considering and incorporating feedback from various stakeholder groups (e.g., nearby residents, community groups, Indigenous Communities, governments agencies, etc.); and,
- documenting all aspects of the EA process in the EASR.

2.4 Summary of Draft EASR

The full draft EASR (titled *Environmental Assessment of the Proposed W12A Landfill Expansion, City of London*) is provided under separate cover. The Executive Summary of the report is provided in Appendix A. It is worth noting key parts of the Draft EASR have previously been before the WMWG, Civic Works Committee, Council, and community stakeholders as it was being developed. The current report pulls all these details together in a prescribed format.

There are several supporting documents for the EASR which are also provided under separate cover and listed in Table 2.

Table 2 – List of Documents

Volume	Documents	Pages
Volume 1 (EASR)	Draft Environmental Assessment of the Proposed W12A Landfill Expansion, City of London	496
Volume 2 (Approved Amended Terms of Reference)	Proposed Amended Terms of Reference Environmental Assessment of the Proposed W12A Landfill Expansion, City of London	175
Volume 3 (Technical work plans and Waste Quantity Projections)	Atmosphere Work Plan – Revision 2 Groundwater Work Plan Surface Water Work Plan Biology Work Plan 2019 Updated Residual Waste Projections and Landfill Capacity Assessment	193
Volume 4 (Existing Conditions and Impact Assessment Reports)	Air Quality Existing Conditions and Impact Assessment Report Noise Existing Conditions and Impact Assessment Report Groundwater Existing Conditions and Impact Assessment Report Surface Water Existing Conditions and Impact Assessment Report Biology (Aquatic and Terrestrial Ecosystems) Existing Conditions and Impact Assessment Report Land Use Existing Conditions and Impact Assessment Report Agricultural Existing Conditions and Impact Assessment Report Archeological Existing Conditions and Impact Assessment Report Heritage Impact Assessment Report Socio-economic Existing Conditions and Impact Assessment Report Visual Existing Conditions and Impact Assessment Report Traffic Assessment in Support of the Environmental Assessment Design and Operations Existing Conditions and Impact Assessment Report	1,674
Volume 5 (Consultation Report)	Consultation Log	594

Overview of EASR

The key features of the EA that are documented in the EASR are:

- the results of numerous technical studies completed to understand existing conditions and allow for the comparison of potential expansion alternatives;
- comparison of three expansion alternatives which were 1) vertical expansion over the existing waste footprint, 2) horizontal expansion to the north with vertical expansion over part of existing footprint; and 3) horizontal expansion to the east with vertical expansion over part of the existing footprint;
- recommendation of vertical expansion over the existing waste footprint as the preferred expansion alternative;

- summary of the findings and mitigation recommendations of the various impact assessments completed for the preferred expansion alternative:
- the vertical expansion will increase the maximum height of the landfill by 26 metres and the disposal volume of the landfill by 13,800,000 m³. It is expected the landfill expansion will accommodate approximately 9,900,000 tonnes of waste and take 25 years to fill; and,
- over 30 commitments made to facilitate the expansion. Many of these commitments came from the impact assessment studies which recommended various mitigation measures be incorporated into the design and operations to prevent adverse impacts to the environment. The complete list of commitments is provided in Appendix B and key commitments are summarized in Table 3.

Table 3 – Summary of Key Commitments

Impact Assessment Report and Finding	Commitment
<p><i>Atmosphere Report (Air Quality/Noise)</i></p> <ul style="list-style-type: none"> • Potential for noise impacts at 3691 Manning Drive. • Additional measures for dust and odour management. 	<ul style="list-style-type: none"> • Design and implement a follow-up noise monitoring program when landfill operations are within 330 metres of 3691 Manning Drive. • Prepare a fugitive dust management plan and complaints response protocol. • Review and update the odour management plan and complaints response protocol.
<p><i>Groundwater Report</i></p> <ul style="list-style-type: none"> • Potential minor exceedance of aesthetic water quality parameter (chlorides) in several hundred years. 	<ul style="list-style-type: none"> • Incorporate additional leachate collection measures into the landfill design (estimated cost of approximately \$5 million). It should be noted the proposed additional measures will also result in improved landfill gas capture.
<p><i>Biology Report</i></p> <ul style="list-style-type: none"> • Confirmed Significant Wildlife Habitat for Monarch Butterfly and Species at Risk Habitat (SAR) for grassland birds (i.e., Eastern Meadowlark and Bobolink) on the landfill. 	<ul style="list-style-type: none"> • Develop an Environmental Mitigation and Monitoring Plan. • Prepare and implement a SAR and Wildlife Observation Protocol to outline the steps to take in the event of an encounter with wildlife, including SAR, during the construction stage. • Consult MECP to determine appropriate compensation for habitat loss of SAR grassland birds. • Progressively re-vegetate the landfill with native plant species.
<p><i>Archaeology Report</i></p> <ul style="list-style-type: none"> • One site with cultural heritage value or interest (First Nations) located in the northern buffer area. 	<ul style="list-style-type: none"> • Commitments to ensure no construction or other activities will take place within 10 metres of site.
<p><i>Visual Report</i></p> <ul style="list-style-type: none"> • Report identifies properties with increased visual impacts. 	<ul style="list-style-type: none"> • Screening berms will be placed on south side of disposal area to screen disposal operations from residences to the south. • Screening berms will be constructed along White Oak Road and Scotland Drive to screen landfill operations from the road.

Impact Assessment Report and Finding	Commitment
	<ul style="list-style-type: none"> • Seek feedback on appropriate roadside view-mitigation measures from area residents when the Community Enhancement and Mitigation Measures Program (CEMMP) is updated. • Seek feedback from the public on appropriate visual screening measures for affected individual residential properties when the CEMMP is updated.
Climate Change	<ul style="list-style-type: none"> • Include the possibility of increased leachate generation from climate change into the design of the proposed replacement perimeter leachate collection system. • Include the possibility of increased leachate generation from climate change in the design of the replacement for the main leachate pump station on the W12A Landfill site.

2.5 Waste Management Working Group

The Waste Management Working Group reviewed the EASR at its March 16, 2021 meeting and passed the following resolution:

- a) The report *Draft Environmental Assessment of the Proposed W12A Landfill Expansion, City of London* **BE RECEIVED** for information.
- b) The release of the report for review and comment by the Government Review Team, Indigenous Communities and the general public **BE SUPPORTED** noting that minor changes/revisions to the report may be made prior to release.

2.6 Parallel Processes

The City continues to seek feedback on the potential update to the Community Enhancement and Mitigative Measure (CEMMP) Program. This project started in November 2020. A report to CWC is expected in summer 2021.

City staff are also compiling various proposed waste disposal policies and an implementation framework that will be part of future disposal operations (e.g., the use of new capacity for disposal of waste from outside the boundaries of London). This work is part of the overall Residual Waste Disposal Strategy.

2.7 Next Steps

The next steps and tentative timetable for approval of the EASR is presented below.

Table 4 – Tentative Timetable for EASR Approval

Date	Step
April 13, 2021	<ul style="list-style-type: none"> • Council approval of CWC recommendation.
April 20 to May 19, 2021	<ul style="list-style-type: none"> • Circulate Draft EASR to GRT and other stakeholders. • Notify interested stakeholders; place Draft EASR on-line and at City Hall for review. • The 30 day review period may be extended if stakeholders need additional time.

Date	Step
Late June/Early July, 2021	<ul style="list-style-type: none"> • Review of EASR by WMWG.
July 27, 2021	<ul style="list-style-type: none"> • CWC to hold public participation meeting for EASR. • CWC to consider recommending submission to MECP.
August 10, 2021	<ul style="list-style-type: none"> • Council approval of CWC recommendation.
August 19, 2021	<ul style="list-style-type: none"> • Formal submission of Proposed EASR to MECP (includes notice to all stakeholders).
August 19, 2021 to Mid-March 2022 or later	<ul style="list-style-type: none"> • MECP provides a seven week review period for stakeholders to provide comments to the MECP. • MECP evaluates EASR submission and makes recommendation to the Minister. • Minister makes Decision to Approve or Reject. • Prescribed Deadlines (Ontario Regulation 616/98) requires MECP process to be completed in 30 weeks but the process often takes longer.

3.0 Financial Impact/Considerations

3.1 Future Capital Costs

Prior to the EA, the Sanitary Landfill Reserve Fund was based on projected new disposal capacity costs of \$120,000,000 including inflation.

The estimated capital cost of the preferred vertical landfill expansion is between \$56,000,000 and \$92,000,000 (present \$2021). The wide range in costs is due to uncertainty in projecting costs 25 years into the future and the preliminary nature of the estimate (e.g., draft EASR has not been reviewed by the various government agencies).

The expected cost is \$66,000,000 (present \$2021) or \$82,000,000 over the 25-year site life of the landfill assuming 2% inflation for future expenditures. These costs are less than previously estimated for the landfill expansion however the costs to be incurred for initial development over the next 10 years may be higher than the funding currently included in the 10-year capital budget. This is because the landfill expansion will be needed sooner than previously expected (by 12 to 18 months) and replacement of a number of on-site facilities has been accelerated (e.g., landfill gas flaring station expansion).

The required changes to the capital budget to accommodate the construction portion of this project will be addressed as part of the budget update process and brought forward as a budget amendment for Committee and Council approval.

3.1 Future Operating Costs

It is expected that operating costs of the expanded landfill site will increase by approximately 10% (about \$500,000 per year) to accommodate additional and enhanced site operations including additional gas collection measures, additional environmental monitoring requirements, enhanced nuisance control measures (noise, litter, etc.), improved small vehicle depot operations, visual screening measures, etc. How to fund the additional operating costs will be part of future waste disposal policy work and budget processes.

Conclusion

All aspects of the EA process to expand the W12A Landfill need to be documented in an EASR and submitted to the MECP for approval. A draft EASR has been prepared to receive feedback on the EASR from stakeholders prior to formal submission to the MECP.

It is recommended the draft EASR be circulated to obtain feedback from the Government Review Team (GRT), Indigenous Communities, general public and other stakeholders. A revised report that considers the feedback received will taken to a public participation meeting to be held by the CWC.

Prepared by: Mike Losee, B.Sc.
Division Manager, Solid Waste Management

Submitted by: Jay Stanford, MA, MPA
Director, Environment, Fleet & Solid Waste

Recommended by: Kelly Scherr, P. Eng., MBA, FEC
Managing Director, Environmental and Engineering
Services and City Engineer

c. Wesley Abbott, Project Manager, Oakridge Environmental

Appendix A Executive Summary of Draft Environmental Assessment Study Report

Appendix B List of Commitments in the Approved Amended Terms of Reference to be completed during Environmental Assessment

Appendix C List of Commitments in the Draft Environmental Assessment Study Report

Appendix A

Executive Summary of Draft Environmental Assessment Study Report

Introduction

This document is the environmental assessment study report (EASR) for the environmental assessment (EA) of the proposed expansion of the W12A Landfill site (the Project) being undertaken by the City of London (the City). This is an individual EA completed under the provincial *Environmental Assessment Act* (EAA).

The W12A Landfill is located at 3502 Manning Drive in the south end of the City of London, Ontario. The landfill has been in operation since 1977 and operates under Environmental Compliance Approval (ECA) #A042102. The residual waste disposed at the landfill is generated from an existing service area consisting of the City, the Municipality of Thames Centre, the two water treatment plants that serve the City located outside the City and a privately owned recycling facility. The site also receives Municipal Hazardous or Special Waste (MHSW) from residents and small quantity generators (businesses with limited amounts of MHSW) from within the City and from the Counties of Middlesex and Elgin; this waste is sent off-site for recycling, reuse or disposal. The landfill is expected to reach its approved capacity by 2024.

The existing W12A Landfill site has a 107 hectare (ha) fill area and is located on a 142 ha property. The average height of the landfill above ground surface is about 9 to 12 metres (m). The peak elevation is approximately 17 m above the ground surface. In summary, the currently approved W12A Landfill can be described as having a large footprint area and a low height above grade. The total approved site capacity is 12,500,000 cubic metres (m³). The site is approved to receive up to 650,000 tonnes per year of solid non-hazardous waste, noting that over the past 10 years the site typically receives between 230,000 and 320,000 tonnes of waste per year. The landfill site is located in a favourable geologic setting, underlain by a deposit of low permeability clay till that provides a natural barrier to downward groundwater (and landfill leachate) movement. The landfill has been developed in two phases. Phase 1 comprises the eastern portion of the waste footprint; the waste rests directly on the clay soil and is surrounded by a perimeter leachate collection system (LCS). Phase 2, comprising the western portion, is underlain by a continuous granular leachate collection layer/system. The collected leachate is conveyed off-site via a forcemain and municipal sanitary sewer system for treatment at the Greenway Wastewater Treatment Plant (WWTP). Completed areas of the landfill have a landfill gas (LFG) collection system; the collected LFG is sent to an on-site enclosed flare for combustion.

The W12A Landfill has had groundwater, surface water, leachate, water well and LFG monitoring programs since 1976. A summary of the results of the 2019 monitoring programs indicates that the landfill is performing acceptably and in accordance with provincial requirements in terms of potential effects of leachate on groundwater and surface water, as well as in terms of LFG migration in the subsurface.

Additional detail on the site history, design, operations and performance is provided in Sections 1.3 and 5.13 of the EASR.

Description of the Project

To plan for the future, the City has commenced the development of two long-term waste management strategies: the Resource Recovery Strategy, and the Residual Waste Disposal Strategy. The Resource Recovery Strategy involves the development of a plan to maximize waste reduction, reuse, recycling, resource recovery, energy recovery and/or waste conversion in an economically viable and environmentally responsible manner. The current residential diversion rate is 45%. The Resource Recovery Strategy is scheduled to be completed in 2022. As an interim step, in 2018 the City completed the 60% Waste Diversion Action Plan that includes the development of programs and an implementation schedule for specific activities to increase the City's diversion rate to 60% for residential waste.

The Residual Waste Disposal Strategy involves the development of a long-term plan to manage residual waste, which will require obtaining additional residual disposal

capacity. Several ways of satisfying this need have been assessed (referred to as 'Alternatives To' the undertaking). The assessment of these 'Alternatives To' has been completed by the City using a previously completed long term waste management planning study, as described in Section 4 of the approved Amended ToR and summarized in Section 2.5 of this EASR. The preferred 'Alternative To' included the expansion of the W12A Landfill, which is the subject of this EA.

The purpose of the EA study is to seek approval for additional waste disposal capacity because the existing W12A landfill is reaching its approved total disposal capacity by 2024. The planning period for this EA is 25 years, so from the beginning of 2024 through to the end 2048.

To estimate the quantity of residual waste from the existing service area requiring disposal over this planning period, the City proposes to implement the Resource Recovery Strategy such that 60% residential diversion will be achieved by the end of 2022. It is projected that the expanded W12A landfill will require disposal capacity for 9,400,000 tonnes of residual waste over the 25 year planning period.

In addition, the City is proposing to assist neighbouring municipalities with their future residual waste management needs by having a larger service area for the expanded landfill. Based on interest expressed, the regional service area is proposed to consist of the City of London plus Elgin County, Middlesex County, Huron County, Lambton County and Perth County. In 2017, these municipalities annually disposed of approximately 86,000 tonnes of residual waste and had an overall residential diversion rate of 38%. Based on information about the life remaining in their existing landfills, proposed expansions of their landfills and various diversion scenarios, it is projected that an additional 500,000 tonnes of residual waste from the neighbouring municipalities could require disposal over the 25 year planning period.

Having available residual waste disposal capacity for municipalities outside of London from the proposed regional service area municipalities does not mean that London is obligated to accept waste from these municipalities in the future. City Council will have the authority to determine which, if any, municipalities or businesses outside of London can use any City facilities and under what conditions they are allowed to do so. For example, the City may require municipalities and businesses to demonstrate that their diversion rate matches or exceeds the City's diversion rate to be allowed to dispose of residual waste at the W12A Landfill.

As such, it is proposed that the W12A Landfill expansion should be designed to dispose of 9,900,000 tonnes of waste between 2024 and 2048, which corresponds to 13,800,000 cubic metres (m³) of additional airspace. It is also proposed for the expansion that the annual maximum waste receipt be reduced from 650,000 to 500,000 tonnes per year.

Methodology

The EA was carried out in accordance with the approach described in the approved Amended ToR, which was approved on July 30, 2019. The EA was undertaken in a series of nine steps as described below. Additional details about each step are further described in Section 3.0 of this EASR.

- Step 1 – Outline the aspects of the environment considered and characterize the existing environmental conditions;
- Step 2 – Identify the 'Alternative Methods' of landfill expansion (and incorporate conceptual design mitigation measures);
- Step 3 – Qualitative and quantitative, where possible, evaluation of 'Alternative Methods';
- Step 4 – Compare the 'Alternative Methods' for landfill expansion and identify the preferred alternative;
- Step 5 – Describe the preferred 'Alternative Method' for landfill expansion;
- Step 6 – Refine the mitigation measures and determine the net effects of the preferred alternative;

- Step 7 – Consideration of climate change;
- Step 8 – Cumulative impact assessment; and
- Step 9 – Preparation of the EASR.

The environmental, socio-economic and technical components were identified in the approved Amended ToR and reviewed by the public at Open House #2 during the ToR phase of the EA. At commencement of the EA no changes to the components used to evaluate the Undertaking were identified. Likewise, the indicators and criteria to assess the effects of the proposed Undertaking were identified during the ToR phase of the project, reviewed during the EA and no changes were proposed.

Consultation

Consultation with the public, agencies, Indigenous Communities and other stakeholders was ongoing throughout the EA process. A variety of consultation events and activities were used during the EA process. The consultation program for the EA was presented in the approved Amended ToR.

The consultation activities carried out during the EA consisted of:

- Letter and email correspondence distributed to the public, interested stakeholders (e.g. businesses using the landfill, environmental groups, etc.), Government Review Team (GRT), and Indigenous communities;
- Meetings, presentations and tours with Indigenous Communities;
- Notices published in local newspapers;
- Notices on the EA project website (<https://getinvolved.london.ca/WhyWasteDisposal>);
- Two open houses in the local community;
- Presentations and discussions to the existing W12A Landfill Public Liaison Committee (PLC);
- Media releases;
- Meetings and telephone calls between the City, the EA consultants, and the Ministry of the Environment, Conservation and Parks (MECP); and
- Informal meetings, telephone calls and discussions with Indigenous Communities, local politicians, business owners, community organizations and neighbours to the existing W12A Landfill on an as needed basis throughout the EA.

A complete list of issues and concerns raised and responses was compiled and is included in Volume V – Consultation Record; a summary of these issues, responses and how each was addressed in the EA is provided in Section 4.7 of the EASR. The input received during various consultation events was carefully considered and incorporated into the EA, where applicable. The following are some of the questions and concerns raised during the EA process:

- Proposed regional service area and conditions under which the neighbouring municipalities should be allowed to use the W12A Landfill;
- Landfill and other traffic;
- Height of expanded landfill – visual impacts and effects on wind;
- Beneficial use of collected LFG;
- Importance of noise and odour control;
- The importance of expanding waste diversion and resource recovery programs in addition to additional landfill capacity;
- Visual screening of landfill operations; and

- Potential groundwater impacts – impacts to groundwater quality and influence of fractures in upper portion of clay soil underlying the landfill.

In addition, the City held two workshops that were attended by interested Indigenous Communities. The first workshop focused on the groundwater assessment work plan and resulted in modifications being made to the work program. The second workshop described the proposed expansion and the results of impact assessment for specific environmental and socio-economic components of interest. These consultation activities are described in Section 4.7.3 of the EASR.

Description of the Environment Potentially Affected

Section 5.0 of the EASR provides a description of the environmental, socio-economic, and technical components, which together are defined as the existing environment that may be affected by the undertaking. The environmental component includes atmosphere, hydrogeology, surface water and biology. The socio-economic component includes socio-economic, land use and cultural heritage. The technical component includes design and operations and transportation aspects of the environment.

Section 5.1 provides an overview of the study areas (Site, Site-vicinity and Wider study areas) to provide context for the assessment. Appropriate study areas for each component were determined based on the potential extent of the effects from the proposed expansion and along the main haul route to the landfill site.

The existing conditions for the environmental, socio-economic and technical components are detailed for each component in Volume IV, Appendices D.01 through D.12 and summarized in Sections 5.2 to 5.13 of the EASR.

The Site Study Area (or Site Area when referring to the preferred approach to expansion) is the existing landfill property and adjacent lands to the north and east where expansion could occur. This Site Study Area is occupied by the existing landfill, stormwater management (SWM) ponds and ancillary landfill operations and diversion facilities and the potential expansion areas. The general area surrounding the landfill are currently characterized by a mix of agricultural uses, with some rural residential uses. The City owns a majority of the parcels within a 500 m Site-vicinity Study Area to the east of the Site Area, as well as a number of parcels to the west and north of the Site Area.

The Haul Route Study Area consist of the haul routes associated with the landfill, specifically Manning Drive between Wellington Road South and Highway 401 and Wellington Road South between Dingman Drive and Manning Drive; also, Wonderland Road South between Decker Drive and Manning Drive.

Description of the 'Alternative Methods' of Landfill Expansion

'Alternative Methods' are different ways that the proposed expansion of the W12A Landfill could be implemented to provide an additional 13,800,000 m³ of disposal capacity over the 25 year planning period. As described in the approved Amended ToR, because of the physical constraints associated with the configuration of the existing waste footprint and geometry on the existing landfill site property, the 'Alternative Methods' are limited to vertical expansion above the existing waste footprint and/or lateral expansion to the north and/or east within the Site Study Area.

In the development of the landfill expansion alternatives, site-specific factors were considered, consisting of 1) site design requirements as set out in O. Reg. 232/98 (MECP, 1998); 2) existing leachate and LFG control and management systems, and SWM system; 3) conceptual mitigation measures for the landfill expansion; and 4) engineered system requirements.

Based on the above factors, three 'Alternative Methods' for expansion of the W12A Landfill were developed. These alternatives are referred to as:

- Alternative 1 – Vertical Expansion Over Existing Footprint
- Alternative 2 – Horizontal Expansion to the North and Vertical Expansion Over Part of the Existing Footprint

- Alternative 3 – Horizontal Expansion to the East and Vertical Expansion Over Part of the Existing Footprint

Alternative 1 consists of vertical expansion over the whole of the existing 107 ha landfill footprint, with a peak waste elevation of 317.65 metres above sea level (masl) along a west to east ridge in the south-central part of the footprint. Allowing 0.75 m for the final cover, this maximum elevation corresponds to a peak elevation that is approximately 25 m higher than the current landfill peak and 43 m higher than the average ground surface elevation. The design provides 4H:1V sideslopes upward from the existing sideslopes and a 5 % top slope; it is noted a majority of the waste footprint area (about 60 %) will be at the gradual 5 % top slope. With this alternative, it is proposed to move the northern property line of the landfill site to Scotland Drive, creating a north buffer width of approximately 300 m (noting that this land is all currently owned by the City).

Alternative 2 consists of a 200 m wide horizontal expansion to the north, increasing the waste footprint area from 107 to 134 ha. This will involve 2,040,000 m³ of excavation to form the cell and management of the excavated soil. To provide the required airspace, this alternative has a peak waste elevation of 309.8 masl along a west to east ridge in the central part of the footprint. Allowing 0.75 m for the final cover, the maximum peak elevation is approximately 18 m higher than the current landfill peak and corresponds to a height above average ground surface elevation of about 35 m, some 8 m lower than Alternative 1. The design provides 4H:1V sideslopes on the north side and upward from the existing sideslopes on much of the east and west sides, and a 5 % top slope on the area of vertical expansion above the existing footprint area.

Alternative 3 consists of a 300 to 550 m wide horizontal expansion to the east, increasing the waste footprint area from 107 to 135 ha. This will involve about 821,400 m³ of excavation to form the cell and management of the excavated soil. To provide the required airspace, this alternative has a peak waste elevation of 311.80 masl along a west to east ridge in the north end of the footprint, with the majority of the fill area having a 5 % top slope. Allowing 0.75 m for the final cover, this maximum elevation is approximately 20 m higher than the current landfill peak and corresponds to a height above average ground surface elevation of about 37 m, between Alternative 1 (higher) and Alternative 2 (lower). The design provides 4H:1V sideslopes on the horizontal expansion area and upward from the existing sideslopes on the north side and much of the east and west sides, and a 5 % top slope on the area of vertical expansion above the existing footprint. With this alternative, as with Alternative 1, it is proposed to move the northern property line of the landfill site to Scotland Drive, creating a north buffer width of approximately 300 m (nothing that this land is all currently owned by the City).

Evaluation and Comparison of Landfill Expansion Alternatives

For each of the three proposed expansion alternatives, the potential for environmental effects was assessed based on the broad definition of the environment within the Act, using a set of evaluation criteria. The evaluation criteria consist of components, sub-components and indicators; the components represent a high level aspect of the environment, each of the sub-components represents a specific aspect of the environment, and the indicators represent a potential effect of the Project.

For each sub-component, the potential effects associated with each expansion alternative were identified and comparatively evaluated using either qualitative, quantitative or a combination of each method; as well, an assessment of advantages and disadvantages of each alternative was completed. Based on the results, for each indicator the alternative methods were ranked as one of 'preferred', 'less preferred', 'least preferred', and 'equally preferred'. The next step was to compile the individual component comparative evaluations of the 'Alternative Methods' and select the overall preferred method of landfill expansion.

The detailed comparative assessment for each indicator is provided in Sections 7.2.1 to 7.2.12 of the EASR; the rationale for the selection of the overall preferred method of landfill expansion is provided in Section 7.4 of the EASR.

The comparative evaluation of 'Alternative Methods' of expanding the London W12A Landfill clearly identified Alternative 1 - vertical expansion over the existing footprint - as the preferred method of expanding the landfill. Alternative 1 was ranked as most

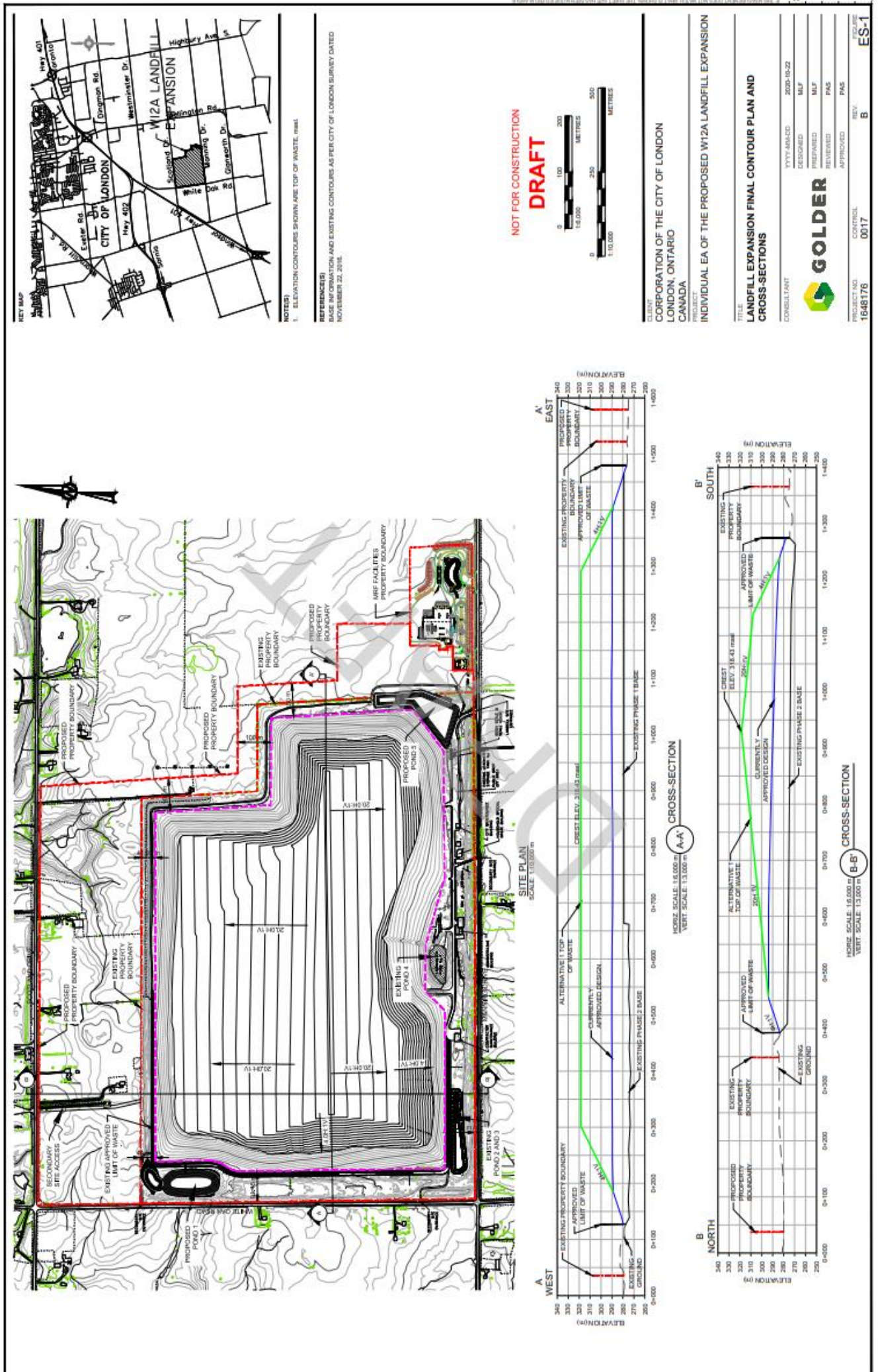
preferred for 12 of the sub-components and least preferred for three. Some key advantages of this expansion alternative are that the same landfill footprint is utilized meaning that proximity to sensitive off-site receptors stays the same and most potential nuisance impacts are indicated to be less than associated with the other expansion alternatives, no aquatic features are destroyed as a result of construction, the thickest clay till aquitard is present offering the most protection to downgradient groundwater quality, the least modifications to the stormwater management system are required, limited loss of agricultural land and least capital cost for construction.

Description of the Preferred Undertaking

Following the identification of Alternative 1 as the proposed expansion, the expansion design concept was further refined to carry out a detailed impact assessment. Details of the refined concept design are provided in Section 8 of the EASR and summarized as follows and shown on Figure ES-1:

- To accommodate the final design in the northwest corner of the currently approved landfill, it was necessary to reduce the footprint in the northwest corner by 0.7 ha to 106.3 ha, comprised of the eastern approximately 59.1 ha of Phase 1 footprint and 47.2 ha of Phase 2 footprint. A design adjustment was also made regarding the currently approved limit of waste. To accommodate these changes while continuing to provide 13.8 million m³ of airspace, the landfill contours were adjusted, resulting in an increase in the highest ridge elevation of waste of approximately 0.8 m, from elevation 317.65 masl to 318.43 masl.
- To accommodate future ancillary features and provide additional on-site buffer width compared to the existing landfill, the northern boundary of the landfill property will be adjacent to Scotland Drive and a 100 m buffer width will be provided on the east side of the landfill footprint and some additional area in the southeast corner to tie into the adjacent Material Recycling Facility (MRF) property line. This results in a 106.3 ha landfill footprint within a 192.4 ha landfill property.
- The landfill expansion will be developed sequentially in eight Phases, 1E through 8E, with four Phases in the southern part of the landfill and 4 Phases in northern part of the landfill. Filling will start in the Phase in the southwest corner of the landfill and proceed to the adjacent northern Phase. Filling will then move eastward starting at the next southern Phase followed by the adjacent northern Phase. This process will continue until all Phases have been filled. The estimated duration of landfilling in each Phase corresponds to an average annual waste receipt of 370,000 tonnes per year over the 25 year planning period. It is estimated that each Phase will provide about 1.2 to 1.9 million m³ of airspace and typically operate for a period of about 2.5 to 3.5 years.
- A separate cell dedicated for disposal of the non-decomposable portion of the waste stream (street sweepings, water treatment plant process residuals, sewage sludge ash and contaminated soil) will be provided in the southeastern area of the landfill expansion and utilized throughout the expansion operating period.
- To commence filling in each Phase, the existing cover material would be progressively stripped from an area large enough to accommodate the year's disposal, which is estimated to average approximately 4 ha. The area of exposed waste would be limited to that needed to spread, compact and cover the waste received on a daily basis. The active area would range from about 40 m by 25 m typically (1,000 square metres) to 50 by 30 m (1,500 square metres). The waste will be spread and compacted in lifts of about 0.6 m to a height of approximately 3 m. All waste will be covered daily.
- To reduce air emissions (for odour control purposes during landfilling operations and to increase the overall collection of landfill gases), horizontal LFG collection pipes will be installed progressively as waste is placed.

Figure ES-1: Landfill Expansion Final Contour Plan and Cross-Sections



Note: Figure reduced for inclusion in CWC Report

- For the southern Phases 1E, 3E, 5E and 7E the waste would be placed initially to build a berm along the south side of the Phase and will be covered with final cover soil and seeded to establish vegetation; the berm will screen the view of subsequent filling operations north of the berm from off-site vantage points to the south. The south side perimeter waste berm would be raised sequentially and filled in behind until the peak elevation is reached.
- For the portion of the proposed vertical expansion that will involve placement of additional waste above the Phase 2 area, the existing LCS will continue to be used to collect and remove leachate from the area. For the vertical expansion above the Phase 1 area, it is proposed to replace the existing perimeter LCS with a new perimeter LCS that will serve the same functions as the existing system. To control the potential for leachate seeps along the perimeter sideslopes that could occur as a result of leachate mounding in Phase 1, it is proposed to construct granular finger drains around the north, east and south sides of the exterior perimeter of the Phase 1 area.
- It is proposed to consider options to provide temporary leachate storage on the W12A Landfill site during storm events of significant magnitude that could result in discharge of the mixed leachate/sewage to Dingman Creek or the Thames River if the WWTP is in a by-pass situation. Although the W12A leachate represents only a small percentage of the total flow within the sewer system, the objective is to minimize the discharge of untreated leachate to these water courses. The temporarily stored leachate would be pumped off-site for treatment after the by-pass event is over.
- The leachate collected from the Phase 1 and Phase 2 LCS is currently routed through the main leachate pumping station and pumped off-site through a leachate forcemain to the Dingman Drive pump station, where it combines with municipal sewage and enters the municipal sanitary sewer system to the Greenway WWTP. Following treatment at the WWTP, the effluent is discharged to the Thames River. An assessment of the ability of this City owned, operated and maintained infrastructure to continue to manage leachate from the W12A landfill expansion was completed and the results show that this can be continued for the W12A Landfill expansion and be expected to perform acceptably during expanded site operations and post-closure. All components of this system are part of City owned, operated and maintained infrastructure, and are accessible for repair, upgrade or replacement if and as needed in the future.
- For LFG management, vertical LFG extraction wells will be installed to collect gas from within the expanded waste mass as part of the progressive construction of the final cover system following completion of filling within each Phase. The collected LFG will ultimately be combusted via blowers and flares. To reduce air emissions (for odour control purposes during landfilling operations and to increase the overall collection of landfill gases), it is proposed that a number of horizontal LFG collection pipes will be installed progressively as waste is placed and connected to the flare.
- Stormwater management will utilize the existing four stormwater management ponds, which will be upgraded and modified to manage and control the release of surface water runoff from the expanded landfill.
- It is proposed that many of the existing ancillary facilities at the site will be progressively upgraded or replaced during the expansion. In addition, it is proposed that in the vacant southeast corner area between the landfill and the MRF there will be a new scale and scalehouse, a grade-separated small vehicle drop-off for waste materials, a grade-separated small vehicle drop-off for recyclable materials (such as tires, scrap metal, ceramics, Blue Box materials, clean wood, electronics), an area for drop-off of brush, a large item drop-off area, and a new HSW depot.
- The landfill Phases will be progressively closed after the final waste contours have been reached and landfill operations have proceeded into the next Phase(s). The final cover on the landfill will consist of 600 mm of soil, topped with 150 mm of soil capable of sustaining vegetation.

Impact Assessment and Net Effects

Section 9.0 of the EASR presents an overview of the predicted effects of the proposed expansion on each of the components. These assessments were conducted in accordance with the requirements set out in the approved Amended ToR (Volume II) and detailed in Work Plans (Volume III Appendix B). Additional details on the impact assessments are provided in Volume IV Appendix D.

Atmosphere

The Atmosphere environment component comprises two sub-components: air quality (including dust, odour, greenhouse gas (GHG)) and noise. The details of the impact assessment for the Atmosphere Environment (air and noise) are provided in Volume IV Appendix D.01 and Appendix D.02, respectively.

Air Quality

The effects of the Project on air quality were identified for different phases of the expansion and involved the following three steps:

- Calculating representative emissions rates for each of the significant sources;
- Carrying out atmospheric dispersion modelling to predict off-site concentrations of the indicator compounds; and
- Comparison of predicted concentrations to existing conditions and the Applicable Guidelines.

The emission estimation methods followed accepted MECP practices including, where applicable, guidance in the Ontario MECP document *Procedure for Preparing an Emission Summary and Dispersion Modelling Report Version 4.1* (MECP, 2018b).

To determine potential effects of the proposed project on air quality and odour, the predicted concentrations of indicator contaminants were compared to Ontario's Ambient Air Quality Criteria (AAQC) (MECP 2018) and the Canadian Ambient Air Quality Standards (CAAQSs) (CCME 2014).

The maximum cumulative concentrations of all indicator compounds are below the relevant guidelines for all indicator compounds, with the exception of NO₂ on a 1-hour basis related to the CAAQS but NO₂ meets the AAQC standard. Although the AAQC is less conservative for NO₂, it is technically more appropriate for the situation being considered.

The predicted compound concentrations associated with the expansion are predicted to meet the relevant air quality criteria.

In addition to the assessment of the effects of the Project on ambient air quality and odour, consideration was given to an evaluation of compliance by determining whether an Environmental Compliance Approval (ECA) for air and noise under Section 9 of the *Environmental Protection Act* (EPA) could be obtained based on whether the facility is in compliance for those sources regulated under O. Reg. 419/05. At the landfill, this would include landfill gases and materials handling emissions. All mobile equipment is exempt from compliance requirements under O. Reg. 419/05. The assessment indicates that the proposed facility will be in compliance with Schedule 3 of O. Reg. 419/05.

Noise

The methodology used for the noise assessment was based on the MECP publications *"Noise Guidelines for Landfill Sites"* (Landfill Guidelines) (MECP 1998) and NPC-300 (MECP 2013). These guidelines outline the sound level limit criteria for evaluating landfilling operations and ancillary facilities (i.e., stationary noise sources).

The noise assessment was carried out at the representative points of reception (PORs) identified within the Site-vicinity Study Area. All representative PORs identified in this noise assessment are conservatively described as being located in a Class 3 area, as defined in NPC-300 as a rural area with an acoustical environment that is dominated by natural sounds.

Noise predictions of landfilling operations, ancillary equipment, and off-site haul routes were each assessed independently against the MECP guidelines (where applicable), and then combined to assess change relative to existing noise levels.

The results of the assessment indicate that mitigation measures are required when landfilling within an area of the south portion of the landfill so that the Project does not result in an adverse effect on noise (i.e., a moderate or high magnitude rating) at a specific existing receptor.

Geology and Hydrogeology

The details of the impact assessment for long-term groundwater quality and quantity are provided in Volume IV Appendix D.03.

The groundwater quality assessment was carried out using the contaminant transport model POLLUTE (Rowe et. al., 1994) and results were compared to the MECP Reasonable Use Guideline (RUG) B-7 (MECP, 1994), noting that this guideline establishes a quantitative benchmark for protecting off-site groundwater quality for drinking water purposes.

The soil stratigraphy at the landfill was simplified for the model which consisted of the Surficial Aquitard (silty clay), Upper Aquifer (sand), Lower Aquitard (silty clay) and White Oak Aquifer (lower sand aquifer). The fractures that were studied in the upper portion of the Surficial Aquitard were accounted for in the modelling. As required in O.Reg. 232/98 (MECP, 1998) the model assessed the impact of groundwater contaminants benzene, cadmium, chloride, lead, 1,4-dichlorobenzene, dichloromethane, toluene and vinyl chloride from the expanded landfill on the receiving groundwater.

The direction of groundwater flow on and in the area of the W12A Landfill can be generally described as north to south. Water supply wells in the area obtain their water supply from both the Upper Aquifer and White Oak Aquifer. The modelling demonstrated no groundwater quality impacts on the White Oak Aquifer for the groundwater contaminants of interest. In the Upper Aquifer, all RUG were met over the 1,000 year modelling time frame except for chloride that is predicted to have a peak impact of 129 mg/L, which is slightly above the allowable RUG of 128 mg/L in the Upper Aquifer. As a result, additional design mitigation measures were evaluated for off-site groundwater quality protection. The addition of incorporating leachate collection into the design of a first tier of horizontal landfill gas collector trenches required over the top surface of the Phase 1 area prior to vertical expansion was considered. With this additional mitigation design, the modelling demonstrated all groundwater quality impacts were below the RUG for the groundwater contaminants of interest in the Upper Aquifer.

Because of the existing landfill's location overlying the Surficial Aquitard, its presence does not affect the recharge of the groundwater system and has no effect on groundwater levels or groundwater quantity in the Upper and White Oak Aquifers beneath the landfill or off-site further to the south of the landfill site. With the proposed landfill expansion consisting of a vertical expansion above the existing landfill footprint, the expansion will not have an effect on downgradient groundwater levels or groundwater quantity off-site to the south of the landfill site.

Surface Water

The details of the impact assessment for surface water quality and quantity are provided in Volume IV Appendix D.04.

The existing drainage network in the vicinity of the landfill is currently divided into four general areas with a system of berms, slopes and perimeter drainage ditches directing runoff generated within the W12A Landfill Operations Area to four separate stormwater management (SWM) ponds. During landfill expansion, surface drainage from potentially contaminated areas, i.e., originating from active landfilling areas, will be contained locally within berms and will discharge into the waste and eventually into the leachate management system. Hence there is no anticipated change to surface water quality as a result of contact with landfill expansion waste. Surface drainage from non-contaminated areas such as road areas and areas with interim or final landfill cover will be conveyed to the SWM ponds via the internal drainage ditches.

To update the design of the existing SWM ponds under changed conditions from the landfill expansion (peak of the landfill shifting, sideslopes of the landfill that are longer and steeper in some locations, and movement of some of the ancillary features on the site), the model Visual Otthymo was used to evaluate changes to water quantity. As a requirement of the MECP SWM Planning and Design Manual (MECP, 2003) the updated designs to the SWM ponds required Enhanced Level Protection (80% total suspended solids (TSS removal)) and matching post-expansion outlet flows from the ponds to corresponding pre-expansion flows for selected storm events.

Because of the required quality and discharge quantity controls for the SWM ponds (e.g., larger ponds, new control structures, etc.), there is not expected to be an adverse impact on off-site surface water quantity or quality. A summary of SWM pond modifications is provided as follows:

- SWM Pond 1: the pond will be expanded to the north, increasing the size of the main pond and forebay. The outlet structure will be modified such that flows will match or be less than pre-development flows. The new outlet pipe for the pond is designed as a submerged reverse sloped pipe to promote separation/floating of oils, providing potential for spilled material to be recovered prior to off-site release occurring. The existing outlet structure for the pond will be fitted with a valve to allow emergency closure to assist in spill / leachate containment activities, if needed. A 600 mm diameter pipe with a ditch inlet grate will be provided at two elevations to provide discharge control for larger storm events. The updated permanent pool volume of SWM Pond 1 exceeds the required permanent pool volume to achieve the Enhanced Level Protection (80% TSS removal).
- SWM Pond 2/3: the landfill expansion will result in a decreased drainage area to this pond; however, to meet the Enhanced Level Protection (80% TSS removal) as defined by the MECP Stormwater Management Planning and Design Manual (MECP, 2003) the permanent pool depth will be increased and some modifications will be made to the existing outlet structure. A minimum sized orifice of 75 mm will be used to control the pond outflow for the baseflow storage and 25 mm storm. The outlet pipe for the pond is designed as a submerged reverse sloped pipe to promote separation/floating of oils, providing potential for spilled material to be recovered prior to off-site release occurring. The existing outlet structure for the pond will be modified and used and fitted with a valve to allow emergency closure to assist in spill / leachate containment activities, if needed. An overflow weir with 1.0 m bottom width, 3H:1V sideslopes with rip-rap covering is proposed to provide discharge control for larger storm events. The updated permanent pool volume provided in the proposed wet pond of SWM Pond 2/3 exceeds the required permanent pool volume to achieve the Enhanced Level Protection (80% TSS removal).
- SWM Pond 4: under proposed expansion conditions Pond 4 would receive stormwater runoff from a smaller total drainage area. The existing permanent pool and active storage is sufficiently sized to meet the Enhanced Level Protection (80% TSS removal) as defined by the MECP Stormwater Management Planning and Design Manual (MECP, 2003). The existing outlet structure will be modified with an appropriately sized orifice to control discharge and the existing double inlet catchbasin would be maintained for larger storm events. An overflow weir would be added for storm events larger than the 1:100 year return period design storm. The existing outlet structure for the pond will be modified and used and fitted with a valve to allow emergency closure to assist in spill / leachate containment activities, if needed. A 600 mm outlet pipe with a ditch inlet grate will be provided at one elevation for the controlled discharge of large storm events.
- SWM Pond 5: under proposed expansion conditions, Pond 5 would receive stormwater runoff from a larger total drainage area. The Pond would be expanded to the east and north to increase both the permanent pool and active storage capacities. The existing outlet structure orifice and weir will be modified to match pre-development peak flows. The existing outlet structure for the pond will be fitted with a valve to allow emergency closure to assist in spill / leachate containment activities, if needed. The provided permanent pool volume in the proposed wet pond

exceeds the required permanent pool volume to meet the Enhanced Level Protection (80% TSS removal) requirement.

The proposed works are predicted to result in surface water quality conditions that are comparable or better to existing conditions and meet MECP PWQO (MOEE, 1994) requirements. Post-closure, the pond operations will continue such that surface water quality downstream of the site remains protected.

Biology

The Biology environment component comprises two sub-components: aquatic ecosystems and terrestrial ecosystems. The details of the impact assessment on the Biology component (aquatic and terrestrial ecosystems) are provided in Volume IV Appendix D.05.

The impact assessment considers the potential direct and indirect impacts of the W12A Landfill preferred expansion alternative on the aquatic and terrestrial ecosystems within the Site and Site-vicinity Study Areas for the construction, operations and closure stages of the landfill expansion.

The proposed expansion of the W12A Landfill avoids many potential impacts by situating the future expansion on the existing landfill fill area.

Aquatic Ecosystems

Direct Impacts:

- Because the proposed modification to SWM pond weirs and outlets will all occur within the landfill area, and there are no physical alterations to the downstream SWM infrastructure, including the ditches, culverts, or other downstream watercourses, no direct impacts to aquatic species or habitat are anticipated from the proposed modifications to SWM system. Similarly, there are no anticipated direct impacts to aquatic ecosystems during the Operations Stage and during closure and post-closure activities related to the expansion of the W12A Landfill.

Indirect Impacts:

- No indirect impacts to aquatic species or habitat are anticipated during the Construction Stage, since there are no proposed modifications to the SWM pond weirs and outlets for existing structures that convey discharged pond water to downstream watercourses;
- Although the proposed works associated with the Operations Stage for the proposed expansion are not expected to result in direct impacts to aquatic ecosystems, there will be changes to drainage areas and the resulting water balance (i.e., reduced water drainage to Dodd Creek; increased surface water drainage to Dingman Creek). The changes in drainage area are expected to have a negligible effect on runoff and drainage downstream of the site in both the Dingman and Dodd Creek subwatersheds. Further, modifications to the existing SWM infrastructure, along with mitigation measures (i.e., erosion and sediment control), are expected to result in surface water quality conditions that are comparable to existing conditions and meet the MECP PWQOs; and
- Potential indirect impacts associated with closure and post-closure activities are limited to the management of leachate and stormwater management within the landfill. With the continued operation of the leachate control system and the proposed SWM ponds, indirect impacts as a result of landfill closure are not anticipated.

Terrestrial Ecosystems

Direct Impacts:

- Direct impacts are anticipated for Confirmed Significant Wildlife Habitat for Monarch and Species at Risk Habitat for grassland birds (i.e., Eastern Meadowlark and Bobolink) during construction and operational stages on the existing landfill. Impacts related to the removal of habitat will be temporary in nature as they will be revegetated when vertical capacity is reached to mimic habitat conditions currently

present (e.g., grassland species, common milkweed). The direct impacts to these areas during the construction stage are not considered to be significant and may be avoided.

- Should stripping of existing vegetation for the new diversion and drop-off facilities in the southeastern corner occur during the breeding bird window (April 1st to August 31st), there is potential for impacts to nesting birds and may contravene the *Migratory Birds Convention Act*.
- Other potential direct impacts during construction may include common wildlife species that may occupy areas of the existing landfill site; these may include groundhogs, Killdeer, common snake species, etc.
- Accidental destruction of nests, stockpiling of stripped material creating nesting opportunities for birds, or wildlife mortality may occur as part of the operations stage. These occurrences can be avoided through the implementation of standard operational measures, the continuation of measures implemented during the construction stage, and potential compensation for SAR Habitat.
- Activities associated with landfill closure include the addition of topsoil and plantings of native vegetation; as such, the project closure will result in an overall compensation for natural communities lost during construction and operations.

Indirect Impacts:

During the construction and operations stages of the expansion of the W12A Landfill, potential indirect impacts to terrestrial ecosystems are likely to be limited to the following types of impacts:

- Dust deposition on vegetation in adjacent vegetation communities during construction;
- Dust and airborne waste deposition in natural habitat during operations;
- Noise related impacts to wildlife in adjacent habitat;
- Introduction of invasive plant species via construction equipment; and
- Accidental injury or mortality of wildlife or vegetation (i.e., adjacent trees) from construction equipment and/or vehicles.

The indirect impacts during construction and operations are not considered significant and are mitigatable with standard measures. Indirect impacts as a result of landfill closure are not anticipated.

To avoid or minimize impacts to SAR and wildlife related to the construction stage, a detailed Environmental Mitigation and Monitoring Plan (EMMP) will be developed. Vegetation removal associated with the construction stage and with the operations stage will have to avoid direct impacts to the SAR Birds, including Bobolink and Eastern Meadowlark; all habitat removal should occur outside of the bird nesting season (April 1 to August 31) unless first assessed by an ecologist. The preparation and implementation of a SAR and Wildlife Observation Protocol will also be required.

Compensation for habitat loss will be required as regulated under the ESA (O. Reg. 242/08), to determine appropriate compensation measures for Bobolink and Eastern Meadowlark. Compensation for Significant Wildlife Habitat for Monarch will be achieved at project closure with the implementation of native plantings which are recommended to include common milkweed, a host plant for the species.

Land Use

The details of the impact assessment on land use are provided in Volume IV Appendix D.06.

The W12A Landfill is zoned "Waste and Resource Management (WRM) Zone 1". This zoning permits the waste management facility that currently operates on the site, as well as the MRF adjacent to the east side of the landfill.

A variety of studies were completed to assess impacts to surrounding uses. Of particular relevance to the assessment of impacts to sensitive land uses in the Site Area and Site-vicinity Study Area is the noise, odour and air assessments. Generally, it is concluded in these associated studies that the proposed landfill expansion is expected to meet all Provincial criteria with respect to noise, odour and air quality and is not expected to result in impacts in excess of these criteria to the public. These studies recommended various mitigation and monitoring programs to help minimize potential impacts associated with landfill operations following implementation of the Project.

The proposed landfill expansion does not result in the limits of waste being extended towards any of the sensitive land uses as defined by Guideline D-4 (Land Use on or Near Landfills and Dumps). Provided the recommended impact mitigation for noise and air quality (i.e., odour) are implemented, the proposed expansion is not expected to have significant adverse impacts on these uses. Further, in light of the intended use of the Site Area, it is determined that the landfill expansion would be compatible with the existing land uses within the Site-Vicinity Study Area.

It is not anticipated that sensitive land uses would be constructed in the vicinity of the W12A Landfill site within the 2035 planning horizon defined for the City's new Official Plan. Accordingly, it is determined that the Project should not adversely impact on future land uses within the Site-vicinity Study Area.

No significant impacts or adverse effects are expected with respect to the surrounding land uses, no mitigation or monitoring is required at this time from a land use perspective. Notwithstanding, the measures recommended in conjunction with this EA should be implemented to mitigate any potential impacts (noise, odour, dust) to land uses proximate to the existing landfill facility and to protect natural heritage features and functions.

Agriculture

The details of the impact assessment on agriculture are provided in Volume IV Appendix D.07.

Agricultural uses within this defined area are characterized by conventional agricultural production that is in keeping with regional and provincial trends (e.g., cash crop production, livestock operations).

The assessment of impacts on agricultural land and operations within the Site-vicinity Study Area was based on the Province's draft Agricultural Impact Assessment Guidelines (released March 2018) (OMAFRA 2018).

As an outcome of the agricultural impact assessment, the Project is expected to generate minimal land use impacts on agricultural land and/or operations in the Site-vicinity Study Area. Notwithstanding, mitigation and monitoring programs associated with the expanded landfill operations recommended in conjunction with this EA should be implemented to minimize any potential impacts on local agricultural activities and the larger agricultural system.

Archaeology

The details of the impact assessment on potential archaeological resources are provided in Volume IV Appendix D.08.

An archaeological assessment was completed to identify known archaeological resources within the Site Study Area.

The Stage 1 background study determined that portions of the Site Study Area had archaeological potential and, as such, would require Stage 2 Archaeological Assessment to identify archaeological sites that may be present. The Stage 2 assessment involved a combination of pedestrian survey at 5 m intervals and shovel test pit survey at 5 m intervals, and resulted in the identification of seven archaeological locations. One location was considered to have cultural heritage value or interest and recommended to be subject to a Stage 3 Archaeological Assessment.

The results of the Stage 3 Archaeological Assessments identified the presence of one site with archaeological potential in the Site Area (White Oak 1 site), located on the north side of the western portion of the existing landfill footprint. The presence of high

artifact-yielding test units (e.g., ≥10 artifacts) indicates that the White Oak 1 site has further cultural heritage value or interest and will require Stage 4 mitigation prior to development. This conclusion is consistent with Section 3.4.1, Standard 1a of the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI)'s *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). There are no further concerns for impacts to archaeological sites in the remainder of the Site Study Area. This White Oak 1 site plus a 10 m buffer requires avoidance during construction, operation and closure of the Project and this can be accomplished without disruption to the Project.

The MHSTCI reviewed the results and recommendations presented in the Stage 3 Archaeological Assessment Report and accepted this report into the Provincial Register of archaeological reports, and issued a standard letter of compliance with the Ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* and the terms and conditions for archaeological licensing.

Cultural Heritage

The details of the impact assessment on potential built heritage resources are provided in Volume IV Appendix D.09.

Seven properties in the Site-vicinity Study Area were identified as requiring cultural heritage assessment to determine if any of the properties had cultural heritage value or interest (CHVI) in accordance with *Ontario Heritage Act Regulation 9/06* (Ontario, 1990b). They were identified for study because they are properties with buildings or structures 40 or more years old and evaluated as having potential cultural heritage value or interest (CHVI) if they met one or more of the criteria prescribed in *Ontario Heritage Act Regulation 9/06* or was a part of a potential cultural heritage landscape. One additional property with buildings or structures 40 or more years old was also identified but evaluated to not meet at least one criterion for CHVI prescribed in O. Reg 9/06 (Ontario 1990b).

No cultural heritage resources of value or interest were identified within the Site-vicinity Study Area that could potentially be impacted by the proposed W12A Landfill expansion and no further cultural heritage studies or monitoring of any properties is recommended.

Socio-economic

The Socio-economic component comprises two sub-components: local economy; and residents and community. The details of the socio-economic impact assessment are provided in Volume IV Appendix D.10.

Local economy

The Project is not expected to create any new jobs in the community during operation, the existing landfill workforce is deemed sufficient. New jobs during construction activities are expected. It is estimated that with the additional infrastructure operations associated with the expansion, the annual operating cost could increase approximately 10% to \$5 million. Several stop-controlled approaches along the haul routes are forecast to operate at a poor level of traffic control in the future (2048) conditions. However, traffic signals, if warranted, would be due to the projected increase of background traffic volume and/or movement of this background traffic and not the traffic associated with the landfill expansion. Other businesses (excluding farms as these were assessed within the agriculture component) in the Site-vicinity Study Area are not anticipated to be affected negatively or positively as a result of the landfill expansion. In terms of the local economy, no changes to employment or use of local vendors is anticipated and over time the landfill is expected to have increased costs and generate additional revenue for the City.

In terms of capital costs, the proposed expansion design has an estimated budget of \$55 to \$90 million, with a midpoint estimate of approximately \$72 million (in 2020 dollars).

Residents and Community

The W12A Landfill site is located in a largely agricultural area with few socio-economic features of note. The most likely potential impact to the socio-economic environment is

from nuisance effects such as litter, noise, odour or dust, which can affect use and enjoyment of private properties or outdoor spaces. The presence of the landfill and proposed changes to it associated with the expansion are not expected to result in any out-migration of existing residents who are accustomed to living in an area where agricultural and industrial noise is commonplace. Adherence to applicable municipal and provincial guidelines and use of best management practices at the W12A Landfill site related to control and mitigation of effects such as litter, noise, dust or odour will assist in reducing potential effects to local residents. Continued use of a complaints protocol will be key tools in monitoring socio-economic effects and ensuring good community relations during construction and operations.

Visual

The details of the impact assessment for visual are provided in Volume IV Appendix D.11.

The visual impact of the proposed landfill expansion on existing residential properties within 3,500 m of Site-vicinity Study Area was assessed. This was done by calculating a visual effect rating using relevant factors that affect the visual impact from different viewpoints in private outdoor areas and from public rights of way within the Site-vicinity Study Area.

For the majority of the viewpoints, the visual effect is moderate to very low. However, the landfill expansion will have a very high visual impact on four properties and have a high visual impact on two properties. Three of the six properties with high to very high visual impacts are owned by the City and three properties are privately owned.

The most obvious views of the proposed landfill expansion are from the south. To reduce the visual impact of daily operations, the site development plan proposes that waste would be placed initially to build a berm along the south side of the landfill's waste disposal area and will be covered with final cover soil and seeded to establish vegetation. This berm will screen the view of subsequent filling operations north of the berm from off-site vantage points to the south.

The existing perimeter berms with trees on the south, west, north and a portion of the east sides of the landfill are effective at visually screening the existing landfill from traffic beside the landfill on Manning Drive and White Oak Drive and are expected to continue to screen the view of the expanded landfill, but not from Scotland Drive or Wellington Road South. With the proposed expansion, the landfill property boundary will be moved northward to Scotland Drive and new berms with tree plantings will be constructed along the new property boundary (White Oak Road northward to Scotland Drive, Scotland Drive) to visually screen the landfill expansion from traffic beside the landfill on Scotland Drive.

The City will seek feedback on appropriate roadside view-mitigation measures from area residents when it updates its Community Enhancement and Mitigative Measure (CEMMP) Program. The first step in updating the CEMMP is seeking stakeholder feedback on how the program can be improved, including what are appropriate visual screening measures for individual residential properties. The project to update the CEMMP started in November 2020.

Transportation

The details of the impact assessment on transportation are provided in Volume IV Appendix D.12.

Taking into account the additional vehicles generated by the W12A Landfill, as well as applying the projected 1.0% annual growth rate for background traffic across the Site-vicinity Study Area, operational analyses along the haul routes were completed.

The two signalized intersections, found along Wellington Road at both Dingman Drive and Manning Drive, continue to operate with minor increases reported to the volume to capacity (v/c) ratio, delays, and 95th percentile queues. All movements at these two intersections, as well as the overall intersection performance, are forecast to remain at a good to reasonable level of service (LOS). Critical movements are not expected to occur by the 2048 horizon year at either of these intersections.

The remaining intersections and site accesses within the Site-vicinity Study Area operate under a stop-control condition. Compared to the existing conditions analyses, most stop-controlled intersections are not anticipated to see any significant changes to operations with a few notable exceptions: Wonderland Road (Highway 4) at both ramp terminals from Highway 401; Wellington Road at Scotland Drive; Wellington Road at Westminster Drive. These stop-controlled approach exceptions along the haul routes are forecast to operate at a poor level of traffic control in the future (2048) conditions. However, traffic signals, if warranted, would be due to the projected increase of background traffic volume and/or movement of this background traffic and not the traffic associated with the landfill expansion.

An assessment carried out on the effects of temporary major road closures and resultant use of Emergency Detour Routes (EDR) as related to the W12A Landfill traffic indicates that, depending on the road that is closed and the closure location along either Highway 401 or 402, the rerouted traffic could potentially combine with landfill traffic. If Manning Drive is closed in front of the W12A Landfill, alternate site access to and from both White Oak Road and Scotland Drive would be readily available.

Design and Operations

The details of the assessment of impacts associated with the design and operations of the proposed expansion are provided in Volume IV Appendix D.13.

The Description of the Preferred Landfill Expansion (see Section 8 of the EASR) covered off the proposed expanded landfill phasing and development; estimated leachate generation and on-site leachate management; estimated LFG generation and on-site management; and geotechnical assessment. In addition, a soil balance for the proposed expansion was completed as well as an estimate of probable capital and operational costs.

A soil balance estimates the volume of soil materials available on site for potential use in constructing various components of the expansion compared to the types and volumes of soil materials required for their construction. With the continued use of alternative daily cover materials and stripping of the existing final cover prior to placing waste for the vertical expansion, it is estimated that following construction of the final cover using on-site soils there will a surplus of 162,000 m³, which can readily be accommodated within the expanded landfill site property limits.

It is estimated that the capital costs of implementing the expansion (including engineering and contingencies) are in the range of \$55 to \$90 million, with a midpoint estimate of approximately \$72 million (in 2020 dollars). The current annual operating cost, including both staff and the operations, is approximately \$4.5 million (in 2020 dollars). It is estimated that with the additional infrastructure operations associated with the expansion, the annual operating cost could increase to \$5 million.

In terms of potential impacts associated with site design and operations:

- **Phasing and Development:** The design of the expansion phasing and the approach to development of each phase will reduce potential visual impacts (i.e., view of ongoing site landfilling operations) from off-site vantage points to the south, from where the site operations are most visible for the greatest number of existing residences. For landfilling, the area from which the existing final cover will be stripped prior to placement of waste and the active area used for waste disposal will be kept as small as practical to minimize the potential for odours and litter.
- **Management of Leachate:** The management of leachate will continue to rely on the same LCS approaches that have proven effective in preventing impacts on off-site groundwater resources and surface water quality. In addition, the design will provide sufficient temporary leachate storage to minimize the potential for untreated leachate release due to storm events that are sufficiently large to cause overflows from the off-site pumping station and WWTP.
- **Management of LFG:** The expansion will continue to utilize an active LFG collection system (installed both during landfill operations and progressively with the final cover as expansion phases are completed) to capture and flare LFG and thereby control odour and greenhouse gas releases.

- **Geotechnical Considerations:** Geotechnical analysis demonstrates that the proposed expansion will be stable in terms of overall stability of the waste, and that settlement of the underlying clay till deposit due to the weight of the vertical expansion of waste will not adversely affect the operation and performance of the underdrain LCS below the Phase 2 area.
- **Soil Balance:** The expansion is expected to use a combination of available on-site stockpiled soil and alternative daily cover consisting of off-site waste materials. It is anticipated that there will be an overall soil surplus at the end of the expansion period. The expansion will require aggregates and asphalt for infrastructure construction and maintenance; otherwise, the expansion is not expected to consume off-site soil resources from licensed pits or other borrow sources.
- **Capital and Operational Costs:** The capital costs associated with the expansion can be planned within the municipality's annual capital expenditures budgeting process. The operating costs are comparable to but somewhat higher than the current operating costs. These cost components are not expected to impact municipal finances.

Climate Change Considerations

The document entitled "Considering Climate Change in the Environmental Assessment Process" (MECP, 2019) was used as a guide for incorporating measures in the landfill expansion design that reduce both the potential impact of climate change on the landfill (i.e., climate change adaptation) and its potential impact on climate change (i.e., climate change mitigation).

In terms of potential impacts from climate change on the landfill expansion, it is expected that the planned 25 year operational period of the landfill expansion, i.e., through 2048, will be too short to be significantly affected by impacts from climate change. However, during the post-closure period, longer term changes in precipitation and temperature could possibly affect the vegetative cover growth on the closed landfill and/or runoff of surface water from the landfill final cover and the performance of the components that comprise the SWM system. The proposed stormwater pond designs were assessed to predict conditions during the 1:250 year return period storm event to evaluate potential climate change effects. It is expected that the ponds will perform acceptably under such storm conditions. The potential impacts from climate change related to precipitation will also be taken into account in the final design of site infrastructure components related to leachate collection and temporary storage on-site. Adjustments to landfill operations can be made, as required, in future to mitigate potential effects from temperature extremes and winds associated with climate change.

In terms of potential impacts from the landfill expansion on climate change, the two main ways that a landfill expansion could affect climate change are the generation of GHG that enters the atmosphere, and reduction of GHG sequestration by removal of forested areas. For the proposed vertical expansion of the W12A Landfill above the existing footprint, there will not be any clearing of forested areas, and therefore no associated adverse effects related to GHG sequestration. The annual GHG emission rates in tonnes per year for each activity for the existing landfill and the proposed expanded landfill were estimated. GHG generated from the landfill expansion, which will peak in 2049 and then decline over time, will be controlled by an active LFG collection and flaring system. The system will have a LFG collection efficiency that is expected to significantly improve by 2049 in comparison to 2020 and this will result in decrease GHG emissions annually.

Cumulative Impact Assessment

A cumulative impact assessment of the potential effects of the proposed landfill expansion in combination with past, present and reasonably foreseeable future activities, where possible, was carried out following a framework often used in federal EA processes and is described in Section 11 of the EASR.

The cumulative effects analysis involved a scoping phase and an analysis of effects phase. For the scoping phase, the components that had residual negative effects (after

mitigation) from the proposed landfill expansion were identified. After this, other projects or activities in the area that may affect the same components were identified.

During the analysis of effects phase, the other projects or activities were evaluated to assess if their effects would overlap in timing or spatial extent with the effects of the Project, accounting for and including the proposed landfill expansion mitigation. The nature and extent of the possible cumulative effects were then identified along with any possible mitigation and/or monitoring strategies.

The identified environmental, socio-economic and technical components from the proposed landfill expansion with identified residual, negative effects are: atmosphere (air/odour and noise); hydrogeology; surface water (quantity); biology; land use; agriculture; socio-economic, transportation and visual. The existing zoning and land use in the vicinity of the site was considered in determining the other projects and activities to include in this cumulative assessment. It was determined that the effects from the landfill expansion would not overlap with those from other projects or activities for the hydrogeology, surface water, agriculture or visual components. For the remaining components, the landfill expansion will utilize operating procedures, monitoring programs and mitigation measures such that the landfill complies with provincial requirements. Potential remaining cumulative effects are described. In light of the existing zoning and the associated Official Plan policy framework, it is considered unlikely that new sensitive land uses would be introduced in close proximity to the landfill.

Monitoring and Contingency

The proposed expansion of the W12A Landfill has been designed to incorporate mitigation measures to minimize the potential for unacceptable environmental effects. Following the identification of mitigation measures, the environmental effects of the proposed expansion were evaluated. Although, efforts have been made to conservatively estimate potential impacts associated with the proposed W12A Landfill expansion, there is always some potential for variability between predicted and actual conditions. Effective monitoring and contingency measures are intended to address this potential variability and confirm the assumptions used in this assessment.

An effective monitoring program provides results to: indicate whether the facility is working as expected and that the assumptions used in the assessment were correct; assess on an ongoing basis whether mitigation measures as designed and operated are effective; and identify unforeseen problems so they can be addressed in a timely manner. The proposed monitoring program for the proposed W12A Landfill expansion is summarized in Section 12.0 of the EASR and details are provided in the D&O Report (Volume IV, Appendix D.13) and includes requirements for air quality, noise, groundwater quality, surface water quality and quantity, LFG and biology.

The final details will be determined in consultation with the MECP and incorporated in the ECA amendments for the proposed expansion.

In the event that the ongoing groundwater or surface water monitoring programs detect unexpected problems, it may be necessary to implement contingency measures to further reduce the potential for any adverse environmental effects associated with the proposed expansion of W12A Landfill. The current ECA for the W12A Landfill has a trigger mechanism that requires prescribed actions to be taken should the monitoring results indicate that certain thresholds are reached, whereby additional investigations and assessments are undertaken to confirm the monitoring results and determine if it is necessary to implement contingency measures to prevent non-compliance with the RUG for groundwater, or to prevent leachate-impacted waters from accessing the stormwater management ponds. As part of the ECA amendment application process for the expanded landfill, the trigger mechanisms and contingency measures will be reviewed and modified, if required.

An overview of the proposed contingency measures that could be put into effect are described in Section 12.2 of the EASR.

Summary of Commitments and Other Approvals

Section 13.0 of the EASR lists the commitments made by the City during the ToR process, how they have been considered in the preparation of the EASR and their current status. Generally, these commitments relate to a committed target of 60% residential residual waste diversion by the end of 2022, the preparation of work plans for technical studies as identified in the ToR, assessment of 'Alternative Methods' of expansion and detailed description of the preferred alternative, completing a cumulative effects assessment, preparing a draft EA for public review and ensuring public consultation events and availability of the draft and final main body of the EASR to the public, holding workshops based on interest indicated by stakeholders, engaging with Indigenous Communities, and refining the purpose statement (if required).

Commitments made by the City during the EA study process are also listed in Section 13.0. The City will report on the status of these commitments via compliance monitoring to the MECP annually until such time as all commitments are completed or addressed/superseded in EPA/*Ontario Water Resources Act* (OWRA) conditions of approval. Generally, these commitments relate to effects monitoring requirements, design of site components, operating procedures, mitigation measures and best management practices.

Following approval of the W12A Landfill expansion EA by the Minister of the Environment, Conservation and Parks, approval under the EPA and the OWRA will then be required; these approvals will take the form of amendments to the existing landfill ECAs. Approvals will also be required under the *Ontario Heritage Act* to implement the expansion and under several pieces of legislation for specific matters related to the natural environment. Approval under the *Planning Act* related to rezoning of a portion of the expanded landfill property may also be required.

Appendix B
List of Commitments in the Approved Amended Terms of Reference
to be completed during Environmental Assessment

ID	Commitment (Location where Commitment was made in ToR)	Status
1	The EA will be prepared in accordance with subsections 6(2)(c) and 6.1(3) of the EA Act. (ToR Section 2.4)	<u>Completed</u> Refer to Sections 2.2 and 2.7.1 of this EASR.
2	The City has committed to a target of 60% residential waste diversion by the end of 2022. (ToR Section 3.1)	<u>Completed</u> On March 2, 2020, London Municipal Council approved the budget to fund actions to increase waste diversion from 45% (current level) to 60% waste diversion by the end of 2022. This includes funding the implementation of the Green Bin Program as part of the 60% Waste Diversion Action Plan. The City's Resource Recovery Strategy, an even broader, more long term look at waste diversion and resource recovery, will be completed in 2022 (refer to Section 2.3 of this EASR). The projected residual waste requiring disposal over the 25 year planning period for the expansion is based on the City achieving 60% residential waste diversion by end of 2022 (refer to Volume III Appendix C: 2019 Updated Residual Waste Projections and Landfill Capacity Assessment). Based on the COVID-19 pandemic, the City will now have its 60% Waste Diversion Action Plan programs operational by the end of 2022 as 9 to 12 months have been lost from the original timeframe.
3	When requested, the City will meet with individuals or groups at their convenience to assist them with understanding the project information and providing input; for example, if they are unable to participate in planned public consultation events or require more information.	<u>Ongoing</u> As described in Section 4.0 of this EASR, the City offered to meet and met with individuals or groups at their convenience during the EA process. The offer to meet with individual and groups was included on the Project Website and the Notice for Open House 4.
4	The City will contact Indigenous groups to discuss their consultation needs and continue to involve them in the EA process. (ToR Section 8.3)	<u>Ongoing</u> Refer to Indigenous community subsections within Section 4.0 of this EASR and materials related to Indigenous community consultation in Volume V Appendix E.

ID	Commitment (Location where Commitment was made in ToR)	Status
5	Where described in the ToR for the environmental components, detailed work plans for the technical studies will be prepared and provided to the appropriate GRT agency for review and concurrence. <i>(ToR section 7.6)</i>	<u>Completed</u> Refer to work plans in Volume III Appendix B.
6	The City will share work plans with Indigenous Communities and post work plans on the project website. <i>(ToR section 7.6)</i>	<u>Completed</u> A workshop was held for Indigenous Communities to review the detailed work plans on August 26, 2019. Feedback from this workshop resulted in changes to the Groundwater work plan. The work plans were posted on the project website.
7	The City will consider the stated purpose of this EA during the EA process and will refine the purpose if required. The final purpose statement will be provided in the EA study report. <i>(ToR Section 1.2)</i>	<u>Completed</u> Refer to Section 2.1 of this EASR.
8	During the EA, assumptions used in determining the projected residual waste from the existing service area will be refined and assessed. This will be described in the EA study report. <i>(ToR Section 3.3.6)</i>	<u>Completed</u> Refer to Volume III Appendix C: 2019 Updated Residual Waste Projections and Landfill Capacity Assessment and Section 2.4 of the EASR.
9	During the EA the proposed regional service area will be confirmed and further assessed. This will be described in the EA study report. <i>(ToR Section 3.3.7)</i>	<u>Completed</u> Refer to Section 2.4 of this EASR and Volume III Appendix C: 2019 Updated Residual Waste Projections and Landfill Capacity Assessment.
10	During the EA, the preliminary criteria and indicators for each of the environmental, socio-economic and technical components will be refined and described in the EA study report. <i>(ToR Section 7.3)</i>	<u>Completed</u> Refer to Section 3.3 of this EASR.
11	The preliminary Study Areas will be reviewed and confirmed during the EA and described in the EA study report. <i>(ToR Section 7.2)</i>	<u>Completed</u> Refer to Section 5.1 of this EASR.
12	A more detailed description of the environmental conditions will be prepared during the EA to reflect the confirmed Study Areas using a combination of sources of existing information and site-specific investigations and studies and provided in the EA study report. <i>(ToR Section 5)</i>	<u>Completed</u> Refer to Section 5.0 of this EASR and to the individual component reports in Volume IV.

ID	Commitment (Location where Commitment was made in ToR)	Status
13	The individual Alternative Methods of expanding the W12A Landfill will be identified, refined and confirmed during the EA, and described in the EA study report. <i>(ToR Section 6)</i>	<u>Completed</u> Refer to Section 6.0 of this EASR
14	Further input on the relative importance of the assessment indicators will be obtained during the initial stages of the EA. <i>(ToR Section 7.5.4)</i>	<u>Completed</u> Additional input on the importance of the assessment indicators was sought during Open House #3. Refer to Section 4.0 of this EASR and Volume V Appendix F.05.
15	During the EA, the capability of the WWTP to continue to receive the leachate generated from the preferred landfill expansion alternative will be evaluated. This will be described in the EA study report. <i>(ToR Section 7.5.2)</i>	<u>Completed</u> Refer to Section 8.1.2 of this EASR.
16	The preferred expansion alternative will be assessed from the perspective of climate change. <i>(ToR Section 7.5.7)</i>	<u>Completed</u> Refer to Section 10.0 of this EASR.
17	A cumulative impact assessment will be completed and described in the EA study report. <i>(ToR Section 7.5.9)</i>	<u>Completed</u> Refer to Section 11.0 of this EASR.
18	Post-closure commitments will be described in the EA study report.	<u>Completed</u> Refer to Section 13.0 in this EASR.
19	The list of ToR commitments will be provided in the EA study report together with the way in which these commitments were addressed during the EA and the location of the information within the EA documents. The EASR will also include a list of commitments made by the City during the preparation of the EA studies and during consultation throughout the EA process. <i>(ToR Section 11)</i>	<u>Completed</u> Refer to Tables 13-1 and 13-2 in Section 13.0 of the EASR.
20	The City commits to developing a monitoring framework during the preparation of the EA. <i>(ToR Section 11.2)</i>	<u>Completed</u> Refer to Section 12.0 of this EASR.

Appendix C

List of Commitments in the Draft Environmental Assessment Study Report

ID	Component (if applicable)	Commitment (Location of Where Commitment was Made in the EA Document Package)	Project Phase
A	-	Implementation of all required Site effects monitoring and reporting programs. (EASR – Section 12)	Construction, operations and post-closure
B	-	The City has committed to implementing its 60% Waste Diversion Action Plan. (EASR – Section 2.3)	Operations
C	Atmosphere	Application of dust suppressant on unpaved roads on a routine basis. (EASR –Volume IV – Appendix D.01)	Construction and operations
D	Atmosphere	Sweep/clean the roads as required to prevent mud track out on vehicles. (EASR –Volume IV – Appendix D.01)	Construction and operations
E	Atmosphere	On-site vehicles and equipment engines will meet Tier 3 emission standards and be maintained in good working order. (EASR –Volume IV – Appendix D.01)	Construction and operations
F	Atmosphere	Minimize idling of vehicles on-site. (EASR – Volume IV – Appendix D.01)	Construction and operations
G	Atmosphere	Site will operate with approx.1,500 m ² maximum working face. (EASR – Volume IV – Appendix D.01)	Operations
H	Atmosphere	Landfill will be capped and LFG collection system installed and put into operations progressively as Phases of landfilling are completed. (EASR – Volume IV – Appendix D.01)	Operations and post-closure
I	Atmosphere	Prepare a fugitive dust management plan and complaints response protocol. (EASR – Section 12.1.1.1 and Volume IV – Appendix D.01)	Pre-construction
J	Atmosphere	Review and update the odour management plan and complaints response protocol. (EASR – Section 12.1.1.1 and Volume IV – Appendix D.01)	Pre-construction
K	Atmosphere	Design and implement a follow-up noise monitoring program for the expanded landfill when landfill operations are within 330 m of POR R15 on Figure 5.2-4 in Section 5.2. Requirements for nearby vacant lots will be developed if a noise-sensitive building is constructed. (EASR – Section 9.1.2.3 and Volume IV – Appendix D.02)	Operations
L	Groundwater	Design horizontal landfill gas collectors for dual purpose as gas and leachate collectors, in the north-south direction at 30 m spacing and to a depth of 3 m into the existing waste fill over the top surface of the Phase 1 area. (EASR – Section 9.2 and Volume IV – Appendix D.03)	Pre-construction

ID	Component (if applicable)	Commitment (Location of Where Commitment was Made in the EA Document Package)	Project Phase
M	Surface Water	Design post-expansion outlet of surface water flows to corresponding pre-expansion flows to convey design storm flows. (EASR – Section 8.5.5 and Volume IV – Appendix D.04)	Pre-construction
N	Surface Water	Provide Enhanced Level Protection (80% TSS removal) as defined by the MECP SWM Planning and Design Manual (MECP, 2003). (EASR – Section 8.5.5 and Volume IV – Appendix D.04)	Pre-construction
O	Surface Water	Engineer surface drainage from potentially contaminated areas to be contained locally within berms and discharge into the waste and eventually into the leachate management system, and separate from surface drainage from non-contaminated areas. (EASR – Section 8.5.5 and Volume IV – Appendix D.04)	Pre-construction
P	Surface Water	Design ditch sizes to convey the 1:100 year return period design storm and culverts sized to convey a 1:25 year return period design storm as per <i>O. Reg. 232/98</i> . (EASR – Section 8.5.5 and Volume IV – Appendix D.04)	Pre-construction
Q	Surface Water	Inspect ESC measures during construction on a weekly basis, and after significant rainfall events (e.g. greater than approximately 10 mm). Inspection reporting, highlighting any ESC deficiencies, will be prepared for each inspection, and kept on-Site for reference and reported to MECP, if needed. (EASR – Volume IV – Appendix D.04)	Construction
R	Biology	A detailed EMMP will be developed, including a construction monitoring program. (EASR Section 9.4 and Volume IV Appendix D.05)	Pre-construction
S	Biology	Conduct all vegetation clearing activities outside the breeding bird season. (EASR Section 9.4 and Volume IV Appendix D.05)	Construction and operations
T	Biology	No vegetation clearing between April 1 to August 31 unless a nest search is completed by a qualified ecologist. (EASR Section 9.4 and Volume IV Appendix D.05)	Construction and operations
U	Biology	Prepare and implement a Species at Risk and Wildlife Observation Protocol to outline the steps to take in the event of an encounter with wildlife, including SAR, during the construction stage. (EASR Section 9.4 and Volume IV Appendix D.05)	Pre-construction, construction, and operations
V	Biology	Consult MECP to determine appropriate compensation for habitat loss of SAR grassland birds, specifically for Bobolink and Eastern Meadowlark, as regulated under the ESA (<i>O. Reg. 242/08</i>). (EASR Section 9.4 and Volume IV Appendix D.05)	Pre-construction

ID	Component (if applicable)	Commitment (Location of Where Commitment was Made in the EA Document Package)	Project Phase
W	Biology	Progressively re-vegetate as landfilling is completed in the expansion phases. Plantings should include native species that are known to occur within the region and may include compensation plantings as determined through consultation with the MECP for Bobolink and Eastern Meadowlark habitat compensation. (EASR Section 9.4 and Volume IV Appendix D.05)	Operations
X	Archaeology	EMMP (EASR Section 9.7 and Volume IV Appendix D.08)	Construction and operations
Y	Archaeology	Install a temporary fencing barrier to clearly delineate a 10-metre protective buffer around White Oak 1 site (AfHh-926). The protected area and the location of the temporary barrier will be shown on all contract drawings and be labeled as a “no-go” zone where construction activities will not be permitted. (EASR Section 9.7 and Volume IV Appendix D.08)	Construction and operations
Z	Archaeology	Provide instructions to all construction staff to stay outside of the 10 m protected area and ensure appropriate monitoring by a licensed archaeologist during any construction which takes place within. (EASR Section 9.7 and Volume IV Appendix D.08)	Construction and operations
AA	Archaeology	Implement a construction monitoring program whereby a licensed archaeologist would be present to monitor any construction activities (excavation or stockpile placement) that extend to the edge of the protected area, if these activities occur. (EASR Section 9.7 and Volume IV Appendix D.08)	Construction and operations
AB	Archaeology	Implement a post-construction monitoring program on the effectiveness of the monitoring and avoidance strategy for reporting to MHSTCI by the licensed consultant archaeologist, if construction monitoring occurs. (EASR Section 9.7 and Volume IV Appendix D.08)	Operations
AC	Land Use	Confirm if the intended uses of the Site Area comply with existing Zoning By-law permissions.	Pre-construction
AD	Visual	Waste will be placed initially to build a berm along the south side of the landfill's waste disposal area and will be covered with final cover soil and seeded to establish vegetation. This berm will screen the view of subsequent filling operations north of the berm from off-site vantage points to the south. The south side perimeter waste berm would be raised sequentially and filled in behind until the peak elevation is reached.	Operations
AE	Visual	Construct new berms with tree plantings along the new property boundary (White Oak Road northward to Scotland Drive, Scotland Drive).	Operations

ID	Component (if applicable)	Commitment (Location of Where Commitment was Made in the EA Document Package)	Project Phase
		(EASR Section 9.9 and Volume IV Appendix D.10)	
AF	Visual	The City will seek feedback on appropriate roadside view-mitigation measures from area residents when it updates its CEMMP.	Pre-construction
AG	Visual	City will seek feedback from the public on possible improvements to the CEMMP and on appropriate visual screening measures for affected individual residential properties	Pre-construction
AH	Climate Change	Include the possibility of increased leachate generation from climate change into the design of the proposed replacement perimeter LCS for the Phase 1 area of the landfill, as well as the design of the proposed system of temporary leachate storage on the W12A Landfill site during storm events of significant magnitude that could result in discharge of the mixed leachate/sewage to Dingman Creek or the Thames River if the WWTP is in a by-pass situation temporarily.	Pre-construction
AI		Include the possibility of increased leachate generation from climate change in the design of the replacement for the main leachate pump station on the W12A Landfill site.	Pre-construction

List of Files and Corresponding Content

Filename	Volume	Document(s)
Draft_EASR_Volume_1_Part_1	I	Draft EASR (Section 1 to 5.2)
Draft_EASR_Volume_1_Part_2	I	Draft EASR (Section 5.3)
Draft_EASR_Volume_1_Part_3	I	Draft EASR (Section 5.4 to 5.5.3)
Draft_EASR_Volume_1_Part_4	I	Draft EASR (Section 5.5.4 to 6.4)
Draft_EASR_Volume_1_Part_5	I	Draft EASR (Section 6.6 to 7.4)
Draft_EASR_Volume_1_Part_6	I	Draft EASR (Section 8.0 to 8.1)
Draft_EASR_Volume_1_Part_7	I	Draft EASR (Section 9.0 to 9.5)
Draft_EASR_Volume_1_Part_8	I	Draft EASR (Section 9.6 to 14.0)
Draft_EASR_Volume_2	II	Approved Amended Terms of Reference
Draft_EASR_Volume_3_Part_1	III	Atmospheric (Air and Noise) Work Plan
		Groundwater Work Plan
		Surface Water Work Plan
		Biology Work Plan
		2019 Updated Residual Waste Projections and Landfill Capacity Assessment (Executive Summary)
Draft_EASR_Volume_3_Part_2	III	2019 Updated Residual Waste Projections and Landfill Capacity Assessment (Main Report)
Draft_EASR_Volume_4_Part_1	IV	Air Quality Existing Conditions and Impact Assessment Report
		Noise Existing Conditions and Impact Assessment Report
		Groundwater Existing Conditions and Impact Assessment Report
Draft_EASR_Volume_4_Part_2	IV	Groundwater Existing Conditions and Impact Assessment Report (continued)
Draft_EASR_Volume_4_Part_3	IV	Groundwater Existing Conditions and Impact Assessment Report (continued)
Draft_EASR_Volume_4_Part_4	IV	Surface Water Existing Conditions and Impact Assessment Report
Draft_EASR_Volume_4_Part_5	IV	Surface Water Existing Conditions and Impact Assessment Report (continued)

List of Files and Corresponding Content

Filename	Volume	Document(s)
Draft_EASR_Volume_4_Part_6	IV	Surface Water Existing Conditions and Impact Assessment Report (continued)
		Biology (Aquatic and Terrestrial Ecosystems) Existing Conditions and Impact Assessment Report
Draft_EASR_Volume_4_Part_7	IV	Biology (Aquatic and Terrestrial Ecosystems) Existing Conditions and Impact Assessment Report (continued)
Draft_EASR_Volume_4_Part_8	IV	Biology (Aquatic and Terrestrial Ecosystems) Existing Conditions and Impact Assessment Report (continued)
Draft_EASR_Volume_4_Part_9	IV	Biology (Aquatic and Terrestrial Ecosystems) Existing Conditions and Impact Assessment Report (continued)
		Land Use Existing Conditions and Impact Assessment Report
		Agricultural Resources Existing Conditions and Impact Assessment Report
		Archaeology Existing Conditions and Impact Assessment Report
Draft_EASR_Volume_4_Part_10	IV	Archaeology Existing Conditions and Impact Assessment Report (continued)
Draft_EASR_Volume_4_Part_11	IV	Archaeology Existing Conditions and Impact Assessment Report (continued)
Draft_EASR_Volume_4_Part_12	IV	Archaeology Existing Conditions and Impact Assessment Report (continued)
		Heritage Impact Assessment Report
		Socio-economic Existing Conditions and Impact Assessment Report
Draft_EASR_Volume_4_Part_13	IV	Visual Existing Conditions and Impact Assessment Report
		Traffic Assessment in Support of the Environmental Assessment

List of Files and Corresponding Content

Filename	Volume	Document(s)
Draft_EASR_Volume_4_Part_14	IV	Design and Operations Existing Conditions and Impact Assessment Report
Draft_EASR_Volume_4_Part_15	IV	Design and Operations Existing Conditions and Impact Assessment Report (continued)
Draft_EASR_Volume_4_Part_16	IV	Design and Operations Existing Conditions and Impact Assessment Report (continued)
Draft_EASR_Volume_5_Part_1	V	Appendices AA, E, F (F.01 to F.03)
Draft_EASR_Volume_5_Part_2	V	Appendices F (F.03 to F.05)
Draft_EASR_Volume_5_Part_3	V	Appendices F (F.06), G (G.01 to G.03)
Draft_EASR_Volume_5_Part_4	V	Appendices G (G.04 to G.05)
Draft_EASR_Volume_5_Part_5	V	Appendices G (G.06), H (H.01 to H.02)
Draft_EASR_Volume_5_Part_6	V	Appendices H (H.03 to H.07)
Draft_EASR_Volume_5_Part_7	V	Appendices H (H.08 to H.12), I

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC
Managing Director, Environmental & Engineering Services
and City Engineer

Subject: Proposed Expansion of the W12A Landfill Site – Updated
Environmental Assessment Engineering Consulting Costs

Date: March 30, 2021

Recommendation

That, on the recommendation of the Managing Director, Environmental and Engineering Services & City Engineer, the following actions be taken with respect to the Environmental Assessment (EA) for the Expansion of the W12A Landfill:

- a) Golder Associates Ltd. **BE APPOINTED** to carry out additional technical analyses and engagement with stakeholders including addressing technical questions from the Government Review Team as part of the Individual Environmental Assessment process for the proposed expansion of the W12A Landfill, in the total amount of \$189,085 including a contingency of \$50,000 and excluding HST, in accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy;
- b) AECOM Canada Ltd. **BE APPOINTED** carry out additional technical analysis and engagement with stakeholders including addressing technical questions from the Government Review Team as part of the Individual Environmental Assessment process for the proposed expansion of the W12A Landfill, in the total amount of \$17,769 including a contingency of \$4,000 and 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 the work identified in (a), above, **BE APPROVED** in accordance with the "Sources of Financing Report" attached hereto as Appendix "A";
- d) Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with these purchases; and
- e) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

Executive Summary

This report seeks approval from Committee and Council to retain Golder Associates Ltd. and AECOM Canada Ltd. to carry out additional technical analyses and engagement with stakeholders including addressing technical questions and comments from the Government Review Team.

The environmental assessment) for the proposed expansion of the W12A Landfill is an Individual Environmental Assessment (EA). This is the most rigorous type of EA and is less prescribed than the more common class EAs. Consequently, the amount and types of questions and the level of effort to address them is highly variable from EA to EA.

It is proposed to increase the budget of Golder Associates Ltd. and AECOM Canada Ltd. to ensure sufficient funds are available to address any and all comments received during the review of the draft EASR and prevent delays in the approval of the EA. Use of these review budgets will be agreed to by the City once review comments have been received.

The additional budgets being requested are available within the approved budget for this project.

Linkage to the Corporate Strategic Plan

Municipal Council continues to recognize the importance of solid waste management and the need for a more sustainable and resilient city in the development of its 2019-2023 Strategic Plan for the City of London. Specifically, London's efforts in solid waste management address the three following areas of focus:

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

On April 23, 2019, the following was approved by Municipal Council with respect to climate change:

Therefore, a climate emergency be declared by the City of London for the purposes of naming, framing, and deepening our commitment to protecting our economy, our eco systems, and our community from climate change.

Both the Resource Recovery Strategy and Waste Disposal Strategy (including the EA) address various aspects of climate change mitigation and climate change adaptation. These elements are also a requirement that must be addressed as part of EA documentation.

Analysis

1.0 Background Information

In 2015, Council directed staff to develop a long-term residual waste disposal plan. Part of the plan includes the EA for the expansion of the W12A Landfill. The W12A Landfill is expected to reach capacity in 2024.

Work on developing a Terms of Reference (ToR) for the EA began in 2017. The ToR becomes the framework (work plan) for completing the EA. The ToR was approved is approved by the Minister of the Environment, Conservation and Parks on July 30, 2019.

Work on the EA began in August 2019 and resulted in the selection of a vertical expansion over the existing waste footprint which has many advantages over other expansion alternatives. Numerous technical studies, reviews and discussions were undertaken to come to this conclusion.

1.1 Previous Reports Related to this Matter

Relevant reports that can be found at www.london.ca under City Hall (Meetings – Council and Standing Committees) include:

- Proposed Expansion of the W12A Landfill Site – Updated Environmental Assessment Engineering Consulting Costs (September 22, 2020 meeting of the Civic Works Committee (CWC), Item #2.2)
- Proposed Expansion of the W12A Landfill Site: Updated Environmental Assessment Engineering Consulting Costs (September 22, 2020 meeting of the CWC, Item #2.12)
- Proposed Expansion of the W12A Landfill Site: Updated Environmental Assessment Engineering Consulting Costs (October 22, 2019 meeting of the CWC, Item #2.12)
- Appointment of Consulting Engineer for Various Technical Studies as part of the Environmental Assessment Process for the Proposed Expansion of the W12A Landfill Site (July 17, 2017 meeting of the CWC, Item #6)
- Update and Next Steps – Resource Recovery Strategy and Residual Waste Disposal Strategy as Part of the Environmental Assessment Process (February 7, 2017 meeting of the CWC, Item #10)
- Appointment of Consulting Engineer Long Term Solid Waste Resource Recovery and Disposal Plans (May 24, 2016 meeting of the CWC, Item #10)

2.0 Discussion and Considerations

All technical work on the EA for the proposed expansion of the W12A Landfill has been completed and the draft Environmental Assessment Study Report (EASR) prepared. The EASR describes all aspects of the EA. In addition to the main report there are more than 15 supporting technical documents.

An opportunity to provide comments on the draft EASR report and supporting technical documents will be provided the Government Review Team (GRT), Indigenous Communities, nearby residents and other stakeholders.

It is expected most of the comments and questions will come from GRT which consists of over 45 staff across 28 federal, provincial and local agencies. An individual EA is the most rigorous type of EA and is less prescribed than the more common class EAs. Consequently, the amount and types of questions and the level of effort to address them is highly variable from EA to EA. In some cases, the GRT team has requested additional technical work (e.g., additional modelling) be undertaken to address their concerns.

It is proposed to increase the budget of Golder Associates Ltd. and AECOM Canada Ltd. to ensure sufficient funds are available to address any and all comments received during the review of the draft EASR and prevent delays in the approval of the EA.

Golder Associates Ltd. completed the majority of the technical studies for the EA including atmosphere (includes noise and air quality), groundwater and archeology. There is potential for the GRT to ask for more modelling for noise, air quality (odours) and groundwater given additional mitigation measures were recommended in the EASR to prevent off-site impacts for each of these components. The finding of a significant historical First Nations site within the buffer area of the landfill may result in more than typical work to respond to questions about archeology. Golder also prepared the draft EASR and will have to revise the document to accommodate any changes resulting from the questions/comments of the review of the draft EASR.

Staff have reviewed the fee submission from Golder Associates Ltd., in detail, and specifically considered the various activities, time allotted to each project task and related hourly rates provided. The tasks will be completed on an as needed basis. In accordance with Section 15.2 (g) of the Procurement of Goods and Services Policy, Civic Administration is recommending Golder Associates Ltd. be authorized to carry out additional work on the EA for the expansion of the W12A Landfill for a fee estimate of \$189,085 (excluding HST). The fee includes a contingency of \$50,000. This contingency is larger than normal projects due to the uncertainty of what will be requested by the GRT. Use of this review budget, including any use of the contingency funds, will be agreed to by the City once review comments have been received.

AECOM Canada Ltd. completed the biology assessment for the EA. Their assessment confirmed significant wildlife habitat for Monarch Butterfly and species at risk habitat for grassland birds (i.e., Eastern Meadowlark and Bobolink) on the existing completed areas of the landfill. It is expected these findings will result in more than usual work to respond to questions about biology.

Staff have reviewed the fee submission from AECOM Canada Ltd. in detail and specifically considered the various activities, time allotted to each project task and related hourly rates provided. The tasks will be completed on an as needed basis. In accordance with Section 15.2 (g) of the Procurement of Goods and Services Policy, Civic Administration is recommending AECOM Canada Ltd. be authorized to carry out additional work on the EA for the expansion of the W12A Landfill for a fee estimate of \$17,769 (excluding HST). The fee includes a contingency of \$4,000. This contingency is larger than normal projects due to the uncertainty of what will be requested by the GRT. Use of this review budget, including any use of the contingency funds, will be agreed to by the City once review comments have been received.

3.0 Financial Impact

The budget and expenditures for long term waste management planning, Capital Account SW6051, is summarized in Tables 1 and 2 (up to March 4, 2021). The current amount spent on the EA and the committed expenditures to date is \$1,797,000 or approximately 75% of the total EA budget (\$1,797,000 / \$2,398,000). The additional amount being requested, \$207,000 (Table 2), will raise the amount to 84% of the total approved budget.

Table 1: Budget for Proposed W12A Landfill Expansion and Resource Recovery

Item	Budget (a)	Comment
Budget Breakdown		
EA for Long Term Residual Waste Disposal (Landfill Expansion)	\$2,398,000	All costs associated with the EA approval of the expansion of the W12A Landfill.
Resource Recovery Initiatives & Strategy	\$410,000	Preliminary planning and/or pilot projects for the development of resource recovery area east of the W12A Landfill.
Total	\$2,808,000	

Table 2: Status of Proposed W12A Landfill Expansion and Resource Recovery Budget

Item	Budget (a)	Comment
EA - Spent to date	\$1,576,000	Cost to develop and obtain approval of ToR and completion of EA up to preparation of Draft EASR.
EA - Committed (consulting)	\$221,000	Includes work completed but not yet billed and future fees finalizing EASR.
EA – New Consulting Fees	\$207,000	This submission (excluding HST). Primarily consulting fees for addressing questions on the Draft EASR from stakeholders and finalizing EASR.
EA - Contingency Available	\$394,000	Funds available to cover future additional costs. Expected not to be required.
Resource Recovery Initiatives & Strategy	\$410,000 (b)	Preliminary planning and/or pilot projects for the development of resource recovery area east of W12A Landfill.

Notes:

(a) Rounded to the nearest \$1,000.

(b) Between 2018 and 2020, approximately \$95,000 from the operating budget was assigned to research at Western University through the Industrial Research Chair and the London Waste to Resources Innovation Centre.

Conclusion

It is recommended that the budget for Golder Associates Ltd. and AECOM Canada Ltd. be increased so they will be able to address comments received during the review of the draft EASR for the proposed expansion of the W12A Landfill. This will prevent potential delays in the schedule for the approval of the EA.

Prepared by: Mike Losee, B.SC
Division Manager, Solid Waste Management

Submitted by: Jay Stanford, MA, MPA
Director, Environment, Fleet & Solid Waste

Recommended by: Kelly Scherr, P. Eng., MBA, FEC
Managing Director, Environmental and Engineering
Services and City Engineer

c. Wesley Abbott, Oakridge Environmental

Appendix A – Source of Financing

Appendix "A"

#21043
 March 30, 2021
 (Appoint Consultant)

Chair and Members
 Civic Works Committee

RE: Proposed Expansion of W12A Landfill Site - Updated Environmental Assessment Consulting Costs
 (Subledger NT16LF03)
 Capital Project SW6051 - Municipal Waste Study
 Golder Associates Ltd. - \$189,085.00 (excluding HST)
 AECOM Canada Ltd. - \$17,769.00 (excluding HST)

Finance and Corporate Services Report on the Sources of Financing:

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

Estimated Expenditures	Approved Budget	Committed To This Date	Submission	Balance for Future Work
Engineering	2,537,897	1,658,370	210,495	669,032
City Related Expenses	200,000	69,345	0	130,655
Other Expenses	69,741	69,741	0	0
Total Expenditures	\$2,807,638	\$1,797,456	\$210,495	\$799,687
Sources of Financing				
Drawdown from Sanitary Landfill Reserve Fund	2,807,638	1,797,456	210,495	799,687
Total Financing	\$2,807,638	\$1,797,456	\$210,495	\$799,687

Financial Note:

	GOLDER	AECOM	TOTAL
Contract Price	\$189,085	\$17,769	\$206,854
Add: HST @13%	24,581	2,310	26,891
Total Contract Price Including Taxes	213,666	20,079	233,745
Less: HST Rebate	-21,253	-1,997	-23,250
Net Contract Price	\$192,413	\$18,082	\$210,495

Jason Davies
 Manager of Financial Planning & Policy

lp

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P. Eng., MBA, FEC, Managing Director,
Environmental and Engineering Services and City Engineer

Subject: Dundas Place - Temporary Bicycle Lanes

Date: March 30, 2021

Recommendation

That on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the proposed by-laws, attached as Appendix A and B BE INTRODUCED at the Municipal Council meeting to be held on April 13, 2021, for the purpose of amending the Traffic and Parking By-law (PS-113) to create temporary uni-directional bicycle lanes along Dundas Place.

Linkage to the Corporate Strategic Plan

The following report supports the 2019 to 2023 Strategic Plan through the strategic focus area of Building a Sustainable City and Leading in Customer Service. The report identifies a construction mitigation measure on Dundas Place to respond to a mobility issue in the core during the 2021 construction season.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

Civic Works Committee – March 2, 2021 - Dundas Place - Temporary Bicycle Lanes and Revised Parking Limits

1.2 Context

Dundas Street in the area of Downtown, Midtown and the Old East Village was previously identified as the preferred east-west route for cycling. Protected bike lanes are being implemented to better connect to the Thames Valley Parkway and between Downtown and the Old East Village. Dundas Place is a unique destination and link within the East-West Bikeway. It is a section of Dundas Street with lower traffic volumes, is intrinsically traffic calmed with its unique flex street design and has a posted speed limit of 30km/h. Based on these conditions, the flex street was planned to retain its shared space layout to not encumber the Dundas Place “shared street” vision.

Downtown construction in 2021 requires traffic and mobility management planning for all modes of travel to accommodate a pending construction road closure and lane reductions on King Street. King Street vehicle and transit detours will be signed to York Street during construction. However, this could still result in additional traffic on Dundas Place. Concerns about cycling on Dundas Place under previous conditions were received during the construction management planning for the upcoming season.

This report responds to the March 2, 2021 direction of the Civic Works Committee. It was necessary to prepare the report in advance of the corresponding council meeting. Any direction from Council on this topic will be subsequently considered.

2.0 Discussion and Considerations

2.1 Consultation

The March 2, 2021 Civic Works Report proposed temporary construction season cycling improvements along Dundas Place in response to anticipated higher vehicle traffic volumes and concerns raised by cyclists. Proactive consultation on this concept has occurred based on the direction from the Civic Works Committee.

2.1.1 Business Interests

Many individual discussions have occurred with business owners and operators on Dundas Place following the Civic Works Committee meeting. The Downtown London BIA also provided the results of their outreach to individual businesses. Additionally, a virtual presentation and feedback session for businesses was co-hosted with the Downtown London BIA on March 15, 2021. Numerous individual business concerns have been received, with commonly recurring comments as follows:

- A strongly communicated concern that Dundas Place should remain “status quo” after recent 2018/2019 Dundas Place construction followed by Covid pandemic business pressures
- A desire for more loading / pick-up and drop-off zones on Dundas Place based on current business needs
- Concern that proposed one-way motor vehicle traffic will limit business access and increase traffic speeds
- A preferred focus on other concerns such as support for vulnerable people
- Limited support for the temporary cycling improvements and a linked desire for more cycling-related activations

In a parallel initiative, the City Back 2 Business team had received requests for additional pick-up and drop-off zones to support covid recovery in the downtown and on Dundas Place. Staff have been implementing temporary loading zones in the downtown as a pandemic response and were creating plans to add additional loading zones on Dundas Place at the time of report preparation.

2.1.2 Cycling Interests

The alternative concepts described later in this report were presented to the Cycling Advisory Committee (CAC) on March 17. The discussion with committee members related to:

- concerns about speeding on Dundas Place and discussion of potential traffic volume reduction scenarios
- concern about the interaction of cyclists with parking vehicles and open doors in combination with the proposed uni-directional bicycle lanes
- longer-term cycling enhancements in the core

CAC received the staff presentation.

Additionally, discussions have been held with members of London Cycle Link. London Cycle Link members also identified the concern of vehicles crossing the uni-directional bicycle lane alternative shown in the previous Civic Works Committee report and expressed a preference for better protection. These discussions resulted in the

investigation of a bike lane routing alternative behind the parking zones that was determined to be not viable due to AODA design requirements.

2.1.3 Others

Consultation with the Transportation Advisory Committee and Accessibility Advisory Committee was pending at the time of report preparation.

2.2 Alternatives Considered

This is a temporary (7-8 month duration) construction mitigation triggered by a separate project so no infrastructure modifications are proposed. The temporary bike construction mitigation would be implemented on the recently constructed flex street so all alternatives were limited to the dimensions of the existing narrow vehicle lanes. Some alternatives provided limited barriers for delineation of the bike lane but no alternatives provide continuous barriers for bike lane protection to retain the flexibility of Dundas Place to host events and activations and preservation of the recently constructed unit paving surface. All the alternatives considered are detailed in the appended Table 1. A summary of the of viable alternatives are as follows:

- 1 Bi-directional Bicycle Lanes. This alternative is the most desirable from a cycling design perspective as it avoids motor vehicles crossing the bike lanes. However, it requires eliminating the north side loading and parking zones which is an identified concern of businesses. This would be partly mitigated with the introduction of some additional temporary zones already planned on the south side. This alternative requires slightly longer implementation time and is of significantly higher cost due to the required new traffic signal infrastructure.
- 2 Uni-directional Bicycle Lanes. This option creates a dedicated space for cyclists and maintains all loading and parking zones and the potential for additional zones on the north side. However, it provides a lower level of desirability for cyclists because vehicles must cross the bike lane to access parking/loading.
- 3 Traffic Diversions. This alternative would not implement any physical changes to Dundas Place and would aim to lower the amount of through traffic on Dundas Place to make it more comfortable for cycling. One concept would be to implement turn requirements for Dundas Street vehicles approaching the intersections at Ridout Street and Wellington Street to divert through traffic to other routes.
- 4 Do Nothing. This alternative would retain the existing conditions and is preferred by the majority of Dundas Place businesses but provides no change for cycling during the construction season.

3.0 Recommendation

The uni-directional lanes as shown in the Figure 1 schematic below aligns with the information presented to the March 2 Civic Works Committee meeting and attempts to balance the interests of cyclists and Dundas Place business owners.

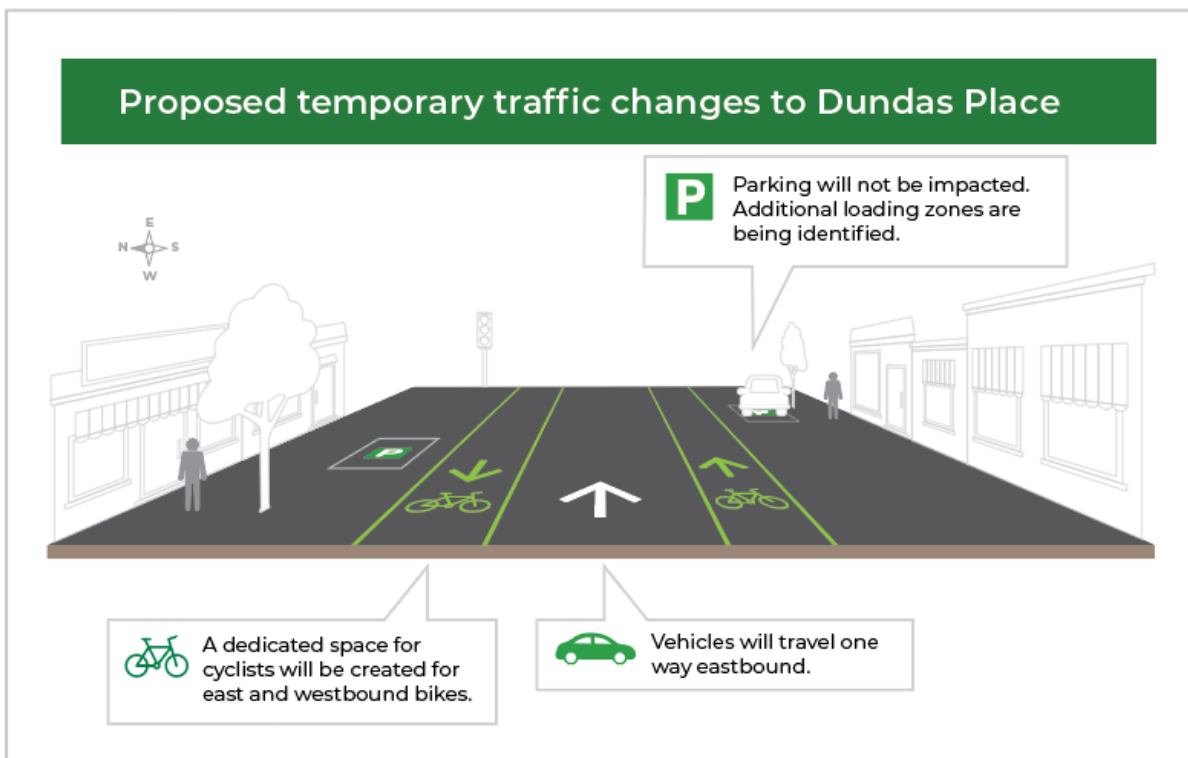


Figure 1: Schematic of Dundas Place Temporary Bicycle Lane Layout (note: this image is for illustrative purposes to assist with visualizing the new configuration of traffic).

Attached as Appendix A are the necessary amendments required to the Traffic and Parking By-law (PS-113) to implement temporary uni-directional lanes shown in Figure 1. The bylaw in Appendix B would reinstate the traffic flow to the previous condition at the end of the construction season.

Any of the four viable alternatives described herein are feasible for implementation. If committee prefers a different alternative, different bylaw amendments are available.

Monitoring would be undertaken to evaluate the effectiveness of any changes. The removal of any temporary construction mitigation would be coordinated with the completion of the downtown construction.

The City Back 2 Business team has been implementing temporary loading zones in the downtown as a pandemic response and were creating plans to add additional loading zones on Dundas Place at the time of report preparation. This is intended to support businesses and could help reduce illegal stopping recently being observed.

Conclusion

Consultation for 2021 Core Construction projects heard a request for improved cycling conditions on Dundas Place. There are several viable alternatives to improve cycling with competing concerns received from the different perspectives of business owners/operators and cyclists.

The required bylaw amendments for temporary uni-directional bicycle lanes along Dundas Place during the 2021 construction season when more deflected traffic is anticipated on Dundas Street are attached. The existing parking and loading zones are not impacted with this proposed configuration. Different bylaw amendments are available if council prefers to implement a different alternative.



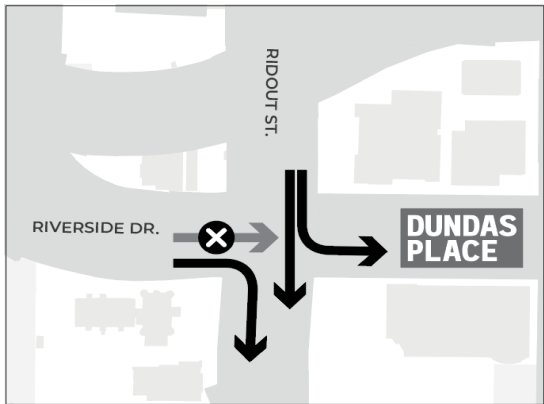

The implemented configuration would be monitored to determine how the recommended configuration affects the operations and use of the flex street. Dundas Place event planning and patio opportunities would be unaffected by all alternatives.

Prepared by: Shane Maguire, P. Eng., Division Manager, Roadway Lighting and Traffic Control
Submitted by: Doug MacRae, P. Eng., MPA, Director, Roads and Transportation
Recommended by: Kelly Scherr, P. Eng., MBA, FEC, Managing Director, Environmental and Engineering Services and City Engineer

March 22, 2021/

Attach: Table 1 - Bicycle Construction Mitigation Alternatives
Appendix A: By-law to amend the Traffic and Parking By-law (PS-113) to Add Temporary Uni-directional Bicycle Lanes along Dundas Place)
Appendix B: By-law to amend the Traffic and Parking By-law (PS-113) to Remove the Temporary Bicycle Lanes along Dundas Place)
cc: Major Projects
Downtown London BIA
Cycling Advisory Committee

Table 1 Bicycle Construction Mitigation Alternatives

<p>Viable Bicycle Construction Mitigation Alternatives</p>	
<p>Bi-directional Bike Lanes</p>  <p>(street looking eastbound)</p>	<p>Reduction to one-way eastbound for motor vehicles with bike lanes on the north side.</p> <p>Most desirable from a cycling design perspective but requires elimination of north side loading/parking zones.</p> <p>Requires additional traffic signal heads and separate signal phases for motor vehicles and bicycles.</p> <p>Estimated Cost = \$175,000</p>
<p>Uni-directional Bike Lanes</p>  <p>(street looking eastbound)</p>	<p>Reduction to one-way eastbound for motor vehicles with bike lanes on both sides.</p> <p>Meets design standards with required buffer (existing trench drain and tactile strip) between bicycle lane and parking/loading zones but cyclists would be exposed to vehicles that must cross the bike lane to access parking/loading. Additional pavement markings could emphasize the buffer.</p> <p>Maintains all loading and parking.</p> <p>Estimated Cost = \$30,000</p>
<p>Traffic Diversion</p>   <p>(example of the eastbound vehicle restriction at the Ridout Street intersection)</p>	<p>No physical changes to Dundas Place.</p> <p>Traffic diversion away from Dundas Place to reduce the amount of through vehicles to make it a more comfortable cycling environment. An initial concept to redirect through traffic is:</p> <ul style="list-style-type: none"> - requiring eastbound Dundas Street /Riverside Drive traffic to turn south on Ridout Street - requiring westbound Dundas Street traffic to turn north or south on Wellington Street. <p>Estimated Cost = \$5,000</p>

<p>Do Nothing</p> <p>(street looking eastbound)</p>	<p>Maintains current conditions with potential for higher traffic volumes due to 2021 King Street construction closure.</p> <p>Least disruptive to businesses but no cyclist changes.</p> <p>Estimated Cost = \$0</p>
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<p>Non-viable Alternatives</p>	
<p>Uni-Directional Bike Lanes Behind Parking/Loading</p> <p>(street looking eastbound)</p>	<p>Same as other uni-directional lane alternative with bike lane routed around parking/loading zones.</p> <p>Determined not viable due to AODA requirement for continuous delineation between lane of travel and sidewalk.</p>
<p>Bike Advisory Lanes</p> <p>(street looking eastbound)</p>	<p>Maintain two-direction motor vehicle travel on one lane with opposing vehicles merging into bike lanes as necessary.</p> <p>Determined not viable due to operational challenges.</p>

Notes: Street cross sections oriented looking eastbound.
 Parking / loading zone shown on north side for illustration but exists on either side at sporadic locations.

APPENDIX A By-law to amend the Traffic and Parking By-law (PS-113) to Add Temporary Uni-directional Bicycle Lanes along Dundas Place

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. Prohibited Turns

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

Column 1 Intersection	Column 2 Direction	Column 3 Prohibited Turn
Dundas Street with Clarence Street	Eastbound & Westbound	Right (7:00 a.m. to 9:00 a.m. & 3:00 p.m. to 6:00 p.m. Monday- Friday)
Dundas Street with Clarence Street	Eastbound & Westbound	Left (7:00 a.m. to 9:00 a.m. & 3:00 p.m. to 6:00 p.m. Monday- Friday)
Dundas Street with Richmond Street	Eastbound & Westbound	Left
Dundas Street with Richmond Street	Eastbound & Westbound	Right (7:00 a.m. to 9:00 a.m. & 3:00 p.m. to 6:00 p.m. Monday- Friday)

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

Column 1 Intersection	Column 2 Direction	Column 3 Prohibited Turn
Clarence Street with Dundas Street	Northbound	Left (Bicycles Exempted)
Clarence Street with Dundas Street	Southbound	Right (Bicycles Exempted)

Column 1 Intersection	Column 2 Direction	Column 3 Prohibited Turn
Dundas Street with Clarence Street	Eastbound	Right (7:00 a.m. to 9:00 a.m. & 3:00 p.m. to 6:00 p.m. Monday- Friday) Bicycles Exempted
Dundas Street with Clarence Street	Eastbound	Left (7:00 a.m. to 9:00 a.m. & 3:00 p.m. to 6:00 p.m. Monday- Friday) Bicycles Exempted
Dundas Street with Richmond Street	Eastbound	Left (Bicycles Exempted)
Dundas Street with Richmond Street	Eastbound	Right (7:00 a.m. to 9:00 a.m. & 3:00 p.m. to 6:00 p.m. Monday- Friday) Bicycles Exempted
Talbot Street with Dundas Street	Northbound	Left (Bicycles Exempted)
Talbot Street with Dundas Street	Southbound	Right (Bicycles Exempted)

2. Reserved Lanes

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

Column 1 Highways	Column 2 Between	Column 3 Lane	Column 4 Time/Day	Column 5 Direction	Column 6 Class/Type of Vehicle
Dundas Street	Ridout Street N to Wellington Street	1 st lane from South	Anytime	Eastbound	Bicycle
Dundas Street	Ridout Street N to Wellington Street	1 st lane from North	Anytime	Westbound	Bicycle

This by-law comes into force and effect on the day it is passed.

PASSED in Open Council on April 13, 2021

Ed Holder

Mayor

Catharine Saunders

City Clerk

First Reading – April 13, 2021

Second Reading – April 13, 2021

Third Reading – April 13, 2021

APPENDIX B By-law to amend the Traffic and Parking By-law (PS-113) to Remove the Temporary Bicycle Lanes along Dundas Place

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:

3. Prohibited Turns

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

Column 1 Intersection	Column 2 Direction	Column 3 Prohibited Turn
Clarence Street with Dundas Street	Northbound	Left (Bicycles Exempted)
Clarence Street with Dundas Street	Southbound	Right (Bicycles Exempted)
Dundas Street with Clarence Street	Eastbound	Right (7:00 a.m. to 9:00 a.m. & 3:00 p.m. to 6:00 p.m. Monday- Friday) Bicycles Exempted
Dundas Street with Clarence Street	Eastbound	Left (7:00 a.m. to 9:00 a.m. & 3:00 p.m. to 6:00 p.m. Monday- Friday) Bicycles Exempted
Dundas Street with Richmond Street	Eastbound	Left (Bicycles Exempted)
Dundas Street with Richmond Street	Eastbound	Right (7:00 a.m. to 9:00 a.m. & 3:00 p.m. to 6:00 p.m. Monday- Friday) Bicycles Exempted
Talbot Street with Dundas Street	Northbound	Left (Bicycles Exempted)

Column 1 Intersection	Column 2 Direction	Column 3 Prohibited Turn
Talbot Street with Dundas Street	Southbound	Right (Bicycles Exempted)

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

Column 1 Intersection	Column 2 Direction	Column 3 Prohibited Turn
Dundas Street with Clarence Street	Eastbound & Westbound	Right (7:00 a.m. to 9:00 a.m. & 3:00 p.m. to 6:00 p.m. Monday- Friday)
Dundas Street with Clarence Street	Eastbound & Westbound	Left (7:00 a.m. to 9:00 a.m. & 3:00 p.m. to 6:00 p.m. Monday- Friday)
Dundas Street with Richmond Street	Eastbound & Westbound	Left
Dundas Street with Richmond Street	Eastbound & Westbound	Right (7:00 a.m. to 9:00 a.m. & 3:00 p.m. to 6:00 p.m. Monday- Friday)

4. Reserved Lanes

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

Column 1 Highways	Column 2 Between	Column 3 Lane	Column 4 Time/Day	Column 5 Direction	Column 6 Class/Type of Vehicle
Dundas Street	Ridout Street N to Wellington Street	1 st lane from South	Anytime	Eastbound	Bicycle
Dundas Street	Ridout Street N to Wellington Street	1 st lane from North	Anytime	Westbound	Bicycle

This by-law comes into force and effect December 31, 2021.

PASSED in Open Council on April 13, 2021

Ed Holder

Mayor

Catharine Saunders

City Clerk

First Reading – April 13, 2021

Second Reading – April 13, 2021

Third Reading – April 13, 2021



London
CANADA

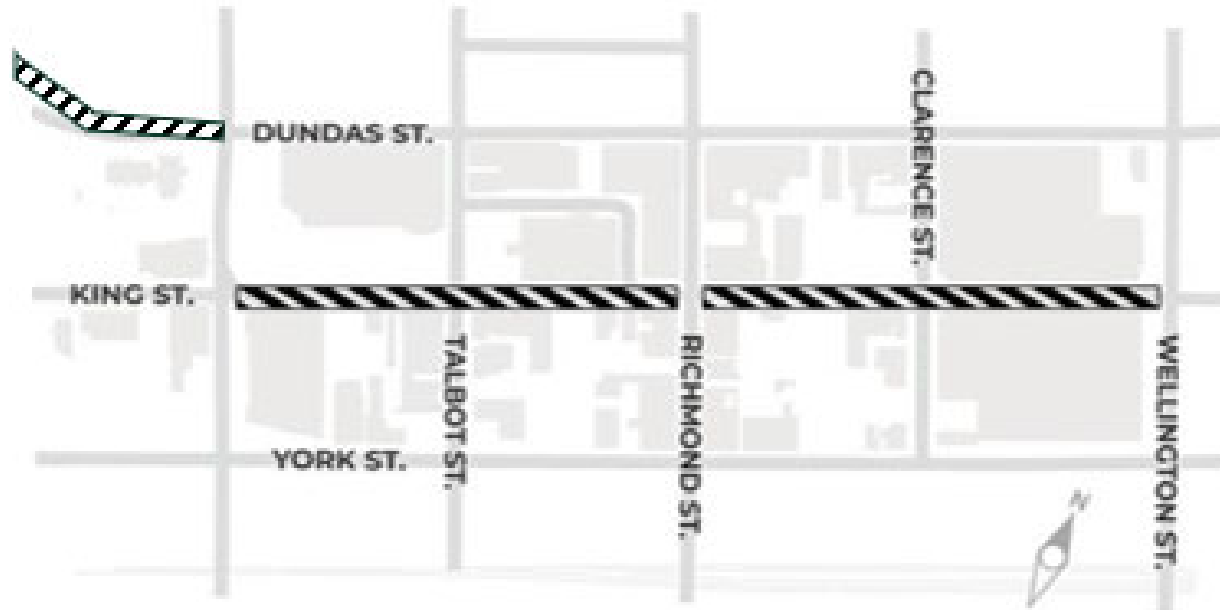
2021 Core Construction Mitigation Dundas Place Cycling

Civic Works Committee, March 30, 2021





2021 Core Construction



Downtown Loop Project

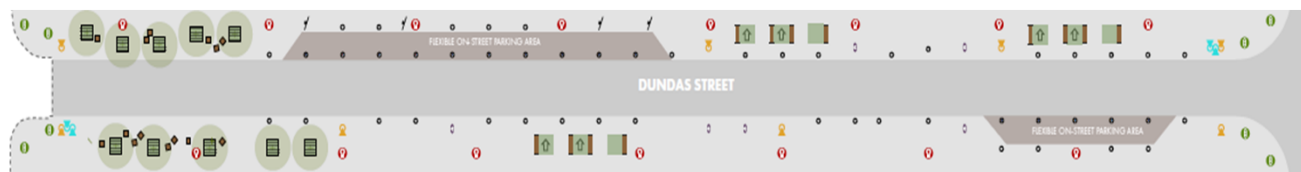
- requires closure to vehicles on King Street east of Richmond Street
- signed detour for vehicles to York Street
- signed detour for cyclists to Dundas Street

Thames Valley Parkway – Dundas Place Connection Project

→ Additional traffic is anticipated on Dundas Place in 2021

Considerations on Dundas Place

- Dundas Place is a flex street with a posted speed limit of 30 km/h
- Minimal pavement markings
- Minimal fixed elements to facilitate activations
- 1,000 to 5,000 motor vehicles per day
- Uni-directional bike lanes at both ends of Dundas Place where traffic volumes and speeds are higher
- Pockets of loading zones and parking
- COVID-19 business and activation impacts





Design options considered

Four viable design options for a 2021 construction mitigation temporary cycling improvement were considered:

Option 1: Bi-directional Bike Lanes

Option 2: Uni-directional Bike Lanes

Option 3: Traffic Diversions

Option 4: Do Nothing

Other options were determined to be non-viable:

Uni-directional Bike Lanes behind parking/loading

Bicycle Advisory Lanes

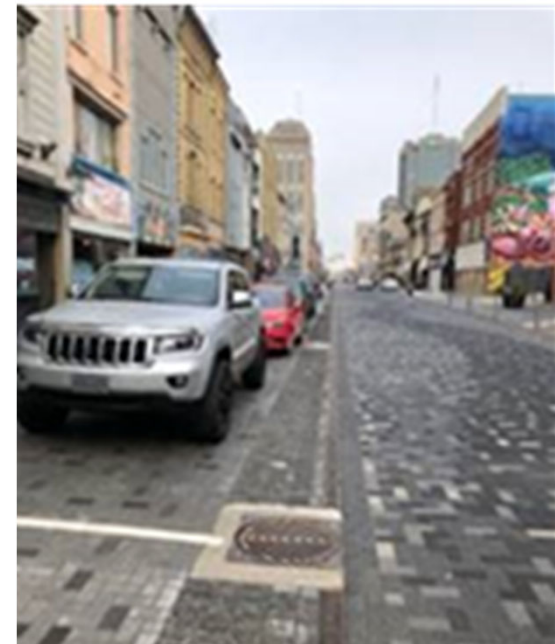
Option 1: Bi-directional Bike Lanes

- General traffic reduced to eastbound only for motor vehicles
- Westbound and eastbound bike lanes added on the north side of Dundas Place
- Sporadic planter barriers while retaining flexibility for events and activations
- Requires removal of north side loading zones and parking (retains south side loading/parking)
- Requires additional traffic signal heads and separate signal phases for motor vehicles and bikes
- Estimated Cost = \$175,000



Option 2: Uni-directional Bike Lanes

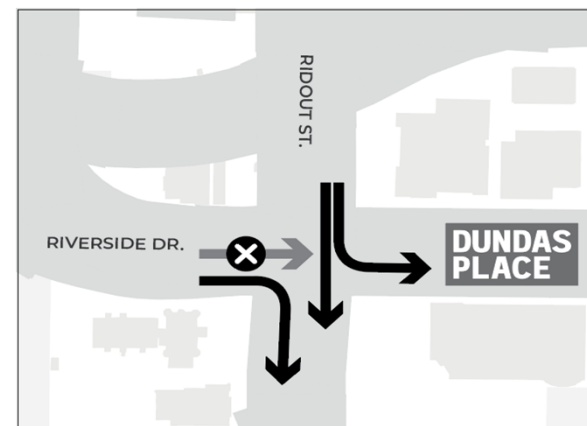
- Centre lane general traffic reduced to eastbound only for motor vehicles
- Eastbound/westbound bike lanes added on south and north side
- A buffer of 0.85 m between parked cars and bike lane created by tactile strip
- Sporadic planter barriers where possible while retaining flexibility for events and activations
- Estimated Cost = \$30,000





Option 3: Traffic Diversion

- No physical changes to Dundas Place
- Impose motor vehicle traffic restrictions to turn only movements at Ridout Street and Wellington Street intersections to create a reduction in through traffic on Dundas Place
- Cyclists in mixed traffic in flex street configuration
- Estimated Cost = \$5,000



Option 4: Do Nothing

- No physical changes to Dundas Place
- Cyclists in mixed traffic in existing flex street configuration
- Estimated Cost = \$0



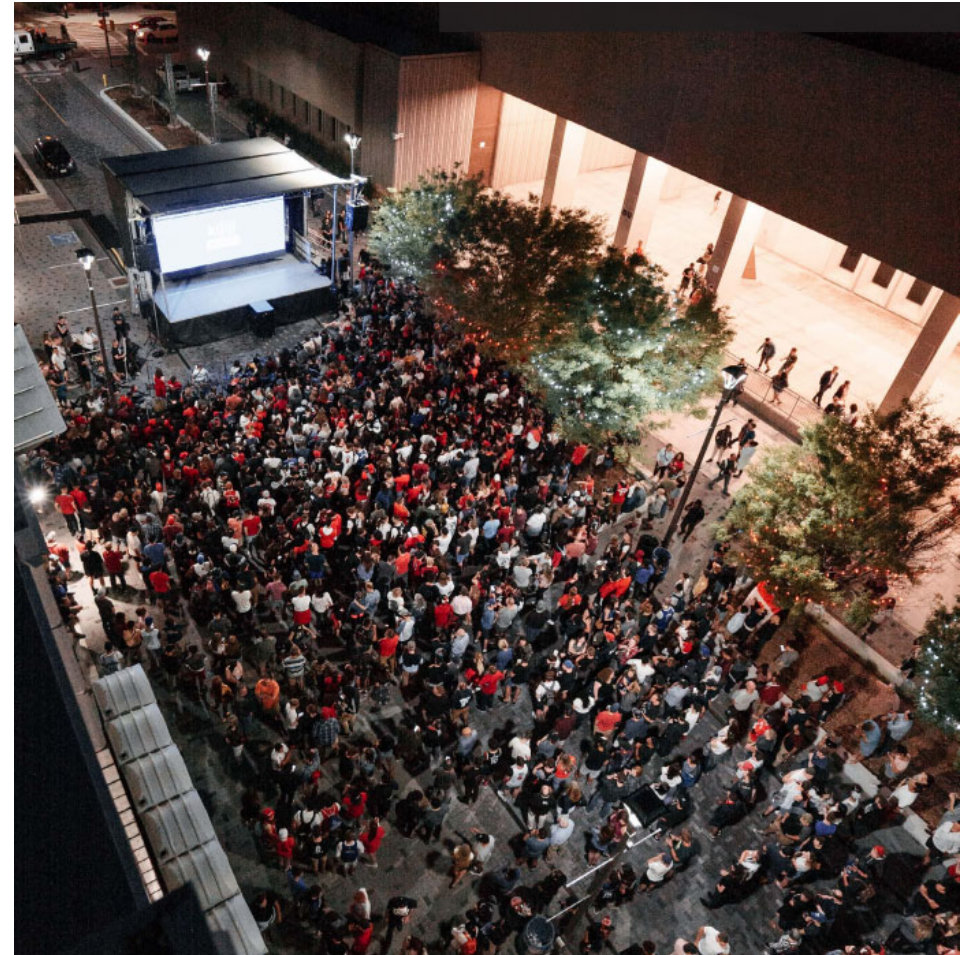
Recommendation

Recommendation:

- Temporary uni-directional bike lanes on Dundas Place during the 2021 construction season while traffic is anticipated to be busier
- Bylaws for other temporary cycling improvements are available at the direction of committee and council

Rationale:

- Different perspectives of road users
- Short-term nature of the construction mitigation measure (7 to 8 months)
- Cost and expediency in implementation
- Consideration of the vision for the flex street as an event and activation place



From: Annie Walsh
Sent: Thursday, March 25, 2021 3:09 PM
To: CWC <cwc@london.ca>
Subject: [EXTERNAL] Dundas Place - Temporaray Bicycle Lanes

Hello,

I am STRONGLY IN FAVOUR of bi-directional protected cycling lanes!!!! A painted line on either side of the road does NOTHING to protect cyclists from speeding motorists who very often totally ignore the painted lane lines. I am perplexed that the City committee and planners would have opted for this choice. It is a poor choice, indeed. I am a near year-'round cyclist (I do not drive), and I speak from long experience. The bi-directional PROTECTED CYCLING LANES are used throughout Montreal, to the great benefit of safe cycling and good motor vehicle traffic flow.

Annie Walsh



HELPING LONDONERS **RIDE MORE**

Dear Civic Works Committee,

We talk a lot about attracting people downtown. The goal is vibrant public spaces, full of people and thriving businesses. There are thousands of people on the Thames Valley Parkway, so close to downtown, that we can invite in by connecting Dundas Place to the path with safe and direct walking and cycling facilities. A safe connection to and through Downtown will connect families to Central Library, students to Fanshawe College, employees to their jobs downtown, and attract a new customer base to shop downtown.

Thankfully, the connection between Ridout and the Thames Valley Parkway will be constructed this spring and the Dundas Cycle Tracks have recently been finalized to connect downtown to Old East Village.

Providing safe cycling infrastructure on Dundas Place will finalize the East-West Bikeway and provide a connection to downtown that will be lost when the King Street bike lane is removed. It will **make the street safer, help reduce our emissions, support a vibrant downtown and provide additional space for recreation** that is sorely needed with pathways bursting at the seams.

Our preferred option for Dundas Place is Option #1, bi-directional bicycle lanes.

Protection between people and vehicles makes the street safer and attracts all ages and abilities to use it. It fulfills the vision of Dundas Place as a place for people and encourages walking, cycling and scooting which will support the Climate Emergency Action Plan. And it balances the needs of all users - maintaining an eastbound vehicle lane and most of the parking and loading zones.

Reducing the number of vehicles using the street can also reduce the risk to people on bikes and make the street a more enjoyable place to eat, shop, or play on. Option #3 to Divert Traffic holds promise, but ensuring signage effectively reduces traffic volumes is questionable. Option #2, by limiting traffic to One-Way, will achieve a reduction in traffic volume but not to the level required to feel safe navigating legally or illegally parked vehicles.

We ask Civic Works and City Council to endorse Option #1 and commit to safe cycling infrastructure through the downtown. Let's make Dundas Place a vibrant place full of people and connect the cycling network, now and in the future.

Kind regards,

the London Cycle Link Advocacy Committee

From: Joy Cameron
Sent: Monday, March 29, 2021 1:37 AM
To: CWC <cwc@london.ca>
Subject: [EXTERNAL] Bikes on Dundas

Dear members of the Civic Works Committee,

Where protective infrastructure is non-existent, experienced people on bikes often take the lane defensively to avoid being doored by someone stepping out of a car or hit by a driver who will inevitably pass too closely if they believe they can squeeze by. However, beginner riders are unaware of these risks and **riding a bicycle downtown should not require an intensive defensive cycling course and bravery – downtown should be for *all* ages and abilities!** Furthermore, *knowing* defensive riding strategies does *not* make it less intimidating to continue taking the lane when there is an angry driver with their foot on the gas pedal honking behind you and riding your tail. It takes incredible bravery to remain safely positioned in a defensive manner when these situations occur – and they occur far too frequently in London.

The bi-directional bicycle lanes set forth in Option #1 is the *only* option suggested that will allow all road users – including people who use mobility aids, walk, or bike – to feel welcome and safe coming downtown. Protection between people and vehicles makes streets safer and attracts all ages and abilities to use it. It fulfills the vision of Dundas Place as a place for people and encourages walking, cycling and scooting – all of which will support the Climate Emergency Action Plan. Furthermore, it maintains an eastbound vehicle lane and most of the parking and loading zones.

Reducing the number of vehicles using the street is ideal, since it would increase the safety for vulnerable road users, while simultaneously creating a more enjoyable atmosphere for dining, shopping, and playing. However, repeatedly humans demonstrate that **signage without infrastructure does *not* prevent risky behaviour** – especially where convenience is involved. **The need for infrastructure to manage driver behaviour is readily evident by simply looking at how many drivers park on Dundas Place sidewalks – simply because there are not curbs in the way.** Since Option #3 lacks infrastructure deterrents, it will *not* reduce traffic volume and therefore will *not* create a safer environment. Limiting traffic to One-Way, as planned in Option #2, would achieve a reduction in traffic volume but not to the level required for the average vulnerable road user to feel safe navigating legally or illegally parked vehicles. Ultimately, I am confident that filtered permeability is the best solution for creating a vibrant and inviting downtown; it is disappointing not to see this recommended by staff.

London talks a lot about attracting people downtown. The goal is vibrant public spaces, full of people and thriving businesses. **There are thousands of people on the Thames Valley Parkway, so close to downtown, that we can invite in by connecting Dundas Place to the path with safe and direct walking and cycling facilities.** A safe connection to and through Downtown will connect families to Central Library, students to Fanshawe College, employees to their jobs downtown, and attract a new customer base to shop downtown.

Thankfully, the connection between Ridout and the Thames Valley Parkway will be constructed this spring and the Dundas Cycle Tracks have recently been finalized to connect downtown to Old East Village.

Providing safe cycling infrastructure on Dundas Place would finalize the East-West Bikeway and provide a connection to downtown that will be lost when the King Street bike lane is removed. **Option #1 will make the street safer and more inclusive, help reduce our emissions, support a vibrant downtown and provide additional space for recreation** that is sorely needed with pathways bursting at the seams.

I ask Civic Works and City Council to endorse filtered permeability, or at a bare minimum Option #1, and commit to safe cycling infrastructure through the downtown. Let's make Dundas Place a vibrant place full of people and connect the cycling network, now and in the future.

Kind regards,

Joy Cameron

Cycling Advisory Committee

Report

The 2nd Meeting of the Cycling Advisory Committee

March 17, 2021

Advisory Committee Virtual Meeting - during the COVID-19 Emergency

Attendance PRESENT: J. Roberts (Chair), B. Cowie, B. Hill, J. Jordan, , A. Pascual (Committee Clerk), C. Pollett, and O. Toth.

ABSENT: E. Raftis

ALSO PRESENT: Councillor S. Lewis; J. Dann, K. Grabowski, A. Gagne, S. Harding, T. Hitchon, P. Kavcic, T. Koza, A. Macpherson, D. MacRae, L. Maitland, A. Miller, A. Rosebrugh, C. Saunders, K. Scherr, S. Stafford, J. Stanford, and S. Wilson.

The meeting was called to order at 4:04 PM; it being noted that the following Members were in remote attendance: B. Cowie, B. Hill, J. Jordan, C. Pollett, J. Roberts, and O. Toth.

1. Call to Order

1.1 Disclosures of Pecuniary Interest

That it BE NOTED that no pecuniary interests were disclosed.

1.2 Election of Vice-Chair for the remainder of the current term

That it BE NOTED that the Cycling Advisory Committee elected B. Hill as Vice Chair until the end of the current term.

2. Scheduled Items

2.1 2021 Rapid Transit Update

That it BE NOTED that the presentation, as appended to the agenda, from J. Dann, Director, Major Projects and T. Koza, Manager, Major Projects, with respect to the 2021 Rapid Transit Update, was received.

2.2 Dundas Place Cycling Detour

That it BE NOTED that the presentation, as appended to the agenda, from D. MacRae, Director, Roads and Transportation, and the communication from B. Cowie, with respect to the Dundas Place Cycling Detour, was received.

2.3 Brydges Street/Wavell Street and Saskatoon Street Bike Lanes

That it BE NOTED that the presentation, as appended to the added agenda, from Z. Petch, IBI Group, with respect to the Brydges Street/Wavell Street and Saskatoon Street Bike Lanes, was received; it being further noted that the delegation from Councillor S. Lewis, with respect to this matter, was received.

3. Consent

3.1 1st Report of the Cycling Advisory Committee

That it BE NOTED that the 1st Report of the Cycling Advisory Committee, from its meeting held on February 17, 2021, was received.

3.2 Municipal Council Resolution - Stopping and Parking Restrictions in Bicycle Lanes

That it BE NOTED that the Municipal Council Resolution, from its meeting held on February 23, 2021, with respect to the Stopping and Parking Restrictions in Bicycle Lanes, was received.

3.3 Notice of Planning Application - Draft Plan of Vacant Land Condominium and Zoning By-law Amendment - 349 Southdale Road East

That it BE NOTED that the Notice of Planning Application, dated February 24, 2021, from S. Meksula, Senior Planner, with respect to a Draft Plan of Vacant Land Condominium and Zoning By-law Amendment, related to the property located at 349 Southdale Road East, was received.

3.4 Notice of Planning Application - Official Plan and Zoning By-law Amendments - 180-186 Commissioners Road West

That it BE NOTED that the Notice of Planning Application, dated March 12, 2021, from B. Debbert, Senior Planner, with respect to an Official Plan and Zoning By-law Amendments, related to the property located at 180-186 Commissioners Road West, was received.

4. Sub-Committees and Working Groups

None.

5. Items for Discussion

5.1 Service Area Work Plan for 2021 - Parks and Recreation Services

That it BE NOTED that the presentation, as appended to the agenda, from S. Stafford, Managing Director, Parks and Recreation, A. Macpherson, Division Manager, Parks Planning and Operations, and S. Wilson, Landscape Architect, Parks Planning and Operations, with respect to the Service Area Work Plan for 2021 - Parks and Recreation Services, was received.

5.2 Preconstruction Notice: Downtown Loop and Municipal Infrastructure Improvements Phase 1: King Street

That it BE NOTED that the Preconstruction Notice as appended to the agenda, from J. Dann, Director, Major Projects, with respect to the Downtown Loop and Municipal Infrastructure Improvements Phase 1: King Street, was received.

6. Deferred Matters/Additional Business

6.1 (ADDED) Notice of Revised Application and Notice of Public Meeting - Official Plan and Zoning By-law Amendments - 1153 -1155 Dundas Street

That the following actions be taken with respect to the Notice of Revised Application and Notice of Public Meeting, dated March 11, 2021, from L.

Davies Snyder, Planner II, related to an Official Plan and Zoning By-law Amendments for the property located at 1153-1155 Dundas Street:

- a) the Civic Administration BE REQUESTED to consider adding a provision for 10 covered bicycle parking spaces in a corral format; and,
- b) the above-noted Notice BE RECEIVED.

6.2 (ADDED) Public Meeting Notice - Official Plan Amendment - Masonville Secondary Plan

That the following actions be taken with respect to the Public Meeting Notice, dated March 10, 2021, from S. Wise, Senior Planner, related to an Official Plan Amendment for the Masonville Secondary Plan:

- a) S. Wise, Senior Planner or delegate, BE REQUESTED to attend the next CAC meeting, to provide additional details on the above-noted Notice; and,
- b) the above-noted Notice BE RECEIVED.

7. Adjournment

The meeting adjourned at 6:45 PM.

March 24, 2021

To: Chair and Members of Civic Works Committee

Dear Colleagues,

As you know, last night, March 23, 2021, City Council endorsed a recommendation coming from this Committee and passed the following motion:

[That] Civic Administration BE DIRECTED to move the proposed sidewalk on the West side of Imperial Road to the East side of Imperial Road;

Additional details on the expanded scope of work that will be required to take this action were provided at the City Council meeting. Installation of the sidewalk on the east side may require the relocation of the existing streetlights. However, a photometrics study is required to determine if the lighting meets current standards. If streetlight relocation is necessary, the result could be additional tree loss which will be counter to the aim of the above motion which was increased tree preservation.

I, therefore, respectfully request the Corporate Services Committee to consider the following motion:

That Civic Administration BE DIRECTED to report back to this Committee with the results of the photometric study on Imperial Road and the detailed design of the proposed sidewalk on the East side of Imperial Road.

Respectfully Submitted

Maureen Cassidy
Councillor, Ward 5

Dear Chair and Members of the CWC,

Sidewalks remain an important tool to enhance mobility and accessibility and our new sidewalks program is designed to prioritize the installations where they are most needed. At our last council meeting, we created budgetary savings by exempting some construction projects from sidewalk installation. If we transferred these funds into the new sidewalks program, we could continue to address the needs for accessibility (potentially with greater impact). For this reason, I ask that you consider the following motion:

That the Civic Administration BE DIRECTED to transfer any budgetary savings resulting from proposed sidewalk infrastructure being removed from the related 2021 road reconstruction projects to the new sidewalk construction program.

I have made this submission to your added agenda because there may be an opportunity to add additional projects this year if the motion is passed in a timely fashion.

Sincerely,

Michael van Holst
Councillor, Ward 1

DEFERRED MATTERS

CIVIC WORKS COMMITTEE

as of March 22, 2021

File No.	Subject	Request Date	Requested/Expected Reply Date	Person Responsible	Status
1.	<p><u>Rapid Transit Corridor Traffic Flow</u> 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>	December 12, 2016	Q4, 2020	K. Scherr J. Dann	
2.	<p><u>Garbage and Recycling Collection and Next Steps</u> 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:</p> <p>b) the Civic Administration BE DIRECTED to report back to Civic Works Committee by December 2017 with:</p> <p>i) 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,</p> <p>ii) an Options Report for the introduction of a semi or fully automated garbage collection system including considerations for customers and operational impacts.</p>	January 10, 2017	Q2, 2021	K. Scherr J. Stanford	
3.	<p><u>Bike Share System for London – Update and Next Steps</u> That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions be taken with respect to the potential introduction of bike share to London:</p>	August 12, 2019	Q2, 2021	K. Scherr J. Stanford	

File No.	Subject	Request Date	Requested/Expected Reply Date	Person Responsible	Status
	<p>that the Civic Administration BE DIRECTED to finalize the bike share business case and prepare a draft implementation plan for a bike share system in London, including identifying potential partners, an operations plan, a marketing plan and financing strategies, and submit to Civic Works Committee by January 2020; it being noted that a communication from C. Butler, dated August 8, 2019, with respect to the above matter was received.</p>				
4.	<p><u>745-747 Waterloo Street</u> That, on the recommendation of the Managing Director, Planning and City Planner, the following actions be taken with respect to the application of The Y Group Investments and Management Inc., relating to the property located at 745-747 Waterloo Street:</p> <p>b) the Civic Administration BE REQUESTED to review, in consultation with the neighbourhood, the traffic and parking congestion concerns raised by the neighbourhood and to report back at a future Planning and Environment Committee meeting;</p> <p>it being further noted that the Planning and Environment Committee reviewed and received the following communications with respect to this matter:</p> <p>a communication from B. and J. Baskerville, by e-mail; a communication from C. Butler, 863 Waterloo Street; and, a communication from L. Neumann and D. Cummings, Co-Chairs, Piccadilly Area Neighbourhood Association;</p> <p>it being pointed out that at the public participation meeting associated with these matters, the individuals indicated on the <u>attached</u> public participation meeting record made oral submissions regarding these matters; it being further noted that the Municipal Council approves this application for the following reasons:</p> <p>the recommended Zoning By-law Amendment would allow for the reuse of the existing buildings with an expanded</p>	October 2, 2018	Q2, 2021	K. Scherr	

File No.	Subject	Request Date	Requested/Expected Reply Date	Person Responsible	Status
	<p>range of office conversion uses that are complementary to the continued development of Oxford Street as an Urban Corridor, consistent with The London Plan policies for the subject site. Limiting the requested Zoning By-law Amendment to the existing buildings helps to ensure compatibility with the surrounding heritage resources and also that the requested parking and landscaped area deficiencies would not be perpetuated should the site be redeveloped in the future. While the requested parking deficiency is less than the minimum required by zoning, it is reflective of the existing conditions. By restricting the office conversion uses to the ground floor of the existing building at 745 Waterloo Street and the entirety of the existing building at 747 Waterloo Street (rather than the entirety of both buildings, as requested by the applicant), the parking requirements for the site would be less than the parking requirements for the existing permitted uses. The applicant has indicated a willingness to accept the special provisions limiting the permitted uses to the ground floor of the existing building at 745 Waterloo Street and to the entirety of the existing building at 747 Waterloo Street.</p>				
5.	<p><u>Best Practices for Investing in Energy Efficiency and GHG Reduction</u> That Civic Administration BE REQUESTED to develop a set of guidelines to evaluate efficiency and Greenhouse Gas reduction investments and provide some suggested best practices.</p>	June 18, 2019	Q2, 2021	K. Scherr J. Stanford	
6.	<p><u>MADD Canada Memorial Sign</u> That the following actions be taken with respect to the memorial sign request submitted by Shauna and David Andrews, dated June 1, 2020, and supported by Mothers Against Drunk Driving (MADD) Canada:</p> <p>a) the Civic Administration BE DIRECTED to engage in discussions with MADD Canada regarding MADD Canada Memorial Signs and bring forward a proposed Memorandum of Understanding with MADD Canada for Council's approval;</p>	July 14, 2020	Q4, 2021	D. MacRae A. Salton	

File No.	Subject	Request Date	Requested/Expected Reply Date	Person Responsible	Status
	<p>it being noted that MADD will cover all sign manufacturing and installation costs;</p> <p>it being further noted that the Ministry of Transportation and MADD have set out in this Memorandum of Understanding (“MOU”) the terms and conditions for the placement of memorial signs on provincial highways which is not applicable to municipal roads;</p> <p>it being further noted that MADD provides messages consistent with the London Road Safety Strategy; and,</p> <p>b) the Civic Administration BE DIRECTED to work with MADD Canada to find a single permanent location in London for the purpose of memorials.</p>				
7.	<p><u>Street Renaming By-law, Policies and Guidelines</u> That the following actions be taken with respect to the street renaming of Plantation Road:</p> <p>b) the Civic Administration BE DIRECTED to undertake a review of City’s By-laws, Policies and Guidelines relating to street naming processes and approvals and report back to the Civic Works Committee on any recommended changes to the process(es) that would support and implement the City’s commitment to eradicate anti-Black, anti-Indigenous and people of colour oppression; it being noted that the report back is to include a review of the request set out in the above-noted petition, recognizing that, historically, the word “Plantation” has a strong correlation to slavery, oppression and racism;</p>	September 22, 2020	TBD	G. Kotsifas	
8.	<p><u>Updates - 60% Waste Diversion Action Plan Including Green Bin Program</u> d) the Civic Administration BE DIRECTED to: i) continue to prioritize work activities and actions that also contribute to the work of the London Community Recovery Network; and,</p>	November 17, 2021	June 2021	K. Scherr J. Stanford	

File No.	Subject	Request Date	Requested/Expected Reply Date	Person Responsible	Status
	ii) submit a report to the Civic Works Committee by June 2021 that outlines advantages, disadvantages, and implementation scenarios for various waste reduction and reuse initiatives, including but not limited to, reducing the container limit, examining the use of clear bags for garbage, mandatory recycling by-laws, reward and incentive systems, and additional user fees.				
9.	<p><u>Community Engagement on Green Bin Program Design</u></p> <p>That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions be taken with respect to the staff report dated November 17, 2020, related to Community Engagement on the Green Bin Program Design:</p> <p>a) the above-noted staff report BE RECEIVED; and,</p> <p>b) the Civic Administration BE DIRECTED to submit a report to the Civic Works Committee on February 9, 2021 and include the results of public input, staff recommendations to move forward and the proposed next steps for the program.</p>	November 17, 2020	Q2, 2021	K. Scherr J. Stanford	