Agenda Including Addeds
Civic Works Committee

The 11th Meeting of the Civic Works Committee

September 22, 2020, 12:00 PM

Virtual Meeting - during the COVID-19 Emergency

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

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

Members

Councillors S. Lehman (Chair), S. Lewis, M. Cassidy, P. Van Meerbergen, E. Peloza, Mayor E. Holder

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Pages

1. Disclosures of Pecuniary Interest

2. Consent

Waste Management Working Group

Report

Attendance

PRESENT: Councillors E. Peloza, S. Turner and M. van Holst and J. Bunn (Secretary)

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

The meeting was called to order at 4:00 PM; it being noted that Councillors 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.

2. Scheduled Items

None.

3. Consent

3.1 1st Report of the Waste Management Working Group

That it BE NOTED that the 1st Report of the Waste Management Working Group, from its meeting held on December 18, 2019, was received.

3.2 Update Report #13: Legislative Changes to Environmental Assessments in Ontario

That it BE NOTED that the staff report dated August 13, 2020, from J. Stanford, Director, Environment, Fleet and Solid Waste, with respect to update report #13 related to Legislative Changes to Environmental Assessments in Ontario, was received.

3.3 Progress Report #10: Community Engagement Program Update - December 1, 2019 to July 31, 2020

That it BE NOTED that the staff report dated August 13, 2020, from J. Stanford, Director, Environment, Fleet and Solid Waste, with respect to progress report #10 related to a Community Engagement Update for December 1, 2019 to July 31, 2019, was received.

3.4 Progress Report #11: Updates: 60% Waste Diversion Action Plan and Resource Recovery Strategy

That it BE NOTED that the staff report, dated August 13, 2020, from J. Stanford, Director, Environment, Fleet and Solid Waste, with respect to progress report #11 related to updates on the 60% Waste Diversion Action Plan and Resource Recovery Strategy, was received.

4. Items for Discussion

4.1 Decision Report 10: Environmental Assessment Process

That the following actions be taken with respect to the staff report dated August 13, 2020, from J. Stanford, Director, Environment, Fleet and Solid

Waste, related to decision report #10 with respect to the Environmental Assessment Process:

a) the revised, attached, staff report, with respect to the above-noted matter, BE RECEIVED; and,

b) “Alternative 1 – Vertical Expansion Over Existing Footprint” BE SUPPORTED IN PRINCIPLE as the preferred landfill expansion alternative.

5. Adjournment

The meeting adjourned at 5:14 PM.

TO:	**CHAIR AND MEMBERS WASTE MANAGEMENT WORKING GROUP MEETING ON AUGUST 13, 2020**
FROM:	**JAY STANFORD, M.A., M.P.A. DIRECTOR - ENVIRONMENT, FLEET & SOLID WASTE**
SUBJECT:	**DECISION REPORT 10: ENVIRONMENTAL ASSESSMENT PROCESS - REVISED**

RECOMMENDATION

That, on the recommendation of the Director - Environment, Fleet and Solid Waste, the following actions **BE TAKEN**:

a) This Report **BE RECEIVED** for information;

b) "Alternative 1 - Vertical Expansion Over Existing Footprint" **BE SUPPORTED IN PRINCIPLE** as the preferred landfill expansion alternative; and

c) The Minutes from the August 13, 2020 Waste Management Working Group meeting include this entire report as an appendix when submitted the Civic Works Committee on September 22, 2020.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

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

- Proposed Expansion of the W12A Landfill Site: Updated Environmental Assessment Engineering Consulting Costs (October 22, 2019 meeting of the Civic Works Committee (CWC), Item #2.12)
- 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)
- 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)

Relevant reports that can be found at www.london.ca under City Hall (Meetings – Advisory and other Committee Meetings) include:

- Environmental Assessment Process (December 18, 2019 meeting of the Waste Management Working Group (WMWG), Item #4.2)
- Proposed Amended Terms of Reference (April 18, 2019 meeting of the WMWG, Item #3.2)
- Proposed Terms of Reference (August 15, 2018 meeting of the WMWG, Item #2.1)
- Draft Proposed Terms of Reference (July 13, 2018 meeting of the WMWG, Item #3.2)
- Preliminary Proposed Draft Terms of Reference (March 8, 2018 meeting of the WMWG, Item #2.1)
- Terms of Reference Outline and Next Steps (January 18, 2018 meeting of the WMWG, Item #9)
- General Framework for the Community Engagement Program for the Resource Recovery and Residual Waste Disposal Strategies as part of the Environmental Assessment Process (January 19, 2017 meeting of the WMWG, Item #7)

COUNCIL'S 2019-2023 STRATEGIC PLAN

Municipal Council has recognized the importance of solid waste management in its 2019-2023 - Strategic Plan for the City of London as follows:

Building a Sustainable City
London has a strong and healthy environment
- Build infrastructure to support future development and protect the environment

Growing our Economy
London is a leader in Ontario for attracting new jobs and investments
- Build infrastructure to support future development and retain existing jobs

Leading in Public Service
Londoners experience exceptional and valued customer service
- Increase community and resident satisfaction of their service experience with the City

BACKGROUND

PURPOSE:

This report provides the Waste Management Working Group (WMWG) with an update on the status of the Environmental Assessment process and seeks the WMWG support for the preferred Alternative Method (vertical landfill expansion) to expand the landfill.

CONTEXT:

An Environmental Assessment (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 Terms of Reference (ToR) by the Minister of the Environment, Conservation and Parks. 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.

Addressing the Need for Action on Climate Change

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.

DISCUSSION

Status of EA

Overview

Completion of the EA study is being undertaken in a series of nine steps which are summarized in Table 1 and described fully in the Amended Terms of Reference. Additional details on Steps 2 to 6 are provided following Table 1.

Table 1: Status of Environmental Assessment

Step listed in Terms of Reference		Description/Explanation	Status
1	Characterize the existing environmental conditions	Complete technical studies (e.g., groundwater, surface water, traffic, air quality, archeology, etc.) on the area.	Complete
2	Identify the 'Alternative Methods' of landfill expansion	Develop different vertical (higher) and/or lateral (northern or eastern) expansion alternatives.	Complete
3	Qualitative and/or quantitative evaluation of 'Alternative Methods'	Determine the potential impact of each of the different expansion alternatives on the study areas.	Complete
4	Compare the 'Alternative Methods' for landfill expansion and identify the preferred alternative	Select the expansion alternative that has the least overall impact.	Complete
5	Determine the net effects of the preferred alternative	Detailed assessments will be completed on the potential impacts from the preferred expansion alternative.	90% Complete
6	Describe the preferred 'Alternative Method' for landfill expansion	Prepare a detailed description of the preferred expansion alternative and confirm how leachate (water that has contacted garbage) will be managed.	90% Complete
7	Consideration of climate change	Look at how climate change (e.g., larger rainfall events) may impact the project and how to reduce the project's contribution to climate change.	50% Complete
8	Cumulative Impact Assessment	Consider the cumulative impact of expansion of the W12A Landfill with other facilities or activities in the area.	25% Complete
9	Preparation of the EA Study Report	Prepare the EA Study Report for review by stakeholders.	25% Complete

Step 2: Identify the 'Alternative Methods' of Landfill Expansion

Three Alternative Methods (expansion alternatives) were developed and presented at the December 2019 WMWG meeting. The three expansion alternatives are:

- 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

Step 3: Qualitative or quantitative evaluation of 'Alternative Methods and
Step 4: Compare alternatives and identify the preferred alternative

The three landfill expansion alternatives were compared across a number of environmental, social and technical considerations (Table 2, ✓ means least impact).

Based on this comparison, it was determined that *Alternative 1 – Vertical Expansion Over Existing Footprint* was the preferred alternative.

Table 2: Comparison of Landfill Expansion Alternatives

Category	Component	Sub-component	Landfill Expansion Alternative (✓ means least impact)			Public Ranking Group
			1	2	3	
Environmental	Atmosphere	Air quality (dust, odour and GHG)	✓			More important
		Noise	✓			Less important
	Biology	Aquatic ecosystems	✓			More important
		Terrestrial ecosystems	✓			More important
	Geology and Hydrogeology	Groundwater quality	✓			More important
	Surface Water	Surface water quality	✓			More important
		Surface water quantity	✓			Important
Social	Agriculture	Agriculture	✓			Important
	Archaeology	Archaeology	✓		✓	Less important
	Cultural Heritage	Cultural Heritage Resources	✓	✓	✓	Less important
	Land Use	Current & planned future land uses	✓			Important
	Socio-economic	Local Economy		✓	✓	More important
		Residents and Community	✓			More important
	Transportation	Traffic	✓	✓	✓	Less important
	Visual	Visual			✓	Less important
Tech-nical	Design and Operations	Technical Considerations			✓	Important
		Financial	✓			Important

As shown in the above table, the main advantages of Alternative 1 are:

- Highest degree of groundwater protection
- Best alternative to limit odours
- Fewest changes to existing stormwater management system
- Least potential for air quality, archaeology, agricultural, aquatic ecosystem, community, land use, noise and terrestrial ecosystem impacts
- Lowest capital cost alternative. All three alternatives have similar operating and maintenance costs except for leachate management costs which will be lower for Alternative #1.

The main disadvantages of Alternative #1 are:

- Greatest visual impact
- More complex design (more engineering infrastructure required to store leachate)

All three alternatives were considered to have similar transportation, heritage and cultural potential impacts.

Step 5 - Determine the net effects of the preferred alternative

Detailed impact assessments of future environmental effects associated with the preferred 'alternative' (assuming that conceptual design mitigation measures are in place) are required for some environmental components but not for others.

Summarized on Table 3 are the environmental components that require more detailed impact assessments. In addition, Table 3 also highlights the status and key findings of these detailed assessments.

Table 3: Comparison of Landfill Expansion Alternatives

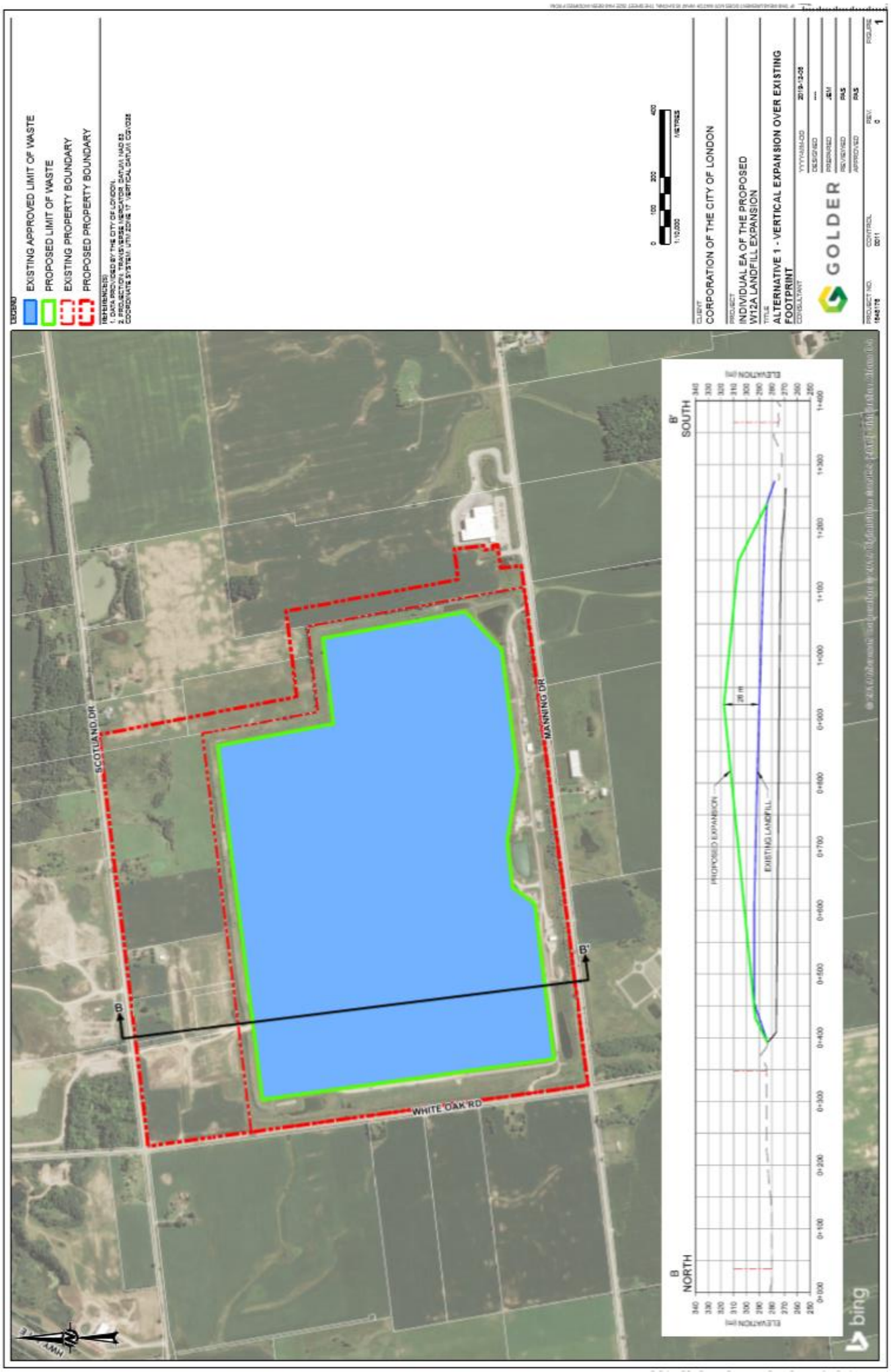
Category	Component	Comments
Environmental	Atmosphere	Detailed impact assessments of noise, odour, health related air quality and noise underway.
	Biology	Mitigation measures being developed to protect Species at Risk and Significant Wildlife habitat located on the landfill footprint and buffer areas.
	Geology and Hydrogeology	Preliminary assessment shows no impact. Preliminary assessment currently being reviewed by First Nations' consultant.
	Surface Water	Assessment has determined the need for stormwater management pond improvements.
Social	Agriculture	No detailed assessment required.
	Archaeology	Mitigation measures required for significant archaeology site located within on-site buffer land.
	Cultural Heritage	No detailed assessment required.
	Land Use	No detailed assessment required.
	Socio-economic	No detailed assessment required.
	Transportation	Assessment underway to determine the need (if any) for roadway upgrades.
	Visual	Mitigation measures being developed to reduce visual impact.
Tech-nical	Design and Operations	Design enhancements included to improve leachate management and landfill gas capture.

Step 6 - Describe the preferred 'Alternative Method' for landfill expansion

A detailed description of the preferred alternative will be included in the EA Study Report. Figure 1 is a plan view of the proposed expansion showing the new property boundary.

A brief summary of the key features of the preferred alternative are listed following Figure 1.

Figure 1 - Alternative 1 – Vertical Expansion Over Existing Footprint



Landfill Phasing and Development

- The landfill will be developed in a series of eight cells each lasting 2.5 to 3.5 years plus one cell for the non-decomposable portion of the waste stream (e.g., street sweepings).

- Filling will start on southern portion of landfill to maximum visual screening for nearby properties.

- Changes are proposed to the final cover design.

Leachate Control and Management

- Existing leachate perimeter collection system around the older portion of landfill will be replaced with a new perimeter collection system with finger drains extending into the waste to control leachate mounding.

- Additional leachate storage will be added to prevent off-site pumping of leachate when Greenway Wastewater Treatment Plant or Dingman Pumping Station is in a bypass situation.

Groundwater Protection Measures

- Additional groundwater protection measures needed to prevent exceeding groundwater quality guideline for non-health related parameter (chlorides) in several hundred years. A number of additional protection measures are currently being examined.

Landfill Gas Control and Management

- New larger landfill gas flare will be required within the next 5 to 8 years.

- Current landfill gas control design is based on vertical wells. Landfill expansion design will be based having both vertical wells and horizontal collectors.

Stormwater Management

- Upgrades will be made to all four existing ponds.

- Upgrades include increasing the size of the ponds and modifications to the outlet control structures.

Ancillary Components

- All existing/buildings will be replaced/upgraded and a larger public drop-off area constructed.

- Permanent asphalt road will replace seasonal road on the north and east sides of the landfill.

Preliminary Estimated Landfill and Ancillary Estimated Costs

- Preliminary estimated capital costs have been prepared based on available engineering and scientific technical data. The preliminary estimates will be reviewed with the completion of detailed EA studies and with *Environmental Protection Act* and *Ontario Water Resources Act* technical studies. The additional groundwater protection measures currently has the widest cost range due to the level of complexity at this stage (Table 4).

- The preliminary estimated direct capital cost of the landfill is between $53,300,000 to $88,400,000 (in $2020) (Table 4).

- The preliminary estimated capital cost of potential ancillary features whose cost would be funded directly or indirectly by others is between $17,000,000 and $25,400,000 (in $2020) (Table 4).

- The preliminary estimated direct landfill capital cost translates to approximately $5.5 to $9 per tonne of waste disposed of (excluding ancillary features funded by others as well as any financing costs or the cost of additional properties purchased for buffer).

Table 4: Preliminary Estimated Capital Cost of Landfill Expansion

	Preliminary Estimated Cost		
List of Capital Items	**Low**	**Medium**	**High**
Direct Landfill Capital Costs			
Approvals	1,200,000	1,500,000	1,800,000
Leachate Management	3,800,000	4,800,000	5,800,000
Groundwater Protection Measures	2,000,000	5,000,000	9,000,000
Final Cover	9,400,000	11,800,000	14,200,000
Landfill Gas Management	13,400,000	16,800,000	20,200,000
Earth Works, Roadways, Landscaping	1,800,000	2,300,000	2,800,000
Stormwater Management	1,000,000	1,200,000	1,400,000
Facilities (administration building, scalehouse, maintenance building, small vehicle drop-off, etc.)	6,900,000	8,600,000	10,300,000
Subtotal	*39,500,000*	*52,000,000*	*65,500,000*
Engineering at 15% of Subtotal	5,900,000	7,800,000	9,800,000
Contingencies at 20% of Subtotal	7,900,000	10,400,000	13,100,000
Total – Direct Landfill Capital Costs	**$53,300,000**	**$70,200,000**	**$88,400,000**
Ancillary Features (Likely Funded by Other Sources) Capital Costs			
Household Special Waste Depot (a large percentage likely funded through Extended Producer Responsibility, if built)	1,000,000	1,200,000	1,400,000
Renewable Natural Gas Plant (funded through RNG sales, if built)	11,600,000	14,500,000	17,400,000
Subtotal	*12,600,000*	*15,700,000*	*18,800,000*
Engineering at 15% of Subtotal	1,900,000	2,355,000	2,800,000
Contingencies at 20% of Subtotal	2,500,000	3,140,000	3,800,000
Total – Ancillary Features Capital Costs	**$17,000,000**	**$21,195,000**	**$25,400,000**
GRAND TOTAL	**$70,300,000**	**$91,395,000**	**$113,800,000**

Next Steps

The remaining tasks and schedule to complete the EA are summarized in Table 5.

Table 5 – Schedule and Remaining Tasks to Complete EA

Task	Timeline	Comments
Complete Detailed Assessments of Preferred Alternative	• August to September 2020	• Determine the net effects of the preferred alternative (Step 5) • Describe preferred alternative (Step 6) • Consideration of Climate Change (Step 7) • Cumulative Impact Assessment (Step 8)
Additional Public (Community) Engagement	• August to September 2020	• Second First Nations Workshop in August • Fourth Open House in October
Prepare Preliminary Draft EA Report	• September to October 2020	• Prepare preliminary draft EA report and send to MECP for comments
Prepare Draft EA Report	• November 2020 to January 2021	• Update report based on MECP comments and prepare Draft EA report • Review of Draft by MECP, Government Review Team (GRT), Stakeholder • Council Approval
Formal Submission of EA Documentation	• February 2021	• Publish required notices and submit to MECP
Minister Decision	• March 2021 to September 2021	• The MECP process requires the Minister to make a decision on whether to approve or reject an EA within 30 weeks of submission. This includes the MECP public and agency review period. • A decision by the Minister after 30 weeks is still valid.

It is proposed that the fourth Open House planned for early October will have both an in-person and a virtual component as in the past. The in-person Open House is tentatively scheduled October 7 and/or October 8. Appropriate Covid-19 safety measures will be in place for the in-person Open House including, limiting the number of persons inside at one time, social distancing, face masks, hand sanitizer, etc. The format for the in-person component will be approved in advance by the City's Senior Leadership Team (SLT).

Like the three previous Open Houses, all materials will be on the City's website with opportunities to ask questions and provide comments.

Budget

The status of the budget for the proposed expansion of the W12A Landfill is summarized in Tables 6 and 7.

Table 6: Budget for Proposed W12A Landfill Expansion (SW6051)

Item	Budget	Comment
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 (RR) Initiatives & Strategy	$410,000	Preliminary planning for development of resource recovery area east of W12A Landfill.
Total	$2,808,000	

Table 7: Status of EA and Resource Recovery (RR) Budget

Item	Budget[a]	Comment
EA - Spent to date	$1,104,000	Cost to develop and obtain approval of ToR and undertake the technical studies.
EA - Committed (consulting)	$416,000	Primarily consulting fees for remaining EA technical studies and preparation of the EA documentation.
EA - Expected Future Assignments (future costs)	$776,000	Primarily consulting fees, additional technical work, project management, community engagement.
EA - Contingency Available	$102,000	Funds available to cover future additional costs.
Total – EA	$2,398,000	
RR – Spent to Date	$0	In 2018 and 2019, approximately $35,000 from the operating budget was assigned to research at Western University through the Industrial Research Chair and the London Waste to Resources Innovation Centre.
RR - Expected Future Assignments (future costs)	$410,000	Funds to cover upcoming work on resource recovery pilot projects.
Total – RR	$410,000	

Notes: a) Rounded to the nearest $1,000 as of July 29, 2020.

Regarding Expected Future Assignments, two known assignments at this time include:

- Golders will be required to complete additional work on technical assessments for noise, groundwater modelling and landfill design beyond their original scope of work to address stakeholder input. This work is estimated at $33,000 to $37,000.

- Ron Koudys Landscape Architects Inc. has had to complete additional work beyond their original scope on modelling views from individual residents to address homeowner concerns and modelling additional remedial measures. This work is estimated at $12,000 to $15,000**.**

Community Enhancement and Mitigative Measures Program

The Community Enhancement and Mitigative Measures Program (CEMMP) is part of the City's overall efforts to reduce and address the negative effects of the W12A Landfill on neighbouring properties. The program consists of a:

- Property Value Protection Plan;
- "Right of First Refusal" Program;
- Community Mitigative Measures Fund;
- No charge waste disposal for area residents; and,
- Public Liaison Committee.

Updating the CEMMP is not part of the EA but can be considered a parallel or complimentary process in addressing issues associated with the expansion of the landfill. It is proposed to bring forward concepts, ideas and potential revisions to the CEMMP to the September 22, 2020 Civic Works Committee and subsequently seek feedback on the potential revisions from stakeholders. This feedback could include:

- discussions with the W12A Landfill PLC;
- information on the potential revisions included in the fourth set of Open Houses for the environmental assessment for the proposed expansion of the W12A Landfill;
- Information on the City website and GetInvolved Website; and
- Direct mailings to residents in the vicinity of the W12A Landfill.

PREPARED BY:
MIKE LOSEE, B.SC., **DIVISION MANAGER** **SOLID WASTE MANAGEMENT**

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

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c Wesley Abbott, Technical Project Manager

TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON SEPTEMBER 22, 2020**
FROM:	**KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER**
SUBJECT:	**APPOINTMENT OF CONSULTING ENGINEER FOR DETAILED DESIGN AND CONTRACT ADMINISTRATION SERVICES: DINGMAN CREEK STAGE 1 LANDS (TRIBUTARY 12, MUNICIPAL CHANNEL IMPROVEMENTS)**

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 assignment of consulting services for the detailed design and construction administration of the Dingman Creek Stage 1 Lands (Tributary 12, Channel Improvements):

(a) Ecosystem Recovery Limited, **BE AUTHORIZED** to carry out detailed design and contract administration for the said project in accordance with the estimate, on file, at an upset amount of $222,241.35, excluding HST, in accordance with Section 15.2 (d) 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.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

Civic Works Committee – February 4, 2020 – Agenda Item # 2.6 – Dingman Creek Subwatershed: Stormwater Servicing Strategy for Stage 1 Lands Municipal Class Environmental Assessment: Notice of Completion

2019-2023 STRATEGIC PLAN

This report supports the Strategic Plan in the following areas:

- Building a Sustainable City:
  - Improve London's resiliency to respond to potential future challenges.
  - Build infrastructure to support future development and protect the environment.
  - Maintain or increase current levels of service; manage the infrastructure gap for all assets.
  - Protect and enhance waterways, wetlands, and natural areas.

BACKGROUND

Purpose

This report seeks approval to recommend a qualified engineering consultant to complete the assessment, detailed design and contract administration for Tributary 12 channel improvements within municipally owned lands to reduce the risk of flooding and facilitate neighbourhood development in southwest London.

Context

The “Dingman Creek Subwatershed: Stormwater Servicing Strategy for Stage 1 Lands – Schedule B Municipal Class Environmental Assessment” (Dingman Creek EA) (Aquafor Beech, 2020) identified Tributary 12 to be susceptible to flooding under existing and future development conditions. This engineering assignment is related to the first municipal component of the project with a focus on reducing the risk of flooding within the existing subdivision generally located west of Colonel Talbot Road and south of Clayton Walk. This project is being completed to alleviate existing flooding concerns and must be constructed prior to construction of the “complete corridor” to allow for approximately 92 hectares of neighbourhood development to proceed upstream.

DISCUSSION

Background

Tributary 12 is a watercourse within the Dingman Creek subwatershed, generally located south of the intersection of Colonel Talbot Road and Pack Road. A project location map is included for reference in Appendix ‘B’.

The Tributary 12 project was recommended by the Dingman Creek EA to alleviate flooding through implementing objectives of a “complete corridor approach” by promoting the movement of stormwater, wildlife, and people within the community. The “complete corridor” supports stormwater management with additional opportunities for aquatic/terrestrial habitat, pedestrian linkages, and Low Impact Development on the table lands. Please refer to the Dingman Creek EA for details: https://getinvolved.london.ca/dingmancreek.

The Tributary 12 project is comprised of two components: (1) downstream capacity improvements to the channel through the municipally owned lands west of Colonel Talbot Road extending to Dingman Creek and (2) construction of a “complete corridor” through the proposed development lands from Pack Road to Colonel Talbot Road. Both of these projects are recommended by the Dingman Creek EA to replace the previously proposed wet ponds (North Lambeth P7 and P8) and support a holistic and sustainable approach to stormwater management.

Work Description

The Tributary 12 municipal channel improvements include assessment of current conditions, design of remediation works to address potential flooding with consideration for opportunities to enhance the natural environment, as well as pathway connections through the open space lands. This may include a combination of replacement of existing culverts to increase hydraulic capacity, regrading of the channel profile, or expansion of the channel cross section to increase floodplain conveyance or capacity. As such, the City’s consultant will be working with the Upper Thames River Conservation Authority (UTRCA) to confirm the Regulatory Floodplain through this area.

This design and contract administration assignment is associated with evaluating the channel section located on municipal lands. However, the consultant will also confirm design criteria for the upstream lands to ensure continuity and sustainable design principles for the entire Tributary 12 channel.

Procurement Process

The engineering consultant selection procedure for this assignment utilized a competitive Request for Proposal (RFP) process in accordance with Section 15.2(d) of the Procurement of Goods and Services Policy. Three qualified engineering firms from the City's pre-approved consultant list were invited to submit a formal proposal in response to RFP20-51 Tributary 12 (Southwinds), Channel Reconstruction Detailed Design and Construction Administration tasks to address flood remediation works for Tributary 12.

Consultant Selection

In accordance with Section 15.2(d) of the Procurement of Goods and Services Policy, Staff recommend that Ecosystem Recovery Inc. be authorized to carry out the detailed design and construction administration of the Tributary 12 channel improvement works.

In addition to being the successful proponent through the competitive bidding process, Ecosystem Recovery has formed a proficient project team that has shown their competency and expertise with City infrastructure projects of this nature in the past. Ecosystem's proposal was selected as the best value to the City to complete a comprehensive project that recognized all of the constraints for this location.

Funding

Project funding is allocated in the capital budget ($3.85M) to support the engineering (this submission) and construction of the Tributary 12 municipal channel works in 2021. The total estimated cost for the engineering and construction of the City's Tributary 12 Downstream Channel project is $3.6M.

Engagement

Prior to construction initiation, the City will host a Public Update Meeting with local residents to share project information and construction timelines and to provide an opportunity for residents to pose any questions or concerns regarding how construction may impact the area.

CONCLUSIONS

The Tributary 12 municipal channel improvement project is recommended by the Dingman Creek EA to address existing flood susceptible areas and facilitate future neighbourhood development. This engineering assignment is associated with the design and construction of the municipal component of the channel to reduce the existing risk of flooding and allow for the construction of the recommended "complete corridor" through the upstream development lands.

Ecosystem Recovery Inc. has demonstrated an understanding of the City's requirements for this project. It is recommended that this firm be appointed as the consulting engineer for the purpose of detailed design and contract administration, as it is in the best financial and technical interests of the City.

SUBMITTED BY:	**CONCURRED BY:**
SHAWNA CHAMBERS, P. ENG., DPA **DIVISION MANAGER,** **STORMWATER ENGINEERING**	**SCOTT MATHERS, MPA, P. ENG.** **DIRECTOR,** **WATER AND WASTEWATER**

RECOMMENDED BY:
KELLY SCHERR, P.ENG., MBA, FEC **MANAGING DIRECTOR,** **ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER**

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

c.c. John Freeman
Alan Dunbar
Jason Davies
Chris Ginty
Gary McDonald
Ecosystem Recovery Inc.

APPENDIX 'A'

#20132

Chair and Members
Civic Works Committee

September 22, 2020
(Appoint Consulting Engineer)

RE: Detailed Design and Contract Administration Services: Dingman Creek Stage 1 Lands
(Tributary 12, Municipal Channel Improvements)
(Subledger SWM20006)
Capital Project ESSWM-NLP7 - SWM Facility - North Lambeth No. P7
Ecosystem Recovery Limited - $222,241.35 (excluding H.S.T.)

FINANCE & CORPORATE SERVICES REPORT ON THE SOURCES OF FINANCING:

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

SUMMARY OF ESTIMATED EXPENDITURES		**Approved Budget**	**Committed to Date**	**This Submission**		**Balance for Future Work**
Engineering		$390,428	$164,275	$226,153		$0
Land Purchase		300,000				300,000
Construction		3,159,572				3,159,572
NET ESTIMATED EXPENDITURES		**$3,850,000**	**$164,275**	**$226,153**	1)	**$3,459,572**
SUMMARY OF FINANCING:						
Drawdown from City Services - Stormwater Reserve Fund (Development Charges)	2)	$3,850,000	$164,275	$226,153		$3,459,572
TOTAL FINANCING		**$3,850,000**	**$164,275**	**$226,153**		**$3,459,572**

1) **Financial Note:**

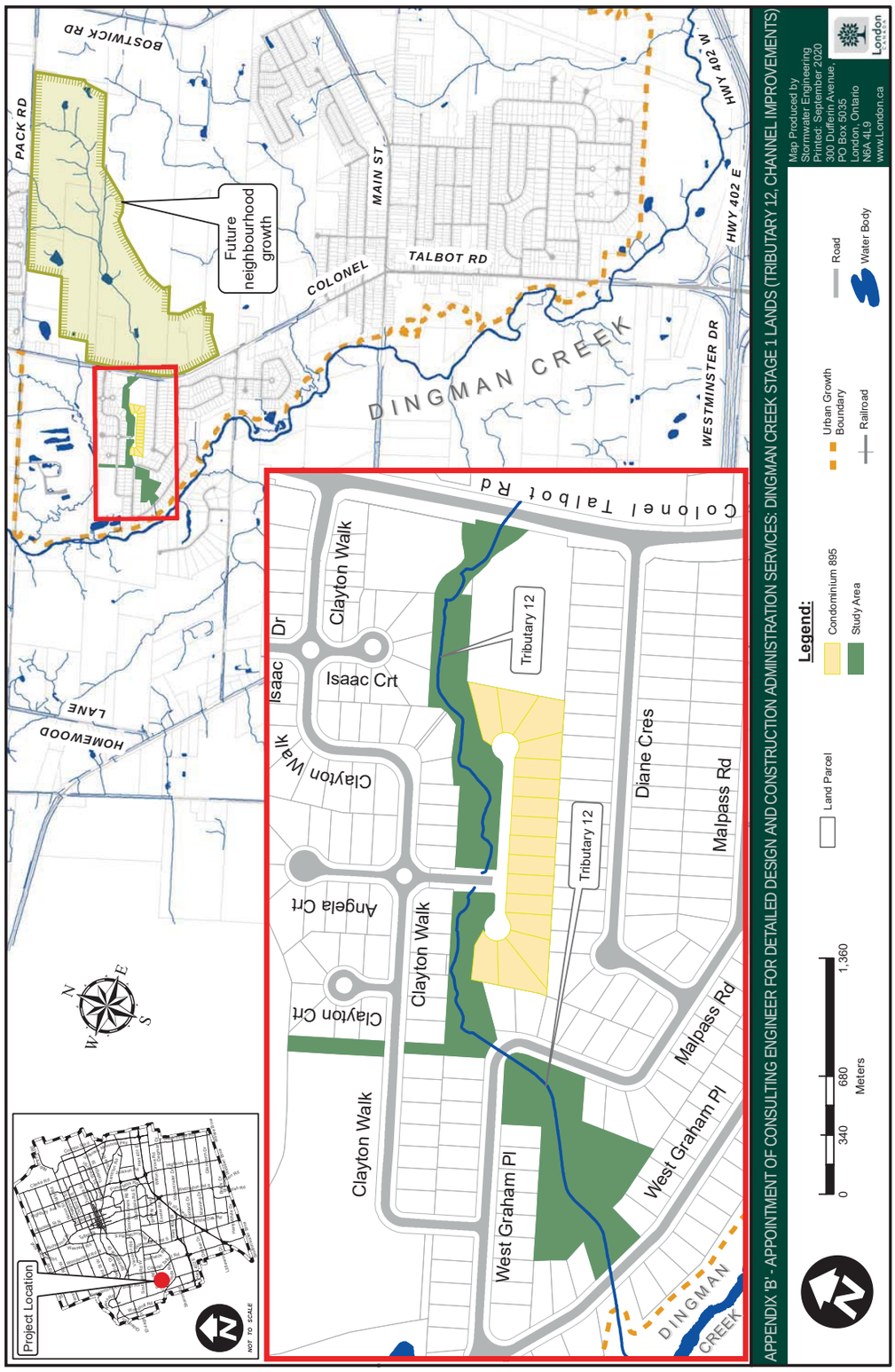
Contract Price	$222,241
Add: HST @13%	28,891
Total Contract Price Including Taxes	251,132
Less: HST Rebate	24,979
Net Contract Price	$226,153

2) Development charges have been utilized in accordance with the underlying legislation and the Development Charges Background Studies completed in 2019.

JG

Jason Davies
Manager of Financial Planning & Policy

Appendix ‘B’: Location Map



APPENDIX "A"
REVISED

#20132

Chair and Members
Civic Works Committee

September 22, 2020
(Appoint Consulting Engineer)

RE: Detailed Design and Contract Administration Services: Dingman Creek Stage 1 Lands (Tributary 12, Municipal Channel Improvements) (Subledger SWM20006) Capital Project ESSWMNLT12 - SWM Facility-North Lambeth Tributary 12 Downstream Channel Reconstruction Ecosystem Recovery Limited - $222,241.35 (excluding H.S.T.)

FINANCE & CORPORATE SERVICES REPORT ON THE SOURCES OF FINANCING:

Finance & Corporate Services confirms that the cost of this project cannot be accommodated within the financing available for it in the Capital Works Budget and that the detailed source of financing for this project is:

ESTIMATED EXPENDITURES:		**Approved Budget**	**This Submission**		**Revised Budget**
Engineering		$0	$226,153		$226,153
NET ESTIMATED EXPENDITURES		**$0**	**$226,153**	**1)**	**$226,153**
SOURCES OF FINANCING:					
Drawdown from Sewage Works Reserve Fund	2)	$0	$196,753		$196,753
Drawdown from City Services - Stormwater Reserve Fund (Development Charges)	2) 3)	0	29,400		29,400
TOTAL FINANCING		**$0**	**$226,153**		**$226,153**

1) Financial Note:

Contract Price	$222,241
Add: HST @13%	28,891
Total Contract Price Including Taxes	251,132
Less: HST Rebate	24,979
Net Contract Price	$226,153

2) This source of financing was revised from using ESSWM-NLP7-SWM Facility-North Lambeth No. P7 (a life-to-date growth capital project funded 100% by development charges) to use ESSWMNLT12-SWM Facility-North Lambeth Tributary 12 Downstream Channel Reconstruction (a 2021 Development Charges Background Study Update growth capital project funded 13% by development charges) to more accurately reflect the scope of engineering work being completed.

This project, North Lambeth Tributary 12 Downstream Channel Reconstruction, is identified as a growth need in the proposed 2021 Development Charges Background Study Update which will be presented to Council for approval in October 2020. This source of financing approves a portion of that project before presentation of the development charges update and approves advancing the required funding to 2020 from 2021.

The 2021 Development Charges Background Study Update anticipates a 2021 year of construction. The engineering for this project is required in 2020 and can be accommodated by advancing a portion of the proposed 2021 growth budget ($226,153). This funding is available in the above noted reserve funds. Upon Council approval of this source of financing the 2020 engineering budget for project ESSWMNLT12 will be established.

Upon approval of the 2021 Development Charges Background Study Update, in October 2020, the remainder of the project budget for construction would be established in 2021.

3) Development charges have been utilized in accordance with the underlying legislation and the 2021 Development Charges Background Study Update.

ms

Kyle Murray
Director, Financial Planning & Business Support

TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON SEPTEMBER 22, 2020**
FROM:	**KELLY SCHERR, P.ENG, MBA, FEC MANAGING DIRECTOR - ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER**
SUBJECT:	**TENDER RFT20-69 WINTER ROAD PLOW EQUIPMENT WITH OPERATORS**

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 a contract for winter road plow equipment with operators.

a) The bids submitted by All Terrain Property Maintenance Incorporated London, Ontario; Bears Grounds Maintenance a Division of 1739613 Ontario Limited St. Thomas, Ontario; Coco Paving Incorporated London, Ontario; DeKay Construction (1987) Limited London, Ontario; 2380560 Ontario Incorporated Southwest Property Care London, Ontario at their tendered prices **BE ACCEPTED**; and,

b) Civic administration **BE AUTHORIZED** to undertake all administrative acts that are necessary in connection with this contract; and,

c) Approval given **BE CONDITIONAL** upon the Corporation entering into a formal contract, or having a purchase order, or contract record relating to the subject matter of this approval.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

None

STRATEGIC PLAN 2019-2023

The following report supports the Strategic Plan through the strategic focus area of Building a Sustainable City by ensuring that London's infrastructure is built, maintained and operated to meet the long-term needs of our community.

BACKGROUND

Purpose

The purpose of this tender was to seek competitive pricing for winter road plows with operators to supplement the city's fleet of winter maintenance equipment. The term of this tender is for 8 years.

Purchasing Process

Tender RFT20-69 was issued and sixty one (61) bids were received. Forty (40) bid submissions were selected to carry out work required through this tender. It is anticipated that the recommended bidders will meet all terms and conditions of the tender.

Financial Impact

Bids received reflect a 7% inflationary increase in hourly operating rates over the previous five-(5) year contract. One additional plow was added to supplement growth using growth funding. This service will be funded by the approved operating budget.

The annual expenditure for this contracted service is approximately $700,000.

CONCLUSION

Transportation and Roadside Operations and Purchasing and Supply have determined that the tender results provide competitive pricing and value to the City.

SUBMITTED BY:	**REVIEWED & CONCURRED BY:**
JOHN PARSONS **DIVISION MANAGER** **TRANSPORTATION AND ROADSIDE OPERATIONS**	**IAN COLLINS, CPA, CMA** **DIRECTOR, FINANCIAL SERVICES**
REVIEWED & CONCURRED BY:	**RECOMMENDED BY:**
DOUG MACRAE, P. ENG., MPA, **DIRECTOR, TRANSPORTATION AND ROADSIDES**	**KELLY SCHERR, P. ENG., MBA, FEC** **MANAGING DIRECTOR,** **ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER**

cc: John Freeman, Manager of Purchasing & Supply

TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON SEPTEMBER 22,2020**
FROM:	**KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR – ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER**
SUBJECT:	**SINGLE SOURCE - PURCHASING VARIOUS TRACKLESS MACHINE ATTACHMENTS**

RECOMMENDATION

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

a) Approval **BE GIVEN** to negotiate a single source purchasing agreement with Work Equipment Inc., 55 Thunderbird Drive, Courtland, Ontario, N0J 1E0 as per the Procurement of Goods and Services Policy for the supply and delivery of Trackless attachments for a one (1) year term with an additional two (2) year option terms based on price and performance;

b) Fleet Services **BE AUTHORIZED** to proceed with the replacement of up to 28 attachments during the 2020-2023 Multi-year Budget term as per their approved capital budget at an estimated value of $210,095 (excluding HST);

c) Funding for this purchase **BE APPROVED** as set out in the Source of Financing Report attached hereto as Appendix “A”, conditional that satisfactory terms and conditions can be negotiated and approved;

d) Civic Administration **BE AUTHORIZED** to undertake all administrative acts that are necessary in connection with this purchase; and

e) Approval hereby given **BE CONDITIONAL** upon the Corporation entering into a formal contract or having a purchase order, or contract record relating to the subject matter of this approval.

COUNCIL’S 2019-2023 STRATEGIC PLAN

This report and recommendation supports several strategic priorities including;

Leading in Public Service
Londoners experience exceptional and valued customer service:
- Increase responsiveness to our customers
- Increase efficiency and effectiveness of service delivery

Building a Sustainable City
Londoners can move around the City Safely and easily in a manner that meets their needs.
- Improve the quality of pedestrian environments to support healthy and active lifestyles

BACKGROUND

CONTEXT

Currently, the City of London owns and operates fourteen (14) Trackless brand articulating body power units that have various interchangeable attachments to provide City services. Attachments include flail and rotary mowers, snow plows, sanders, snow blowers, sweeper brooms and even milling machines. The Trackless units are a highly utilized, multi-purpose asset that are an integral component of the municipal equipment program.

These units are used by both Roads & Transportation and Parks & Recreation to provide services such as winter sidewalk snow clearing, snow blowing and sanding, grass cutting and sweeping sidewalks and maintaining multipurpose pathways. Examples of the Trackless power units and attachments are shown in Figure 1 below.

Figure 1 – Trackless Power Units with Attachment Examples

The majority of the existing Trackless power units were replaced in 2016 and 2017 and are not scheduled for replacement until 2027. The attachments however are managed as separate assets with their own lifecycle and are replaced as required based on condition and usage. Replacement costs are included in the annual rental rates and placed into the Vehicle and Equipment Reserve Fund (VERF) until the existing equipment reaches end of life.

After a recent analysis of the current attachments in conjunction with Fleet Maintenance and the operating areas, 28 of these attachments have been identified and scheduled for replacement between 2020 and 2023. Identified on Table 1 is the expected schedule for the replacements and their value.

Table 1 – Forecasted Replacement Schedule and Replacement Value Estimate

Contract Term	# of Units	Type of Attachment	Estimated Replacement Cost
2020 - 2021	15	8 V-Plows, 6 Sanders, and 1 Broom	$102,700
2021 - 2022	12	6 Sanders, 3 Brooms, and 3 Blowers	$95,000
2022 - 2023	1	Flail Mower	$13,000

PURCHASING PROCESS

Fleet Planning, in consultation with Purchasing and Supply are recommending that Work Equipment Inc. be awarded a single source "Vendor of Record" contract for the replacement of the City's existing Trackless attachments that have reached their optimum lifecycle. Multi-year vendor of record contracts greatly increase the efficiency of the process to replace equipment in a timely manner. The justification for the recommendation is based on reasons that comply with the Procurement of Goods and Services Policy including:

- *14.4(d) "There is a need for compatibility with goods and/or services previously acquired…."*
  Rationale - The benefits of equipment standardization include parts supply, Technician familiarity and operator training, competency and efficiency.

- *14.4(e) "The required goods and services are to be supplied by a particular supplier(s) having special knowledge, skills, expertise or experience."*
  Rationale - Work Equipment Inc. is the sole distributor of Trackless sales and service for the district. They have provided trackless products and service to the City for over 25 years. Work Equipment Inc. provide on-site service and training when required and have provided very competitive trade in allowance options.

- 7.4 "*Specific product for essential functionality purposes*"
  Rationale - It is advantageous for the City to buy approved attachments for the Trackless power bodies in order to ensure function, compatibility and meet warranty conditions.

Having specifically designed attachments for the power bodies ensures that the units perform well, are easy and quick to attach and are safe. To introduce other makes of attachments would require additional mounting kits and transition pieces to allow these attachments to connect to the Trackless power bodies.

Over the last few years, the City has trialed two brooms and two flail mowers that were non-trackless brand attachments for comparison purposes. In these examples the non-trackless brands experienced compatibility and performance issues when paired with the Trackless power bodies. It is important that specifically designed products from the manufacturer are purchased in order to have the best performance and easy transition of the units from one task to another and from season to season. Incompatible attachments leads to down time and a loss of productivity and utilization.

Quotations for all attachments have been received from Work Equipment Inc. (Table 2). The initial contract year will begin October 1, 2020 and end September 30, 2021. The first option year may begin October 1, 2021 and end September 30, 2022 and the second option year may begin October 1, 2022 and end September 30, 2023.

Table 2 – Forecasted Replacement Schedule and Quotation

Contract Term	# of Units	Type of Attachment	Replacement Cost - Quotation
2020 - 2021	15	8 V-Plows, 6 Sanders, and 1 Broom	$102,345
2021 - 2022	12	6 Sanders, 3 Brooms, and 3 Blowers	$96,650
2022 - 2023	1	Flail Mower	$11,100

FINANCIAL IMPACT

Capital Budget

The total approved Capital budget for the Trackless attachments identified over the 2020-2023 Multi-year Budget is $210,700 (excluding HST). The quotation received from the vendor for the replacements was slightly below budget at $210,095 (excluding HST).

Funding for these purchases was identified in the list of Fleet capital projects for the 2020-2023 Multi-year Budget and is described in the source of financing attached (Appendix “A”).

Operating Budget

The ongoing operating costs for the equipment is captured in the approved multi-year operating budget in each service area through the annual fleet rental rates. There are no expected operating budget impacts associated with this approval.

CONCLUSION

Based on discussion and the analysis above, Fleet Services in consultation with Purchasing and Supply and the applicable Services Areas recommend that the purchase of Trackless brand attachments be purchased through a single source procurement. Work Equipment Inc. is the sole provider of Trackless power bodies and attachments for the region and has provided services to the City for over 25 years.

Selecting Work Equipment Inc. as the vendor of record for these purchases over the multi- year budget term ensures the City will continue to maintain demonstrated service and support, competitive pricing, warranty, trade in values and design compatibility with existing equipment.

Selecting Work Equipment Inc. for these purchases is the best choice for our application and adds value through continued brand standardization and supporting operational and procurement efficiencies.

SUBMITTED BY:	**REVIEWED & CONCURRED BY:**
MIKE BUSHBY, BA **DIVISION MANAGER,** **FLEET & OPERATIONAL SERVICES**	**JAY STANFORD, MA, MPA** **DIRECTOR, ENVIRONMENT, FLEET & SOLID WASTE**
RECOMMENDED BY:	
KELLY SCHERR, P. ENG., MBA, FEC **MANAGING DIRECTOR,** **ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER**	

Appendix A - Source of Financing

c: John Freeman, Manager of Purchasing & Supply

Appendix A
Source of Financing

APPENDIX 'A'

#20139

Chair and Members
Civic Works Committee

September 22, 2020
(Award Contract)

RE: Single Source - Purchasing Various Trackless Machine Attachments
Capital Project ME202001 - Vehicles & Equipment Repl - TCA (Work Order 2487319, 2487239-2487252)
Capital Project ME202101 - Vehicles & Equipment Repl - TCA
Capital Project ME202301 - Vehicles & Equipment Repl - TCA
Work Equipment Inc. - $210,095.00 (excluding H.S.T.)

FINANCE & CORPORATE SERVICES REPORT ON THE SOURCES OF FINANCING:

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

SUMMARY OF ESTIMATED EXPENDITURES	**Approved Budget**	**2)** **Committed to Date**	**This Submission**	**Balance for Future Work**
ME202001 - Vehicles & Equipment Repl - TCA				
Vehicle & Equipment	$5,885,194	$821,750	$104,146	$4,959,298
ME202101 - Vehicles & Equipment Repl - TCA				
Vehicle & Equipment	4,462,241	1,109,884	98,352	3,254,005
ME202301 - Vehicles & Equipment Repl - TCA				
Vehicle & Equipment	5,446,701		11,295	5,435,406
NET ESTIMATED EXPENDITURES	**$15,794,136**	**$1,931,634**	**$213,793**	**1)** **$13,648,709**
SUMMARY OF FINANCING:				
ME202001 - Vehicles & Equipment Repl - TCA				
Capital Levy	$701,267	$701,267		$0
Drawdown from Vehicles & Equipment R.F.	5,183,927	120,483	104,146	4,959,298
	5,885,194	821,750	104,146	4,959,298
ME202101 - Vehicles & Equipment Repl - TCA				
Capital Levy	117,460	117,460		0
Drawdown from Vehicles & Equipment R.F.	4,344,781	992,424	98,352	3,254,005
	4,462,241	1,109,884	98,352	3,254,005
ME202301 - Vehicles & Equipment Repl - TCA				
Capital Levy	342,190		11,295	330,895
Drawdown from Vehicles & Equipment R.F.	5,104,511			5,104,511
	5,446,701	0	11,295	5,435,406
TOTAL FINANCING	**$15,794,136**	**$1,931,634**	**$213,793**	**$13,648,709**

1) **FINANCIAL NOTE:**	**ME202001**	**ME202101**	**ME202301**	**TOTAL**
Contract Price	$102,345	$96,650	$11,100	$210,095
Add: HST @13%	13,305	12,565	1,443	27,313
Total Contract Price Including Taxes	115,650	109,215	12,543	237,408
Less: HST Rebate	11,504	10,863	1,248	$23,615
Net Contract Price	$104,146	$98,352	$11,295	$213,793

2) ME202101 & ME202301 are included in the 2020-2023 Multi-Year Budget capital plan and is subject to Council re-confirmation of the 2021 and 2023 Annual Budget Updates, respectively. The actual expenditures committed to these projects will not occur until 2021 and 2023.

lp

Jason Davies
Manager of Financial Planning & Policy

TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON SEPTEMBER 22, 2020**
FROM:	**KELLY SCHERR, P. ENG, MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER**
SUBJECT:	**WINDERMERE ROAD IMPROVEMENTS ENVIRONMENTAL ASSESSMENT STUDY APPOINTMENT OF CONSULTING ENGINEER**

RECOMMENDATION

That on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer the following actions **BE TAKEN** with respect to the appointment of a Consulting Engineer for the Windermere Road Improvements Environmental Assessment Study:

(a) Stantec Consulting Ltd. **BE APPOINTED** as the Consulting Engineer to complete the Schedule 'C' Municipal Class Environmental Assessment for Windermere Road Improvements at an upset amount of $429,398.79 (excluding HST) in accordance with RFP20-45 and Section 15.2 (d) of the Procurement of Goods and Services Policy;

(b) the financing for this assignment **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 assignment;

(d) the approvals given herein **BE CONDITIONAL** upon the Corporation entering into a formal contract with the consultant for the work; and,

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

PREVIOUS REPORTS PERTINENT TO THIS MATTER

- Civic Works Committee – June 19, 2012 – London 2030 Transportation Master Plan
- Civic Works Committee – September 7, 2016 – London ON Bikes Cycling Master
- Strategic Priorities and Policy Committee – May 6, 2019 – Approval of 2019 Development Charges By-Law and DC Background Study

COUNCIL'S 2019-2023 STRATEGIC PLAN

The following report supports the Strategic Plan through the strategic focus area of Building a Sustainable City by building new transportation infrastructure to meet the long term needs of our community and increase access to transportation options such as walking and bicycling.

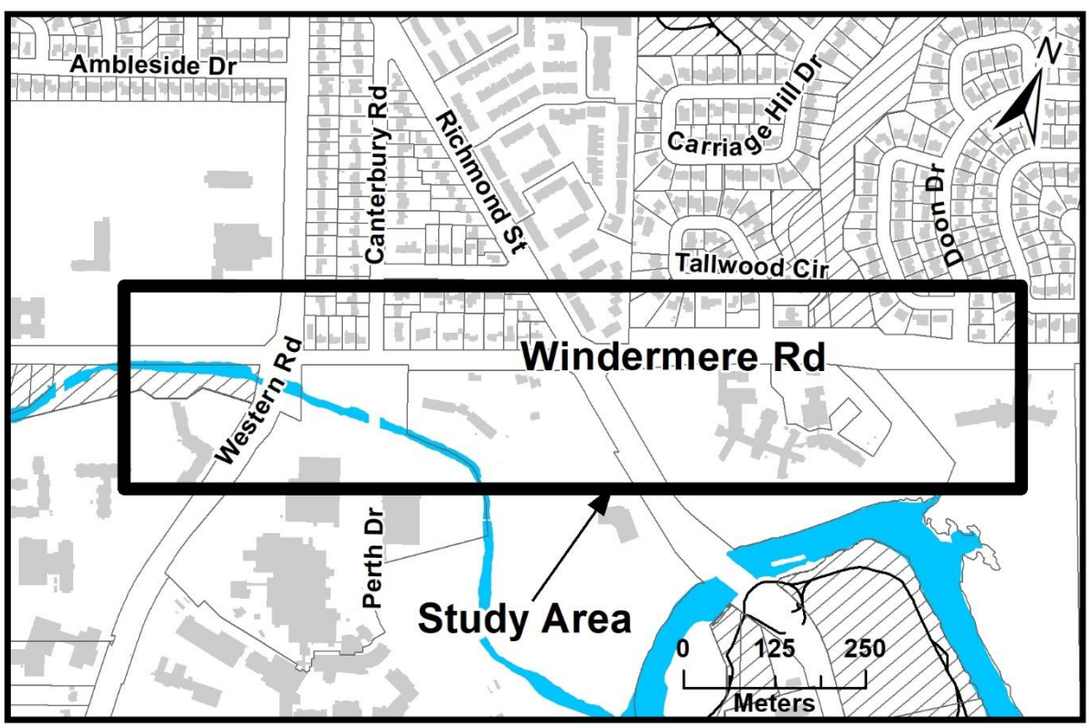
BACKGROUND

Purpose

This report recommends the appointment of a consulting engineer to complete the environmental assessment (EA) for the Windermere Road improvements from Western Road to Doon Drive (west leg). The purpose of this EA is to satisfy the requirements of the Environmental Assessment Act by providing a comprehensive, environmentally sound planning process with public participation. The process will also facilitate consultation with surrounding stakeholders.

Context

The study area for this EA includes the Windermere Road corridor from Western Road to the west leg of Doon Drive as shown below. Windermere Road is classified as a Rapid Transit Boulevard from Western Road to Richmond Street and as a Civic Boulevard east of Richmond Street. The majority of this corridor is a three-lane roadway that accommodates between 9,000 and 14,500 vehicles per day. Peak hour operational congestion is observed related to nearby destinations including University Hospital and Western University destinations. This condition was recently exacerbated during the temporary closure of the University Drive bridge which is owned by Western University.



Environmental Assessment Study Area

The EA will identify the needs and balance the requirements of the full range of potential users within the community including users of all ages and abilities, pedestrians, cyclists, transit vehicles and motorists. The EA will also consider the impacts associated with climate change in the context of the proposed improvements.

DISCUSSION

Project Description

The need for the Windermere Road improvements project was identified in the 2019 Development Charges Background Study and the 2016 Cycling Master Plan. The following transportation related improvements will be reviewed as part of the EA study:

- Alternatives for improved traffic flow based on current demands and considering potential influences from surrounding transportation network changes and developments;
- Introduction of new cycling facilities between Western Road and Richmond Street and improvements to the existing cycling facilities;
- Improvements to the intersections along the corridor that will satisfy the Accessibility for Ontarians with Disabilities Act (AODA) requirements and account for the future transit plans;
- Traffic signals and street lighting improvements.

The intent of this EA is to explore various geometric design alternatives and to develop a functional plan for the preferred design based on the input received through consultation. These alternatives will be evaluated using a range of criteria including impacts on the natural, social, cultural, and economic environments.

The proposed EA will also:

- Recommend the future improvements for the corridor and intersections to mitigate deficiencies, accommodate increased traffic demand, and improve safety;
- Develop a functional and visually attractive design concept;
- Engage the public and stakeholders to allow public input and active involvement throughout the study process;
- Determine the appropriate right-of-way and property requirements;
- Coordinate underground service needs;
- Coordinate with ongoing EAs, projects, studies and surrounding development;
- Assess and document the ecological and natural features within the corridor and identify management needs; and,
- Document in a clear and transparent manner the process undertaken and provide formal documentation and presentations.

Consultant Procurement

The consultant selection process has been undertaken in accordance with the Procurement of Goods and Services Policy. The procurement followed the two stage process with the first stage being an open, publicly advertised expression of interest/pre-qualification stage (REOI/RFQUAL). Subsequently a consultant shortlist was developed. The consultants were asked to submit detailed proposals and work plans. Proposals were received from the consultants on July 24, 2020. The selection committee evaluated the proposals against an established evaluation criteria which included the experience and qualifications of the consultant team as well as their approach, methodology and understanding of project goals and objectives.

The evaluation committee determined that the submission from Stantec Consulting Ltd. engineering firm provides the best value for the City. Stantec Consulting Ltd. has experienced project team members with the required qualifications and expertise. Their proven experience on similar projects combined with a project proposal that demonstrated a thorough understanding of the goals and objectives determined their suitability for this assignment.

CONCLUSION

Stantec Consulting Ltd. has demonstrated an understanding of the requirements for this project. Based on the competitive consultant procurement process, it is recommended that Stantec Consulting Ltd. be appointed to undertake the environmental assessment study for the Windermere Road improvements in the amount of $429,398.79 (excluding HST).

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

PREPARED BY:	**REVIEWED & CONCURRED BY:**
GARFIELD DALES, P. ENG. **DIVISION MANAGER** **TRANSPORTATION PLANNING & DESIGN**	**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: Source of Financing

c: John Freemen, Manager, Purchasing and Supply
John Stevely, Procurement Officer, Purchasing and Supply
Gary McDonald, Budget Analyst
Stantec Consulting Ltd.

APPENDIX 'A'

#20128

Chair and Members
Civic Works Committee

September 22, 2020
(Appoint Consulting Engineer)

RE: Environmental Assessment Study - Appointment of Consulting Engineer
Windermere Road Improvements
(Subledger RD200015)
Capital Project TS1359 - Windermere Road - Western Road to Richmond Street Improvements
Stantec Consulting Ltd. - $429,398.79

FINANCE & CORPORATE SERVICES REPORT ON THE SOURCES OF FINANCING:

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

SUMMARY OF ESTIMATED EXPENDITURES		Approved Budget	Additional Funding	Revised Budget	This Submission	
Consulting		$353,855	$83,102	$436,957	$436,957	
NET ESTIMATED EXPENDITURES		**$353,855**	**$83,102**	**$436,957**	**$436,957**	1)
SUMMARY OF FINANCING:						
Debenture Quota	4)	$37,862	$8,892	$46,754	$46,754	
Drawdown from City Services - Roads Reserve Fund (Development Charges)	3)	315,993	74,210	390,203	390,203	
TOTAL FINANCING		**$353,855**	**$83,102**	**$436,957**	**$436,957**	

1) **Financial Note:**

Contract Price	$429,399
Add: HST @13%	55,822
Total Contract Price Including Taxes	485,221
Less: HST Rebate	48,264
Net Contract Price	$436,957

2) The budget for Capital Project TS1359 - Windermere Road-Western Rd to Richmond Street Improvements is included in the 2022 and beyond proposed budget. A portion of this budget ($83,102) is required in 2020 and can be accommodated by advancing a portion of the 2022 budget. Upon Council approval of this recommendation, the 2022 proposed budget for project TS1359 will be revised.

3) Development Charges have been utilized in accordance with the underlying legislation and the Development Charges Background Studies completed in 2019.

Note to City Clerk:

4) 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 authorizing by-laws.

An authorizing by-law should be drafted to secure debenture financing for project TS1359 - Windermere Road - Western Road to Richmond Street Improvements for the net amount to be debentured of $46,754.

ms

Kyle Murray
Director of Financial Planning & Business Support

TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON SEPTEMBER 22, 2020**
FROM:	**KELLY SCHERR, P. ENG, MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER**
SUBJECT:	**HAMILTON ROAD & GORE ROAD INTERSECTION IMPROVEMENTS ENVIRONMENTAL ASSESSMENT STUDY APPOINTMENT OF CONSULTING ENGINEER**

RECOMMENDATION

That on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer the following actions **BE TAKEN** with respect to the appointment of a Consulting Engineer for the Hamilton Road and Gore Road Intersection Improvements Environmental Assessment Study:

(a) MTE Consultants Inc. **BE APPOINTED** as a Consulting Engineer to complete the Schedule 'B' Municipal Class Environmental Assessment for the Hamilton Road and Gore Road Intersection Improvements at an upset amount of $132,468.80 (excluding HST) in accordance with RFP20-42 and Section 15.2 (d) of the Procurement of Goods and Services Policy;

(b) the financing for this assignment **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 assignment;

(d) the approvals given herein **BE CONDITIONAL** upon the Corporation entering into a formal contract with the consultant for the work; and,

(e) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents including agreements with utilities, if required, to give effect to these recommendations.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

- Built and Natural Environment Committee – October 31, 2011- Hamilton Road and Gore Road Intersection
- Civic Works Committee – June 19, 2012 – London 2030 Transportation Master Plan
- Civic Works Committee – September 7, 2016 – London ON Bikes Cycling Master
- Strategic Priorities and Policy Committee – May 6, 2019 – Approval of 2019 Development Charges By-Law and DC Background Study

COUNCIL'S 2019-2023 STRATEGIC PLAN

The following report supports the Strategic Plan through the strategic focus area of Building a Sustainable City by building new transportation infrastructure to meet the long term needs of our community.

BACKGROUND

Purpose

This report recommends the appointment of a consulting engineer to complete the environmental assessment (EA) for the Hamilton Road and Gore Road intersection improvements. The purpose of this EA is to satisfy the requirements of the Environmental Assessment Act by providing comprehensive, environmentally sound planning process with public participation. The process will also facilitate dialogue between parties with number of different interests.

Context

This EA is required to implement transportation infrastructure improvements for the Hamilton Road and Gore Road intersection. The need and justification for the intersection improvement was identified as part of the 2030 Smart Moves Transportation Master Plan (TMP) and carried forward into the recent update of the City of London's Development Charges Background Study. It is recommended to implement the improvements for the Hamilton Road and Gore Road intersection in 2024. The EA is being initiated now to accommodate project timelines including property acquisition and utility relocations.

The EA will identify the needs and balance the requirements of the full range of potential users within the community including users of all ages and abilities, pedestrians, cyclists, transit vehicles and motorists. The EA will also consider the impacts associated with climate change in the context of the proposed improvements.

DISCUSSION

Project Description

The study area for this EA will include the Hamilton Road and Gore Road intersection and surrounding are as shown on the Figure 1 below. The Hamilton Road and Gore Road intersection is a three-legged stop controlled intersection located on the east side of the city. The intersection is at an extreme skew. Hamilton Road and Gore Road are classified as Civic Boulevards. Gore Road carries approximately 14,000 vehicles per day and Hamilton Road carries approximately 14,000 and 7,000 vehicles per day west and east of the intersection respectively. Over the past five years there have been 20 vehicle collisions reported at this intersection. None of them involved pedestrians or cyclists.

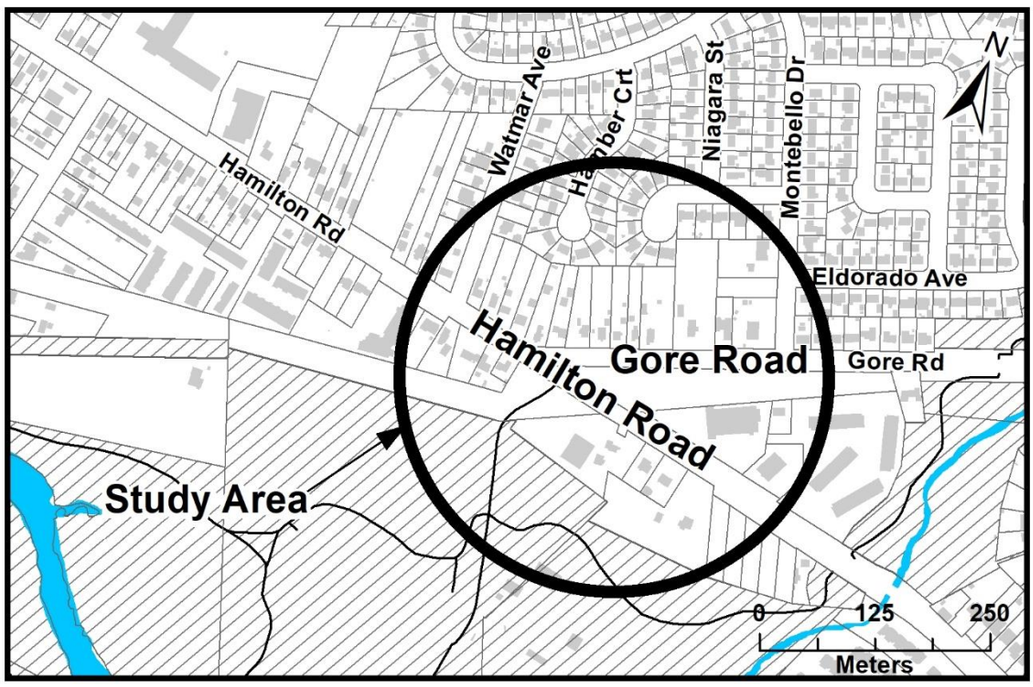


Figure 1. Environmental Assessment Study Area

The initial technical review of the intersection completed in 2011, identified the need to reconfigure the intersection based on the history of collisions and public concern, geometric, operational and delay deficiencies. The previous technical review developed alternatives including road realignments and conversion to a roundabout to improve sightlines. The project was subsequently identified in the Transportation Master Plan. This EA will explore various intersection design alternatives and develop a functional plan for the preferred design. The alternatives will be evaluated using a range of criteria including impacts on the natural, social, cultural, and economic environments and will be informed by consultation.

The EA study will also:

- Recommend the improvements for the Hamilton Road and Gore Road intersection that will mitigate future deficiencies, accommodate increased traffic demand, improve safety, and provide the best value for the City;
- Develop a functional and visually attractive design concept;
- Engage the public and stakeholders to allow public input and active involvement throughout the study process;
- Determine the appropriate right-of-way and property requirements;
- Coordinate underground service needs;
- Coordinate with ongoing other EAs, projects, studies;
- Assess and document the ecological and natural features within the corridor and identify management needs; and,
- Document in a clear and transparent manner the process undertaken and provide formal documentation and presentations.

Consultant Procurement

The consultant selection process has been undertaken in accordance with the Procurement of Goods and Services Policy. The procurement followed the two (2) stage process with the first stage being an open, publicly advertised expression of interest/pre-qualification stage (REOI/RFQUAL). Subsequently, a consultant shortlist comprising of three engineering consulting firms was developed. The consultants were asked to submit detailed proposals and work plans. Proposals were received from all three consultants on July 31, 2020. The selection committee evaluated the proposals against an established evaluation criteria which included the experience and qualifications of the consultant team as well as their approach, methodology and understanding of project goals and objectives.

The evaluation committee determined that the submission from MTE Consultants Inc. engineering firm provides the best value for the City. MTE Consultants Inc. has experienced project team members with the required qualifications and expertise. Their proven experience on similar projects combined with a project proposal that demonstrated a thorough understanding of the goals and objectives determined their suitability for this assignment.

CONCLUSION

MTE Consultants Inc. has demonstrated an understanding of the requirements for this project. Based on the competitive consultant procurement process, it is recommended that MTE Consultants Inc. be appointed to undertake the environmental assessment study for the Hamilton and Gore Roads intersection improvements in the amount of $132,468.80 (excluding HST).

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

PREPARED BY:	REVIEWED & CONCURRED BY:
GARFIELD DALES, P. ENG. **DIVISION MANAGER** **TRANSPORTATION PLANNING & DESIGN**	**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: Source of Financing

c: John Freemen, Manager, Purchasing and Supply
John Stevely, Procurement Officer, Purchasing and Supply
Gary McDonald, Budget Analyst
MTE Consultants Inc.

APPENDIX 'A'

#20129

Chair and Members
Civic Works Committee

September 22, 2020
(Appoint Consulting Engineer)

RE: Hamilton Road & Gore Road Intersection Improvements EA Study
Appointment of Consulting Engineer
(Subledger NT20RD04)
Capital Project TS1031 - Long Term Corridor Protection EA Studies
Capital Project TS103119 - Long Term Corridor Protection EA Studies
MTE Consultants Inc. - $132,468.80 (excluding H.S.T.)

FINANCE & CORPORATE SERVICES REPORT ON THE SOURCES OF FINANCING:

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

SUMMARY OF ESTIMATED EXPENDITURES		Approved Budget	Committed to Date	This Submission	Balance for Future Work
TS1031 - Long Term Corridor Protection EA Studies					
Engineering		$499,549	$383,721	$115,828	$0
City Related Expenses		451	451		
		500,000	384,171	115,828	0
TS103119 - Long Term Corridor Protection EA Studies					
Engineering		422,222		18,972	403,250
NET ESTIMATED EXPENDITURES		**$922,222**	**$384,171**	1) **$134,800**	**$403,250**
SUMMARY OF FINANCING:					
TS1031 - Long Term Corridor Protection EA Studies					
Drawdown from City Services - Corporate Growth Studies Reserve Fund (Development Charges)	2)	$500,000	$384,171	$115,828	$0
TS103119 - Long Term Corridor Protection EA Studies					
Drawdown from City Services - Corporate Growth Studies Reserve Fund (Development Charges)	2)	422,222		18,972	403,250
TOTAL FINANCING		**$922,222**	**$384,171**	**$134,800**	**$403,250**

1) **Financial Note**

	TS1031	TS103119	Total
Contract Price	$113,825	$18,644	$132,469
Add: HST @13%	14,797	2,424	17,221
Total Contract Price Including Taxes	128,622	21,068	149,690
Less: HST Rebate	12,794	2,096	14,890
Net Contract Price	$115,828	$18,972	$134,800

2) Development Charges have been utilized in accordance with the underlying legislation and the Development Charges Background Studies completed in 2019.

kw

Jason Davies
Manager of Financial Planning & Policy

TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON SEPTEMBER 22, 2020**
FROM:	**KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER**
SUBJECT:	**AMENDMENTS TO THE TRAFFIC AND PARKING BY-LAW**

RECOMMENDATION

That on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the proposed by-law, attached as Appendix 'A' **BE INTRODUCED** at the Municipal Council meeting to be held on September 29th, 2020, for the purpose of amending the Traffic and Parking By-law (PS-113).

2019-23 STRATEGIC PLAN

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

BACKGROUND

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

1. No Stopping and School Bus Loading Zones

Catholic Cental Highschool (CCH)

Due to the current Dundas Street Cycle Track Project anticipated to complete November 30th, 2020 or sooner, twenty-three (23) of the twenty-eight (28) school busses that normally drop-off and pick-up students on Dundas Street in front of CCH between 7:30 a.m. to 8:00 a.m. and 1:30 p.m. to 2:15 p.m. will need to be temporarily diverted to alternative 'school bus loading zones'. The drop-off and pick-up times will be extended to 7:00 a.m. to 8:30 a.m. and 1:00 p.m. to 2:45 p.m. to accommodate for potential earlier and later arrivals as well as distances to alternative locations form the school.

Ten (10) of the twenty-eight (28) vehicles are van and mini-bus which will utilize the driveway of CCH. Thirteen (13) of the twenty-eight (28) are full size school buses will assign the following locations as 'school bus loading zones:

- West Side fo Burwell Street from King Street to Dundas Street;

- East side of Maitland Street from King Street to Dundas Street; and
- East side of Maitland Street form York Street to King Street.

Five (5) of the twenty-eight (28) school busses will continue to use the existing 'school bus loading zone' on the west side of Maitland Street from Dundas Street to Queens Avenue.

To manage the safe operation of these streets utilizing the temporary 'school bus loading zones'; both sides of the sreet will require temporary 'no stopping 7:00 a.m. to 8:30 a.m. and 1:00 p.m. to 2:45 p.m.' zones to prevent non-school bus vehicles from parking or loading and unloading where normally permitted.

First Street

Due to operational and safety concerns with delivery vehicles stopping within the southbound and northbound through lanes of First Street south of Oxford Street East, it is recommended to implement a 'no stopping anytime' zone from Oxford Street East to 100 m south of Oxford Street East.

Howard Avenue

Staff have been requested by the Covenant Christian Private School to implement a 'no stopping 7:30 a.m. to 8:30 a.m. and 2:30 p.m. to 3:30 p.m. Monday to Friday September 1st to June 30th' and 'school bus loading zone'. Redevelopment of the school property will require that buses drop-off and pick-up students from the street.

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

2. No Parking

Queens Avenue

The current construction work on Dundas Street resulted in the relocation of transit buses to Queens Avenue. Parking restriction at the temporary bus stop west of Ontario Street is needed to accommodate the bus stop. It is expected that buses will continue to use Queens Avenue until late 2021.

Silverleaf Subdivision

Due to the progressing completion of the construction of Silverleaf Subdivision, it is recommended to implement 'no parking anytime' zones on one side of Silver Creek Crescent and Silverleaf Chase to improve the operation of the roads. The proposed 'no parking anytime' zones are on the opposite side of the road from the street lights.

A homeowner information letter was mailed to all affected residents explaining the above parking changes. Amendments are required to Schedule 2 (No Parking) and Schedule 3 (Bus Stops) to address the above changes.

3. School Zone Speed Limits

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

West Oaks French Immersion Public School

Fiddlers Green Road	Hyde Park Road to 254 m south of Oxford Street West

An amendment is required to Schedule 17.1 (Lower Speed Limits) to address the above changes.

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

\\clfile2\estr$\Shared\Administration\COMMITTEE REPORTS\Civic Works\2019\DRAFT\09-24\CWC - TRAFFIC PARKING BY-LAW AMENDMENTS CWC September 24 2019 Council October 1 2019 Ver 3.docx

September 11, 2020/db

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

cc. Clerk’s Office
Parking Office

APPENDIX A

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

Bill No.

By-law No. PS-113

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

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

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

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

1. <u>No Stopping</u>

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

First Street	Both	A point 100m south of Oxford Street E	Oxford Street E	Anytime
Howard Avenue	West	A point 100 m south of Marianna Drive	A point 66 m south of Marianna Drive	7:30 a.m. to 8:30 a.m. and 2:30 p.m. to 3:30 p.m. Monday to Friday September 1st to June 30th

2. <u>No Parking</u>

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

Queens Avenue	North	A point 43 m west of Ontario Street	Ontario Street	Anytime
Silver Creek Crescent	North, East, South and West	Grand Oak Cross (south intersection)	Grand Oak Cross (north intersection)	Anytime

Silverleaf Chase	East	Silver Creek Circle	Pack Road	Anytime

3. Bus Stops

Schedule 3 (Prohibited Parking at Bus Stops) of the PS-113 By-law is hereby amended by **adding** the following rows:

Queens Avenue	North	A point 43 m west of Ontario Street	Ontario Street

4. School Bus Loading Zones

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

Howard Avenue	West	A point 100 m south of Marianna Drive	A point 66 m south of Marianna Drive

5. Lower Speed Limits

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

Fiddlers Green Road	Hyde Park Road	A point 254 m south of Oxford Street West	40 km/h

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

PASSED in Open Council on September 29th, 2020

Ed Holder, Mayor

Catharine Saunders, City Clerk

First Reading – September 29, 2020
Second Reading – September 29, 2020
Third Reading – September 29, 2020

APPENDIX B

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

To install temporary School Bus Loading Zones and No Stopping 7:00 a.m. to 8:30 a.m. and 1:00 p.m. to 2:45 p.m.

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. <u>No Stopping</u>

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

Burwell Street	Both	King Street	Dundas Street	7:00 a.m. to 8:30 a.m. and 1:00 p.m. to 2:45 p.m.
Maitland Street	Both	York Street	Dundas Street	7:00 a.m. to 8:30 a.m. and 1:00 p.m. to 2:45 p.m.

2. <u>School Bus Loading Zones</u>

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

Burwell Street	West	King Street	Dundas Street
Maitland Street	East	York Street	Dundas Street

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

PASSED in Open Council on September 29th, 2020

Ed Holder, Mayor

Catharine Saunders, City Clerk

First Reading – September 29, 2020
Second Reading – September 29, 2020
Third Reading – September 29, 2020

APPENDIX C

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

To remove temporary School Bus Loading Zones and No Stopping 7:00 a.m. to 8:30 a.m. and 1:00 p.m. to 2:45 p.m.

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. <u>No Stopping</u>

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

Burwell Street	Both	King Street	Dundas Street	7:00 a.m. to 8:30 a.m. and 1:00 p.m. to 2:45 p.m.
Maitland Street	Both	York Street	Dundas Street	7:00 a.m. to 8:30 a.m. and 1:00 p.m. to 2:45 p.m.

2. <u>School Bus Loading Zones</u>

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

Burwell Street	West	King Street	Dundas Street
Maitland Street	East	York Street	Dundas Street

This by-law comes into force and effect on November 30th, 2020.

PASSED in Open Council on September 29th, 2020

Ed Holder, Mayor

Catharine Saunders, City Clerk

First Reading – September 29, 2020
Second Reading – September 29, 2020
Third Reading – September 29, 2020

TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON SEPTEMBER 22, 2020**
FROM:	**KELLY SCHERR, P. Eng., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER**
SUBJECT:	**APPOINTMENT OF CONSULTING ENGINEERS INFRASTRUCTURE RENEWAL PROGRAM**

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 engineers for the Infrastructure Renewal Program:

a) The following consulting engineers **BE APPOINTED** to carry out consulting services for the identified 2021/2022 Infrastructure Renewal Program at the upset amounts identified below, in accordance with the estimate on file, and in accordance with Section 15.2(e) of the City of London's Procurement of Goods and Services Policy:

(i) IBI Group Professional Services (Canada) Inc. **BE APPOINTED** consulting engineers to complete the pre-design and detailed design of the 2021/2022 Infrastructure Renewal Program Assignment G, Elizabeth Street and Lyle Street Reconstruction, in the total amount of $146,872.00 (including contingency), excluding HST;

(ii) Archibald, Gray and McKay Engineering Limited **BE APPOINTED** consulting engineers to complete the pre-design and detailed design of 2021/2022 Infrastructure Renewal Program Assignment H, Glen Cairn Park Area Reconstruction, Glen Cairn Park from Thompson Road to Helena Avenue to Chesterfield Avenue, Chesterfield Avenue from Thompson Road to Shirl Street and Westlake Street from Chesterfield Avenue to Gladstone Avenue, in the total amount of $264,000.00 (including contingency), excluding HST;

(iii) Stantec Consulting Ltd. **BE APPOINTED** consulting engineers to complete the pre-design, and detailed design of the 2021/2022 Thames River Watermain Remediation Project at the west end of Huron Street from west of The Parkway to Philip Aziz Avenue, in the total amount of $198,899.80 (including contingency), excluding HST;

(iv) AECOM Canada Ltd **BE APPOINTED** consulting engineers to confirm the pre-design, complete the detailed design and construction administration of 2021 Wonderland Road Watermain Installation Project, Wonderland Road from Hamlyn Street to Exeter Road, in the total amount of $194,963.00 (including contingency), excluding HST;

b) the financing for the projects identified in (a) above **BE APPROVED** in accordance with the "Sources of Financing Report" attached, hereto, as Appendix 'A';

c) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this work;

d) the approvals given, herein, **BE CONDITIONAL** upon the Corporation entering into a formal contract with each consultant for the respective project; and

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

PREVIOUS REPORTS PERTINENT TO THIS MATTER

- Huron St Watermain Remediation:
    - Engineering Fees Contract Amendment; Huron Street Watermain River Crossing – EW 3580 – Civic Works Committee Meeting on January 10, 2017, Agenda Item #11
    - Huron Street Watermain Replacement Municipal Class Environmental Assessment - EW3580 - Civic Works Committee Meeting on October 1, 2012, Agenda Item #6
    - Appointment of Consulting Engineer - Huron Street Watermain Replacement Class EA and Preliminary Design - EW3580 - Built and Natural Environment Committee Meeting May 2, 2011, Agenda Item #17
- Wonderland Road Watermain Installation:
    - 2019 Development Charges By-Law and Background Study

2019-2023 STRATEGIC PLAN

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

- London's infrastructure is built, maintained, and operated to meet the long-term needs of our community, and
- London has a strong and healthy environment.

BACKGROUND

Purpose

The purpose of this report is to award engineering consultant appointments for the Infrastructure Renewal Program. These consultant appointments will lead to infrastructure construction projects in 2021 and 2022. A detailed project list, including timing and limits, is attached in Appendix 'B'. Maps are attached in Appendix 'C'.

Context

The Infrastructure Renewal Program is an annual program intended to maintain the condition and operation of municipal infrastructure at an acceptable performance level. The engineering consultants work with city staff to complete the Infrastructure Renewal Program projects and meet the challenging infrastructure lifecycle replacement needs. The engineering consulting work recommended within this report will support the reconstruction of an estimated $6,900,000 of capital infrastructure in 2021/2022.

DISCUSSION

Procurement Process: 2021 Infrastructure Renewal Program

The engineering consultant selection procedure for the 2021 Infrastructure Renewal Program utilized a grouped consultant selection process developed in partnership with the Purchasing and Supply Division, subsequently approved by Council June 12, 2018 and which will be used for all future Infrastructure Renewal Program consultant appointments. This two-stage grouped procurement process is in accordance with Section 15.2(e) of the Procurement of Goods and Services Policy.

The first stage of the process is an open, publicly advertised Request for Qualifications (RFQ). A Statement of Qualifications (SOQ) submission was received from a province-wide group of 17 prospective consultants. The Statement of Qualifications were evaluated by Environmental and Engineering Services resulting in a short-list group of 12 engineering consulting firms. This short list of 12 firms will be retained for a two-year period (through this procurement period) at which time the Request for Qualifications

process will be initiated again.

The second stage of the process is a competitive Request for Proposal exercise. Consultants from the short listed group are invited to submit a formal proposal to undertake a specific preferred engineering assignment identified by the consultant in their Request for Qualifications submission. Three consultants were invited to submit a proposal for each of the assignments and every consultant was invited to submit at least one proposal.

After an evaluation of the proposals undertaken by Environmental and Engineering Services including both a technical and cost component, engineering consultants were selected based on their knowledge and understanding of project goals, their experience on directly related projects and their project team members, capacity and qualifications.

The construction administration fee portion of the engineering consultant assignments is included for the Wonderland Road Watermain Installation project as this project is planned to be constructed in 2021. The other projects presented here are two-year design projects to be constructed in 2022 so construction administration fees were not requested at this time. The construction administration fees for the other projects presented here will be awarded in a future Civic Works Committee report.

Work Description

The Infrastructure Renewal Program assignments include watermain and sewer replacement/repairs, as well as restoration of areas disturbed by construction activity. The scope of each project varies in length and depends on the infrastructure components requiring rehabilitation or replacement.

In some cases full road reconstruction, including traffic signal and street light replacement, will be part of the overall project.

The Thames River Watermain Remediation project addresses the design of necessary remediation options due to the continued erosion of the north branch of the Thames River at this location surrounding the abandoned 600mm concrete watermain at Huron Street replaced in 2016. A significant environmental engineering component will be part of this project.

The Wonderland Watermain installation project will install a new watermain on Wonderland Road South from Exeter Road to Hamlyn Street. This is a growth-funded project that was included in the 2019 Development Charges Study. It is important as it extends full water servicing to this portion of the City, allowing development in the area.

The City infrastructure design groups within each service area work closely together to co-ordinate infrastructure repair, rehabilitation and replacement. City staff prepare a list of the highest priority projects, taking into consideration condition assessment, capacity, criticality of the infrastructure link, and the safety and social impacts should the infrastructure link fail. City staff meet regularly throughout the year to co-ordinate their respective work, with the goal of aligning construction projects so more than one infrastructure element can be renewed, which significantly reduces social disruption and saves on construction costs. Design work starts early in the budget cycle, which allows projects to tender early in the season, so the most competitive construction pricing can be realized.

This report recommends the appointment of engineering consultants for four engineering design assignments as identified in Appendix ‘B’. One of the projects is scheduled for construction in 2021, with the remaining projects scheduled for construction in 2022. The proposed construction year and physical limits of the project assignments are summarized in Appendix ‘B’ and a location map is provided for each project in Appendix ‘C’.

Funds have been budgeted in the transportation, water and sewer capital budgets to

support the engineering design work for the projects identified in Appendix 'A', "Sources of Financing Report". The design and construction administration fees for the new projects, recommended for approval in this report, are summarized in Table 1 below. All values below include 10% contingency and exclude HST.

Table 1 – New Project Approval Summary

Assignment	Street	Consultant	Design Fee	Construction Admin Fee	Total Fee
2021/22 IRP* Assignment G	Elizabeth Street / Lyle Street	IBI Group Professional Services (Canada) Inc.	$146,872.00	$0	$146,872.00
2021/22 IRP Assignment H	Glen Cairn Park / Chesterfield Avenue / Westlake Street	Archibald, Gray and McKay Engineering Ltd	$264,000.00	$0	$264,000.00
2021/22 Thames River Watermain Remediation	Huron Street west of The Parkway to Philip Aziz Avenue	Stantec Consulting Ltd.	$198,899.80	$0	$198,899.80
2021 Wonderland Road Watermain Installation	Wonderland Road	AECOM Canada Ltd.	$89,587.00	$105,376.00	$194,963.00

* - Infrastructure Renewal Program

CONCLUSIONS

Replacing infrastructure at the end of its lifecycle is essential to building a sustainable city. The recommended engineering consultant assignments for the 2021/2022 Infrastructure Renewal Program are another step forward in replacing London's aging infrastructure. The projects discussed within this report have been identified as high priority due to the age, poor condition, and associated risk of failure associated with the infrastructure.

Removal of the existing 600mm watermain from the Thames River is seen as an important step in maintaining and preserving the health of the river.

In the spirit of continuous improvement, the process for undertaking engineering consultant appointments will continue to evolve, ensuring the City achieves the best value through a transparent, fair, and competitive process. All the firms recommended through this engineering consultant appointment have shown their competency and expertise with infrastructure replacement projects of this type. The Infrastructure Renewal Program will continue to ensure high value and endevour to achieve a consistently high degree of public satisfaction.

SUBMITTED BY:	SUBMITTED BY:
ASHLEY RAMMELOO, MMSc., P. ENG. **DIVISION MANAGER** **SEWER ENGINEERING DIVISION**	**AARON ROZENTALS, P.ENG.** **DIVISION MANAGER** **WATER ENGINEERING DIVISION**
REVIEWED AND CONCURRED BY:	**RECOMMENDED BY:**
SCOTT MATHERS, MPA, P.ENG. **DIRECTOR, WATER AND WASTEWATER**	**KELLY SCHERR, P.ENG., MBA, FEC** **MANAGING DIRECTOR** **ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER**

Attach: Appendix ‘A’ – Sources of Financing
Appendix ‘B’ – Project Information List
Appendix ‘C’ – Location Maps

cc. Kyle Chambers, Environmental Services Engineer
John Freemen, Manager, Purchasing and Supply
Gary McDonald, Budget Analyst
AECOM Canada Ltd, 410 – 250 York Street, Citi Plaza, N6A 6K2
Archibald, Gray & McKay Engineering, 3514 White Oak Road, N6E 2Z9
IBI Group, 203-350 Oxford Street West, N6H 1T3
Stantec, 171 Queens Ave, N6A 5J7

APPENDIX 'A'

#20134

Chair and Members
Civic Works Committee

September 22, 2020
(Appoint Consulting Engineers)

RE: Infrastructure Renewal Program
Capital Project ES241420 - Infrastructure Renewal Program - Sanitary Sewers
Capital Project ES254020 - Infrastructure Renewal Program - Stormwater Sewers & Treatment
Capital Project EW3580 - Huron Street River Crossing Remedial Work
Capital Project EW3625 - Wonderland Road Watermain - Exeter to Hamlyn
Capital Project EW376519 - Water Infrastructure Lifecycle Renewal
Capital Project EW376520 - Infrastructure Renewal Program - Watermains
IBI Group Professional Services (Canada) Inc. - $146,872.00 (excluding H.S.T.) - Assignment G - (Subledger WS21C00G)
Archibald, Gray & McKay Engineering Limited - $264,000.00 (excluding H.S.T.) - Assignment H - (Subledger WS21C00H)
Stantec Consulting Ltd. - $198,899.80 (excluding H.S.T.) - Thames River Watermain Remediation - (Subledger WS21C002)
AECOM Canada Ltd. - $194,963.00 (excluding H.S.T.) - Wonderland Road Watermain Installation - (Subledger WS21C003)

FINANCE & CORPORATE SERVICES REPORT ON THE SOURCES OF FINANCING:

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

SUMMARY OF ESTIMATED EXPENDITURES		**Approved Budget**	**Additional Funding**	**Revised Budget**	**Committed to Date**	**This Submission**	**Balance for Future Work**
ES241420 - IRP - Sanitary Sewers							
Engineering		$2,586,825		$2,586,825	$2,461,394	$125,431	$0
Engineering (Utilities Share)		68,176		68,176	68,176		0
Construction		7,681,500		7,681,500	6,993,100		688,400
Construction (Utilities Share)		1,257,613		1,257,613	1,257,613		0
City Related Expenses		25,000		25,000			25,000
		11,619,114	0	11,619,114	10,780,283	125,431	713,400
ES254020 - IRP - Stormwater Sewers & Treatment							
Engineering		2,721,839		2,721,839	2,596,409	125,430	0
Construction		10,681,011		10,681,011	6,872,482		3,808,529
City Related Expenses		100,000		100,000	48		99,952
		13,502,850	0	13,502,850	9,468,939	125,430	3,908,481
EW3580 - Huron St River Crossing Remedial Work							
Engineering		845,807		845,807	649,265	196,542	0
Construction		2,047,481		2,047,481	2,047,481		0
City Related Expenses		1,681		1,681	1,681		0
		2,894,969	0	2,894,969	2,698,427	196,542	0
EW3625 - Wonderland Rd Wtrmn - Exeter to Hamlyn							
Engineering	2)	170,748	27,646	198,394		198,394	0
EW376519 - Water Infrastructure Lifecycle Renewal							
Engineering		2,658,893		2,658,893	2,653,034	5,859	0
Construction		9,634,189		9,634,189	9,328,056		306,133
City Related Expenses		536		536	536		0
		12,293,618	0	12,293,618	11,981,626	5,859	306,133
EW376520 - IRP - Watermains							
Engineering		2,594,060		2,594,060	2,426,819	167,241	0
Construction		14,724,081		14,724,081	11,377,550		3,346,531
City Related Expenses		45		45	45		0
		17,318,186	0	17,318,186	13,804,414	167,241	3,346,531
NET ESTIMATED EXPENDITURES		**$57,799,485**	**$27,646**	**$57,827,131**	**$48,733,689**	**$818,897**	**$8,274,545**
SUMMARY OF FINANCING:							
ES241420 - IRP - Sanitary Sewers							
Capital Sewer Rates		$5,642,540		$5,642,540	$5,642,540		$0
Federal Gas Tax		4,650,785		4,650,785	3,811,954	125,431	713,400
Other Contributions (Utilities)		1,325,789		1,325,789	1,325,789		0
		11,619,114	0	11,619,114	10,780,283	125,431	713,400
ES254020 - IRP - Stormwater Sewers & Treatment							
Capital Sewer Rates		2,277,960		2,277,960	2,277,960		0
Drawdown from Sewage Works Reserve Fund		11,214,166		11,214,166	7,180,255	125,430	3,908,481
Other Contributions		10,724		10,724	10,724		0
		13,502,850	0	13,502,850	9,468,939	125,430	3,908,481
EW3580 - Huron St River Crossing Remedial Work							
Drawdown from Capital Water Reserve Fund		2,597,476		2,597,476	2,400,934	196,542	0
Federal Gas Tax		297,493		297,493	297,493		0
		2,894,969	0	2,894,969	2,698,427	196,542	0
EW3625 - Wonderland Rd Wtrmn - Exeter to Hamlyn							
Drawdown from Capital Water Reserve Fund	2)	8,537	1,382	9,919		9,919	0
Drawdown from City Services - Water Reserve Fund (Development Charges)	2&3)	162,211	26,264	188,475		188,475	0
		170,748	27,646	198,394	0	198,394	0
EW376519 - Water Infrastructure Lifecycle Renewal							
Capital Water Rates		7,692,100		7,692,100	7,692,100		0
Drawdown from Capital Water Reserve Fund		4,040,518		4,040,518	3,728,526	5,859	306,133
Federal Gas Tax		561,000		561,000	561,000		0
		12,293,618	0	12,293,618	11,981,626	5,859	306,133
EW376520 - IRP - Watermains							
Capital Water Rates		10,753,000		10,753,000	10,753,000		0
Drawdown from Capital Water Reserve Fund		6,565,186		6,565,186	3,051,414	167,241	3,346,531
		17,318,186	0	17,318,186	13,804,414	167,241	3,346,531
TOTAL FINANCING		**$57,799,485**	**$27,646**	**$57,827,131**	**$48,733,689**	**$818,897**	**$8,274,545**

APPENDIX 'A'

#20134

Chair and Members
Civic Works Committee

September 22, 2020
(Appoint Consulting Engineers)

RE: Infrastructure Renewal Program
Capital Project ES241420 - Infrastructure Renewal Program - Sanitary Sewers
Capital Project ES254020 - Infrastructure Renewal Program - Stormwater Sewers & Treatment
Capital Project EW3580 - Huron Street River Crossing Remedial Work
Capital Project EW3625 - Wonderland Road Watermain - Exeter to Hamlyn
Capital Project EW376519 - Water Infrastructure Lifecycle Renewal
Capital Project EW376520 - Infrastructure Renewal Program - Watermains
IBI Group Professional Services (Canada) Inc. - $146,872.00 (excluding H.S.T.) - Assignment G - (Subledger WS21C00G)
Archibald, Gray & McKay Engineering Limited - $264,000.00 (excluding H.S.T.) - Assignment H - (Subledger WS21C00H)
Stantec Consulting Ltd. - $198,899.80 (excluding H.S.T.) - Thames River Watermain Remediation - (Subledger WS21C002)
AECOM Canada Ltd. - $194,963.00 (excluding H.S.T.) - Wonderland Road Watermain Installation - (Subledger WS21C003)

1) **FINANCIAL NOTE: (EXCLUDING H.S.T.)**
Listed by Engineer and Contract

	ES241420	ES254020	EW3580	EW3625
IBI Group Professional Services (Canada) Inc. -Assign. G	$44,062	$44,061		
Archibald, Gray and McKay Engineering Limited-Assign. H	79,200	79,200		
Stantec Consulting Ltd. -Thames River Wtrmn Remediation			193,142	
AECOM Canada Ltd.-Wonderland Rd. Wtrmn. Installation				194,963
TOTAL PER CAPITAL PROJECT (EXCLUDING H.S.T.)	**$123,262**	**$123,261**	**$193,142**	**$194,963**

FINANCIAL NOTE (continued) **Listed by Engineer and Contract**	EW376519	EW376520	TOTAL PER CONTRACT Excluding HST	 Incl. HST
IBI Group Professional Services (Canada) Inc. -Assign. G		$58,749	$146,872	$149,457
Archibald, Gray and McKay Engineering Limited-Assign. H		105,600	264,000	268,646
Stantec Consulting Ltd. -Thames River Wtrmn Remediation	5,758		198,900	202,400
AECOM Canada Ltd.-Wonderland Rd. Wtrmn. Installation			194,963	198,394
TOTAL PER CAPITAL PROJECT (EXCLUDING H.S.T.)	**$5,758**	**$164,349**	**$804,735**	**$818,897**

2) **Financial Note: (Charges per Capital Project)**

	ES241420	ES254020	EW3580	EW3625
Contract Price	$123,262	$123,261	$193,142	$194,963
Add: HST @13%	16,024	16,024	25,108	25,345
Total Contract Price Including Taxes	139,286	139,285	218,250	220,308
Less: HST Rebate	13,855	13,855	21,708	21,914
Net Contract Price	$125,431	$125,430	$196,542	$198,394

Financial Note:(Charges per Capital Project)

continued	EW376519	EW376520	TOTAL
Contract Price	$5,758	$164,349	$804,735
Add: HST @13%	749	21,365	104,615
Total Contract Price Including Taxes	6,507	185,714	909,350
Less: HST Rebate	648	18,473	90,453
Net Contract Price	$5,859	$167,241	**$818,897**

2) The additional funding for Capital Project EW3625 - Wonderland Road Watermain - Exeter to Hamlyn is included in the 2021 proposed budget. A portion of this budget ($27,646) is required in 2020 and can be accommodated by advancing a portion of the 2021 budget. Upon Council approval of this recommendation, the 2021 proposed budget for project EW3625 will be revised.

3) Development charges have been utilized in accordance with the underlying legislation and the Development Charges Background Studies completed in 2019.

JG

Jason Davies
Manager of Financial Planning & Policy

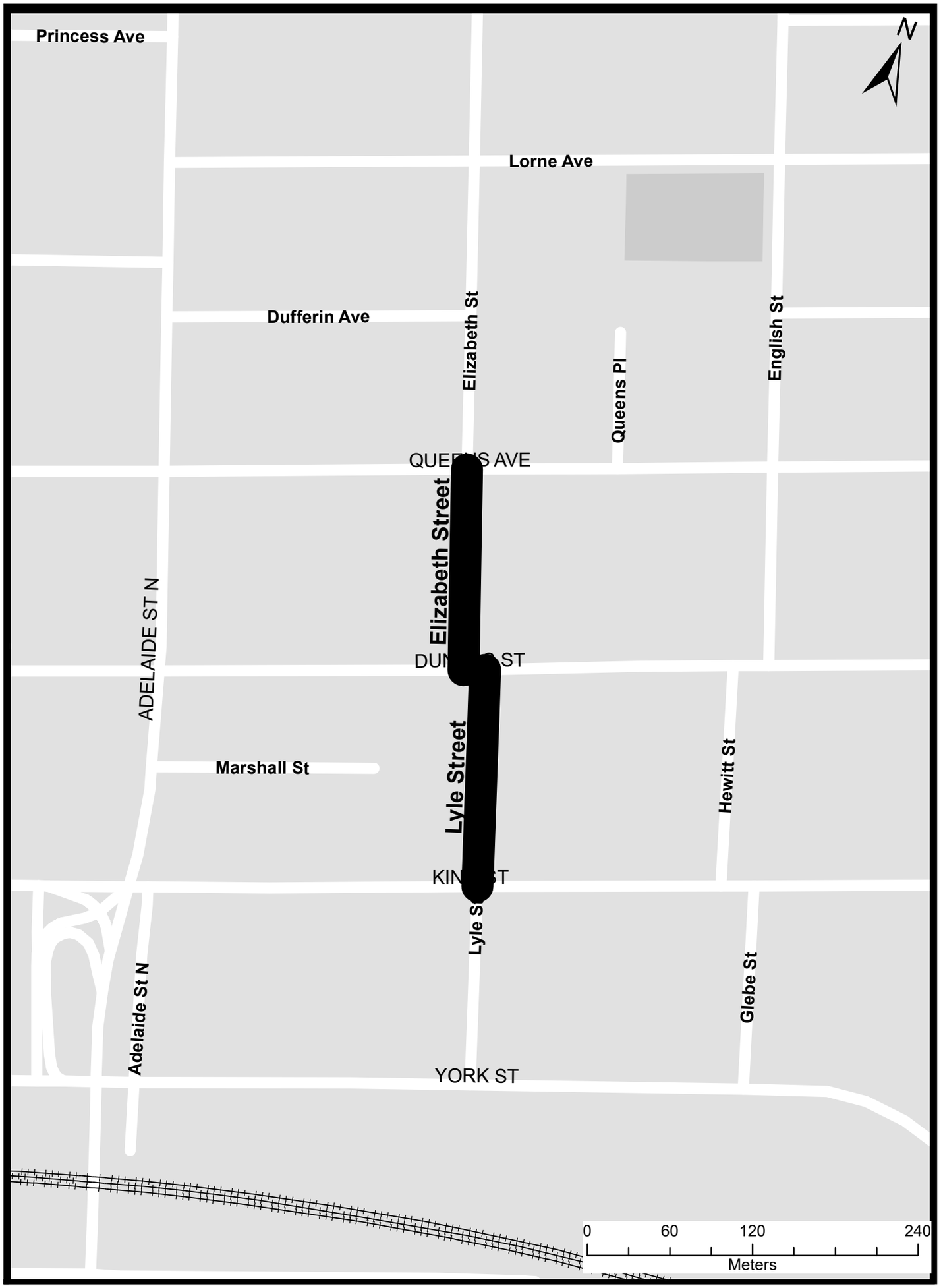
Appendix ‘B’ – Project Information List

2021/2022 Infrastructure Renewal Program (IRP) & Other Infrastructure Projects						
IRP Assignment	**Consultant**	**Street**	**From**	**To**	**Length (m)**	**Anticipated Construction Year**
G	IBI Group Professional Services (Canada) Inc.	Elizabeth	Dundas	Queens	140	2022
		Lyle	King	Dundas	160	
H	Archibald, Gray and McKay Engineering Ltd.	Glen Cairn Park	Thompson>Helena>Chesterfield		360	2022
		Chesterfield	Thompson	Shirl	315	
		Westlake	Chesterfield	Gladstone	90	
--	Stantec Consulting Ltd.	Thames River Watermain Removal	W of The Parkway	Philip Aziz	220	2022
--	AECOM Canada Ltd.	Wonderland	Hamlyn	Exeter	600	2021

Appendix C

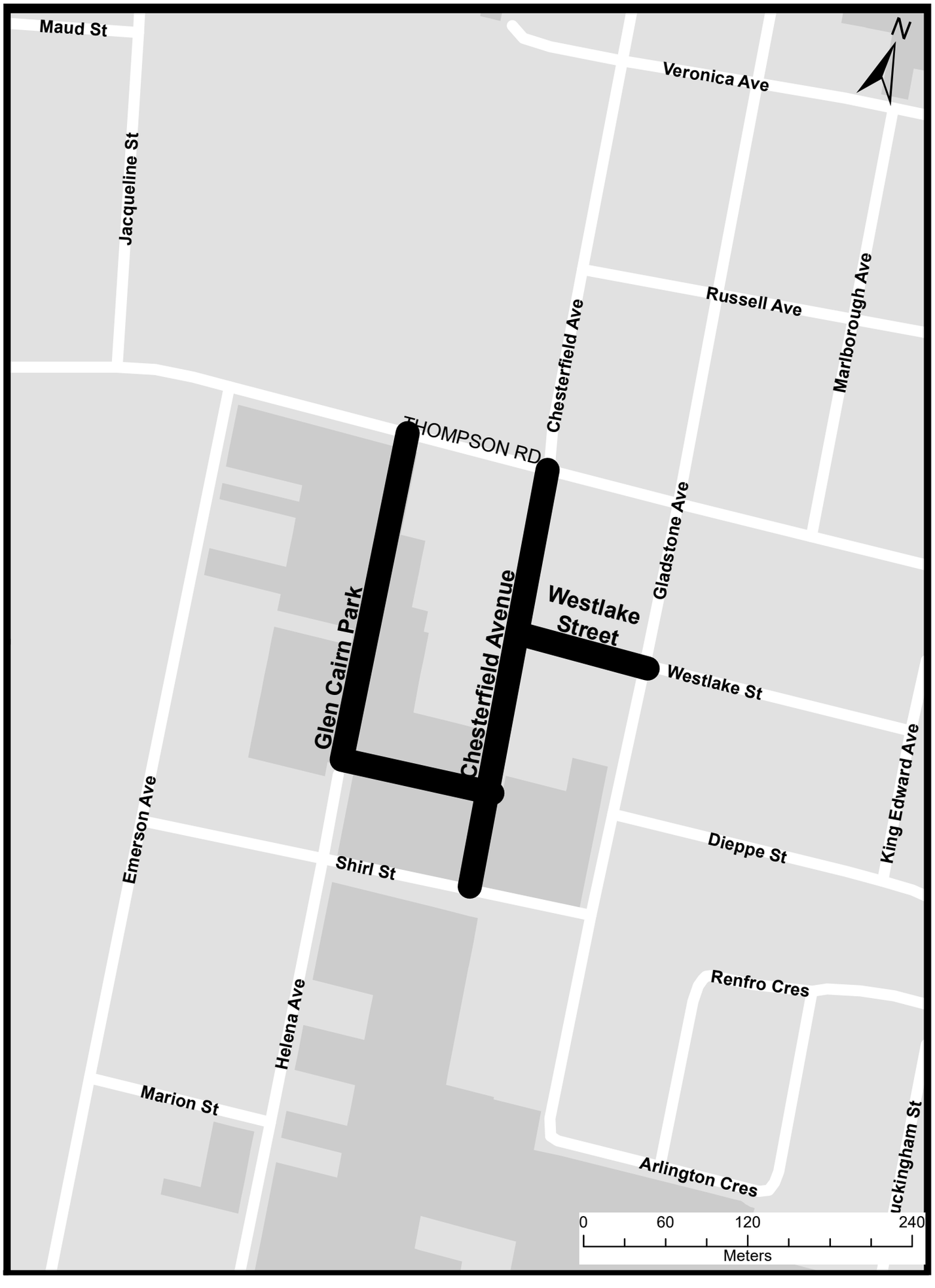
2022 Infrastucture Renewal Program
Assignment G

Lyle Street from King Street to Dundas Street
Elizabeth Street from Dundas Street to Queens Avenue



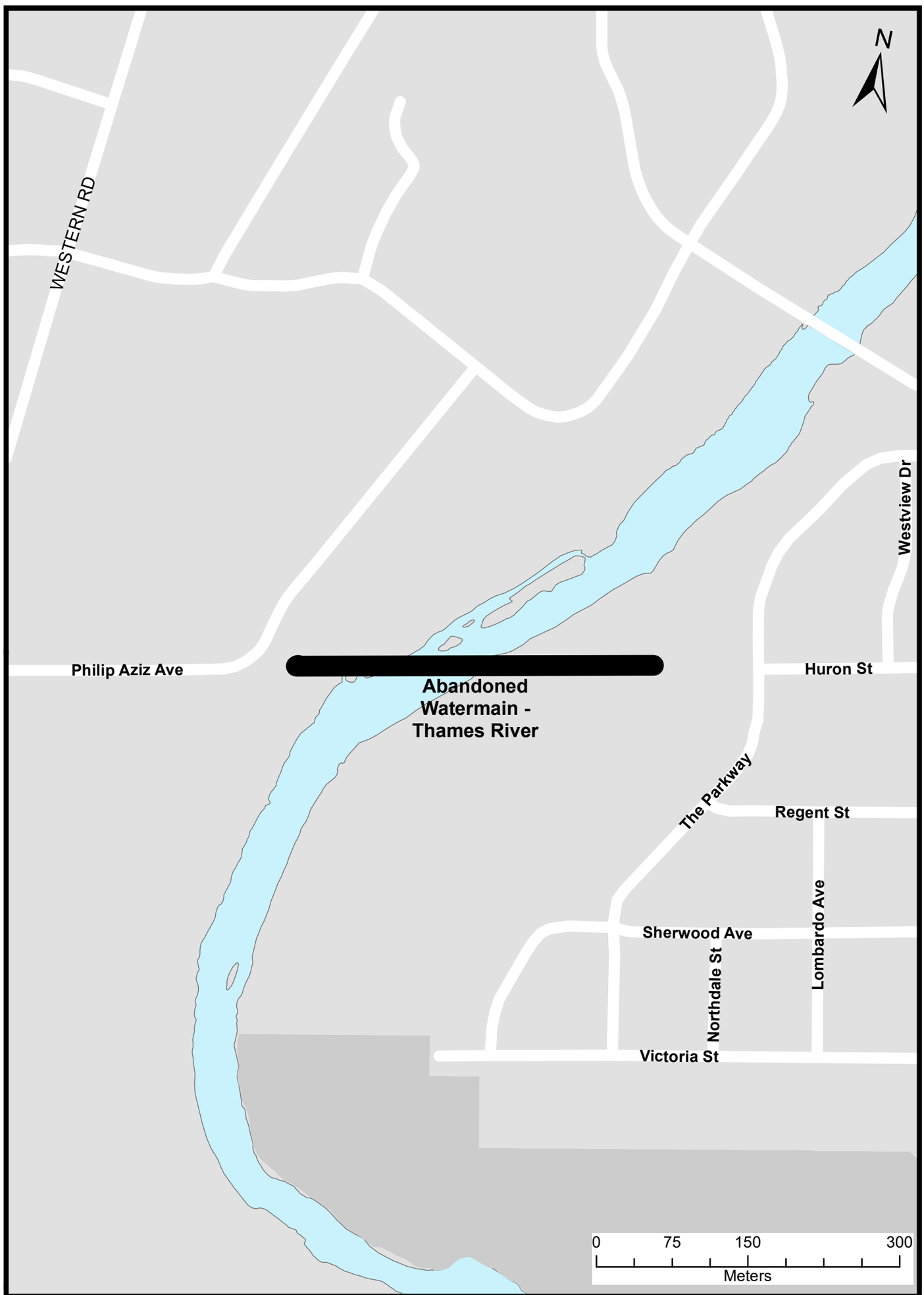
2022 Infrastucture Renewal Program
Assignment H

Glen Cairn Park from Thompson Road to Helena Avenue to Chesterfield Avenue
Chesterfield Avenue from Thompson Road to Shirl Street
Westlake Street from Chesterfield Avenue to Gladstone Avenue



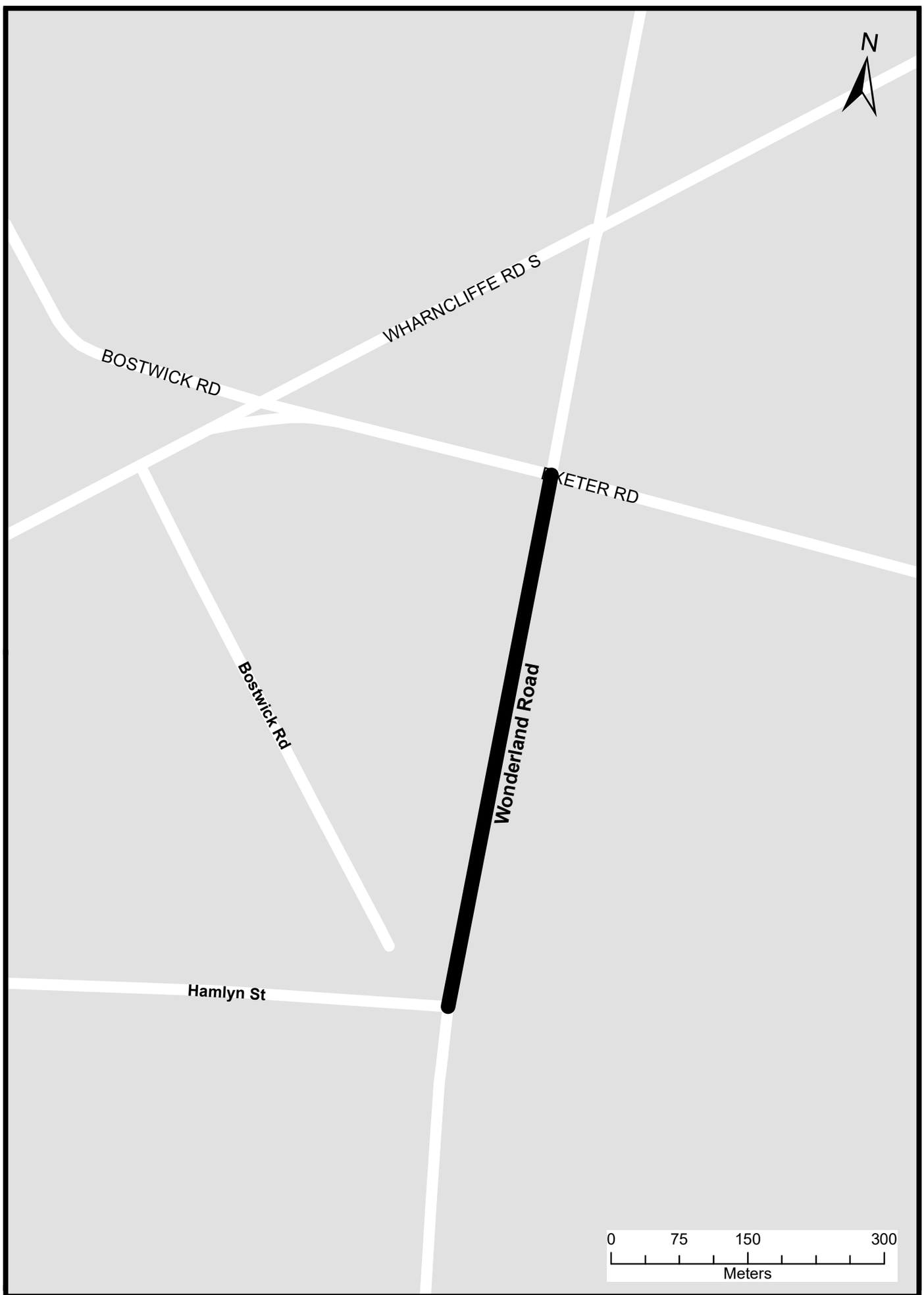
2022 Huron Street Watermain Remediation - Thames River Crossing

The Parkway to Huron Drive



2021 Wonderland Road Watermain Installation

Exeter Road to Hamlyn Street



TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON TUESDAY, SEPTEMBER 22, 2020**
FROM:	**KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER**
SUBJECT:	**BIOSOLIDS MANAGEMENT MASTER PLAN CONSULTANT AWARD**

RECOMMENDATION

That, on the recommendation of the Managing Director of Environmental and Engineering Services & City Engineer, the following actions **BE TAKEN** with respect to the assignment of consulting services for the completion of a Biosolids Management Master Plan:

a) CH2M Hill Canada Limited. **BE APPOINTED** Consulting Engineers in the amount of $410,274.00, including 15% contingency, excluding HST, in accordance with Section 15.2 (e) of the City of London's Procurement of Goods and Services Policy;

b) the financing for the project **BE APPROVED** in accordance with the "Sources of Financing Report" attached hereto as Appendix "A";

c) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this project;

d) the approvals 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.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

Civic Works Committee, September 24, 2019 – Wastewater Treatment Operations Environmental Assessment Master Plan Study Initiation

2019-2023 STRATEGIC PLAN

Strategic Plan

This project supports the 2019-2023 Strategic Plan through Building a Sustainable City:

- Build infrastructure to support future development and protect the environment; and
- Conserve energy and increase actions to respond to climate change and severe weather.

BACKGROUND

Purpose

The purpose of this report is to seek approval to award Jacobs Engineering Group Inc. (operating in Canada as CH2M Hill Canada Limited) a contract for consulting services related to the completion of a Biosolids Management Master Plan.

Context

The treatment of wastewater produces waste solids is an unavoidable by-product of the process. Complex infrastructure to manage these solids is required at all the City's wastewater treatment plants, and the capital and operating costs form a significant part of the Wastewater Treatment Operations budget. A Biosolids Management Master Plan evaluates short (10 year planning window) and long term (40 year planning window) strategies for managing waste solids across the City, and provides an opportunity to pursue energy and greenhouse gas reduction strategies while engaging the public.

DISCUSSION

The City of London Wastewater Treatment Operations Division treated almost 200 million litres per day of wastewater in 2019. Treating wastewater involves multiple processes that remove solids, nutrients and biological contaminants that can harm our rivers and lakes. An essential part of those processes involves the removal of solids from the waste stream. Finding safe, effective and efficient strategies for disposing of these waste solids is a challenge for municipalities and utilities around the world.

The City owns and operates five wastewater treatment plants across the City. Each plant produces waste solids (as sludge) that are partially thickened (water removed) and then trucked to the Greenway Wastewater Treatment Plant for further processing. Currently the City employs incineration as the final treatment of waste solids, and the byproduct is an inert ash that is disposed of in the landfill.

However, the current incinerator is over thirty years old, and the projected remaining life is twenty years or less. Planning for the replacement of the incinerator is a complex technical undertaking. There are multiple technologies that have emerged since the incinerator was installed, and even more currently in development. Some of these alternative technologies, if determined to be a preferrable method of managing waste solids compared to the City's current approach, would represent a significant change, requiring advanced planning for successful implementation.

Further, the management of solids across the City is a multi-faceted strategy with various and varying inputs, costs, risks, opportunities and impacts. For example, the ways in which the solids are handled at the four satellite plants can be modified to reduce trucking requirements, which could have a greater impact on reducing greenhouse gas emissions than the selection of technology to manage and dispose of the City's waste solids. Another example is the City's recent decision to install a waste heat recovery system that generates electricity from the exhaust of the incinerator, creating a renewable energy facility that will generate up to 3.75 million kWh per year.

Public Engagement

While there are significant opportunities for cost savings and greenhouse gas reductions through a well-designed solids management strategy, there are also many challenges. Establishing the location of new solids management facilities, or deciding to

expand or modify existing ones, in order to benefit the City as a whole, also has the potential to impact residents in negative ways. Similar Biosolids Management Master Plans in neighbouring municipalities have been contentious. Public education and outreach, resulting from a well planned and executed consultation plan, are key to overcoming these concerns and earning public acceptance.

For this reason, Biosolids Management Master Plans are undertaken as a master planning process under the Municipal Class Environmental Assessment framework in order to ensure that all viewpoints, concerns and suggestions are considered in the City's planning and decision making. This will include reaching out to the residents of London, community groups, regulatory bodies, stakeholders and neighbouring First Nations to ensure that we develop an open dialogue and provide authentic opportunities for participation.

Procurement Process

In order to complete this combination of technical analysis and public engagement, City staff solicited the services of qualified Engineering firms. Due to the expected budget, a two-stage procurement process was undertaken in accordance with the City of London Procurement of Goods and Services Policy, Section 15.2(e).

Through the City's Purchasing Division and in compliance with CETA, and CFTA requirements, a Request for Qualifications (RFQUAL 20-14) was issued to evaluate the capability of interested firms to complete the required scope of work. Four firms were selected through that process to proceed to the RFP stage and were invited to submit bids in response to the subsequent Request for Proposals (RFP 20-53). All four firms submitted proposals. The firms that submitted proposals were:

- AECOM Canada Ltd.;
- Dillon Consulting;
- Jacobs (CH2M Hill Canada Ltd.); and
- RV Anderson Associates Limited.

The submissions were reviewed by staff from Wastewater Treatment Operations and Purchasing and Supply to ensure compliance with the City's Procurement of Goods and Services Policy. The City's evaluation team determined that the proposal provided by Jacobs provided the best overall value to the City. The project team proposed by Jacobs has extensive experience with solids management facility planning and design for similarly sized municipalities in Ontario, and has previously successfully completed multiple public engagement projects for the City and elsewhere. Overall, their proposal met all of the key project requirements and their staff are qualified to undertake the required engineering services.

Project Schedule and Budget Implications

This assignment is scheduled to be complete by the middle of 2022, although the final timing may be dependent on the level of interest from First Nations, review agencies and the public at large developed through the engagement process. Because of the importance of this study and the projects that will be planned as a result, full engagement of all parties is the primary goal and the schedule will be modified as required to ensure that that goal is reached.

The upset limit proposed by Jacobs aligns with budget expectations prior to issuing the Request for Proposals, and the funds required for this study are available in the City's approved capital budget.

CONCLUSIONS

Jacobs (CH2M Hill) was found to provide the best value to the City through the RFQUAL and RFP selection process for consulting services for the completion of a Biosolids Management Master Plan. Jacobs has a demonstrated ability in solids management planning and design as well as successful public engagement for contentious projects and also demonstrated a good understanding of this project in their proposal. It is recommended that Jacobs be awarded this assignment.

PREPARED BY:	**REVIEWED BY:**
GEORDIE GAULD **DIVISION MANAGER** **WASTEWATER TREATMENT OPERATIONS**	**SCOTT MATHERS, MPA, P.ENG.** **DIRECTOR** **WATER, WASTEWATER & TREATMENT**

RECOMMENDED BY:
KELLY SCHERR, P.ENG., MBA, FEC **MANAGING DIRECTOR** **ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER**

Attachment: Appendix “A” Sources of Financing

cc: John Freeman, Purchasing and Supply
Alan Dunbar, FP&P
Jason Davies, FP&P
Chris Ginty, Procurement Officer
Mike Newbigging, P.Eng., Jacobs Engineering Group Ltd.

APPENDIX 'A'

#20133

Chair and Members
Civic Works Committee

September 22, 2020
(Appoint Consulting Engineer)

RE: Biosolids Management Master Plan
(Subledger NT20ES05)
Capital Project ES5022 - Biosolids Processing Upgrades
Capital Project ES5402 - Biosolids Master Plan
CH2M Hill Canada Limited - $410,274.00 (excluding H.S.T.)

FINANCE & CORPORATE SERVICES REPORT ON THE SOURCES OF FINANCING:

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

SUMMARY OF ESTIMATED EXPENDITURES		**Approved Budget**	**This Submission**		**Balance for Future Work**
ES5022 - Biosolids Processing Upgrades					
Engineering		$500,000	$17,495		$482,505
ES5402 - Biosolids Master Plan					
Engineering		400,000	400,000		0
NET ESTIMATED EXPENDITURES		**$900,000**	**$417,495**	1)	**$482,505**
SUMMARY OF FINANCING:					
ES5022 - Biosolids Processing Upgrades					
Drawdown from Sewage Works Reserve Fund		$500,000	$17,495		$482,505
ES5402 - Biosolids Master Plan					
Drawdown from Sewage Works Reserve Fund		332,400	332,400		0
Drawdown from City Services - Studies Reserve Fund (Development Charges)	2)	67,600	67,600		0
		400,000	400,000		0
TOTAL FINANCING		**$900,000**	**$417,495**		**$482,505**

1) **Financial Note:**

	ES5022	**ES5402**	**Total**
Contract Price	$17,192	$393,082	$410,274
Add: HST @13%	2,235	51,101	53,336
Total Contract Price Including Taxes	19,427	444,183	463,610
Less: HST Rebate	1,932	44,183	46,115
Net Contract Price	$17,495	$400,000	**$417,495**

2) Development charges have been utilized in accordance with the underlying legislation and the Development Charges Background Studies completed in 2019.

JG

Jason Davies
Manager of Financial Planning & Policy

TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON SEPTEMBER 22, 2020**
FROM:	**KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR - ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER**
SUBJECT	**MUNICIPAL WASTE & RESOURCE MATERIALS COLLECTION BY-LAW AMENDMENT**

RECOMMENDATION

That, on the recommendation of the Managing Director, Environmental & Engineering Services & City Engineer, the draft amending by-law attached as Appendix A **BE INTRODUCED** at the Municipal Council meeting to be held on September 29, 2020 to amend the Municipal Waste & Resource Collection By-law (WM-12) to identify additional requirements for certain materials placed in the garbage to increase health and safety for the public and sanitation operators and address the elimination of the separate week for collection of Christmas trees.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

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

- 2020-2023 City of London Multi-Year Budget Business Case #26 – Eliminate Curbside Christmas Tree Collection
- Results of Pilot Project for Curbside Collection and Diversion of Christmas Trees And Recommended Next Steps (March 7, 2017 meeting of the Civic Works Committee (CWC), Item #6)
- Municipal Waste & Resource Materials Collection By-Law Amendments (November 29, 2016 meeting of the CWC, Item # 8)
- Options for Collection and Diversion of Christmas trees (May 10, 2016 meeting of the CWC, Item #5)

STRATEGIC PLAN 2019-2023

Municipal Council has recognized the importance of solid waste management in its 2019-2023 - Strategic Plan for the City of London as follows:

Building a Sustainable City
London has a strong and healthy environment (Increase waste reduction, diversion and resource recovery)

Leading in Public Service
Londoners experience exceptional and valued customer service (Increase community and resident satisfaction of their service experience with the City; Increase efficiency and effectiveness of service delivery)

The City of London is a leader in public services as an employer, a steward of public funds and an innovator of service (Maintain a safe and healthy workplace; Maintain London’s finances in a transparent and well-planned manner to balance equity and affordability over the long term)

BACKGROUND

PURPOSE

The purpose of this report is to provide Civic Works Committee (CWC) and Council with amendments to the Municipal Waste & Resource Collection By-law (WM-12) to:

- identify additional handling requirements for certain materials placed in the garbage to increase health and safety for the public and sanitation operators, and
- eliminate the designated collection week for Christmas trees.

CONTEXT

Preventing the spread of COVID-19 and Addressing Other Health and Safety Items
As part of the City's efforts to slow the spread of COVID-19 and to keep sanitation operators and the public safe, citizens have been asked since April 2020 to take additional precautions when preparing their garbage. Londoners have been asked to place items such as tissues, paper towelling, used gloves and masks in a plastic bag before being placed into another garbage bag or garbage can. This helps to protect collection staff and reduces neighbourhood litter which could be handled without proper safety precautions.

During health and safety discussions between management and union members regarding the pandemic, a few other items were also noted as causing concerns and potential impacts that could be resolved with similar bagging practices. Items such as sawdust, cigarette ash, fireplace ash and vacuum dust are sometimes placed loose into garbage cans. This can result in light materials being dumped into the hopper (i.e., the large dumping area inside the garbage packer) and becoming airborne. The concerns are these very fine items can cause irritation to eyes, nose and mouth.

It is important to note that many Londoners already bag the items listed above. Asking all Londoners to bag these items and introduce it as part of a by-law amendment will increase the number bagging materials.

Elimination of Curbside Collection of Christmas Trees
As part of the 2020-2023 Multi-Year Budget deliberations, Municipal Council approved the elimination of the dedicated curbside collection week of Christmas trees in January of each year. In addition, Christmas trees would be identified as a non-collectible item in the Municipal Waste & Resource Materials Collection By-law. This means that Christmas trees would not be collected with other waste at the curb; rather they would continue to be treated as an item of value and diverted from the landfill. Londoners would be able to bring their Christmas trees to one of the four EnviroDepots. Or trees could be held until the Green Week collection service starts in the spring.

The savings associated with removing the dedicated collection week is approximately $40,000 annually. The service is available to London households that have curbside collection, which is about 65% (or 120,000) of households. It is estimated that about 10,000 to 20,000 (8% to 15%) households use the curbside service. The average quantity of Christmas trees received for composting and chipping in January is about 120 to 140 tonnes each year.

DISCUSSION

Increase Health & Safety for Collection Staff and the Public
The following two categories of health and safety changes have been identified:

- to address concerns regarding COVID-19 including litter concerns, the following items should be placed inside a bag before they are placed in a large bag or garbage can: masks, gloves, wipes, napkins, tissues and paper towel; and

- to address extremely light particles from becoming airborne when garbage is placed inside a garbage packer; the following items should be placed inside a bag and not placed loose in a garbage container: sawdust, cigarette ash, fireplace ash and vacuum dust.

The above changes will result in:

- safer operations for sanitation operators;
- improved handling of certain items inside the home which may contribute to better practices for reducing the spread of infectious disease;
- safer public and private space as fewer items may become litter and be picked up by Londoners without proper safety precautions; and
- reduced litter, in general, as this helps focus Londoners on proper handling procedures.

To enact these changes and make them enforceable, requires an amendment to the Municipal Waste & Resource Collection By-law (WM-12):

- Add personal protective and hygiene products including, surgical and non-surgical masks, gloves, wipes, tissues, napkins, paper towel that may result in the spread of infectious disease, not placed inside a sealed and leak-free bag; sawdust, cigarette ash, fireplace ash and vacuum dust, not placed inside a sealed bag; as non-collectible waste; and
- Add details to Section 8.3 - Collector may not collect - municipal waste and/or resource materials.

The implementation of these changes will be done based on education and awareness as the first priority. The communications campaign will include:

- Newspaper and/or radio ads
- City website information
- Printed materials
- Social media
- Stickers left on garbage containers and/or Notice left in the mailbox (or other visible location)

Should compliance not be possible with education and awareness, other enforcement measure are available under the by-law such as removing the non-compliant items and charging a service fee (i.e., City collects at expense of owner).

Elimination of Curbside Collection of Christmas Trees
To enact the removal of the of the additional collection week in January for Christmas trees and to remove Christmas trees as a collectible item with garbage, requires a couple of amendments to the Municipal Waste & Resource Collection By-law (WM-12):

- Add Christmas trees as non-collectible waste;
- Delete the additional collection week in January and delete 3 by-law sections:
  - Section 4.9 – Placement for collection – Christmas trees – times – restrictions in its entirety,
  - Section 4.10 – Placement for collection – Christmas trees – late – City not responsible in its entirety,
  - Section 5.15 – Placement of Christmas trees at collection point – times – restrictions in its entirety, and
- Add details to Section 8.3 - Collector may not collect - municipal waste and/or resource materials

The implementation of this change will be done based on education and awareness as the first priority. The communications campaign will include:

- Newspaper and/or radio ads
- City website information
- Printed materials
- Social media
- Notice left in the mailbox (or other visible location)

Should compliance not be possible with education and awareness, other enforcement measure are available under the by-law such as removing the non-complaint items and charging a service fee (i.e., City collects at expense of owner).

How will Residents handle Christmas trees?
Residents currently bring home Christmas trees on the top of their vehicles, in the back of pickup trucks, inside larger vehicles, or in trailers. To recycle Christmas trees the following options are available:

- Delivery to one of four EnviroDepots during open hours. Two depots (Oxford St and Clarke Rd) reduce their operating hours for the winter to two days per week. Three additional operating days following Christmas are offered for tree drop-off and extra holiday garbage and recyclables. The other EnviroDepots (Clarke Rd North and W12A) are open six days per week all year.

- Hold onto the Christmas tree in the back or side yard of homes until the curbside Green Weeks are available in late March or early April. This option also provides winter habitat for birds.

The by-law attached as Appendix A facilitates all proposed changes in this report.

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

Appendix A A By-law to amend the Municipal Waste & Resources Collection By-law WM-12

Appendix A

Bill No.
2020

By-law No.

A by-law to amend the By-law No. WM-12 being “A by-law to provide for the Collection of Municipal Waste and Resource Materials in the City of London”.

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

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

AND WHEREAS subsection 10 of the *Municipal Act, 2001* S.O. 2001, c.25, as amended, provides that a municipality may provide any service or thing that the municipality considers necessary or desirable for the public, and may pass by-laws respecting the economic, social and environmental well-being of the municipality, and the health, safety and well-being of persons;

AND WHEREAS the Municipal Council wishes to amend By-law No. WM-12, being “A by-law to provide for the Collection of Municipal Waste and Resource Materials in the City of London” to identify additional requirements for certain materials placed in the garbage to increase health and safety for the public and sanitation operators, for the removal of a separate collection week for Christmas trees, and to identify Christmas trees as a non-collectable item in the By-law.

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

1. By-law WM-12 is hereby further amended in Section 1.1 – Definitions by deleting the definition of Non-collectable Waste and by replacing it with the following new definition:

Non-collectable waste - defined

- "non-collectable waste" shall include but not be limited to grass clippings, washers, dryers, refrigerators, stoves, dehumidifiers, freezers and air conditioners, televisions, monitors, computers, computer peripherals, printers, copying and multi-function copying devices, telephones, answering machines, cellular devices, pagers, image devices, audio and video devices; explosives, flammable or volatile substances, liquid or gaseous wastes, caustic substances and acids, poisons, pesticides, herbicides, radioactive materials, septic tank pumpings, industrial process sludge, biohazardous waste, infected materials including dressings and bandages not placed inside a sealed and leak-free bag; personal protective and hygiene products including, surgical and non-surgical masks, gloves, wipes, tissues, napkins, paper towel that may result in the spread of infectious disease, not placed inside a sealed and leak-free bag; sawdust, cigarette ash, fireplace ash and vacuum dust, not placed inside a sealed bag; hay, straw, manure and excreta from farm premises; live animals or birds, carcasses or parts thereof of any animal or bird save for food preparation and consumption wastes; stock of any wholesaler or retailer, trade

waste; tree trunks and stumps; Christmas trees; trucks, automobiles or any other vehicle, vehicle parts; tires; construction materials; scrap metals, propane tanks; sharps not packaged and labelled in rigid containers; organic material which has not been drained of all liquids; and other materials as designated by the City Engineer from time to time.

2. By-law WM-12 is hereby further amended by deleting Section 4.9 – Placement for collection – Christmas trees – times – restrictions in its entirety.

3. By-law WM-12 is hereby further amended by deleting Section 4.10 – Placement for collection – Christmas trees – late – City not responsible in its entirety.

4. By-law WM-12 is hereby further amended by deleting Section 5.15 – Placement of Christmas trees at collection point – times – restrictions in its entirety.

5. By-law WM-12 is hereby amended by adding Section 8.3 (m) and (n);

(m) surgical and non-surgical masks, gloves, wipes, tissues, napkins, paper towel that that is not placed inside a sealed and leak-free bag;
(n) sawdust, cigarette ash, fireplace ash and vacuum dust, not placed inside a sealed bag;

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

Passed in Open Council on September 29, 2020.

Ed Holder
Mayor

Catharine Saunders
City Clerk

First Reading – September 29, 2020
Second Reading – September 29, 2020
Third Reading – September 29, 2020

TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON SEPTEMBER 22, 2020**
FROM:	**KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR - ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER**
SUBJECT:	**ENVIRONMENTAL ASSESSMENT PROCESS - UPDATES AND PREFERRED METHOD TO EXPAND THE W12A LANDFILL**

RECOMMENDATION

That on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, and with the support of the Waste Management Working Group, the "Alternative 1 - Vertical Expansion Over Existing Footprint" **BE APPROVED** as the preferred landfill expansion alternative with respect the Environmental Assessment (EA) for the expansion of the W12A Landfill and be referred to in the final phase of public consultation (community engagement) for the EA.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

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

- Proposed Expansion of the W12A Landfill Site: Updated Environmental Assessment Engineering Consulting Costs (October 22, 2019 meeting of the Civic Works Committee (CWC), Item #2.12)
- 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)

Relevant reports that can be found at www.london.ca under City Hall (Meetings – Advisory and other Committee Meetings) include:

- Decision Report 10: Environmental Assessment Process – Revised (August 13, 2020 meeting of the Waste Management Working Group (WMWG), Item #4.1)
- Environmental Assessment Process (December 18, 2019 meeting of the WMWG, Item #4.2)
- Proposed Amended Terms of Reference (April 18, 2019 meeting of the WMWG, Item #3.2)
- Proposed Terms of Reference (August 15, 2018 meeting of the WMWG, Item #2.1)
- Draft Proposed Terms of Reference (July 13, 2018 meeting of the WMWG, Item #3.2)
- Preliminary Proposed Draft Terms of Reference (March 8, 2018 meeting of the WMWG, Item #2.1)
- Terms of Reference Outline and Next Steps (January 18, 2018 meeting of the WMWG, Item #9)

COUNCIL'S 2019-2023 STRATEGIC PLAN

Municipal Council has recognized the importance of solid waste management in its 2019-2023 - Strategic Plan for the City of London as follows:

Building a Sustainable City
London has a strong and healthy environment
- Build infrastructure to support future development and protect the environment

Growing our Economy
London is a leader in Ontario for attracting new jobs and investments

- Build infrastructure to support future development and retain existing jobs

Leading in Public Service
Londoners experience exceptional and valued customer service
- Increase community and resident satisfaction of their service experience with the City

BACKGROUND

PURPOSE

This report provides the Civic Works Committee (CWC) with an update on the status of the Environmental Assessment process for the expansion of the W12A Landfill and seeks approval for the preferred Alternative Method (vertical landfill expansion) to be referred to in the final phase of public consultation (community engagement). The Waste Management Working Group supported vertical expansion as the preferred Alternative Method to expand the landfill at its August 13, 2020 meeting.

CONTEXT

An Environmental Assessment (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 Terms of Reference (ToR) by the Minister of the Environment, Conservation and Parks. 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.

Addressing the Need for Action on Climate Change

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.

DISCUSSION

Status of EA

Overview

Completion of the EA study is being undertaken in a series of nine steps which are summarized in Table 1 and described fully in the Amended Terms of Reference. Additional details on Steps 2 to 6 are provided following Table 1.

Table 1: Status of Environmental Assessment

Step listed in Terms of Reference		Description/Explanation	Status
1	Characterize the existing environmental conditions	Complete technical studies (e.g., groundwater, surface water, traffic, air quality, archeology, etc.) on the area.	Complete
2	Identify the 'Alternative Methods' of landfill expansion	Develop different vertical (higher) and/or lateral (northern or eastern) expansion alternatives.	Complete
3	Qualitative and/or quantitative evaluation of 'Alternative Methods'	Determine the potential impact of each of the different expansion alternatives on the study areas.	Complete
4	Compare the 'Alternative Methods' for landfill expansion and identify the preferred alternative	Select the expansion alternative that has the least overall impact.	Complete
5	Determine the net effects of the preferred alternative	Detailed assessments will be completed on the potential impacts from the preferred expansion alternative.	90% Complete
6	Describe the preferred 'Alternative Method' for landfill expansion	Prepare a detailed description of the preferred expansion alternative and confirm how leachate (water that has contacted garbage) will be managed.	90% Complete
7	Consideration of climate change	Look at how climate change (e.g., larger rainfall events) may impact the project and how to reduce the project's contribution to climate change.	50% Complete
8	Cumulative Impact Assessment	Consider the cumulative impact of expansion of the W12A Landfill with other facilities or activities in the area.	25% Complete
9	Preparation of the EA Study Report	Prepare the EA Study Report for review by stakeholders.	25% Complete

<u>Step 2: Identify the 'Alternative Methods' of Landfill Expansion</u>

Three Alternative Methods (expansion alternatives) were developed and presented at the December 2019 WMWG meeting. The three expansion alternatives are:

- 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

The three Alternative Methods were presented to the public as part of Open House #3 (February 2020) and related engagement matters following Open House #3.

<u>Step 3: Qualitative or quantitative evaluation of 'Alternative Methods and</u>
<u>Step 4: Compare alternatives and identify the preferred alternative</u>

The three landfill expansion alternatives were compared across a number of environmental, social and technical considerations. Details of the comparison are provided in Appendix A (a separate draft Section 7.0, Evaluation and Comparison of Landfill Expansion Alternatives, from the draft Environmental Assessment Study Report (EASR) for the proposed expansion of the W12A Landfill. This work is about 90%

complete as of September 10, 2020) and summarized in Table 2 below (✓ means least impact).

Based on this comparison, it was determined that *Alternative 1 – Vertical Expansion Over Existing Footprint* was the preferred alternative.

Table 2: Comparison of Landfill Expansion Alternatives

Category	Component	Sub-component	Landfill Expansion Alternative (✓ means least impact)			Public Ranking Group
			1	2	3	
Environmental	Atmosphere	Air quality (dust, odour and GHG)	✓			More important
		Noise	✓			Less important
	Biology	Aquatic ecosystems	✓			More important
		Terrestrial ecosystems	✓			More important
	Geology and Hydrogeology	Groundwater quality	✓			More important
	Surface Water	Surface water quality	✓			More important
		Surface water quantity	✓			Important
Social	Agriculture	Agriculture	✓			Important
	Archaeology	Archaeology	✓		✓	Less important
	Cultural Heritage	Cultural Heritage Resources	✓	✓	✓	Less important
	Land Use	Current & planned future land uses	✓			Important
	Socio-economic	Local Economy		✓	✓	More important
		Residents and Community	✓			More important
	Transportation	Traffic	✓	✓	✓	Less important
	Visual	Visual			✓	Less important
Tech-nical	Design and Operations	Technical Considerations			✓	Important
		Financial	✓			Important

As shown in Table 2, the main advantages of Alternative 1 are:

- Highest degree of groundwater protection;
- Best alternative to limit odours;
- Fewest changes to existing stormwater management system;
- Least potential for air quality, archaeology, agricultural, aquatic ecosystem, community, land use, noise and terrestrial ecosystem impacts; and
- Lowest capital cost alternative. All three alternatives have similar operating and maintenance costs except for leachate management costs which will be lower for Alternative #1.

The main disadvantages of Alternative #1 are:

- Greatest visual impact; and
- More complex design (more engineering infrastructure required to store leachate).

All three alternatives were considered to have similar transportation, heritage and cultural potential impacts.

Step 5 - Determine the net effects of the preferred alternative

Detailed impact assessments of future environmental effects associated with the preferred 'alternative' (assuming that conceptual design mitigation measures are in place) are required for some environmental components but not for others.

Summarized on Table 3 are the environmental components that require more detailed impact assessments. In addition, Table 3 also highlights the status and key findings of these detailed assessments.

Table 3: Comparison of Landfill Expansion Alternatives

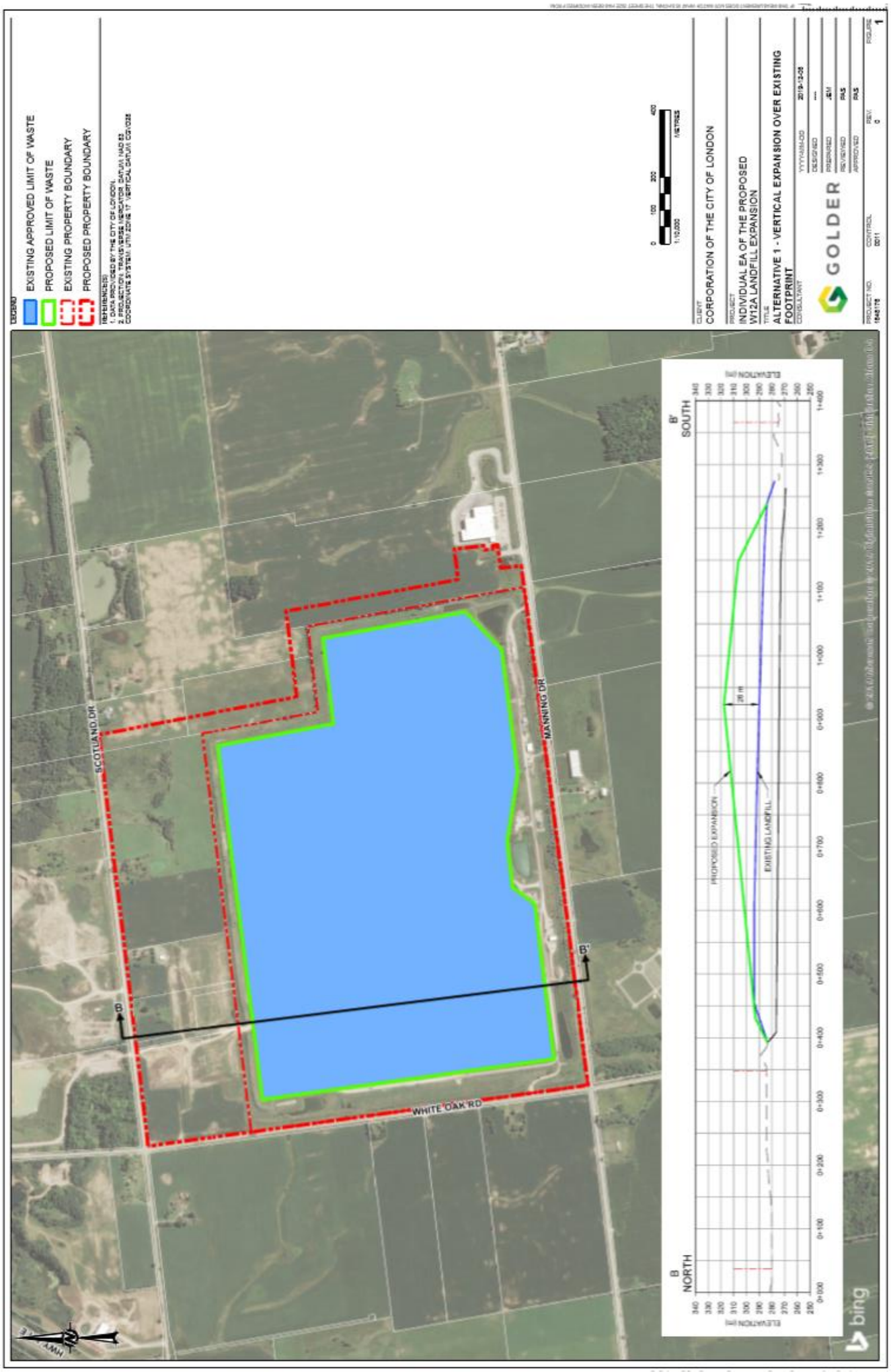
Category	Component	Comments
Environmental	Atmosphere	Detailed impact assessments of noise, odour, health related air quality and noise underway.
	Biology	Mitigation measures being developed to protect Species at Risk and Significant Wildlife habitat located on the landfill footprint and buffer areas.
	Geology and Hydrogeology	Preliminary assessment shows no impact. Preliminary assessment currently being reviewed by First Nations' consultant.
	Surface Water	Assessment has determined the need for stormwater management pond improvements.
Social	Agriculture	No detailed assessment required.
	Archaeology	Mitigation measures required for significant archaeology site located within on-site buffer land.
	Cultural Heritage	No detailed assessment required.
	Land Use	No detailed assessment required.
	Socio-economic	No detailed assessment required.
	Transportation	Assessment underway to determine the need (if any) for roadway upgrades.
	Visual	Mitigation measures being developed to reduce visual impact.
Tech-nical	Design and Operations	Design enhancements included to improve leachate management and landfill gas capture.

Step 6 - Describe the preferred 'Alternative Method' for landfill expansion

A detailed description of the preferred alternative will be included in the EA Study Report. Figure 1 is a plan view of the proposed expansion showing the new property boundary.

A brief summary of the key features of the preferred alternative are listed following Figure 1.

Figure 1 - Alternative 1 – Vertical Expansion Over Existing Footprint



- The landfill will be developed in a series of eight cells each lasting 2.5 to 3.5 years plus one cell for the non-decomposable portion of the waste stream (e.g., street sweepings).

- Filling will start on southern portion of landfill to maximize visual screening for nearby properties.

- Changes are proposed to the final cover design.

Leachate Control and Management

- Existing leachate perimeter collection system around the older portion of landfill will be replaced with a new perimeter collection system with finger drains (made from stone/gravel) extending into the waste to control leachate mounding.

- Additional leachate storage will be added to prevent off-site pumping of leachate when Greenway Wastewater Treatment Plant or Dingman Pumping Station is in a bypass situation.

Groundwater Protection Measures

- Additional groundwater protection measures may be needed to prevent exceeding groundwater quality guideline for non-health related parameter (chlorides) in several hundred years. A number of additional protection measures are currently being examined.

Landfill Gas Control and Management

- New larger landfill gas flare will be required within the next 5 to 8 years.

- Current landfill gas control design is based on vertical wells. Landfill expansion design will be based having both vertical wells and horizontal collectors.

Stormwater Management

- Upgrades will be made to all four existing ponds.

- Upgrades include increasing the size of the ponds and modifications to the outlet control structures.

Ancillary Components

- All existing/buildings will be replaced/upgraded and a larger public drop-off area constructed.

- Permanent asphalt road will replace seasonal road on the north and east sides of the landfill.

Preliminary Estimated Direct Landfill and Ancillary Estimated Costs

- Preliminary estimated capital costs have been prepared based on available engineering and scientific technical data. The preliminary estimates will be reviewed with the completion of detailed EA studies and with *Environmental Protection Act* and *Ontario Water Resources Act* technical studies. The additional groundwater protection measures currently has the widest cost range due to the level of complexity at this stage (Table 4).

- The preliminary estimated direct capital cost of the landfill is between $53,300,000 to $88,400,000 (in $2020) (Table 4).

- The preliminary estimated capital cost of potential ancillary features whose cost would be funded directly or indirectly by others is between $17,000,000 and $25,400,000 (in $2020) (Table 4).

- The preliminary estimated direct landfill capital cost translates to approximately $5.50 to $9 per tonne of waste disposed of (excluding ancillary features funded by others as well as any financing costs or the cost of additional properties purchased for buffer).

- It is expected that there will be no changes required to the four year capital budget or the long term capital budget (next 25 years) for the proposed landfill expansion. Some changes may be required to the 10 year capital budget as more costs are expected to incur between years 4 and 10 of the expansion than originally anticipated.

Table 4: Preliminary Estimated Capital Cost of Landfill Expansion

	Preliminary Estimated Cost		
List of Capital Items	**Low**	**Medium**	**High**
Direct Landfill Capital Costs			
Environmental Protection Act (EPA), *Ontario Water Resources Act* (OWRA) Approvals	1,200,000	1,500,000	1,800,000
Leachate Management	3,800,000	4,800,000	5,800,000
Groundwater Protection Measures	2,000,000	5,000,000	9,000,000
Final Cover	9,400,000	11,800,000	14,200,000
Landfill Gas Management	13,400,000	16,800,000	20,200,000
Earth Works, Roadways, Landscaping	1,800,000	2,300,000	2,800,000
Stormwater Management	1,000,000	1,200,000	1,400,000
Facilities (administration building, scalehouse, maintenance building, small vehicle drop-off, etc.)	6,900,000	8,600,000	10,300,000
Subtotal	*39,500,000*	*52,000,000*	*65,500,000*
Engineering at 15% of Subtotal	5,900,000	7,800,000	9,800,000
Contingencies at 20% of Subtotal	7,900,000	10,400,000	13,100,000
Total – Direct Landfill Capital Costs	**$53,300,000**	**$70,200,000**	**$88,400,000**
Ancillary Features (Likely Funded by Other Sources) Capital Costs			
Household Special Waste Depot (a large percentage likely funded through Extended Producer Responsibility, if built)	1,000,000	1,200,000	1,400,000
Renewable Natural Gas Plant (funded through RNG sales, if built)	11,600,000	14,500,000	17,400,000
Subtotal	*12,600,000*	*15,700,000*	*18,800,000*
Engineering at 15% of Subtotal	1,900,000	2,355,000	2,800,000
Contingencies at 20% of Subtotal	2,500,000	3,140,000	3,800,000
Total – Ancillary Features Capital Costs	**$17,000,000**	**$21,195,000**	**$25,400,000**
GRAND TOTAL	**$70,300,000**	**$91,395,000**	**$113,800,000**

Waste Management Working Group (WMWG) Meeting

The WMWG reviewed the assessment of landfill expansion alternatives at its August 13, 2020 meeting and passed the following resolution:

> *…"Alternative 1 - Vertical Expansion Over Existing Footprint"* ***BE SUPPORTED IN PRINCIPLE*** *as the preferred landfill expansion alternative..*

During the Working Group discussion on the assessment of alternatives, a number of items were raised including:

- The need to move to the next step of developing principles, requirements and restrictions for waste that could be delivered to the expanded landfill;
- The need to ensure meaningful and thorough Indigenous community engagement;
- The need to ensure that community engagement for Open House #4 and other engagement opportunities are consistent with best practices and requirements of the COVID-19 pandemic and introduce flexibility to meet community and stakeholder needs;
- The updated approaches to manage leachate at the W12A Landfill;
- Potential implications to the four and ten year capital budgets; and,
- Providing additional details on the assessment of alternatives to CWC and Council (see Appendix A).

Next Steps

The remaining tasks and schedule to complete the EA are summarized in Table 5.

Table 5 – Schedule and Remaining Tasks to Complete EA

Task	Timeline	Comments
Additional Public (Community) Engagement	• August to November 2020	• Second First Nations Workshop in August • Fourth Open House in October • Other engagement opportunities
Complete Detailed Assessments of Preferred Alternative	• September 2020	• Determine the net effects of the preferred alternative (Step 5) • Describe preferred alternative (Step 6) • Consideration of Climate Change (Step 7) • Cumulative Impact Assessment (Step 8)
Prepare Preliminary Draft EA Report	• September to October 2020	• Prepare preliminary draft EA report and send to MECP for comments
Prepare Draft EA Report	• November 2020 to January 2021	• Update report based on MECP comments and prepare Draft EA report • Review of Draft by MECP, Government Review Team (GRT), Stakeholder • Council Approval
Formal Submission of EA Documentation	• February 2021	• Publish required notices and submit to MECP

Table 5 – Schedule and Remaining Tasks to Complete EA

Task	Timeline	Comments
Minister Decision	• March 2021 to September 2021	• The MECP process requires the Minister to make a decision on whether to approve or reject an EA within 30 weeks of submission. This includes the MECP public and agency review period. • A decision by the Minister after 30 weeks is still valid.

It is currently proposed that the fourth Open House planned for October will have both an in-person and a virtual component as in the past. The in-person Open House is tentatively scheduled October 14 and/or October 15. Appropriate COVID-19 safety measures will be in place for the in-person Open House including limiting the number of persons inside at one time, physical distancing, face masks, hand sanitizer, etc. The format for the in-person component will be approved in advance by the City's Senior Leadership Team (SLT).

Like the three previous Open Houses, all materials will be on the City's website with opportunities to ask questions and provide comments.

PREPARED BY:	
MIKE LOSEE, B.SC., **DIVISION MANAGER** **SOLID WASTE MANAGEMENT**	

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

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c Wesley Abbott, Technical Project Manager

Appendix A (separate report) - draft Section 7.0, Evaluation and Comparison of Landfill Expansion Alternatives, from the draft Environmental Assessment Study Report (EASR) for the proposed expansion of the W12A Landfill

DRAFT

September 2020

Volume 1

Environmental Assessment of the Proposed W12A Landfill Expansion, City of London

GOLDER

London CANADA

7.0 Evaluation and Comparison of Landfill Expansion Alternatives

7.1 Methodology

In this section, the predicted effects for each 'Alternative Method' are described (Step 3 of the EA process described in Section 3.0 of this EASR), and the 'Alternative Methods' compared (Step 4).

As described in Section 6.0 of this EASR, three 'Alternative Methods' for expansion of the W12A Landfill were developed. These alternatives are referred to as:

- Alternative 1 – Vertical Expansion Over Existing Footprint (Figure 6.2-1);
- Alternative 2 – Horizontal Expansion to the North and Vertical Expansion Over Part of the Existing Footprint (Figure 6.2-2); and
- Alternative 3 – Horizontal Expansion to the East and Vertical Expansion Over Part of the Existing Footprint (Figure 6.2-3).

In accordance with the approved Amended ToR, there are a total of 12 components (e.g., atmosphere, surface water, biology, etc.) and 18 sub-components (e.g., air quality, noise, surface water quality, etc.) that have been considered in the assessment. For further clarification, 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. A detailed description of the components, sub-components and indicators used for this assessment are provided in Table 3.3-1 of Section 3 of this EASR

Section 7.2 of this EASR discusses the predicted or expected effects for each 'Alternative Method' in the context of each component and sub-component using the indicators. The indicators that represent a potential effect of the project were further described by identifying factors that might differentiate between the 'Alternative Methods'. Subsequently, each expansion alternative was comparatively evaluated using either qualitative, quantitative or a combination of each method, as well an assessment of advantages and disadvantages was completed.

The next step in the EA process was to compile the individual component and sub-component comparative evaluations of 'Alternative Methods' and select the overall preferred method of landfill expansion (refer to Section 7.4 of this EASR).

7.2 Assessment of Net Environmental Effects for 'Alternative Methods' and Component Comparison of 'Alternative Methods'

The assessment of net environmental effects for the 'Alternatives Methods' is provided below for each component and sub-component. It is noted that this assessment also indicated if additional mitigation measures, beyond those included in the proposed expansion design or normal operating practices at the Site, are required to achieve site compliance with provincial standards. None of these additional mitigation measures were identified as required. Additionally, during this assessment all the 'Alternative Methods' were found to be fundamentally approvable under the EPA and hence no changes were proposed to the 'Alternative Methods'.

During various consultation activities conducted during this EA, stakeholders did not identify any additional 'Alternative Methods' for consideration.

Following assessment of net environmental effects of the 'Alternative Methods' based on the components and sub-components, the component level comparison of the 'Alternative Methods' was completed.

7.2.1 Atmosphere

The Atmosphere environment component comprises two sub-components:

- Air quality (including dust, odour, GHG); and
- Noise.

Landfill expansion and associated operations can produce gases containing contaminants that degrade air quality, lead to levels of particulates (dust) in the air and result in odour effects. Landfill expansion and associated operations will generate noise that will be emitted into the atmosphere and could affect off-site points of reception (PORs).

The atmosphere assessment for each of the environmental sub-components is summarized in the following sections.

7.2.1.1 Air Quality

In accordance with the approved Amended ToR, the indicators to be considered for air quality are:

- Expected concentrations of air quality indicator compounds (selected regulated air contaminants to represent this type of project) at the property area boundary;
- Expected site-related odour at sensitive Points of Reception (PORs); and
- Expected GHG emissions.

The factors considered to differentiate between the 'Alternative Methods' for landfill expansion from the perspective of the air quality indicators were selected because they are most likely to have the potential to result in an adverse effect. The evaluation of each expansion alternative considered the following factors:

- The maximum predicted off-site concentration of vinyl chloride;
- The waste footprint area and height of the expanded landfill in each of the 'Alternative Methods';
- Proximity of PORs in the predominant wind direction; and
- The surface area of the waste footprint for the expansion for each of the 'Alternative Methods', to assess the variation in GHG emissions.

The first factor was assessed quantitatively and the last three factors were assessed qualitatively.

The maximum predicted off-site concentration of vinyl chloride - The maximum predicted off-site concentration of vinyl chloride using US EPA LandGEM and AERMOD models for each alternative was assessed quantitatively. Vinyl chloride was selected for this assessment as it is one of the common LFG constituents and has a relatively low air quality criterion, compared to other volatile organic compounds typical of landfill gas. It is also predominantly released from the waste footprint area, which is the only variable that differs among the alternatives in terms of the release of vinyl chloride.

This 'Alternative Methods' assessment has been carried out as described in Section 4.3 Step 3: Qualitative and Quantitative Evaluation of 'Alternative Methods' of the Atmosphere Work Plan – Revision 2, dated December 2019 (the Workplan) as provided in this EASR in Appendix B (Volume III).

The assessment for vinyl chloride was completed as follows:

1. Vinyl chloride emission rates from the landfill cap from each 'Alternative Method' were calculated using the US EPA LandGEM model. The waste footprint area does not have any other significant sources of vinyl chloride emissions. Vinyl chloride emissions may also be released from the landfill gas flare but, given the high destruction efficiency (~98 to 99%), these are expected to be insignificant. Additionally, emissions from the flare will not vary significantly between the alternatives. The maximum potential waste throughputs (500,000 tonnes per year) were used in calculating the vinyl chloride emission rates.

   LandGEM was run using historic waste tonnage information and future maximum annual waste inputs to obtain the maximum LFG flow rate from the cap, assuming a lifespan of the landfill from 1977 through the end of 2048. The key input parameters for the LandGEM model are the projected annual tonnages of waste disposed of in the waste footprint area, the LFG production potential (L_o) and the LFG generation rate factor (k).

The following MECP default values for L_o and k were used in the LFG generation estimates as described in the MECP Interim Guide to Estimate and Assess Landfill Air Impacts (MECP, 1992):

$$L_o = 125\ m^3/tonne$$

$$K = 0.04\ year^{-1}$$

Historical disposal values were obtained from the 2019 W12A Landfill Status Report, while future disposal rates were conservatively assumed to be 500,000 tonnes per year (the maximum annual tonnage). It is noted that this conservative disposal rate used for modelling purposes would result in more waste being disposed of in the landfill over its lifetime than what is allowed. Emission rates were extracted for the year that results in the highest landfill gas generation (i.e., 2050).

2. A simplified AERMOD air dispersion model, which included the vinyl chloride emissions (i.e., through the landfill cap), was created for each 'Alternative Method' and run to obtain estimated vinyl chloride concentrations at the property area boundary.

   Emissions from the landfill cap were modelled using an area source based on the waste footprint area and a release height based on half the maximum height of the landfill to conservatively estimate predicted concentrations of vinyl chloride. This approach is consistent with MECP expectations for modelling landfills and current modelling practices using AERMOD.

   The maximum predicted concentration for each alternative was then compared to the Ontario Ambient Air Quality Criteria (AAQC) of 1 µg/m^3 for vinyl chloride on a 24-hour averaging period and 0.2 µg/m^3 on an annual averaging period. The Ontario Regulation 419/05 Schedule 3 limit for vinyl chloride is also 1 µg/m^3 on a 24-hour averaging period.

Table 7.2-1, below, presents the input parameters that were used in the AERMOD air dispersion models for each 'Alternative Method'.

Table 7.2-1: Dispersion Modelling Input Parameters per Area Source

'Alternative Method' of Landfill Expansion	Source	Release Height (m)	Total Footprint Area (ha)	Maximum Emission Rate (g/s)	Maximum Emission Rate per m^2 (g/s-m^2)
1	Landfill Cap	26	107	0.0153	1.42E-08
2	Landfill Cap	19	134	0.0153	1.14E-08
3	Landfill Cap	21	135	0.0153	1.13E-08

Table 7.2-2, below, summarizes the quantitative results of the dispersion modelling of each 'Alternative Method'. Concentrations presented below are the maximum off-property concentrations.

Table 7.2-2: Emission Summary– Vinyl Chloride

'Alternative Method' of Landfill Expansion	Landfill Cap Emission Rate [g/s]	Maximum Predicted Concentration [µg/m³]	Averaging Period	Ontario AAQC [µg/m³]	Percentage of AAQC [%]
1	0.0153	1.97E-01	24-hr	1	19.7%
		2.92E-02	Annual	0.2	14.6%
2	0.0153	2.15E-01	24-hr	1	21.5%
		3.99E-02	Annual	0.2	20.0%
3	0.0153	2.27E-01	24-hr	1	22.7%
		3.16E-02	Annual	0.2	15.8%

Vinyl chloride concentrations for all three 'Alternative Methods' are below the relevant AAQC of 1 µg/m^3 on a 24-hour averaging period and 0.2 µg/m^3 on an annual basis. At 22.7% of the 24-hour AAQC, Alternative 3 has the highest vinyl chloride concentration at or beyond the property area boundary. Alternative 2 has the highest annual concentration at 20% of the annual AAQC. However, the estimated vinyl chloride emissions for each of the alternatives are virtually the same; as such, the three expansion alternatives are considered to be equally preferred.

The waste footprint area and height of the expanded landfill in each of the 'Alternative Methods' – Alternative 2 has the lowest vertical extent (height above ground) of the 'Alternative Methods', which is expected to result in the least dispersion of air emissions and consequently higher concentrations at and beyond the property area boundary. Alternative 1 has the highest vertical extent of the 'Alternative Methods' and is anticipated to result in greater dispersion of air emissions and lower off-property concentrations. Comparatively, the surface area of the landfill final cap for each alternative will impact dilution of emissions. As a result, the impact of these two variables (i.e., release height and surface area of the final cap) is best assessed quantitatively. Based on the quantitative assessment in the previous section the three expansion alternatives are considered to be equally preferred.

Proximity of PORs in the predominant wind direction – A figure showing the PORs is provided in Figure 7.2-1. The shortest distance between the waste footprint area and an existing POR is 160 m to the North for Alternative 2. This POR is an existing residence located near the North property boundary along Scotland Drive and is in the predominant wind direction, noted as POR R009 on Figure 7.2-1. There is a cluster of residences at this location that is considered North for all expansion alternatives. As a result, Alternative 2 is the least preferred option when evaluating the proximity of sensitive PORs. The nearest POR distances for each alternative are presented in **Table 7.2-3**.

Table 7.2-3: Summary of W12A Landfill Expansion 'Alternative Methods'

Item	Existing Landfill	Alternative 1	Alternative 2	Alternative 3
Total Waste Footprint Area (ha)	107	107	134	135
Peak Waste Elevation (masl)	292	317.7	309.8	311.8
Height of Peak above Average Ground Elevation (m), including final cover	17	43	36	38
Distance to nearest Existing POR (m)*	North: 350 m East: 1520 m South: 190 m West: 860 m	North: 350 m East: 1520 m South: 190 m West: 860 m	**North: 160 m** East: 1520 m South: 190 m **West: 840 m**	North: 240 m **East: 1240 km** South: 190 m West: 860 m
Landfill Expansion Surface Area [ha]	—	109 ha	106 ha	108 ha

Note: *Nearest POR in each direction in bolded font

HWY 401 W
HWY 401 E
SCOTLAND DR
WHITE OAK RD
MANNING DR
GLANWORTH DR
WELLINGTON RD S
FISHER LANE
BRADISH RD
R49
R16 - NORTH - ALT2
R13
R12 - WEST - EXT / ALT1 / ALT2 / ALT3
R17 - NORTH - EXT / ALT 1 / ALT3
R01
R05
R02
R03
R18
R10
R09 - NORTH - EXT / ALT1 / ALT2
R11 - NORTH - ALT3
R22
R23
R19
R24
R20
R21 - EAST - EXT / ALT1 / ALT2 / ALT3
R26
R25
R04
R50
R08
R07
R06
R15 - SOUTH - EXT / ALT1 / ALT 2 / ALT3
R14 - SOUTH - EXT / ALT1 / ALT 2 / ALT3
R44
R46
R48
R47
R43
R41
R40
R38
R37
R39
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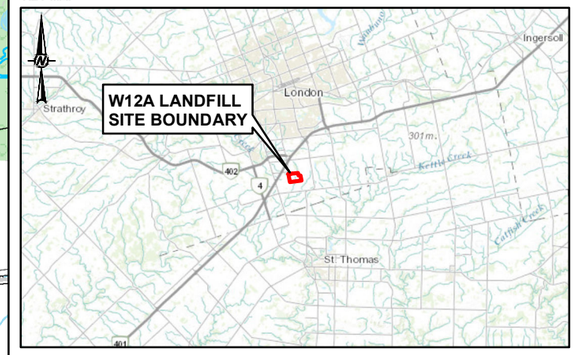
KEY MAP



SCALE 1:750,000

LEGEND

- CITY OWNED PROPERTY - EXISTING
- CITY OWNED PROPERTY - VACANT
- NON-CITY OWNED PROPERTY - EXISTING
- NON-CITY OWNED PROPERTY - VACANT
- WATERCOURSE
- DRIVEWAY
- FENCELINE
- TRAIL
- APPROXIMATE BERM LOCATION
- BUILDING FOOTPRINT
- WOODED AREA
- WATERBODY
- CITY OWNED PROPERTY
- EXISTING PROPERTY BOUNDARY
- PROPOSED PROPERTY BOUNDARY (ALTERNATIVES 1 & 2)
- PROPOSED PROPERTY BOUNDARY (ALTERNATIVE 3)
- EXISTING APPROVED LIMIT OF WASTE
- PROPOSED LIMIT OF WASTE (ALTERNATIVE 1)
- PROPOSED LIMIT OF WASTE (ALTERNATIVE 2)
- PROPOSED LIMIT OF WASTE (ALTERNATIVE 3)
- EASTERN SECTION
- NORTHERN SECTION
- SOUTHERN SECTION
- WESTERN SECTION

REFERENCE(S)
1. DATA PROVIDED BY THE CITY OF LONDON.
2. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
COORDINATE SYSTEM: UTM ZONE 17 VERTICAL DATUM: CGVD28

CLIENT
CORPORATION OF THE CITY OF LONDON

PROJECT
INDIVIDUAL EA OF THE PROPOSED W12A LANDFILL EXPANSION

TITLE
AIR AND NOISE EVALUATION AND COMPARISON OF LANDFILL EXPANSION ALTERNATIVES

CONSULTANT
GOLDER

YYYY-MM-DD	2020-03-04
DESIGNED	----
PREPARED	JEM
REVIEWED	----
APPROVED	----

PROJECT NO.	PHASE	REV.	FIGURE
1648176	0012	A	7.2-1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 0 25mm

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The surface area of the expansion waste footprint – For the purposes of evaluating the greenhouse gas emissions from the 'Alternative Methods', it was assumed that the alternative with the largest surface area within the waste footprint area for placement of expansion waste will contribute to the largest GHGs, and would be the least preferred alternative. As shown in **Table 7.2-3**, since the surface areas of the expansion for each of the alternatives are virtually the same, the three expansion alternatives are considered to be equally preferred from a GHG emissions perspective.

Based on the above quantitative evaluation of vinyl chloride emissions and the rationale provided above for each of the differentiating factors, the alternative assessment as summarized in Table 7.2-4 results in Alternative 1 being identified as the most preferred from an air quality perspective.

Table 7.2-4: Air Quality Evaluation of 'Alternative Methods'

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
Predicted concentrations of air quality indicator compounds at the property area boundary	The maximum predicted off-site concentration of vinyl chloride	19.7% or 14.6% of the 24-hr or annual AAQC Equally preferred	21.5% or 20.0% of the 24-hr or annual AAQC Equally preferred	22.7% or 15.8% of the 24-hr or annual AAQC Equally preferred
	The footprint area and height of the landfill in each of the 'Alternative Methods'	Area = 107 ha and elevation = 317.7 masl; see quantitative assessment for vinyl chloride Equally preferred	Area = 134 ha and elevation = 309.8 masl; see quantitative assessment for vinyl chloride Equally preferred	Area = 135 ha and elevation = 311.8 masl; see quantitative assessment for vinyl chloride Equally preferred
Expected site-related odour at sensitive PORs	Proximity of existing PORs in the predominant wind direction	Equal or farthest distance to PORs Most Preferred	Equal or closest distance to PORs Least Preferred	Equal or slightly closer distance to PORs Less Preferred
Expected GHG emissions	Surface Area for placement of waste in the expansion (m^2)	109 ha Equally Preferred	106 ha Equally Preferred	108 ha Equally Preferred
Preferred Alternative for Air Quality		**Most Preferred**	**Least Preferred**	**Less Preferred**

In addition to the comparative evaluation using the indicators and factors of differentiation, the advantages and disadvantages identified by the comparative evaluation are shown in **Table 7.2-5**.

Table 7.2-5: Evaluation of Advantages and Disadvantages for Air Quality

Air Quality	Advantages	Disadvantages
Alternative 1	Results in the lowest predicted off-site concentrations of air quality contaminants, although only small differences among alternatives. This alternative is the least likely to impact sensitive PORs from an odour nuisance perspective.	None
Alternative 2	None.	This alternative is the most likely to impact off-site sensitive PORs from an odour nuisance perspective.
Alternative 3	This alternative is less likely than Alternative 2, but more likely than Alternative 1 to impact sensitive off-site PORs from an odour nuisance perspective.	None

7.2.1.2 Noise

In accordance with the approved Amended ToR, the indicator to be considered for Noise is:

- Noise Levels at off-site noise sensitive land uses with POR(s) where human activity is expected to occur.

The factors considered to differentiate between the 'Alternative Methods' for landfill expansion from the perspective of the noise indicator were selected because they are most likely to have the potential to result in an adverse effect. The evaluation of each expansion alternative considered the following factors that were assessed quantitatively:

- Increase of maximum height of the landfill above grade elevation;
- Shortest potential distance of landfill activities to any POR;
- Direction of the nearest POR from the landfill;
- Maximum potential change in noise level (dB); and
- Compliance with Noise Level Limits.

Identification of PORS – The PORs will be identified in accordance with Ontario Ministry of the Environment, Conservation and Parks (MECP) *Environmental Noise Guideline – Stationary and Transportation Sources – Approval and Planning Publication NPC-300* (NPC-300) dated August 2013 (NPC-300). Noise impacts will be assessed in accordance with NPC-300 and the MECP *Noise Guidelines for Landfill Sites, October 1998* (Landfill Guideline). The Landfill Guideline specifically deals with landfilling activities and specifies the respective sound level limits, while NPC-300 covers other noise sources that could operate at the landfill (i.e., stationary noise sources and ancillary activities) and defines PORs. The Landfill

Guideline and NPC-300 each provide definitions for a POR. Based on previous experience with similar projects it is expected the MECP will apply the definition in NPC-300 to this project.

Existing PORs are located in all directions from the landfill with the greatest concentration of existing PORs directly adjacent to the landfill located to the west, north and south; to the east, PORs are located greater than 1 kilometre from the east limit of the area being considered to accommodate the landfill expansion. The POR layout is presented in the attached site plan Figure 7.2-1 and each POR has been assigned a number. This figure was prepared using information provided by the City, including the City figure *W12A Landfill 2019 Annual Report – Map 4*. The following are key aspects regarding the land use and PORs:

- The lands bounded by White Oak Road (west), Scotland Drive (north), Manning Drive (south) and Wellington Road South (east) are primarily City-owned lands and extend eastward beyond the defined Waste Management Resource Recovery Area (WMRRA);
- The existing POR north of the Landfill and south of Scotland Drive is within the proposed property boundary for each landfill expansion alternative and is proposed to be demolished and the land will remain vacant and re-zoned to allow waste management. The other PORs owned by the City are proposed to remain unless there are technical reasons for them to be removed; and
- City-owned lands west of the Landfill along White Oak Road are vacant and will no longer include residential dwellings or other noise sensitive uses.

In NPC-300, it states "*A land use that would normally be considered noise sensitive, such as a dwelling, but is located within the property boundaries of the stationary source is not considered a noise sensitive land use*". Therefore, any PORs within the landfill expansion proposed property boundary will not be assessed. The MECP confirmed the following regarding POR(s) for the noise assessment in June 2020 after a pre-consultation meeting in May 2020:

1) For existing sensitive properties (houses): These properties need to be assessed for noise emissions, and appropriate control measures (if warranted) should be recommended and installed;
2) For future sensitive properties (vacant lots): These properties need to be assessed for noise emissions, and appropriate control measures (if warranted) should be recommended. The installation of these control measures (if warranted) can be deferred to future dates following the development of sensitive buildings on these vacant lots; and
3) For existing sensitive properties (houses) that will be made vacant by the City: These properties need to be assessed for noise, and appropriate control measures (if warranted) should be recommended. The installation of these control measures (if warranted) can be deferred to future dates when these sensitive buildings will be re-occupied.

For the purposes of this 'Alternative Methods' comparison, the following existing PORs were considered: those on: 1) non-City owned lands, and 2) City-owned lands outside the landfill expansion proposed property boundary. In addition, only existing PORs were assessed and the potential noise impact on vacant lots that can accommodate noise sensitive uses were not directly considered, whether on City-owned or non-City owned lands. The review of vacant lots will be completed during the detailed impact assessment for the preferred expansion alternative.

A semi-quantitative assessment of the three 'Alternative Methods' was completed to evaluate the potential impacts on noise levels. The assessment was completed in relation to MECP noise guidelines: NPC-300 and the Landfill Guidelines, and focused on the landfilling operations as this activity differed among the alternatives. The assessment of ancillary facilities and off-site vehicles will be carried out in the assessment of the preferred alternative. The factors considered to differentiate between the 'Alternative Methods' for the landfill expansion, from the perspective of noise, were selected because they have the greatest potential to result in an adverse effect. These consist of: the potential acoustic exposure and the proximity of the landfilling activities to the existing POR(s), the potential change in noise levels in relation to the existing landfill activities, and compliance of the alternatives in relation to applicable noise limits. These factors are further discussed below.

Increase of maximum height of the landfill above grade elevation – The height of the currently approved landfill peak above ground is 17 m. All three alternatives will increase the maximum height of the landfill above grade elevation; Alternative 1 has the greatest increase of 26 m, then Alternative 3 with an increase of 21 m and Alternative 2 with an increase of 19 m. The increase in height is expected to have minimal potential effect on the maximum expected noise levels at PORs to the east and west that are located more than 500 m from the landfill, but could affect the maximum noise levels at the PORs that are closer to the north and south boundary due to greater exposure over the existing landfill perimeter berms. The PORs closest to the north and south have the potential for the greatest change in the maximum noise levels, although noting that distance is the more dominating factor in assessing potential for this change rather than line-of-sight.

Shortest potential distance of Landfill activities to any POR and direction of the nearest POR from the Landfill – Table 7.2 6, below, presents the minimum distances to existing PORs from the landfill activities, which were considered to predict the potential increases in noise levels.

Table 7.2-6: Minimum Distances (m) to Existing PORs from Landfill Activities

Direction [1]	Type of POR	Current	Alternative 1	Alternative 2	Alternative 3
North	City owned	~ 350	~ 350	~ 160	**~ 240** [3]
	Non-City owned	~ 440	~ 440	**~ 240** [3]	~ 440
East	City owned	~ N/A [2]	~ N/A [2]	~ N/A [2]	~ N/A [2]
	Non-City owned	~ 1520	~ 1520	~ 1520	**~ 1240**
South	City owned	~ 1200	~ 1200	~ 1200	~ 1200
	Non-City owned	~ 190	~ 190	~ 190	~ 190
West	City owned	~ 860	~ 860	**~ 840**	~ 860
	Non-City owned	~ N/A [2]	~ N/A [2]	~ N/A [2]	~ N/A [2]

Notes: [1] Relative to the future landfill waste footprint limits.

[2] There are no existing PORs located in this direction relative to the landfill waste limits or were considered in another direction.

[3] This POR is different than the POR identified for the other alternatives.

Where distances to PORs have decreased when compared to the current landfill activities, the values are presented in **bold** text in Table 7.2 6. Alternative 1 results in no change in distance to any of the PORs, but for Alternative 2 and Alternative 3 the landfill activities can move closer to the PORs with Alternative 2 resulting in a greater number of PORs being approached. The changes in distances and the potential change in noise levels are further analyzed below.

Maximum potential change in noise level (dB) – Based on information about the existing landfill, a berm is currently located along the northern, western, southern and part of the eastern property lines of the landfill; however, it is not expected to provide noise mitigation as it is too low to reduce the line-of-sight of any of the PORs to the landfill expansion 'Alternative Methods'. Any increase in maximum landfill height over the existing approved maximum height is expected to have a potential impact on the exposure to noise to any of the PORs. This is an important consideration as noise levels at a POR can be impacted by the line-of-sight to a noise generating activity; this will be considered through the quantitative noise assessment completed in support of the assessment of the preferred alternative.

Although direct line-of-sight exposure to a source is an important factor, in the outdoor environment, other than altering the noise emissions of the activities, the distance of the noise generating activity to a POR is one of the most dominant factors in determining the potential noise levels at the POR. As distance increases, noise levels typically decrease. At the distances applicable to the landfill, the activities act like point sources, and the predicted noise levels at increased/decreased distances can be estimated using the following formula.

$$dBA_{(X_1)} = dBA_{(X_{ref})} - 20 \times \log\left(\frac{X_i}{X_{ref}}\right)$$ Equation

In the Landfill Guideline, the MECP provides guidance for a qualitative assessment of expected changes in noise levels when assessing “off-site vehicles”. This qualitative assessment criterion has been considered appropriate for the purposes of this assessment of alternatives. Table 7.2-7 summarizes the qualitative rating of an increase in sound level.

Table 7.2-7: Landfill Guideline Qualitative Rating of Increases in Sound Levels

Sound Level Increase (dB)	Qualitative Rating
1 to 3 inclusive	Insignificant
3 to 5 inclusive	Noticeable
5 to 10 inclusive	Significant
10 and over	Very significant

As discussed above, for a given operating scenario the distance between the source and POR has the greatest influence on potential noise levels. The potential acoustic performance of topographical features such as property line berms generally have less of a noise impact. Accordingly, the noise assessment focused on the respective changes in distances between the existing and proposed landfilling activities, and the identified existing PORs.

Using Equation 1, the potential increases in noise levels when compared with the current worst-case landfilling activities for each of the ‘Alternative Methods’, due to distance alone, was predicted. These potential increases, without noise mitigation measures, are presented in Table 7.2-8.

Table 7.2-8: Potential Increases in Noise Levels (dB)

Direction	Type of POR	Current	Alternative 1	Alternative 2	Alternative 3
North	City owned	-	0	7	3
	Non-City owned	-	0	5	0
East	City owned	-	N/A[1]	N/A[1]	N/A[1]
	Non-City owned	-	0	0	2
South	City owned	-	0	0	0
	Non-City owned	-	0	0	0
West	City owned	-	0	0	0
	Non-City owned	-	N/A[1]	N/A[1]	N/A[1]

Note: [1] There are no existing PORs located in this direction relative to the landfill waste limits or were considered in another direction.

Considering distance alone, Alternative 1 is not expected to increase the worst-case noise impact at any PORs when compared to the current landfill activities. Alternative 2 could result in increases of up to 7 dB at PORs to the north. According to the Landfill Guideline, this would result in a qualitative rating of 'significant'. At all remaining PORs, no increase in worst-case noise impact from Alternative 2 is expected when compared to the current landfill activities and considering distance alone. Alternative 3 could result in increases of up to 3 and 2 dB at PORs to the north and east, respectively. According to the Landfill Guideline, this would result in a qualitative rating of 'insignificant'. At all remaining PORs, no increase in worst-case noise impact from Alternative 3 is expected when compared to the current landfill activities and considering distance alone.

Compliance with Noise Level Limits – As discussed above, the Landfill Guideline specifically deals with landfilling activities and specifies the respective sound level limits. It is expected that with the use of appropriate noise mitigation measures each of the expansion alternatives can be designed and operated to comply with the applicable noise level limits.

The comparative evaluation of the 'Alternative Methods' using the identified factors is presented in Table 7.2-9. Based on the evaluation, Alternative 1 is the preferred alternative for noise.

Table 7.2-9: Noise Evaluation of the 'Alternative Methods'

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
Noise Levels and Change in Noise Levels at PORs	Increase of maximum height of the landfill above grade elevation	26 m Least Preferred	19 m Most Preferred	21 m Less Preferred
	Shortest potential distance of landfill activities to any POR	~ 190 m Most Preferred	~ 160 m Least Preferred	~ 190 m Most Preferred
	Direction of the nearest POR from the landfill	South Equally Preferred	North Equally Preferred	North Equally Preferred
	Maximum potential change in noise level (dB)	0 Most Preferred	7 Least Preferred	3 Less Preferred
	Compliance with Noise Level Limits	Can be designed and operated to comply Equally Preferred	Can be designed and operated to comply Equally Preferred	Can be designed and operated to comply Equally Preferred
Preferred Alternative for Noise [1]		**Most Preferred**	**Least Preferred**	**Less Preferred**

Note*:* [1] As further discussed below, it is expected each 'Alternative Method' could be designed and operated in a manner to comply with MECP noise limits and address potential nuisance concerns.

In addition to the comparative evaluation using the indicators and factors of differentiation, an assessment based on advantages and disadvantages identified by the comparative evaluation was also completed (refer to **Table 7.2-10**).

Table 7.2-10: Evaluation of Advantages and Disadvantages for Noise

Noise	Advantages	Disadvantages
Alternative 1	Potential increase and change in noise levels expected to be minimal in all directions	Potential increase and change in noise levels at PORs expected in all directions although lowest change of three alternatives
Alternative 2	Potential increase and change in noise levels at PORs is expected, but not in all directions	Greatest potential increases and change in noise levels expected in some directions
Alternative 3	Potential increase and change in noise levels at PORs is expected, but not in all directions	Potential increase and change in noise levels are expected to be greater than Alternative 1 in some directions

Although all of these 'Alternative Methods' could result in an increase in the maximum noise levels at some PORs, based on previous experience with similar sites across Ontario, it is expected each 'Alternative Method' could be operated with administrative and/or physical

noise controls in a manner to ensure the MECP noise limits are met and the potential nuisance concerns are minimized.

Through a detailed noise assessment of the preferred expansion alternative, the detailed noise modelling will provide information for planning of any required noise mitigation measures for the preferred expansion alternative.

7.2.2 Biology

The Biology component comprises two sub-components:

- Aquatic ecosystems; and,
- Terrestrial ecosystems.

The biology assessment for each of the environmental sub-components is summarized in the following sections.

7.2.2.1 Aquatic Ecosystem

In accordance with the approved Amended ToR, the indicators to be considered for aquatic ecosystems are:

- Expected change in surface water quality on-site and within the Site-Vicinity Study Area; and
- Expected impact on aquatic habitat and biota, including rare, threatened or endangered species on-site and within the Site-vicinity Study Area.

The factors considered to differentiate between 'Alternative Methods' for landfill expansion, from the perspective of the aquatic ecosystems indicators, were selected because they are most likely to result in an adverse effect. The factors considered were:

- Change in the Site Development Area of the landfill;
- Change in the Waste Footprint Area of the landfill;
- Change in discharge rate from SWM ponds;
- Change in discharge volume from SWM ponds;
- Change in water quality to receiving watercourses;
- Change in discharge area to SWM ponds;
- Impact to aquatic SAR or sensitive species; and
- Loss of potential fish habitat.

The comparative evaluation of 'Alternative Methods' using these factors is presented in Table 7.2-11. Impacts to aquatic habitat and biota were determined using the constraints identified and the proposed waste footprints for each of the three alternatives. Figure 7.2-2 to Figure 7.2-4 display both the constraints mapping and the location of the three alternatives.

All aquatic habitat that falls within the proposed waste footprint for each alternative was included in the area totals provided in Table 7.2-11. Additionally, the 100 m closest to the landfill in the buffer that has been provided between the proposed property limits and the expanded limits of waste for the Alternatives was considered as an impact area to account for possible temporary impacts of construction activities related to the landfill expansion or the location of landfill infrastructure within the buffer. Impacts related to changes in surface water quality and quantity derived from the factors and impacts presented in the comparison of alternatives tables for surface water, Section 7.2.7, were also considered.

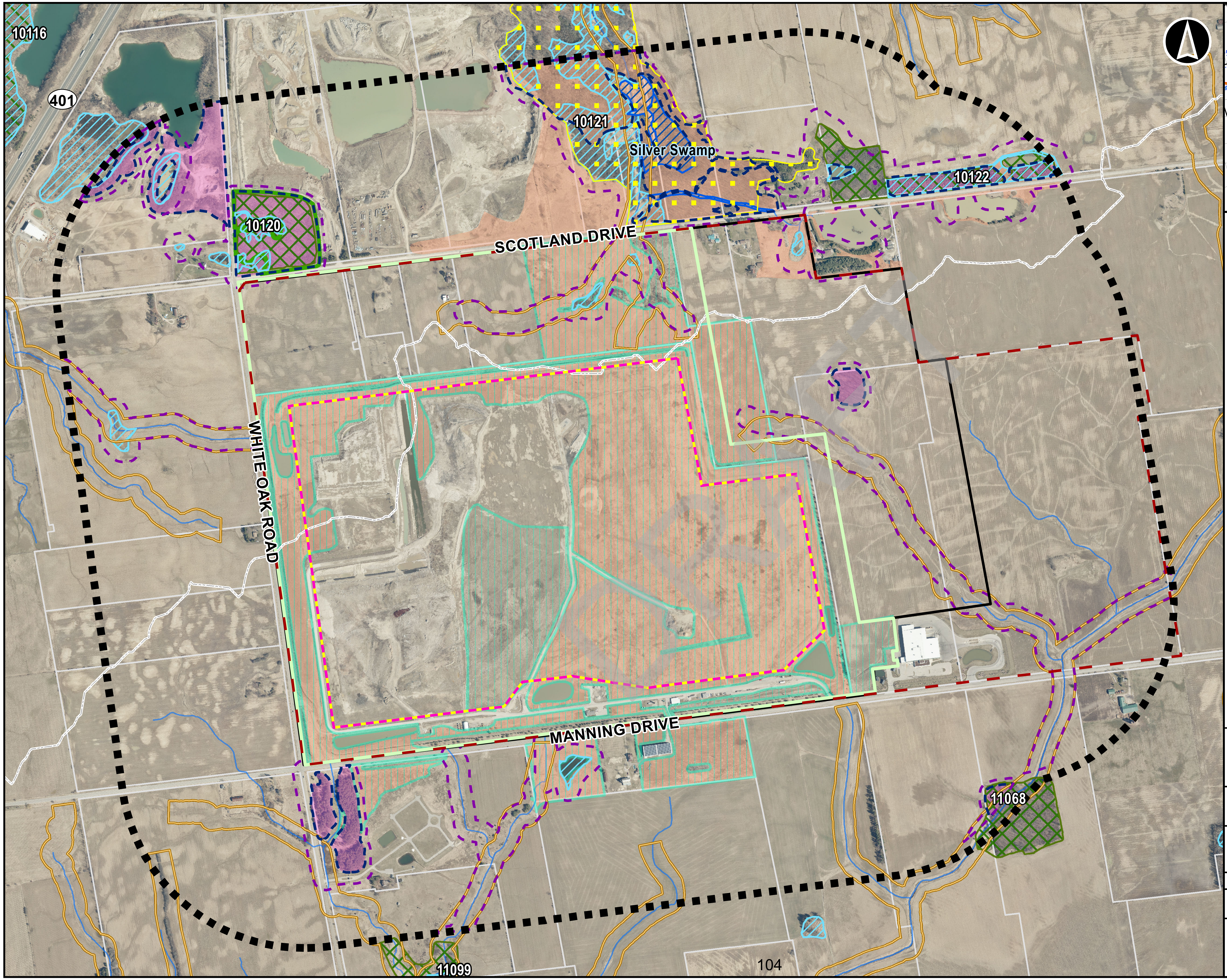
Table 7.2-11: Aquatic Ecosystem Evaluation of 'Alternative Methods'

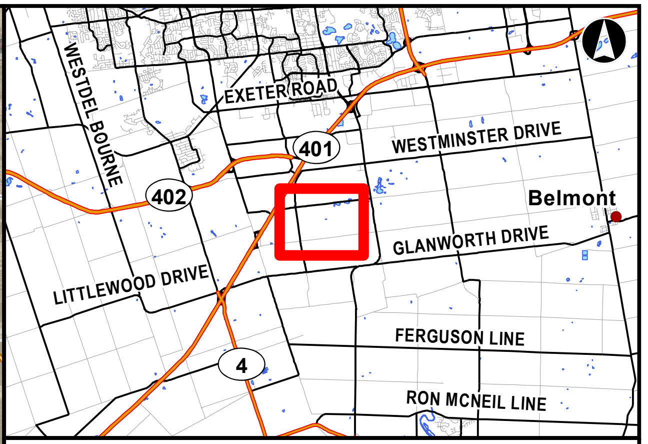
Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
Expected change in surface water quality on-site and within the site-vicinity	Site Development Area	Minor increase in surface area of landfill (~9 ha) Most Preferred	Significant increase in surface area of landfill (~47 ha) Less Preferred	Significant increase in surface area of landfill (~43 ha) Less Preferred
	Waste Footprint area of landfill	107 ha Most Preferred	134 ha Less Preferred	135 ha Less Preferred
	Change in discharge rate from SWM ponds	Peak flow similar to existing proposed landfill design Equally Preferred	Peak flow earlier and for longer duration Equally Preferred	Peak flow earlier and for longer duration Equally Preferred
	Change in discharge volume from SWM ponds	Minor increase in total volume of runoff leaving the Site Study Area Most Preferred	Larger increase in total volume of runoff leaving the Site Study Area (minor on a full watershed scale) Less Preferred	Larger increase in total volume of runoff leaving the Site Study Area (minor on a full watershed scale) Less Preferred
	Change in water quality to receiving watercourses	SWMPs will be upgraded as required and designed to achieve 80% TSS removal Equally Preferred	SWMPs will be upgraded as required and designed to achieve 80% TSS removal Equally Preferred	SWMPs will be upgraded as required and designed to achieve 80% TSS removal Equally Preferred
	Change in drainage area to SWM ponds	Remains same Most Preferred	Increased Less Preferred	Increased Less Preferred
	Ranking	**Most Preferred**	**Less Preferred**	**Less Preferred**

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
Expected impact on aquatic habitat and biota, including rare, threatened or endangered species within on-site and within the site-vicinity	Impact to aquatic SAR or sensitive species	No important or exceptional fish habitat was observed within the Study Area. Equally preferred	No important or exceptional fish habitat was observed within the Study Area. Equally preferred	No important or exceptional fish habitat was observed within the Study Area. Equally preferred
	Loss of potential fish habitat[1]	None Most Preferred	~659 m (~2132 m^2) Least Preferred	~106 m (~212 m^2) Less Preferred
	Ranking	**Most Preferred**	**Least Preferred**	**Less Preferred**
Preferred Alternative for Aquatic Ecosystems		**Most Preferred**	**Least Preferred**	**Less Preferred**

Note: [1] For agricultural drains, a bank full width of 2 m was used to calculate the available area of fish habitat

In addition to the comparative evaluation using the indicators and factors of differentiation, an assessment based on advantages and disadvantages identified by the comparative evaluation is shown in Table 7.2-12. Only those advantages or disadvantages that are unique to each alternative have been presented in Table 7.2-12 (e.g., impacts to SAR or sensitive species are not listed as they are the same across the alternatives).





Legend

- Watercourse
- Parcel Fabric
- Site Study Area
- Site-vicinity Study Area
- Waste Management Resource Recovery Area Boundary
- Proposed Property Boundary
- Existing Limits of Waste
- Proposed Limits of Waste

Natural Heritage Features

- 11068 Woodlot or Wetland Patch ID
- Conservation Authority Boundary
- Valleyland
- Potential ESA
- Locally Significant Wetland
- Unevaluated Wetland
- Significant Woodland
- Significant Woodland
- Species At Risk (SAR) Habitat
- Candidate Species at Risk (SAR) Habitat
- Confirmed Significant Wildlife Habitat (SWH)
- Candidate Significant Wildlife Habitat (SWH)
- Preliminary Buffer

0 50 100 200 300 400 500
Metres

W12A Landfill Expansion
Environmental Assessment

Comparison of Alternative Methods
- Alternative 1

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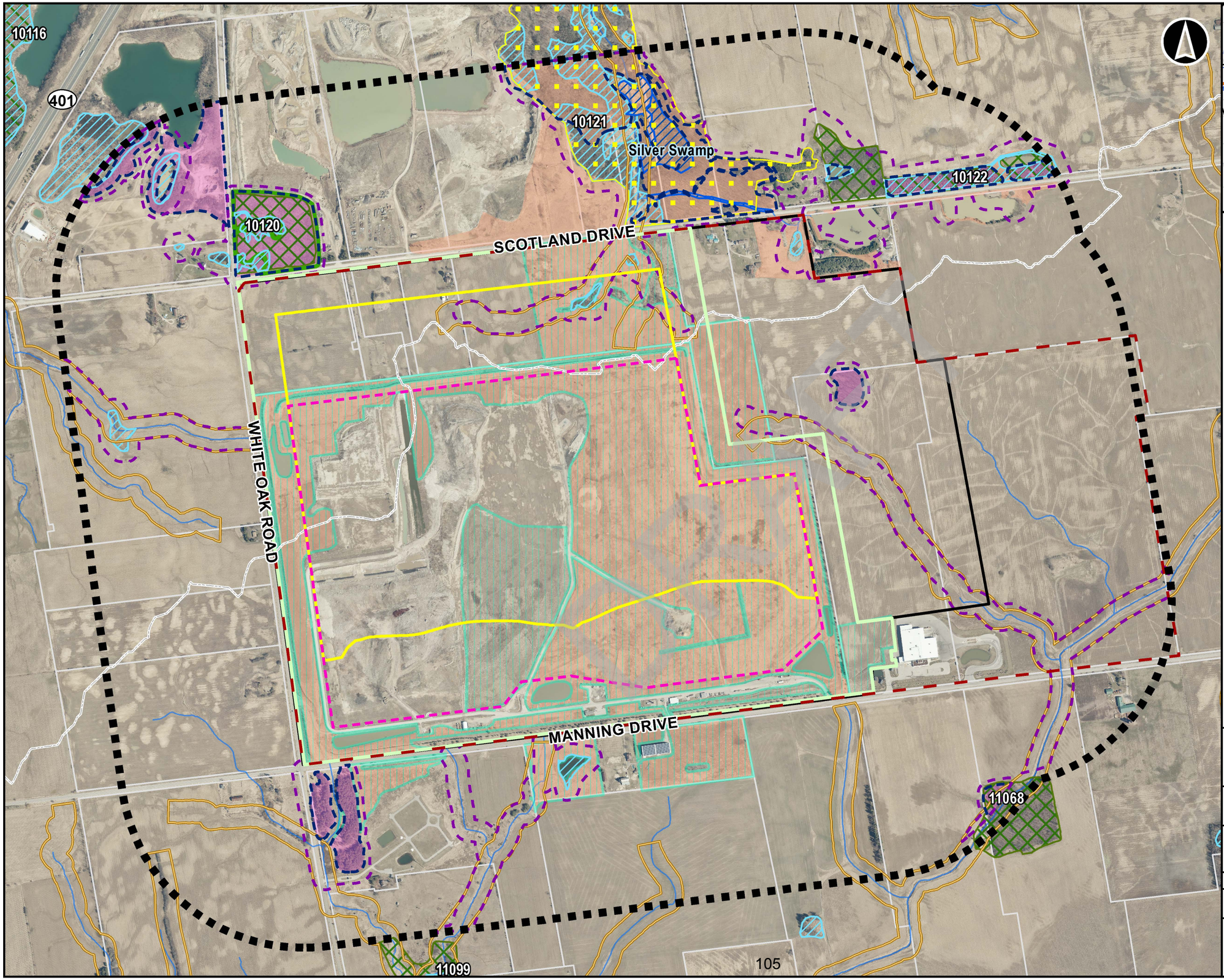
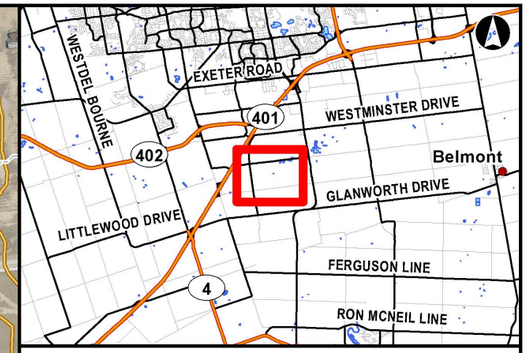
P#: 60556244	V#: 001	
AECOM		7.2-2





Legend

- Watercourse
- Parcel Fabric
- Site Study
- Site-vicinity Study Area
- Waste Management Resource Recovery Area Boundary
- Proposed Property Boundary
- Existing Limits of Waste
- Proposed Limits of Waste

Natural Heritage Features

- 11038 Woodlot or Wetland Patch ID
- Conservation Authority Boundary
- Valleyland
- Potential ESA
- Locally Significant Wetland
- Unevaluated Wetland
- Significant Woodland
- Significant Woodland
- Species At Risk (SAR) Habitat
- Candidate Species at Risk (SAR) Habitat
- Confirmed Significant Wildlife Habitat (SWH)
- Candidate Significant Wildlife Habitat (SWH)
- Preliminary Buffer

0 50 100 200 300 400 500
Metres

W12A Landfill Expansion Environmental Assessment

Comparison of Alternative Methods - Alternative 2

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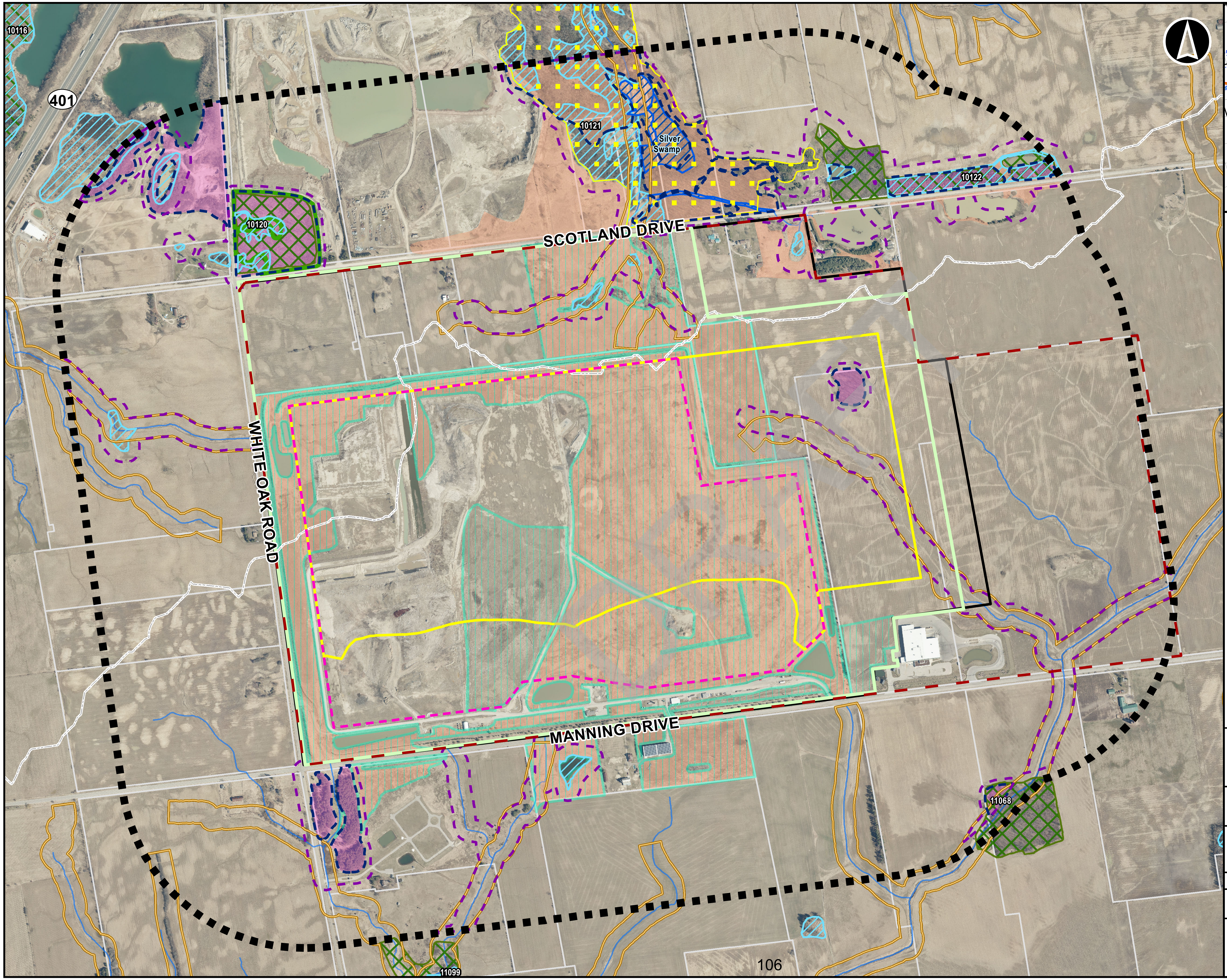
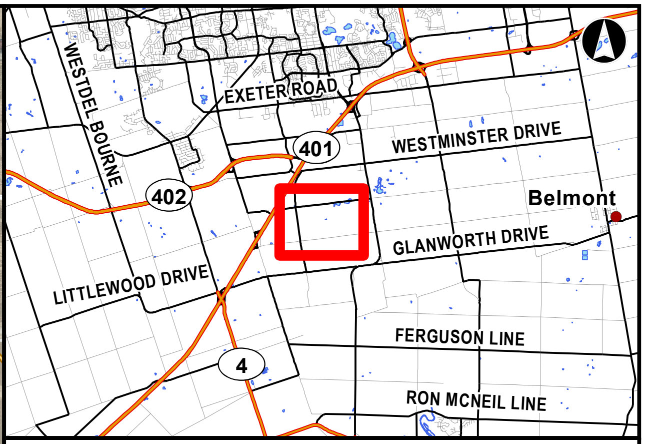
AECOM





Legend

- Watercourse
- Parcel Fabric
- Site Study Area
- Site-vicinity Study Area
- Waste Management Resource Recovery Area Boundary
- Proposed Property Boundary
- Existing Limits of Waste
- Proposed Limits of Waste

Natural Heritage Features

- 11088 Woodlot or Wetland Patch ID
- Conservation Authority Boundary
- Valleyland
- Potential ESA
- Locally Significant Wetland
- Unevaluated Wetland
- Significant Woodland
- Significant Woodland
- Species At Risk (SAR) Habitat
- Candidate Species at Risk (SAR) Habitat
- Confirmed Significant Wildlife Habitat (SWH)
- Candidate Significant Wildlife Habitat (SWH)
- Preliminary Buffer

0 50 100 200 300 400 500
Meters

W12A Landfill Expansion Environmental Assessment

Comparison of Alternative Methods - Alternative 3

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P#: 60556244	V#: 001	7.2-4

AECOM

Table 7.2-12: Evaluation of Advantages and Disadvantages for Aquatic Ecosystems

Aquatic Ecosystems	Advantages	Disadvantages
Alternative 1	Majority of impacts restricted to the current Site Development Area. No expected impacts to adjacent watercourses that would result in a loss of potential fish habitat	None
Alternative 2	None	Removal of the entire portion of the Bannister-Johnson Drain south of Scotland Drive will likely result in a decrease of inputs (e.g. natural sediment transport processes) to the downstream portions of the Drain. Greatest loss of potential fish habitat. Increase in surface water runoff being directed to on-site SWM ponds. Increase in total volume of runoff leaving the subject site.
Alternative 3	None	Removal of a portion of an un-named tributary will likely result in a decrease of inputs (e.g., natural sediment transport processes) to the Shore Creek Drain. Small loss of potential fish habitat. Increase in surface water runoff being directed to on-site SWM ponds. Increase in total volume of runoff leaving the subject site.

After reviewing the impacts of the three alternatives it was determined that Alternative 1 was the most preferred option from an aquatic ecosystem perspective while Alternative 3 was a less preferred option and Alternative 2 was the least preferred option.

Alternative 1 was chosen as the most preferred option as the majority of potential impacts are restricted to the existing Site Development Area, limiting its potential impact to surrounding watercourses and fish habitat.

Alternative 2 was chosen as the least preferred option as it accounts for the greatest potential loss of potential fish habitat. Both Alternative 2 and 3 were found to have similar disadvantages regarding the quantity and quality of surface water conditions on-site and within the vicinity of the landfill compared to Alternative 1.

7.2.2.2 Terrestrial Ecosystems

In accordance with the approved Amended ToR, the indicator to be considered for terrestrial ecosystems is:

- Expected impact on terrestrial vegetation communities, wildlife habitat, and wildlife, including rare, threatened or endangered species on-site and within the Site-vicinity Study Area.

The factors considered to differentiate between 'Alternative Methods' for landfill expansion, from the perspective of the terrestrial ecosystems indicator, were selected because they are most likely to result in an adverse effect. These consist of:

- Change in the Site Development Area of the landfill;
- Change in the Waste Footprint Area of the landfill;
- Impact to SAR;
- Impact to Significant Wildlife Habitat (SWH);
- Removal of natural vegetation;
- Impacts to natural features identified on MAP 5 of the London Plan; and,
- Potential for off-site impacts to wildlife habitat.

The comparative evaluation of 'Alternative Methods' using these factors is presented in Table 7.2-13. Impacts were determined using the constraints identified and the proposed footprints for each of the three expansion alternatives. Figure 7.2-1 to Figure 7.2-3 display both the constraints mapping and the location of the three expansion alternatives.

All vegetation communities, habitat and natural features that fall within the proposed Waste Footprint Area for each alternative were included in the area totals provided in Table 7.2-13**.** Additionally, the 100 m closest to the landfill in the buffer that has been provided between the proposed property limits and the proposed Waste Footprint Areas for the Alternatives was considered as impact area to account for possible temporary impacts of construction actives related to the landfill expansion or the location of landfill infrastructure within the buffer.

Table 7.2-13: Terrestrial Ecosystems Evaluation of 'Alternative Methods'

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
Expected impact on terrestrial vegetation communities, wildlife habitat, and wildlife, including rare, threatened or endangered species on-Site and within the Site-vicinity	Site Development Area	Minor increase in surface area of landfill (~9 ha) Most Preferred	Significant increase in surface area of landfill (~47 ha) Less Preferred	Significant increase in surface area of landfill (~43 ha) Less Preferred
	Waste Footprint area of landfill	107 ha Most Preferred	134 ha Less Preferred	135 ha Less Preferred
	Impact to SAR habitat – Bobolink	63.19 ha Less Preferred	60.39 ha Less Preferred	53.4 ha Most Preferred
	Impact to SAR habitat – Eastern Meadowlark	114 ha Less Preferred	114 ha Less Preferred	118.4 ha Most Preferred
	Impact to Candidate SAR Bat Habitat	0 ha Most Preferred	0 ha Most Preferred	0.69 ha Less Preferred
	Impact to Candidate significant wildlife habitat (SWH) – Bat Maternity Colonies	0 ha Most Preferred	0 ha Most Preferred	0.69 ha Less Preferred
	Impact to Candidate SWH – Turtle Overwintering	0 ha Equally Preferred	0 ha Equally Preferred	0 ha Equally Preferred
	Impact to Confirmed SWH – Amphibian Breeding	0 ha Equally Preferred	0 ha Equally Preferred	0 ha Equally Preferred
	Impact to Confirmed SWH – Species of Special Concern and Rare Species – Eastern Wood-Pewee	0 ha Equally Preferred	0 ha Equally Preferred	0 ha Equally Preferred
	Impact to Confirmed SWH – Species of Special Concern and Rare Species - Monarch	84.8 ha Less Preferred	84.8 ha Less Preferred	89.2 ha Most Preferred
	Impact to Confirmed SWH – Terrestrial Crayfish	0 ha Equally Preferred	0 ha Equally Preferred	0 ha Equally Preferred

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
	Removal of Natural Vegetation Communities	Total: 63.42 ha (CUM: 63.17 ha CUH: 0.25 ha) Most Preferred	Total: 82.26 ha (CUM: 59.4 ha CUH: 0.88 ha CUT: 2.05 ha MAM: 0.06 ha MAS: 0.01 ha SAS: 0.03 ha) Least Preferred	Total: 75.11 ha (CUM: 54.55 ha CUH: 0.74 ha FOD: 0.69 ha) Less Preferred
	Removal of Natural Heritage Features (City of London) - Valleylands	0 ha Most Preferred	6.72 ha Least Preferred	5.18 ha Less Preferred
	Removal of Natural Heritage Features (City of London) – Potential ESA	0 ha Equally Preferred	0 ha Equally Preferred	0 ha Equally Preferred
	Removal of Natural Heritage Features (City of London) – Locally Significant Wetlands	0 ha Equally Preferred	0 ha Equally Preferred	0 ha Equally Preferred
	Removal of Natural Heritage Features (City of London) – Unevaluated Wetlands	0 ha Most Preferred	0.33 ha Less Preferred	0 ha Most Preferred
	Potential for off-Site impacts to wildlife habitat	Impact to off-site wildlife habitat will be avoided through the implementation of 100 m buffer areas around the proposed limits of waste. Equally Preferred	Impact to off-site wildlife habitat will be avoided through the implementation of 100 m buffer areas around the proposed limits of waste. Equally Preferred	Impact to off-site wildlife habitat will be avoided through the implementation of 100 m buffer areas around the proposed limits of waste. Equally Preferred
Preferred Alternative for Terrestrial Ecosystems		**Most preferred**	**Least preferred**	**Less preferred**

In addition to the comparative evaluation using the indicators and factors of differentiation, an assessment based on advantages and disadvantages identified by the comparative evaluation is shown in Table 7.2-14.

Table 7.2-14: Evaluation of Advantages and Disadvantages for Terrestrial Ecosystems

Terrestrial Ecosystems	Advantages	Disadvantages
Alternative 1	Disturbance limited to the existing landfill footprint. No impact to candidate SAR bat habitat and Bat Maternity Colonies SWH. No impacts to natural features adjacent to the landfill site (watercourses, unevaluated wetlands and valleylands). Opportunity to revegetate agricultural fields within the 300 m buffer area proposed on the north side of the existing landfill footprint. Doing so will help to offset the loss of SAR and SWH habitat. Opportunity to revegetate the 107 ha proposed waste footprint during site closure.	Greatest loss of SAR (Bobolink and Eastern Meadowlark) and confirmed SWH (Monarch) within the existing landfill footprint.
Alternative 2	Opportunity to revegetate the 134 ha proposed waste footprint during site closure. No impact to candidate SAR bat habitat and Bat Maternity Colonies SWH.	Loss of SAR (Bobolink and Eastern Meadowlark) and confirmed SWH (Monarch) habitat. Largest loss of natural vegetation communities of all three expansion alternatives. Loss of natural features as per the City of London Plan Map 5 including unevaluated wetlands and valleylands.
Alternative 3	Opportunity to revegetate agricultural fields within the 300 m buffer area proposed on the north side of the existing landfill footprint. Doing so will help to offset the loss of SAR and SWH habitat. Opportunity to revegetate the 135 ha proposed waste footprint during site closure.	Loss of SAR (Bobolink and Eastern Meadowlark) and confirmed SWH (Monarch) habitat. Loss of candidate SWH and SAR Bat habitat. Loss of natural features as per the City of London Plan Map 5 including valleylands.

After reviewing the impacts of the three alternatives it was determined that Alternative 1 was the most preferred option from a terrestrial ecosystem perspective while Alternative 3 was the less preferred option and Alternative 2 was the least preferred option.

Alternative 1 was chosen as the most preferred option as the majority of potential impacts are restricted to the existing Site Development Area. Alternative 1 preserves the mature shagbark hickory woodlot that is considered candidate SWH and SAR bat habitat. It is also anticipated that Alternative 1 will not have an impact to any of the surrounding Natural Heritage features.

Alternative 3 presents a lower impact to grassland habitat for SAR and SOCC and provides the same 300m buffer area to the north of the existing landfill footprint. However, the required removal of the shagbark hickory woodlot was determined to be a more significant loss as it is typically more difficult to replace mature wooded areas than grassland habitat.

Alternative 2 was chosen as the least preferred option as it creates the most impact to the surrounding natural environment and does not provide an additional area within the proposed property limits that could be left to naturalize.

7.2.3 Geology and Hydrogeology

In accordance with the approved Amended ToR, the indicator to be considered for groundwater quality is:

- Expected effect on groundwater quality at the property area boundary.

The factors considered to differentiate between 'Alternative Methods' for landfill expansion, from the perspective of the groundwater quality indicator, were selected because they are most likely to potentially result in an adverse effect. These factors are:

- the thickness of Surficial Aquitard below the base elevation of the waste footprint area for placement of expansion waste to protect Upper Aquifer groundwater quality;
- waste footprint area configuration for placement of expansion waste relative to groundwater flow direction; and
- maximum thickness of waste.

The factors were selected for the reasons described below.

Thickness of Surficial Aquitard below the base elevation of the waste footprint area for placement of expansion waste to protect Upper Aquifer groundwater quality – Based on historical and current subsurface investigations at the W12A Landfill expansion Site Study Area, it is known that the conditions underlying the current landfill footprint and proposed alternative expansion areas consist of a variable thickness of continuous low permeability Surficial Aquitard (Port Stanley Till) followed by a granular Upper Aquifer layer. The Upper Aquifer is used off-site for domestic water supply and represents the layer in which potential leachate effects from the W12A Landfill are and will be assessed in terms of Reasonable Use Guideline compliance. Based on borehole and other information, the thickness of the

Surficial Aquitard below existing ground surface is variable; however, the interpreted elevation of the contact zone between the base of the Surficial Aquitard and the underlying Upper Aquifer across the Site Study Area is fairly consistent between about elevation 262 masl and 258 masl, with the decline in surface elevation generally from north to south/southwest. That is, the difference in Surficial Aquitard thickness mostly reflects the variation in ground surface elevation. Therefore, the thickness and variation in thickness of the protective Surficial Aquitard unit below the base elevation of each of the landfill expansion alternatives indicates the relative degree of natural protection for the Upper Aquifer. This is most relevant to the Phase 1 area of the existing landfill that does not have an underdrain leachate collection system and a leachate mound develops within this portion of the landfill. Of the three comparative evaluation factors, this factor has the greatest effect on Upper Aquifer groundwater protection at this Site Study Area.

Waste footprint area configuration relative to groundwater flow direction – It is known that the direction of groundwater flow in the Upper Aquifer is from northeast to southwest. To minimize potential magnitude of leachate effects on groundwater in the Upper Aquifer, it is preferable to orient the long dimension of the waste footprint area perpendicular to the direction of groundwater flow, i.e., the east-west (E-W) dimension of the footprint.

Maximum thickness of waste – the greater the total thickness of waste, the greater the potential leachate source strength and the longer the contaminating lifespan of the landfill (which is defined as the length of time for the contaminant concentrations in the leachate to decline over time to the allowable Reasonable Use Guideline concentration in the Upper Aquifer).

The comparative evaluation of ‘Alternative Methods’ using these factors is presented in Table 7.2-15.

Based on the evaluation, Alternatives 2 and 3 are least and less preferred, respectively, from a groundwater quality perspective. Alternative 1 is most preferred.

Table 7.2-15: Groundwater Quality Evaluation of 'Alternative Methods'

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
Expected effect on groundwater quality at the property area boundary.	Thickness of Surficial Aquitard beneath base elevation of expansion footprint	No horizontal expansion; thickness below existing footprint approximately 14 m Most Preferred	Thickness below existing footprint approximately 14 m; below northern expansion area 10 m to 12 m (average 11 m), indicated to be reduced to about 5 to 6 m in northeast corner area Less Preferred	Thickness below existing footprint approximately 14 m; below eastern expansion area 13 m at north side to 8 m south side (average 10.5 m) Less Preferred
	Configuration of the waste footprint area for placement of waste in the expansion	Footprint dimensions 900 m N-S by 1,200 m avg. E-W Less Preferred	Footprint dimensions 1,100 m N-S by 1,200 m avg. E-W Less Preferred	Footprint dimensions 900 m N-S by 1,600 m avg. E-W Most Preferred
	Thickness of waste	42 m Less Preferred	35 m Most Preferred	36.8 Most Preferred
Preferred Alternative for Groundwater Quality		**Most Preferred**	**Least Preferred**	**Less Preferred**

Alternative 1 is the overall most preferred because it has the greatest and most consistent thickness of Surficial Aquitard below the base elevation of the landfill, which is the most important groundwater quality protection factor and more important than the other two factors combined.

Alternative 3 is preferable compared to Alternative 2 because of its equal ranking for Surficial Aquitard thickness below the base elevation and higher ranking in terms of the expansion configuration. Based on preliminary analysis, it is expected that with the combination of engineered controls and natural protection, the performance of all three alternatives is likely to meet the requirements of the Reasonable Use Guideline and O.Reg. 232/98.

In addition to the comparative evaluation using the indicators and factors of differentiation, the advantages and disadvantages identified by the comparative evaluation are as shown in Table 7.2-16.

Table 7.2-16: Evaluation of Advantages and Disadvantages for Groundwater Quality

Groundwater Quality	Advantages	Disadvantages
Alternative 1	Surficial Aquitard thickest and least variable in thickness below this footprint, thereby providing greatest degree of natural protection.	Greatest thickness of waste. Roughly square shape.
Alternative 2	Least thickness of waste.	Roughly square shape. Reduced thickness of Surficial Aquitard beneath northeast corner portion of northern expansion area.
Alternative 3	Similar thickness of waste to Alternative 2. Rectangular shape with long dimension E-W perpendicular to groundwater flow direction.	A larger portion of the waste footprint area, i.e., southern portion of eastern expansion area, overlies reduced thickness of Surficial Aquitard.

7.2.4 Surface Water

The Surface Water environment component comprises two sub-components:

- Surface water quality; and
- Surface water quantity.

Contaminants associated with the landfill expansion and associated operations could seep or runoff into surface water and adversely affect water quality and aquatic life. Operations associated with the landfill expansion could alter runoff and peak flows. The surface water assessment for each of the environmental sub-components is summarized in the following sections.

7.2.4.1 Surface Water Quality

In accordance with the approved Amended ToR, the indicator to be considered for surface water quality is:

- Expected effect on surface water quality in the SWMS and within the Site-vicinity Area.

The factors considered to differentiate between 'Alternative Methods' for landfill expansion, from the perspective of the surface water quality indicator, were selected because they are most likely to result in an adverse effect. These factors are:

- Expected changes in total drainage area to SWM ponds;
- Waste footprint area;
- Sediment loading on ponds; and,
- Existing pond treatment capacity (permanent volume).

The factors were selected for the reasons described below.

Expected Changes in total drainage area to SWM ponds – An increase or decrease in the proposed waste footprint area and total Site development area discharging to each of the existing SWM ponds will impact the sizing of treatment volumes and outlet mechanisms required for each pond. Each of the alternative proposed landfill expansion designs were compared to the existing landfill design to compare the changes in total drainage area to the SWM facilities.

Waste Footprint Area – The waste footprint area of each of the proposed landfill expansion alternatives was compared to the existing landfill design. An increase in landfill surface area indicates that there will be an increase in loading on the SWMS.

Sediment loading on ponds – The expected sediment loading in each pond will impact the required treatment volumes within the SWMS to ensure that the stormwater treatment objectives are met. Each of the alternative proposed landfill expansion designs were compared to the existing landfill design to compare the changes in expected sediment loading to the SWM facilities.

Existing pond treatment capacity (permanent volume) – The capacity of the treatment volume of the existing ponds was assessed to determine if they are likely to be sufficient to provide treatment for the alternative expansion design options.

The runoff catchments were determined for each pond based on the design surfaces:

- 55% Imperviousness was used for the calculations, based on the assessment of modelling results in Section 4.3.1 of the Stormwater Management Masterplan for the W12A Site (Earth Tech Canada Inc, 2002);
- Enhanced (80%) long-term suspended solids (SS) removal was adopted based on Section 2.4 of the W12A Landfill Area Plan Study Surface Water Background Study (Dillon Consulting Limited, 2005), which indicates that the SWM ponds provide the “highest level” of quality control of stormwater;
- Water quality storage requirements were determined based on Table 3.2 of the Ontario Stormwater Management Planning and Design Manual (Ministry of the Environment, Conservation and Parks, 2003); and,
- Permanent water volumes were compared to those given for each of the SWM ponds in the W12A Landfill Amended Certificate of Approval, Municipal and Private Sewage Works Number 4175-8C4SD5 (2011).

The comparative evaluation of ‘Alternative Methods’ using these factors is presented in Table 7.2-17.

Based on the evaluation, it is considered that Alternative 1 is the most preferred option from a surface water quality perspective.

Table 7.2-17: Surface Water Quality Evaluation of 'Alternative Methods'

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
Expected effect on surface water quality in the SWMS and within the Site-vicinity Study Area	Expected changes in total drainage area to SWM ponds	Approximately the same Most Preferred	Increased Less Preferred	Increased Less Preferred
	Waste footprint area	Minor increase in surface area of landfill (~1.8 ha) Most Preferred	Large increase in surface area of landfill (~28 ha) Less Preferred	Large increase in surface area of landfill (~30 ha) Less Preferred
	Sediment loading on ponds	Potential increase due to increased slope length and reworking existing landfill areas Most Preferred	Probable increase due to increased slope length and new expanded landfill areas Less Preferred	Probable increase due to increased slope length and new expanded landfill areas Less Preferred
	Existing pond treatment capacity (permanent volume)	Three of four ponds expected to require upgrading Most Preferred	All ponds expected to require upgrading Less Preferred	All ponds expected to require upgrading Less Preferred
Preferred Alternative for Surface Water Quality		**Most preferred**	**Less Preferred**	**Less Preferred**

Note: ~ means approximately

In addition to the comparative evaluation using the indicators and factors of differentiation, an assessment based on advantages and disadvantages identified by the comparative evaluation was also completed (refer to Table 7.2-18). Alternative 1 is most preferred because it offers the lowest increase in stormwater catchment area needing to be captured and treated and is expected to require the fewest modifications to the existing SWMS.

Table 7.2-18: Evaluation of Advantages and Disadvantages for Surface Water Quality

Surface Water Quality	Advantages	Disadvantages
Alternative 1	Overall area of the landfill waste footprint for placement of expansion waste remains approximately the same. Least amount of modification to the existing SWMS required. Total Site development area managed as part of the landfill operation will remain approximately the same (increases by 9 ha).	Potential for increased peak flows conveyed to existing/upgraded SWM ponds.
Alternative 2	None	Increase in surface area of landfill waste footprint for placement of expansion waste means that the overall volume of runoff requiring treatment is increased Area to the north of the existing landfill will be converted from unmanaged to managed state Stormwater infrastructure will need to be constructed in new locations Larger overall Site development area (increases by 47 ha) will result in a more complicated SWMS.
Alternative 3	None	Increase in surface area of landfill waste footprint for placement of expansion waste means that the overall volume of runoff requiring treatment is increased Area to the east of the existing landfill will be converted from unmanaged to managed state Stormwater infrastructure will need to be constructed in new locations Larger overall Site development area (increases by 43 ha) will result in a more complicated SWMS.

7.2.4.2 Surface Water Quantity

In accordance with the approved Amended ToR, the indicators to be considered for surface water quantity are:

- Expected change in peak flows (within the on-site SWMS and at the property area boundary); and
- Expected degree of change to off-site effects on surface water quantity within the Site Study Area and off-site within the Site-vicinity Study Area.

The on-site effects, the factors considered to differentiate between 'Alternative Methods' for landfill expansion, from the perspective of the surface water quantity indicators, were selected because they are most likely to result in an adverse effect. These factors are:

- Maximum slope angle;
- Diversion of runoff between subwatersheds;
- Estimated total stormwater catchment; and
- Existing pond capacity for active storage.

The factors were selected for the reasons described below.

Maximum slope angle: Increased slope angle will have an overall effect on the peak flow entering the SWM facilities. The alternative proposed landfill expansion developments were compared to the existing design to check the effect that the slope angle would likely have on stormwater runoff.

Diversion of runoff between subwatersheds: The landfill falls on the divide between the Dingman Creek and Dodd Creek Subwatersheds. Based on the overall stormwater strategy for the W12A Landfill site, peak flow attenuation to pre-development flows should be provided for rainfall events up to the 100-year Annual Recurrence Interval (ARI) event. The proposed expansion designs will move the location of the subwatershed divide within the Site Study Area boundary, increasing the catchment area flowing in a northerly direction toward Dingman Creek. The resulting peak flow attenuation volume required in the northern catchment to achieve pre-development flow rates will be larger as a result of an increased catchment area. The increase in catchment area to Dingman Creek from the proposed expansion development is considered to be minor in all scenarios as the area of the landfill site (waste footprint area or property area) compared to the full watershed is less than 1%.

Estimated total stormwater catchment: The total stormwater catchment will impact the total runoff expected from the landfill. It will be captured and attenuated for flow control.

Existing pond capacity for active storage volume: The capacity of the extended detention/erosion control volume of the existing ponds was assessed to determine if they were likely to be sufficient to provide capacity for the alternative expansion design options. The assessment of the active capacity of the existing ponds was undertaken based on the following methodology:

The runoff catchments were determined for each pond, the design surface geometry of 55% Imperviousness was used for the calculations, based on the assessment of modelling results in Section 4.3.1 of the Stormwater Management Masterplan for the W12A Site (Earth Tech Canada Inc, 2002)

Extended detention and erosion control:

- Extended detention volume of 40 m^3/ha was adopted based on Section 3.3.2 of the Ontario Stormwater Management planning and Design Manual (Ministry of the Environment, Conservation and Parks, 2003);
- Erosion control volume for ponds within both catchments was determined by calculating the 25 mm storm volume, which is approximately 275 m^3/ha for 55% Imperviousness; and
- The larger of the extended detention and erosion control volumes was adopted for the sizing of the slow release portion of the ponds.

Flood attenuation (100 year 24 hr):

- A rational method calculation was undertaken to determine a conservative estimate of the required storage volumes to attenuate the 100 year ARI rainfall event to pre-development flows; and
- Rainfall intensity was determined based on Table 6.3 of the Design Specifications & Requirements Manual (City of London, 2019) for the 100 year rainfall event.

The total active storage volume is the sum of the extended detention/erosion control volume and the 100-year flood attenuation volume.

The off-Site effects (the factors considered to differentiate between 'Alternative Methods' for landfill expansion) from the perspective of the surface water quantity indicators, were selected because they are most likely to result in an adverse effect. These factors are:

- Off-site volume; and
- Peak flow at site study area boundary.

The factors were selected for the reasons described below.

Off-site volume: SWM controls within the Site Study Area are proposed to control the peak flow of stormwater runoff. However, the overall volume of discharge from the Site will increase as a result of any new development as infiltration is not available on the Site (pre- and post-development ground conditions are not favourable to stormwater infiltration). A comparison of the likely overall increase in volume of stormwater runoff from each of the proposed expansion alternatives was undertaken to compare the effect of each on the surrounding area and downstream catchment.

Peak flow at Site Study Area boundary: As the impervious area is increased within a catchment area, the change in impervious area will cause an earlier and higher peak flow of stormwater runoff. The SWMS at the landfill will provide peak flow attenuation to meet pre-development peak flows, and this will result in changes to the hydrograph at the Site Study Area boundary. Commentary is provided on the expected differences between the hydrograph at the Site Study Area boundary for the existing approved landfill development, and the proposed expansion alternatives.

The comparative evaluation of 'Alternative Methods' using these factors is presented in Table 7.2-19.

Based on the evaluation, it is considered that Alternative 1 is the most preferred option from a surface water quantity perspective.

Table 7.2-19: Surface Water Quantity Evaluation of 'Alternative Methods'

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
Expected change in peak flows (within the on-site SWMS and at the property area boundary)	Maximum slope angle	~25% (4H:1V) Decrease in time of concentration, increase in peak runoff from waste footprint area Equally Preferred	~25% (4H:1V) Decrease in time of concentration, increase in peak runoff from waste footprint area Equally Preferred	~25% (4H:1V) Decrease in time of concentration, increase in peak runoff from waste footprint area Equally Preferred
	Diversion of runoff between subwatersheds	Increase in landfill catchment area to Dingman Creek of ~14.1 ha Less Preferred	Increase in landfill catchment area to Dingman Creek of ~3.5 ha Most Preferred	Increase in landfill catchment area to Dingman Creek of ~1 ha Most Preferred
	Estimated total stormwater catchment (ha)	151 Most Preferred	189 Less Preferred	185 Less Preferred
	Existing pond capacity for active storage volume	3 of 4 ponds expected to require upgrading Most Preferred	All ponds expected to require upgrading Less Preferred	All ponds expected to require upgrading Less Preferred
	Ranking	**Most Preferred**	**Less Preferred**	**Less Preferred**

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
Expected degree of off-site effects on surface water quantity within the Site Study Area and off-site within the Site-vicinity Study Area	Off-site volume	Minor increase in total volume of runoff leaving the Site Study Area Most Preferred	Larger increase in total volume of runoff leaving the Site Study Area (minor on a full watershed scale) Less Preferred	Larger increase in total volume of runoff leaving the Site Study Area (minor on a full watershed scale) Less Preferred
	Peak flows at Site Study Area boundary	Peak flow similar to existing landfill design Most Preferred	Peak flow similar to existing landfill design but earlier and for longer duration Less Preferred	Peak flow similar to existing landfill design but earlier and for longer duration Less Preferred
	Ranking	**Most Preferred**	**Less Preferred**	**Less Preferred**
Preferred Alternative for Surface Water Quantity		**Most Preferred**	**Less Preferred**	**Less Preferred**

In addition to the comparative evaluation using the indicators and factors of differentiation, an assessment based on advantages and disadvantages identified by the comparative evaluation was also completed (refer to Table 7.2-20). Alternative 1 is most preferred because it offers the lowest increase in stormwater catchment area needing to be captured and attenuated and is expected to require the least modification to the existing SWMS.

Table 7.2-20: Evaluation of Advantages and Disadvantages for Surface Water Quantity

Surface Water Quantity	Advantages	Disadvantages
Alternative 1	Overall landfill Site development area remains approximately the same (increases by 9 ha) Least amount of modification to the existing SWM infrastructure required.	Increase in diversion of landfill catchment from Dodd Creek to Dingman Creek of ~14.1 ha (resulting in the need for more attenuation in the northern catchment area – on-site effect).
Alternative 2	Increase in diversion of landfill catchment from Dodd Creek to Dingman Creek (~3.5 ha) (less attenuation required in northern catchment area).	Total landfill Site development area increase by ~47 ha Upgrades to the existing SWM infrastructure expected to be of larger magnitude than Alternative 1. Some new SWM infrastructure expected to be required.

Surface Water Quantity	Advantages	Disadvantages
Alternative 3	Increase in diversion of landfill catchment from Dodd Creek to Dingman Creek (~1 ha) (less attenuation required in northern catchment area).	Total landfill Site development area increase by ~43 ha. Upgrades to the existing SWM infrastructure expected to be of larger magnitude than Alternative 1. Some new SWM infrastructure expected to be required.

7.2.5 Agriculture

In accordance with the approved Amended ToR, the indicator to be considered for current and planned future use is:

- Expected effect on agricultural land base and agricultural operations within the Site and Site-vicinity Study Areas.

The agricultural system is comprised of a group of inter-connected elements that collectively create a viable, thriving agricultural sector. The agricultural system includes the agricultural land base, comprised of prime agricultural areas, and the agri-food network that includes infrastructure, services and assets important to the viability of the agri-food sector[1].

The factors considered to differentiate between 'Alternative Methods' for landfill expansion, from the perspective of the agriculture component, were selected based on the Province's draft *Agricultural Impact Assessment Guidelines* (released March 2018). The differentiating factors assessed consisted of the following:

- The degree of investment and agricultural infrastructure (e.g. tile drainage and fencing);
- Soil capability;
- Potential impacts on agricultural land within the Site Study Area;
- Potential impacts on agricultural land within the Site-vicinity Study Area; and
- Potential Impact on agricultural system (e.g., fragmentation).

These factors were selected based on the need to assess loss of agricultural lands and production, as well as evaluating the impacts of each alternative on the broader agricultural system and takes into consideration the draft Agricultural Impact Assessment Guidelines released by the Province in March 2018. The comparative evaluation below adopts a number of the indicators recommended in the Province's draft guidelines[2].

[1] Note, this definition is based on the Province's definition of agricultural system in the Greenbelt Plan, 2017. While the lands are outside of the Greenbelt area, the definition provides a useful framework to assess land use change impacts from an agricultural perspective.

[2] OMAFRA: Agricultural Impact Assessments, 2018.

The comparative evaluation of 'Alternative Methods' using these factors is presented in Table 7.2-21, below.

Based on the evaluation, it is expected that both Alternative 1 and 2 provide some advantages from an agricultural perspective, with Alternative 3 being the least preferred approach. An analysis of each 'Alternative Method' is provided in Table 7.2-21, below. Alternative 1 is considered to be the most preferred option.

Table 7.2-21: Agriculture Evaluation of 'Alternative Methods'

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
Expected effect on agricultural land base and agricultural operations within the Site and Site-vicinity Study Area	Degree of investment/ infrastructure	N/A – Vertical expansion of existing landfill footprint. Most Preferred	There is some closed/tiled drainage found on the northeastern portion of the lands. It is not considered to be a significant agricultural asset. There are no livestock facilities/ infrastructure visible and limited agricultural production. No indication of significant investments into the northern lands (fencing, agricultural buildings/storage, etc.) Less Preferred	The area proposed for expansion is tile drained and includes constructed drainage (Shore Creek Drain). The tile drainage on the lands is considered to represent a significant degree of agricultural investment. Least Preferred
	Soil Capability (Canada Land Inventory rating)	N/A – Lands are presently used for waste facility and unavailable for agriculture. Most Preferred	The north expansion lands are comprised of Class 2 and 3 soils (prime agricultural lands). Less Preferred	The eastern expansion lands are comprised of Class 2 soils with small portion of Class 3 soils (prime agricultural lands). Less Preferred

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
	Potential impacts on agricultural land within Site Study Area	Limited impacts on agricultural land base as no expansion onto agricultural lands is proposed. Some agricultural land may be used for stockpiling soil or berming purposes. Lands east of 3801 Scotland Drive will continued to be farmed (cash crop). Most Preferred Most Preferred	27 ha/67 acres of land to be removed. Note, only a small amount of this is in agricultural production. The remaining lands are considered fallow. Less Preferred	28 ha/69 acres of prime agricultural lands to be removed from active agricultural production. Additional loss of non-productive lands along proposed northern boundary due to visual berms and soil stock piles. Least Preferred
	Potential impacts on agricultural land uses within Site-vicinity Study Area	Crop production located immediately east of subject lands. Livestock operation (beef) located approximately 800 m from southeast portion of the landfill footprint; no impact expected. Equally Preferred	Crop production located immediately east of subject lands. Livestock operation (beef) located approximately 800 m from southeast portion of the landfill footprint; no impact expected. Some cash crop production was observed near intersection of Scotland Drive and White Oaks Road. There are no active livestock facilities adjacent to the northern expansion area. Equally Preferred	Crop production located immediately east of subject lands. There is a livestock operation (beef) located approximately 600 m from southeast portion of the landfill footprint; no impact expected. Equally Preferred

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
	Impact on agricultural system (e.g., fragmentation)	No loss of agricultural lands. No impacts on agricultural system expected. Most Preferred	Negligible loss of agricultural lands. These lands are already considered to be fragmented by the existing landfill and associated berms. No significant impacts on broader agricultural system as these lands do not include agricultural amenities or assets that support the agri-food network. It is further noted that the northern lands are adjacent to an existing aggregate operation, which may be considered to limit livestock operations in this area. Most Preferred	A larger portion of productive agricultural land would be removed. This area is comprised of land that has experienced a higher degree of investment than Alterative 2, due to the presence of tile drainage and constructed drainage. The proximity of the livestock facility at 3242 Manning Drive could also be considered a sensitive use due to the presence of cattle but noting the 600 m separation distance. Least Preferred
Preferred Alternative for Agriculture		**Most Preferred**	**Less Preferred**	**Least Preferred**

In addition to the comparative evaluation, an assessment based on advantages and disadvantages identified by the comparative evaluation was also completed as shown in Table 7.2-22 below. In summary, Alternative 1 is the most preferred option as it does not result in any loss of prime agricultural lands.

While less preferred due to the loss of designated prime agricultural lands, Alternative 2 does not include an expansion onto lands that have existing agricultural amenities (e.g., tile drainage). Alternative 2 is considered to be a negligible loss of land as the lands are not actively in production and are already considered to be fragmented by the existing landfill and non-agricultural uses to the north (aggregate). The loss of these lands from production will not impact the long-term viability of farming in the surrounding area. There are no livestock operations in proximity to the northern expansion lands proposed for Alternative 2.

Alternative 3 is the least preferred as expansion into the eastern area results in a loss of 28 ha of productive prime agricultural land. Furthermore, a significant degree of investment has been made into the eastern lands in the form of tile and constructed drainage.

Table 7.2-22: Evaluation of Advantages and Disadvantages for Agriculture

Agriculture	Advantages	Disadvantages
Alternative 1	No loss of agricultural land. Utilize existing land base.	N/A
Alternative 2	Majority of lands are considered to be fallow. Small amount of lands used for cash crop production. There are no significant agricultural infrastructure/amenities.	Loss of 27 ha of prime agricultural land (although a majority of the lands is not in agricultural production).
Alternative 3	N/A	Loss of 28ha of prime agricultural land. Existing agricultural infrastructure would need to be modified (tile drainage system) to accommodate the horizontal expansion area.

7.2.6 Archaeology

In accordance with the approved Amended ToR, the indicator to be considered for archaeology is:

- Expected archaeological resources potentially affected on-site.

The factors considered to differentiate between 'Alternative Methods' for landfill expansion, from the perspective of the archaeology component, were selected because they are most likely to result in an adverse effect. These factors are.

- Archaeological sites in the site development area;
- Proximity to known areas of archaeological significance or potential in the site development area; and,
- Proposed extent of horizontal expansion of landfill footprint.

The factors were selected for the reasons described below.

Archaeological sites in the site development area – There are known archaeological sites to the north of the existing W12A Landfill site that require further assessment. If these sites are located within the proposed site development area of one of the three 'Alternative Methods', then they could be affected by the new landfill-related infrastructure constructed within the buffer areas around the perimeter.

Proximity to known areas of archaeological significance or potential in the site development area – Based on the previous Stage 1 Archaeological Assessment completed for the W12A Landfill Area Study in 2006 and the City of London's current Archaeological Management Plan, there are areas of archaeological significance or potential within the existing W12A Landfill Site Study Area that have not been previously assessed and require further work (Stage 2 assessment) to identify potential archaeological sites and/or document previous disturbance.

Proposed extent of horizontal expansion of landfill footprint – There are known archaeological sites to the north of the existing W12A Landfill site that require further assessment. To minimize affects to these sites it is preferable if they are not located in proposed areas of horizontal expansion of the waste footprint area.

The archaeological information used to complete this comparative assessment was the findings of Stage 1 and Stage 2 archaeological studies carried out in the Site Study Area, which identified the areas of archaeological significance.

The comparative evaluation of 'Alternative Methods' using these factors is presented in Table 7.2-23.

Based on the evaluation, Alternatives 1 and 3 are most preferred from the archaeology perspective.

Table 7.2-23: Archaeology Evaluation of 'Alternative Methods'

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
Expected archaeological resources potentially affected on-site.	Archaeological sites in the site development area	Proposed development area will include known archaeological sites requiring further work. Equally preferred	Proposed development area will include known archaeological sites requiring further work. Equally preferred	Proposed development area will include known archaeological sites requiring further work. Equally preferred
	Proximity to known areas of archaeological significance or potential in the site development area	Includes areas of archaeological significance or potential that require further assessment to identify potential archaeological sites and/or document previous disturbance. Equally preferred	Includes areas of archaeological significance or potential that require further assessment to identify potential archaeological sites and/or document previous disturbance. Equally preferred	Includes areas of archaeological significance or potential that require further assessment to identify potential archaeological sites and/or document previous disturbance. Equally preferred

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
	Proposed extent of horizontal expansion of landfill footprint	No horizontal expansion of landfill footprint, therefore there will be no impact to known archaeological sites requiring further assessment. Most preferred	Horizontal expansion of landfill footprint to the north will impact known archaeological sites requiring further assessment. Least preferred	Horizontal expansion of landfill footprint to the east will not impact known archaeological sites requiring further assessment. Most preferred
Preferred Alternative for Archaeology		**Most preferred**	**Less preferred**	**Most preferred**

In addition to the comparative evaluation using the indicators and factors of differentiation, an assessment based on advantages and disadvantages identified by the comparative evaluation was also completed (refer to Table 7.2-24). Alternatives 1 and 3 are most preferred because they could potentially avoid impacting known areas of archaeological significance.

Table 7.2-24: Evaluation of Advantages and Disadvantages for Archaeology

Archaeology	Advantages	Disadvantages
Alternative 1	No horizontal expansion that could impact known archaeological sites requiring further assessment.	New landfill-related infrastructure in the site development area could impact known archaeological sites to the north of the existing W12A landfill site that require further assessment.
Alternative 2	None.	Proposed horizontal expansion of landfill footprint will impact known archaeological resources in northern buffer zone.
Alternative 3	Horizontal expansion to the east will not impact known archaeological sites requiring further assessment.	New landfill-related infrastructure in the Site development area could impact known archaeological sites to the north of the existing W12A landfill site that require further assessment.

7.2.7 Cultural Heritage

In the approved Amended ToR under the Cultural Heritage component there were two sub-components; cultural heritage landscapes and built heritage resources. After completion of the assessment of existing conditions it was determined that the Site-vicinity Study area did not contain any cultural heritage landscapes and as such the 'Alternative Methods' are not compared considering this sub-component.

In accordance with the approved Amended ToR, the indicator to be considered for built heritage resources is:

- Expected impact on identified built heritage resources on-site and within the Site-vicinity Study Area

The factors considered to differentiate between 'Alternative Methods' for landfill expansion, from the perspective of the built heritage resources component, were selected because they are most likely to result in an adverse effect. These are:

- Alteration that is not sympathetic, or is incompatible, with the historic fabric and appearance;
- Destruction of any, or part of any, significant heritage attribute or feature;
- Shadow impacts on the appearance of a heritage attribute or an associated natural feature;
- Isolation of a heritage attribute from its surrounding environment, context, or a significant relationship;
- Impact on significant views or vistas within, from, or of built and natural features;
- A change in land use where the change in use may impact the cultural heritage value or interest of the property area; and
- Land disturbances such as a change in grades that alters soils and drainage patterns that may affect a built heritage resource.

Each of these factors was evaluated for expected impact on identified built heritage resources within the Site-vicinity Study Area based on the following successive considerations:

- Whether there is an expected impact to identified cultural heritage resources.
- The likely degree of expected impact to identified cultural heritage resources.
- The potential to ameliorate or mitigate the expected impact to identified cultural heritage resources.

The comparative evaluation of 'Alternative Methods' using these factors is presented in Table 7.2-25.

Based on the evaluation, it is expected that none of the landfill alternatives provides a significant advantage, resulting in the equal ranking of each alternative from the perspective of built heritage resources.

Table 7.2-25: Built Heritage Resources Evaluation of 'Alternative Methods'

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
Expected impact on identified cultural heritage resources within the Site-vicinity Study Area	Alteration that is not sympathetic, or is incompatible, with the historic fabric and appearance	No expected impacts	No expected impacts	No expected impacts
	Destruction of any, or part of any, significant heritage attribute or feature	No expected impacts	No expected impacts	No expected impacts
	Shadow impacts on the appearance of a heritage attribute or an associated natural feature	No expected impacts	No expected impacts	No expected impacts
	Isolation of a heritage attribute from its surrounding environment, context, or a significant relationship	No expected impacts	No expected impacts	No expected impacts
	Impact on significant views or vistas within, from, or of built and natural features	No expected impacts	No expected impacts	No expected impacts
	A change in land use where the change in use may impact the cultural heritage value or interest of the property area	No expected impacts	No expected impacts	No expected impacts
	Land disturbances such as a change in grades that alters soils and drainage patterns that may affect a built heritage resource	No expected impacts	No expected impacts	No expected impacts
Preferred Alternative for Built Heritage Resources		**Equally Preferred**	**Equally Preferred**	**Equally Preferred**

In addition to the comparative evaluation using the indicators and factors of differentiation, an assessment based on advantages and disadvantages identified by the comparative evaluation was also completed (refer to Table 7.2-26). None of the alternatives provides a notable advantage or disadvantage over another.

Table 7.2-26: Evaluation of Advantages and Disadvantages for Built Heritage Resources

Cultural Heritage Resources	Advantages	Disadvantages
Alternative 1	There are no expected impacts to identified built heritage resources from this alternative	None
Alternative 2	There are no expected impacts to identified built heritage resources from this alternative	None
Alternative 3	There are no expected impacts to identified built heritage resources from this alternative	None

7.2.8 Land Use

In accordance with the approved Amended ToR, the indicator to be considered for current and planned future land uses is:

- Expected impact on sensitive land uses (i.e., dwellings, churches, and parks within the Site-vicinity).

To evaluate this indicator, two factors were identified that were used to differentiate between the 'Alternative Methods' for landfill expansion from the perspective of the land use indicator. These factors are:

- Compatibility with municipal land use policy framework; and
- Proximity to sensitive land use (and type), and potential impact on sensitive land uses.

Compatibility with municipal land use policy framework - This factor examines the compatibility of the landfill expansion with City of London Official Plan designations (1989 Official Plan, and The London Plan) and City of London Zoning By-law regulations within the Site-vicinity Study Area. It was selected as the proposed landfill expansion may not be consistent with certain land use permissions, resulting in the need for approvals under the Planning Act (e.g., Official Plan amendment and/or Zoning By-law amendment).

The current limit of waste is within an area zoned Waste and Resource Management (WRM1) that permits: agricultural uses; municipal waste disposal facility; leachate pre-treatment / hauled liquid waste facility; public drop-off for municipal hazardous and special waste; community recycling and drop-off depot; yard waste composting facility; and material recovery facility. Under all three scenarios, a Zoning By-law Amendment would be required to

re-zone either the area to the north or east to the WRM1 zone from the Agricultural (AG2) Zone. Accordingly, one expansion alternative does not provide a benefit over another from a zoning perspective.

Based on the evaluation, it is expected that no landfill expansion alternative provides a significant advantage, relative to the other, resulting in the equal ranking of each alternative from the perspective of compatibility with municipal land use policy framework.

Based on proximity to and potential impacts on the sensitive land uses – This factor was selected as waste disposal facilities can potentially affect the use and enjoyment of sensitive uses in the Site-vicinity Study Area. This factor is evaluated through an assessment of potential nuisances that are identified under the provincial land use Guideline D-1 (Land Use and Compatibility) including noise and vibration; visual impact; odours and air emissions; litter, dust and other particulates; and other contaminants.

Alternative 1 is the most preferred alternative from a land use planning perspective. This alternative was selected on the basis that it does not result in the limits of the waste footprint area being extended towards a sensitive land use. Alternatives 2 and 3 would result in the limit of the waste footprint area extending towards residential dwellings to the north, northwest and northeast along Scotland Drive and White Oak Road. In addition, Alternative 3 would result in encroachment towards a cattle farm located on the south side of Manning Drive to the southeast of the Site Study Area.

The comparative evaluation of ‘Alternative Methods’ using these factors is presented in Table 7.2-27.

Table 7.2-27: Current and Planned Future Land Use Evaluation of 'Alternative Methods'

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
Expected impact on sensitive land uses (i.e., dwellings, churches, and parks within the Site-vicinity Study Area)	Compatibility with municipal land use policy framework	Equally Preferred	Equally Preferred	Equally Preferred
	Proximity to sensitive land use (and type) and potential impacts on sensitive land uses	Most Preferred	Less Preferred	Least Preferred
Preferred Alternative for Current and Planned Future Land Uses		**Most Preferred**	**Less Preferred**	**Least Preferred**

In addition to the comparative evaluation using the indicators and factors of differentiation, an assessment based on advantages and disadvantages identified by the comparative evaluation is shown in Table 7.2-28. Based on this analysis, Alternative 1 is most preferred because it is the only alternative that does not encroach towards any sensitive land uses.

Table 7.2-28: Evaluation of Advantages and Disadvantages for Current and Planned Future Land Uses

Current and Planned Future Land Uses	Advantages	Disadvantages
Alternative 1	Does not encroach towards any sensitive land uses within the Site-vicinity Study Area.	Additional height may create visual impacts to surrounding uses including Islamic Cemetery of London, immediately south of the landfill at the southeast corner of Manning Drive and White Oak Road.
Alternative 2	Does not encroach towards sensitive land uses to the southwest (cattle farm along south side of Manning Drive).	Locates facility in closer proximity to sensitive land uses to the north, northwest, and northeast (residences along Scotland Drive and White Oak Road), which could intensify odour, noise and dust impacts.
Alternative 3	Does not encroach towards sensitive land uses to the northwest (residences along Scotland Drive and White Oak Road).	Locates facility in closer proximity to sensitive land uses to the north, and northeast (residences along Scotland Drive) as well as southeast (cattle farm along south side of Manning Drive) which could intensify odour, noise and dust impacts, and could have impacts on the cattle.

7.2.9 Socio-economic

The Socio-economic component comprises two sub-components:

- Local economy; and
- Residents and community.

The assessment for each of the Socio-economic sub-components is summarized in the following sections.

7.2.9.1 Local Economy

In accordance with the approved Amended ToR, the indicators to be considered for local economy are:

- Expected effect on local employment;
- Expected effects on local businesses and commercial activity; and
- Expected effects on municipal finances.

The factors considered to differentiate between 'Alternative Methods' for landfill expansion, from the perspective of the local economy indicators were selected because they are most likely to result in an adverse effect. These consist of:

- Employment opportunities during landfill expansion construction and operation;
- Potential impacts to local commercial businesses in the Site-vicinity Study Area (excludes agriculture, which is evaluated in Section 7.2.5 of this EASR; and
- Capital costs associated with construction and operational costs.

The comparative evaluation of 'Alternative Methods' using these factors is presented in Table 7.2-29. Landfill expansion can provide economic benefits to the local community in the form of new employment opportunities during expansion activities and day-to-day operation. This also has the potential for increased employment opportunities for local firms supplying products or services directly, or as secondary suppliers, during expansion activities. Although a similar potential for employment positions are predicted to be required at the Site for ongoing operations regardless of the alternative selected, there is expected to be additional employment opportunities during construction associated with each of the expansion alternatives. The capital costs associated with Alternatives 2 and 3 are expected to be greater than Alternative 1.

Table 7.2-29: Local Economy Evaluation of 'Alternative Methods'

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
Expected effect on local employment.	Consideration of temporary employment positions generated during construction.	No horizontal expansion and associated construction required. Greatest length of construction of perimeter collector and finger drains. Least Preferred	Similar potential for employment positions generated during construction of horizontal expansion and perimeter collector and finger drains compared to Alternative 3. Length of perimeter system approximately 80% of that for Alternative 1. Most Preferred	Similar potential for employment positions generated during construction of horizontal expansion and perimeter collector and finger drains compared to Alternative 2. Length of perimeter system approximately 72% of that for Alternative 1. Most Preferred
	Consideration of new permanent employment positions generated during operation.	No expected change to existing employment numbers. Equally Preferred	No expected change to existing employment numbers. Equally Preferred	No expected change to existing employment numbers. Equally Preferred
	Ranking	**Least Preferred**	**Most Preferred**	**Most Preferred**
Expected effects on local businesses and commercial activity.	Consideration of businesses in the area who may experience disruption.	No impacts to local business operations, as the proposed expansion is located within the existing landfill footprint. Equally Preferred	No impacts from the horizontal expansion to local business operations anticipated. Equally Preferred	No impacts from the horizontal expansion to local business operations anticipated. Equally Preferred

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
	Consideration of potential revenue to businesses whose services may be required during landfill construction	No excavation for horizontal expansion and associated underdrain leachate collection system construction required. Greatest length of construction of perimeter collector and finger drains, but perimeter collectors required less resources than underdrain leachate collection system. Less Preferred	Similar potential for employment positions and revenue generated during construction of horizontal expansion (excavation and underdrain leachate collection system) and perimeter collector and finger drains compared to Alternative 3. Length of perimeter system approximately 80% of that for Alternative 1. Most Preferred	Similar potential for employment positions generated during construction of horizontal expansion and perimeter collector and finger drains compared to Alternative 2. Length of perimeter system approximately 72% of that for Alternative 1. Most Preferred
	Ranking	**Less Preferred**	**Most Preferred**	**Most Preferred**
Expected effects on municipal finances.	Relative cost of facility expansion.	Lowest overall capital and additional operational costs. Most Preferred	Largest capital cost to implement expansion. Less Preferred	Lower capital costs to implement expansion compared to Alternative 2. Less Preferred
	Anticipated increase in revenue.	All alternatives will receive the same amount of incoming waste Equally Preferred	All alternatives will receive the same amount of incoming waste Equally Preferred	All alternatives will receive the same amount of incoming waste Equally Preferred
	Ranking	**Most Preferred**	**Less Preferred**	**Less Preferred**
Preferred Alternative for Local Economy		**Least Preferred**	**Most Preferred**	**Most Preferred**

Alternatives 2 and 3 were ranked highest for employment and local business opportunities during construction. Although there will be construction required for Alternative 1, Alternative 1 was less preferred for these two factors than Alternatives 2 and 3. Alternative 1 has the lowest capital cost for construction, followed by Alternative 3 and Alternative 2. Overall, it is considered that Alternatives 2 and 3 rank as preferred in terms of the local economy.

In addition to the comparative evaluation using the indicators and factors of differentiation, an assessment based on advantages and disadvantages identified by the comparative evaluation was also completed (refer to Table 7.2-30).

Table 7.2-30: Evaluation of Advantages and Disadvantages for Local Economy

Local Economy	Advantages	Disadvantages
Alternative 1	No impacts to local business operations. Lowest overall capital and additional operational costs.	Smallest potential for employment opportunities associated with construction.
Alternative 2	No impacts to local business operations. Largest potential for employment opportunities associated with construction.	Largest capital cost to implement expansion.
Alternative 3	No impacts to local business operations. Potential for employment opportunities associated with construction comparable to Alternative 2.	Higher capital costs compared to Alterative 1, but lower than Alternative 2.

7.2.9.2 Residents and Community

In accordance with the approved Amended ToR, the indicators to be considered for residents and community are:

- Displacement of residents; and
- Expected interference with use and enjoyment of residential properties (nuisance effects).

The factors considered to differentiate between 'Alternative Methods' for landfill expansion, from the perspective of the residents and community indicators were selected because they are most likely to result in an adverse effect. These consist of:

- Proximity to nearby residences; and
- Biophysical and social interactions with nearby residential PORs (i.e., noise, odour, and nuisance wildlife/pests). Potential visual impacts are considered in Section 7.2.10 of this EASR.

The comparative evaluation of 'Alternative Methods' using these factors is presented in Table 7.2-31.

There are four residential-rental properties, located north of the existing landfill, that are owned by the City of London. The buildings associated with 3801 Scotland Drive are proposed to be removed for landfill expansion, while the three other residential buildings,

located at 3561, 3465 and 3405 Scotland Drive, will remain for each of the three alternatives. In each of the three alternatives, the landfill will be designed to MECP regulations and required to perform in accordance with accepted standards for potential off-site nuisance impacts. Although adverse effects are not anticipated at nearby residences, the alternatives with closer residences have a higher potential for adverse effects.

Based on the evaluation, it is expected that Alternative 1 is preferred from the perspective of local residents and community.

Table 7.2-31: Residents and Community Evaluation of 'Alternative Methods'

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
Displacement of residents.	Displacement of residents during landfill expansion, construction and/or operation.	One City rental property proposed for demolition. No change to private residences. Equally Preferred	One City rental property proposed for demolition. No change to private residences. Equally Preferred	One City rental property proposed for demolition. No change to private residences. Equally Preferred
Expected interference with use and enjoyment of residential properties (nuisance effects).	Potential nuisance effects from air quality, noise, odour, and nuisance wildlife species and pests on nearby residential PORs.	With vertical expansion, the distance to residential PORs does not change from existing conditions. This alternative is the least likely to potentially impact sensitive PORs from an odour or noise nuisance perspective. Comparable rate of fill and type of waste is predicted to result in a comparable level of attraction for nuisance wildlife species and pests. Most Preferred	Less separation from a larger number of residential properties located to the north along Scotland Drive. This alternative is the most likely to potentially impact sensitive PORs from an odour or noise nuisance perspective. Comparable rate of fill and type of waste is predicted to result in a comparable level of attraction for nuisance wildlife species and pests. Least Preferred	Greater separation than Alternative 2 but less separation than Alternative 1 from residential properties located to the north along Scotland Drive. This alternative is less likely than Alternative 2, but more likely than Alternative 1 to potentially impact sensitive PORs from an odour or noise nuisance perspective. Comparable rate of fill and type of waste is predicted to result in a comparable level of attraction for nuisance wildlife species and pests. Less Preferred
Preferred Alternative for Residents and Community		**Most Preferred**	**Least Preferred**	**Less Preferred**

In addition to the comparative evaluation using the indicators and factors of differentiation, an assessment based on advantages and disadvantages identified by the comparative evaluation was also completed (refer to Table 7.2-32).

Table 7.2-32: Evaluation of Advantages and Disadvantages for Residents and Community

Residents and Community	Advantages	Disadvantages
Alternative 1	This alternative is considered the least likely to impact sensitive PORs from an odour or noise nuisance perspective.	None
Alternative 2	None	This alternative is considered the most likely to potentially impact sensitive PORs from an odour or noise nuisance perspective.
Alternative 3	None	This alternative is less likely than Alternative 2, but more likely than Alternative 1, to impact sensitive PORs from an odour or noise nuisance perspective.

7.2.10 Visual

In accordance with the approved Amended ToR, the indicator to be considered for visual is:

- Expected changes in landscape views from off-Site.

The factor considered to differentiate between 'Alternative Methods' for landfill expansion, from the visual perspective was:

- Number of landscape views impacted.

This factor was considered for public rights of way and significant outdoor residential areas within 3500 m of the Site.

Calculation of Visual Impact – A quantitative assessment was undertaken to consistently quantify the visual impact of the proposed expansion alternatives, which involved the calculation of the following values from each point of interest (viewpoints in private outdoor areas and from public rights of way within the Site-vicinity Study Area boundary):

- The visible area of the proposed landfill (in m^2);
- The distance to the nearest visible point (in m);
- The maximum angle between the visible area of the landfill (in degrees);

- The average slope of the terrain between that viewpoint and the visible landfill area (as a percentage); and
- The amount of tree cover between that viewpoint and the visible landfill area (as a percentage).

The following data and algorithms were used in the calculation of the above-mentioned values:

a) City of London 2019 Aerial Photography;

b) Contours, parcel boundary, and existing limit of waste, taken from the City of London's AutoCAD drawing file project no. 1648176, project title "Individual EA of the proposed W12A Expansion";

c) Significant vegetation (trees and hedges) from the City of London Open Data Catalogue and digitized from aerial photography and site visits;

d) Structures (houses, silos, etc.) from the City of London Open Data Catalogue and digitized from aerial photography and site visits;

e) Surface and terrain data from Natural Resources Canada High Resolution Digital Elevation Model - CanElevation Series; and

f) Viewshed calculation r.viewshed by Laura Toma (Bowdoin College), Yi Zhuang (Carnegie-Mellon University), William Richard (Bowdoin College), and Markus Metz.

Viewpoints within the Site-vicinity Study Area were selected from private outdoor areas using aerial photography to determine where people would normally gather on their property for outdoor experiences during the summer months (pools, patios, fire pits, etc.). In the absence of amenities identifiable from the aerial photographs, locations near the house within the backyard were selected.

From each of these viewpoints, a viewshed was calculated using the aforementioned data sets and algorithms to determine what areas of each proposed W12A Landfill expansion alternative within the zone denoted as "proposed limit of waste" would be visible, as well as factors that would mitigate the visual impact of those visible areas. Each of these factors was then assigned a score, ranging from very low impact to very high impact, and the scores summed to obtain a rating of the total visual effect of each expansion design alternative on each identified viewpoint. The specific visual factors assessed and the scores assigned to each are as follows:

Area of Landfill Visible – A score is given based on how much of the landfill is visible; the more of the landfill that is visible, the higher the visual impact rating will be. Given that an object's visual mass decreases as it gets further from its viewer, the distance to the visible areas is taken into account in assessing the visual impact of these areas.

The height and width of each visible portion of the landfill were multiplied to determine the area visible, and then were summed to get the total area of visible landfill. This sum was then

divided by the distance to the landfill to get a "Perceived Area Index", and assigned a rating as shown in Table 7.2-33.

Table 7.2-33 Perceived Area Index Values

Perceived Area Index	Effect Level	Value
0 – 7.5	Very Low	1
7.51 – 13.0	Low	2
13.1 – 18.0	Moderate	3
18.1 – 23.0	High	4
> 23.0	Very High	5

Cone of View – The angle of an observer's cone of vision that has the greatest clarity is approximately 124 degrees. If the visible portions of the landfill occupy greater than 50% of this cone of vision the impact was determined to be high; if it occupies between 31% and 50%, it was determined to be moderate; if it was 30% or less the impact was low.

To calculate the visual impact of the landfill on the cone of view, the angle between the leftmost and rightmost edges of the visible portions of the landfill were determined and assigned a rating as shown in Table 7.2-34.

Table 7.2-34 Cone of View Values

Cone of View	Effect Level	Value
0 degrees to 15 degrees	Very Low	1
16 degrees to 30 degrees	Low	2
31 degrees to 50 degrees	Moderate	3
51 degrees to 90 degrees	High	4
> 90 degrees	Very High	5

Distance from the Landfill – As the distance between an observer and an object increases, the visual impact decreases, as determined by the nature of focal perception. Impact ratings were assigned based on whether the areas of landfill visible from each viewpoint fall into the foreground, middleground, or background of an observer's vision.

The distance from the viewpoint to the nearest point of the landfill was determined in metres, and assigned a rating as shown in Table 7.2-35

Table 7.2-35 Distance to Landfill

Distance In Metres	Effect Level	Value
2201 – 3500	Very Low	1
1501 – 2200	Low	2
801 – 1500	Moderate	3
601 – 800	High	4
0 – 600	Very High	5

Visual Absorption Capability Factor – Finally, the nature of the landscape between the viewpoint and the landfill site was taken into account. The visual impact of an object on a viewpoint is mitigated by significant masses of vegetation and changes of grade that occupy the space between it and an observer.

The capability of the terrain in the cone of view to absorb visual impact was calculated based on the mean slope of the terrain and the percent coverage of existing significant vegetation within the previously calculated cone of view, as shown in Table 7.2-36.

Table 7.2-36 Visual Absorption Capability Factor Values (VACF)

Factor	Range	Value	Description
Slope	0 percent	0	Water
	0.1 – 5 percent	1	Flat
	5.1 – 20 percent	2	Rolling
	> 20 percent	3	Rugged
Vegatation (% coverage)	<1 percent	0	Open
	1 – 10 percent	1	Sparse
	11 – 40 percent	2	Moderate
	> 40 percent	3	Dense

These values were then summed to obtain a VACF rating as shown in Table 7.2-37.

Table 7.2-37 Visual Absorption Capability Factor Value Ratings

Range	Description	Effect Level	Value
6	Very high visual absorption	Very Low	1
4 – 5	High visual absorption	Low	2
2 – 3	Moderate visual absorption	Moderate	3
1	Very high visual absorption	High	4
0	Very low visual absorption	Very High	5

Total Visual Effect – All of the above values were then summed to determine the overall visual effect of the expanded landfill alternative on each particular viewpoint, as described in Table 7.2-38.

Table 7.2-38 Combined Effect Value Scale

Combined Effect Value Scale	Visual Effect Ranking
4-6	Very Low Effect
7-9	Low Effect
10-11	Moderate Effect
12-15	High Effect
16-20	Very High Effect

Overall Visual Impact – The overall visual effect was calculated for the existing landfill design and for each of the landfill expansion alternatives for each of the selected viewpoints within the Site-vicinity Study Area. The location of the viewpoint was deemed to be impacted if the overall visual effect ranking for a landfill expansion alternative was higher than the overall visual effect ranking for the existing landfill.

Based on the results of the evaluation, which is summarized in Table 7.2-39, it is expected that Alternative 3 is the most preferred from a visual perspective.

Table 7.2-39: Visual Evaluation of 'Alternative Methods'

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
Expected changes in landscape views from off-Site areas	Number of landscape views impacted	64 Least Preferred	49 Less Preferred	31 Most Preferred
Preferred Alternative for Visual		**Least Preferred**	**Less Preferred**	**Most Preferred**

In addition to the comparative evaluation using the indicators and factors of differentiation, an assessment based on advantages and disadvantages identified by the comparative evaluation was also completed (refer to Table 7.2-40). Alternative 3 is most preferred because it is expected to have the least visual effect on public rights of way and private outdoor areas.

Table 7.2-40: Evaluation of Advantages and Disadvantages for Visual

Visual	Advantages	Disadvantages
Alternative 1	None	Expected to have the highest visual effect on surrounding residential private outdoor areas and public rights of way.
Alternative 2	Expected to have a low visual effect on surrounding residential private outdoor areas and public rights of way.	Expected to have a higher visual effect on surrounding residential private outdoor areas and public rights of way than Alternative 3.
Alternative 3	Expected to have the least visual effect on surrounding residential private outdoor areas and public rights of way.	None

7.2.11 Design and Operations

The Design and Operations component comprises two sub-components:

- Engineered containment; and
- Financial.

The Design and Operations assessment for each of the sub-components is summarized in the following sections.

7.2.11.1 Engineered Containment

In accordance with the approved Amended ToR, the indicator to be considered for engineered containment is:

- Expected degree of engineered containment and/or controls required.

In general, alternatives that require less reliance on engineered systems to provide containment and control of potential releases to the environment are preferred. The factors considered to differentiate between 'Alternative Methods' for landfill expansion, from the perspective of the engineered containment indicator, were selected because they are most likely to result in an adverse effect. The factors are:

- Phase 1 perimeter leachate collection system (LCS) and finger drain requirements;
- Underdrain LCS requirements;
- LFG collection system requirements and effectiveness; and
- Provision of temporary leachate storage during storm events.

Phase 1 Perimeter and Underdrain LCS Requirements - For leachate control, consideration is given to the requirement for additional LCS and management infrastructure to implement the expansion alternative. For the Phase 1 landfill area, the components are the replacement of the perimeter LCS and provision of finger drains to control leachate seepage (leachate breakout along the perimeter slopes); the indicator is the length of system required. For the horizontal expansion areas, the component is the provision of the underdrain LCS; the indicator is the area of system required. In terms of effectiveness of leachate control, the Phase 1 area perimeter and finger drain collectors do not reduce the buildup of a leachate mound within the landfill (which potentially causes leachate migration deeper into the subsurface) but rather captures leachate that migrates to the perimeter at the base or towards the sideslopes of the landfill; these systems are accessible and can be maintained, replaced or augmented. The underdrain LCS (beneath the existing Phase 2 area and proposed to be installed below the horizontal expansion areas) prevent the formation of a leachate mound and can be maintained by regular flushing over the functional service life of the system but cannot be accessed for repair or replacement. Overall, an underdrain LCS is considered preferable over a perimeter collector / finger drain system. An underdrain LCS could also be augmented after failure with a perimeter collector / finger drain system.

The factual information relevant to these factors is provided below:

Table 7.2-41: Engineering Containment Considerations for Evaluation of 'Alternative Methods'

	Alternative 1	Alternative 2	Alternative 3
Total Additional Waste Footprint Area (ha)	None	27 ha	28 ha
Phase 1 perimeter LCS and finger drain requirements	2,350 m	1,900 m	1,400 m

LFG collection system requirements and effectiveness – For landfill gas (LFG) control, consideration is given to the requirement to provide an active LFG collection system and associated handling (flaring) of the collected gas. In general, the effectiveness of LFG collection systems increases with increasing thickness of waste.

Provision of temporary leachate storage during storm events – The two main approaches are temporary storage within the landfill where it is underlain by an underdrain LCS or the construction of a storage pond or tank to temporarily contain leachate from the Phase 1 area perimeter LCS. The availability of storage within the underdrain LCS is considered preferable since there will not need to be additional storage infrastructure provided or the potential for odours associated with temporary storage of leachate in a pond.

The comparative evaluation of ‘Alternative Methods’ using these factors is presented in Table 7.2-42.

Based on the evaluation, Alternative 3 is most preferred in terms of expected degree of engineered containment and/or control requirements, followed by Alternative 2 and then Alternative 1 as least preferred.

Table 7.2-42: Engineered Containment Evaluation of 'Alternative Methods'

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
Expected degree of engineered containment and/or controls required.	Phase 1 perimeter LCS and finger drain requirements	Longest length of perimeter LCS / finger drain control Least Preferred	Longer length of perimeter LCS / finger drain control system compared to Alternative 3 Less Preferred	Shortest length of perimeter LCS / finger drain control system Most Preferred
	Underdrain LCS requirements	No additional underdrain LCS Least Preferred	Additional 27 ha Less Preferred	Additional 28 ha Most Preferred
	LFG collection system requirements and effectiveness	All expansion alternatives have the same additional airspace and volume of waste requiring control of LFG emissions, but in terms of effectiveness Alternative 1 has the greatest waste thickness and therefore gas collection will be most effective Most Preferred	All expansion alternatives have the same additional airspace and volume of waste requiring control of LFG emissions. Less Preferred	All expansion alternatives have the same additional airspace and volume of waste requiring control of LFG emissions. Less Preferred
	Provision of temporary leachate storage during storm events	A storage pond (or tank) will be required for temporary storage of leachate from the whole of the Phase 1 perimeter LCS. Least Preferred	The north side portion of the Phase 1 perimeter LCS will be replaced by the underdrain LCS in the northern expansion area. A storage pond (or tank) will be required for	The east side portion of the Phase 1 perimeter LCS will be replaced by the underdrain LCS in the eastern expansion area and the north side portion of the Phase 1

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
			temporary storage of leachate from the Phase 1 perimeter LCS that will remain along the east and south sides. Less Preferred	perimeter LCS will discharge into the east expansion area underdrain LCS. A storage pond (or tank) will be required for temporary storage of leachate from the Phase 1 perimeter LCS that will remain along the south side, although it may be possible to also route leachate from this south side section of perimeter LCS into the east extension underdrain system. Most Preferred
Preferred Alternative for Engineered Containment and/or Controls		**Least Preferred**	**Less Preferred**	**Most Preferred**

Based on the evaluation, it is indicated that Alternative 3 is most preferred from an engineered containment and controls perspective because it ranked highest for all indicators (except for one indicator where it was less preferred).

In addition to the comparative evaluation using the indicators and factors of differentiation, the advantages and disadvantages identified by the comparative evaluation are shown in Table 7.2-43.

Table 7.2-43: Evaluation of Advantages and Disadvantages for Engineered Containment

Engineered Containment	Advantages	Disadvantages
Alternative 1	Most effective at capturing LFG.	Phase 1 area totally reliant on Phase 1 area perimeter LCS and finger drains for leachate control. Pond (or tank) required for temporary leachate storage.
Alternative 2	Northern horizontal expansion area has underdrain collection system.	Pond (or tank) required for temporary leachate storage for east and south side sections of Phase 1 perimeter LCS. Less preferred than Alternative 1 for effective landfill gas collection.
Alternative 3	Shortest length of perimeter LCS / finger drain control system. Eastern horizontal expansion area has underdrain collection system and can be used for temporary storage for most if not all of the leachate collected by remaining sections of the Phase 1 perimeter LCS.	Less preferred than Alternative 1 for effective landfill gas collection.

7.2.11.2 Financial

In accordance with the approved Amended ToR, the indicator to be considered for financial is:

- Costs associated with implementation of expansion alternatives.

The factors considered to differentiate between 'Alternative Methods' for landfill expansion, from the perspective of the financial indicator, were selected because they are most likely to result in an adverse effect. These factors are:

- Capital costs for establishing the additional disposal capacity; and
- Additional ongoing operational and maintenance costs associated with the expansion.

Capital Costs – The main components that will have different capital costs between the three alternatives are: 1) the volume of excavation and construction of the underdrain LCS (indicated by the excavation quantity and horizontal expansion area); 2) the construction of finger drains and perimeter LCS for the Phase 1 area (indicated by the length of perimeter); and, 3) LFG collection system extension into horizontal expansion areas (indicated by the horizontal expansion area).

Ongoing Additional Operational and Maintenance Costs – The main components that will have different operating and maintenance (O&M) costs between the three alternatives are: 1) the additional costs for underdrain LCS inspection and flushing (indicated by horizontal expansion area); 2) Phase 1 perimeter LCS and finger drain maintenance and possible replacement (indicated by length of Phase 1 perimeter); 3) LFG system operations (indicated by horizontal expansion area).

The factual information relevant to these factors is provided below:

Table 7.2-44: Financial Considerations for Evaluation of 'Alternative Methods'

	Alternative 1	Alternative 2	Alternative 3
Total Additional Waste Footprint Area (ha)	none	27 ha	28 ha
Phase 1 perimeter LCS and finger drain requirements	2,350 m	1,900 m	1,400 m
Excavation volume	none	2,040,000 m^3	820,000 m^3

The comparative evaluation of 'Alternative Methods' using these factors is presented in Table 7.2-45.

Based on the evaluation, it is indicated that Alternative 1 is most preferred from a financial perspective.

Table 7.2-45: Financial Evaluation of 'Alternative Methods'

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
Costs associated with implementation of expansion alternatives.	Estimated capital costs for alternative designs.	No costs to construct a horizontal expansion; lowest LFG collection system costs, longest length of Phase 1 perimeter. Most Preferred	Construction of horizontal expansion with largest excavation volume; 20 % less Phase 1 perimeter length than Alternative 1. Least Preferred	Construction of horizontal expansion with smaller excavation volume than Alternative 2; less Phase 1 perimeter length than Alternatives 1 (40% less) or 2 (25% less). Less Preferred

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
	Estimated additional operational and maintenance (O&M) costs	No additional costs for underdrain LCS; largest potential for periodic costs associated with Phase 1 area perimeter leachate collection and finger drains and leachate seeps; no additional costs for LFG system O&M costs. Most Preferred	Additional costs to annually maintain underdrain LCS in horizontal expansion area; lower potential for periodic costs associated with Phase 1 area perimeter leachate collection and finger drains and leachate seeps than Alternative 1; additional LFG system O&M costs for gas well system in horizontal expansion area compared to Alternative 1. Less Preferred	Additional costs to annually maintain underdrain LCS in horizontal expansion area; lower potential for periodic costs associated with Phase 1 area perimeter leachate collection and finger drains and leachate seeps than Alternatives 1 and 2; additional LFG system O&M costs for gas well system in horizontal expansion area similar to Alternative 2. Less Preferred
Preferred Alternative for Financial		**Most Preferred**	**Least Preferred**	**Less Preferred**

In addition to the comparative evaluation using the indicators and factors of differentiation, the advantages and disadvantages identified by the comparative evaluation are shown in Table 7.2-466.

Table 7.2-46: Evaluation of Advantages and Disadvantages for Financial

Financials	Advantages	Disadvantages
Alternative 1	No excavation and management of excavated soil required. Lowest overall capital and additional operational costs.	Longest length of perimeter collector and finger drains to construct.
Alternative 2	None.	Largest volume of excavation and excavated soil to manage. Largest capital cost to implement expansion.
Alternative 3	Less volume of excavation and excavated soil to manage, and lower capital costs to implement expansion compared to Alternative 2.	Greater volume of excavation and excavated soil to manage, and higher capital costs to implement expansion compared to Alternative 1.

7.2.12 Transportation

In accordance with the approved Amended ToR, the indicator to be considered for traffic is:

- Expected effect on traffic along the Haul Route(s).

The factors considered to differentiate between 'Alternative Methods' for landfill expansion, from the perspective of the traffic indicator, were selected because they would be the most likely to result in an adverse effect, from a future traffic operation and safety perspective. These factors are:

- Changes in traffic volume;
- Changes in required haul routes; and
- Changes in type of vehicle expected.

It is noted that with the proposed expansion the annual maximum waste receipt is to be reduced from 650,000 to 500,000 tonnes per year. As such, the maximum waste-related traffic associated with the expansion will be less than what is allowed for the current landfill.

From a traffic/transportation standpoint, all three alternatives are preferred equally. This is largely because additional vehicles generated with the W12A Landfill expansion are expected to remain constant no matter what the selected alternative may be. In addition, the access locations and operations are expected to be the same as existing under all three alternatives.

The comparative evaluation of 'Alternative Methods using this traffic factor is presented in Table 7.2-47.

Table 7.2-47: Traffic Evaluation of 'Alternative Methods'

Indicator	Differentiating Factors	Alternative 1	Alternative 2	Alternative 3
Expected effect on traffic along the Haul Route	Changes in traffic volume	Same for each alternative Equally Preferred	Same for each alternative Equally Preferred	Same for each alternative Equally Preferred
	Changes in required haul routes	Same for each alternative Equally Preferred	Same for each alternative Equally Preferred	Same for each alternative Equally Preferred
	Changes in type of vehicle expected	Same for each alternative Equally Preferred	Same for each alternative Equally Preferred	Same for each alternative Equally Preferred
Preferred Alternative		**Equally Preferred**	**Equally Preferred**	**Equally Preferred**

As a result, there are no unique advantages or disadvantages when comparing the three alternatives for the W12A Landfill expansion from a transportation perspective.

7.3 Public Input Regarding the Ranking of Alternatives

As described in Section 4.6 of this EASR, throughout the consultation period for the EA process, by way of meetings with PLC, CLC and Indigenous Communities, the open houses and the project website, feedback was solicited from the public. Among other things, feedback regarding the preferential ranking of components and sub-components was solicited from the public. The public was asked to consider if any component or sub-component was more or less important than another. The public was also provided an opportunity to comment on the individual component assessments or the identification of the preferred alternative, and whether they agreed or disagreed.

No feedback was received that conflicted with any of the analysis and ranking of individual components presented in Section 7.2. The ranking of components and sub-components from stakeholders was provided mostly during Open House #2 during the ToR and some more on-line surveys in advance of Open House #3. The rankings of the relative importance of the components by the stakeholders was considered in the overall identification of the preferred alternative, as described in Section 7.4.

7.4 Comparative Evaluation

The ranking of the 'Alternative Methods' for each of the components and sub-components and identification of the overall preferred alternative is presented in Table 7.4-1. The public ranking of the relative importance of the components and sub-components is also provided in Table 7.4-1. The comparative evaluation of 'Alternative Methods' of expanding the London W12A Landfill clearly identified Alternative 1 as the preferred method of expanding the landfill

Table 7.4-1 Summary of the Components and Sub-components Comparative Evaluation of 'Alternative Methods'

Category	Component / Sub-component	Alternative 1	Alternative 2	Alternative 3	Public Ranking Group
Environmental	**Atmosphere**				
	Air Quality (dust, odour and GHG)	Most Preferred	Least Preferred	Less Preferred	More Important
	Noise	Most Preferred	Least Preferred	Less Preferred	Less Important
	Biology				
	Aquatic ecosystems	Most Preferred	Least Preferred	Less Preferred	More Important
	Terrestrial ecosystems	Most Preferred	Least Preferred	Less Preferred	More Important
	Geology and Hydrology				
	Groundwater quality	Most Preferred	Least Preferred	Less Preferred	More Important
	Surface Water				
	Surface water quality	Most preferred	Less Preferred	Less Preferred	More Important
	Surface water quantity	Most Preferred	Less Preferred	Less Preferred	Important
Social	**Agriculture**				
	Agriculture	Most Preferred	Less Preferred	Least Preferred	Important
	Archaeology				
	Archaeology	Most Preferred	Less Preferred	Most Preferred	Less Important
	Cultural				
	Built Heritage Resources	Equally Preferred	Equally Preferred	Equally Preferred	Less Important
	Land Use				
	Current and planned future land uses	Most Preferred	Less Preferred	Least Preferred	Important
	Socio-economic				
	Local Economy	Least Preferred	Most Preferred	Most Preferred	Important
	Residents and Community	Most Preferred	Least Preferred	Less Preferred	More Important
	Visual				
	Visual	Least Preferred	Less Preferred	Most Preferred	Less Important

Category	Component / Sub-component	Alternative 1	Alternative 2	Alternative 3	Public Ranking Group
Technical	**Design and Operations**				
	Engineered Containment	Least Preferred	Less Preferred	Most Preferred	Important
	Financial	Most Preferred	Least Preferred	Less Preferred	Important
	Transportation				
	Traffic	Equally Preferred	Equally Preferred	Equally Preferred	Less Important
Overall Evaluation of Alternatives		**Most Preferred**	**Least Preferred**	**Less Preferred**	

As shown in Table 7.4-1, there are 12 components and 17 subcomponents.

Alternative 1 was ranked as most preferred for 12 of the sub-components and least preferred for three. Alternative 2 ranked as most preferred for one, less preferred for seven and least preferred for seven sub-components. Alternative 3 ranked as most preferred for four, less preferred for nine and least preferred for two sub-components. All three expansion alternatives were equally preferred for two of the sub-components. For those components/sub-components that were ranked by the public stakeholders as more important, Alternative 3 was ranked more highly than Alternative 2, resulting in Alternative 2 being ranked as least preferred overall.

Alternative 1 was identified as the preferred expansion alternative for the W12A Landfill expansion. This was the case whether the subcomponents were given an equal weighting or a weighting based on stakeholder input. Some key advantages of this expansion alternative are that the same landfill footprint is utilized meaning that proximity to sensitive PORs 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 aquitard is present offering the most protection to downgradient groundwater quality, the least modifications to the SWMS are required, no loss of agricultural land and least capital cost for construction.

TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON SEPTEMBER 22, 2020**
FROM:	**KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR - ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER**
SUBJECT	**PROPOSED EXPANSION OF THE W12A LANDFILL SITE: UPDATED ENVIRONMENTAL ASSESSMENT ENGINEERING CONSULTING COSTS**

RECOMMENDATION

That, on the recommendation of the Managing Director, Environmental & Engineering Services & City Engineer, the following actions **BE TAKEN** with respect to the appointment of Golder Associates Ltd. for the Individual Environmental Assessment process for the proposed expansion of the W12A Landfill:

a) Golder Associates Ltd. **BE APPOINTED** to carry out additional atmosphere, groundwater, landfill design and noise assessment studies as part of the Individual Environmental Assessment process for the proposed expansion of the W12A Landfill, in the total amount of $47,315 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 the work identified in (a), above, **BE APPROVED** in accordance with the "Sources of Financing Report" attached hereto as Appendix "A";

c) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this work; and

d) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

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 (October 22, 2019 meeting of the Civic Works Committee (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)

COUNCIL'S 2015-2019 STRATEGIC PLAN

Municipal Council has recognized the importance of solid waste management in its 2019-2023 - Strategic Plan for the City of London as follows:

Building a Sustainable City
London has a strong and healthy environment
- Build infrastructure to support future development and protect the environment

Growing our Economy
London is a leader in Ontario for attracting new jobs and investments
- Build infrastructure to support future development and retain existing jobs

Leading in Public Service
Londoners experience exceptional and valued customer service
- Increase community and resident satisfaction of their service experience with the City

BACKGROUND

PURPOSE

This report seeks approval from Committee and Council to retain Golder Associates Ltd. to undertake additional assessments and studies for the environmental assessment (EA) of the proposed expansion of the W12A Landfill.

The value of this assignment is less than $100,000 but in combination with other assignments will exceed $100,000 and requires Council approval as per purchasing policy 15.2 g).

CONTEXT

In 2015, Council directed staff to develop a long term residual waste disposal plan. Part of the plan includes an Individual environmental assessment (EA) for the expansion of the W12A Landfill. The W12A Landfill is expected to reach capacity in 2024.

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 the level of work is not finalized until the Terms of Reference (ToR) is approved by the Minister of the Environment, Conservation and Parks (MECP). The ToR becomes the framework (work plan) for completing the EA. The ToR was approved on July 30, 2019.

Work on the Environmental Assessment began in August 2019 with refining landfill expansion alternatives (referred to “alternative methods”) and then preliminary selection of the preferred landfill expansion alternative. This was followed by more detailed impact assessments of the proposed preferred alternative which are ongoing.

The proposed preferred landfill expansion alternative is a vertical expansion over the existing waste footprint which has many advantages over other expansion alternatives. This alternative does have the greatest visual impact and a more complex engineering design.

DISCUSSION

Budget
The budget for long term waste management planning, Capital Account SW6051, is summarized in Tables 1 and 2 (next page). The amount spent on the EA and the committed expenditures to date is $1,646,000 or approximately 70% of the total EA 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 W12A Landfill.
Total	$2,808,000	

Table 2: Status of EA and Resource Recovery Budget

Item	Budget (a)	Comment
EA - Spent to date	$1,320,000	Cost to develop and obtain approval of ToR and undertake the technical studies.
EA - Committed (consulting)	$327,000	Primarily consulting fees for remaining EA technical studies and preparation of the EA documentation.
EA – New Consulting Fees	$47,000	This submission (excluding HST).
EA – New Consulting Fees	$9,000	New Administrative Award (excluding HST)
EA - Expected Future Assignments (future costs)	$593,000	Primarily consulting fees, additional technical work, project management, community engagement.
EA - Contingency Available	$102,000	Funds available to cover future additional costs.
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) In 2018 and 2019, approximately $35,000 from the operating budget was assigned to research at Western University through the Industrial Research Chair and the London Waste to Resources Innovation Centre.

Updated Consulting Engineering Costs

The cost of the additional assessments and studies to address the commitments made in the ToR is identified on Table 3.

Table 3 – Updated EA Costs

Study and Consultant	Additional Cost	Comments
Atmosphere (including noise)/ Design/ Groundwater Assessments Golder Associates	$47,315	• Original scope of work assumed a qualitative approach to evaluate the alternative methods for air. MECP approved atmospheric work plan required a quantitative assessment, as well as a multi-phase impact assessment for air of the preferred alternative with consideration of more complex receptors for both air/noise. • Additional field work required for noise assessment.

Table 3 – Updated EA Costs

Study and Consultant	Additional Cost	Comments
		• Additional work required on the landfill design including leachate storage, building requirements and ancillary features. • Undertake additional hydrologic and contaminant transport modelling to address issues raised through Indigenous communities consultation and expected questions from MECP because of vertical expansion. • Council Award as per purchasing policy 15.2 g) (value of this assignment is less than $100,000 but in combination with other assignments will exceed $100,000).
Visual Assessment Ron Koudys Landscape Architects Inc.	$9,230	• Undertake visual impact assessment at additional locations. • Additional refinement of mitigative measures. • Administrative award as per purchasing policy 12.0 (total value of this assignment and previous assignments is less than $100,000).
Total	$56,545	

Summary
The additional consulting engineering fees of $47,315, as requested, and the administrative award fees of $9,230 will address additional work required related to atmosphere, groundwater, landfill design and noise assessment studies because of the vertical expansion.

Assuming Expected Future Assignments (future costs) on Table 3 are as estimated, there may be additional costs in the future to address input from stakeholders and Indigenous communities as well as comments/questions from the MECP during their review of the EA. It is anticipated that additional costs can be managed through the Contingency budget (Table 3). Significant new EA work may require a budget amendment.

PREPARED BY:
MIKE LOSEE, B.SC., DIVISION MANAGER SOLID WASTE MANAGEMENT

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

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Attachment: Appendix A – Source of Financing

c: Wesley Abbott, Technical Project Manager
John Freeman, Manager, Purchasing and Supply
Golder Associates Ltd. (1931 Robertson Road, Ottawa, K2H 5B7)

APPENDIX 'A'

#20141

Chair and Members
Civic Works Committee

September 22, 2020
(Appoint Consulting Engineer)

RE: Proposed Expansion of the W12A Landfill Site:
Updated Environmental Assessment Engineering Consulting Costs
(Subledger NT16LF03)
Capital Project SW6051 - Municipal Waste Study
Golder Associates Ltd. - $47,315.00 (excluding H.S.T.)

FINANCE & CORPORATE SERVICES REPORT ON THE SOURCES OF FINANCING:

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

SUMMARY OF ESTIMATED EXPENDITURES	Approved Budget	Committed to Date		This Submission	Balance for Future Work
Engineering	$2,539,614	$1,510,967		$48,148	$980,499
City Related Expenses	200,000	67,212			132,788
Other	68,024	68,024			
NET ESTIMATED EXPENDITURES	**$2,807,638**	**$1,646,203**	1)	**$48,148**	**$1,113,287**
SUMMARY OF FINANCING:					
Drawdown from Sanitary Landfill Reserve Fund	$2,807,638	$1,646,203		$48,148	$1,113,287
TOTAL FINANCING	**$2,807,638**	**$1,646,203**		**$48,148**	**$1,113,287**

1) **Financial Note**

	SW6051
Contract Price	$47,315
Add: HST @13%	6,151
Total Contract Price Including Taxes	53,466
Less: HST Rebate	5,318
Net Contract Price	$48,148

kw

Jason Davies
Manager of Financial Planning & Policy

TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON SEPTEMBER 22, 2020**
FROM:	**KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR - ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER**
SUBJECT:	**REVIEW OF THE W12A LANDFILL COMMUNITY ENHANCEMENT AND MITIGATIVE MEASURES PROGRAM**

RECOMMENDATION

That on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, the Review of the Current W12A Landfill Community Enhancement and Mitigative Measures Program (CEMMP) document (Appendix A) **BE APPROVED** for release for stakeholder feedback.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

Relevant reports that can be found at www.london.ca under City Hall (Meetings – Advisory and other Committees) include:

- Establishment of W12A Landfill Public Liaison Committee Point of Source Water Treatment Program Civic Works Committee (CWC) Meeting on November 3, 2015, Agenda Item 12
- W12A Landfill Public Liaison Committee Proposed Water Supply Fund CWC Meeting on December 16, 2014, Agenda Item 10
- Minor Revisions to W12A Landfill Site Community Enhancement and Mitigative Measures Program CWC Meeting on October 6, 2014, Agenda Item 10
- W12A Landfill Community Mitigative Measures Fund – Glanworth Library CWC Meeting on May 27, 2013, Agenda Item 5
- Updates to W12A Landfill Site Community Enhancement and Mitigative Measures Program, Environment & Transportation Committee (ETC) Meeting on May 10, 2010, Agenda Item #12
- W12A Landfill Community Enhancement and Mitigative Measures Program, ETC Meeting on May 11, 2009, Agenda Item #12
- W12A Landfill Community Enhancement and Mitigative Measures Program, ETC Meeting on January 12, 2009, Agenda Item #15
- Draft W12A Landfill Community Enhancement and Mitigative Measures Program, ETC Meeting on November 10, 2008, Agenda Item #3
- Voluntary Property Acquisition Plan, Draft Guiding Principles for a W12A Community Mitigative Measures & Compensation Policy, ETC Meeting on September 11, 2006, Agenda Item #5
- Draft Guiding Principles for a W12A Community Mitigative Measures & Compensation Policy, ETC Meeting on June 19, 2006, Agenda Item #1

COUNCIL'S 2019-2023 STRATEGIC PLAN

Municipal Council has recognized the importance of solid waste management in its 2019-2023 - Strategic Plan for the City of London as follows:

Building a Sustainable City

London has a strong and healthy environment

- Build infrastructure to support future development and protect the environment

Growing our Economy

London is a leader in Ontario for attracting new jobs and investments
- Build infrastructure to support future development and retain existing jobs

Leading in Public Service

Londoners experience exceptional and valued customer service
- Increase community and resident satisfaction of their service experience with the City

BACKGROUND

PURPOSE:

This report seeks approval from CWC and Council to seek stakeholder feedback on potential changes to the Community Enhancement and Mitigative Measures Program (CEMMP) for the W12A Landfill. The CEMMP is not part of the current Environmental Assessment (EA) for the expansion of the W12A Landfill but can be considered a parallel or complimentary process in addressing issues associated with the expansion of the landfill.

CONTEXT

Current CEMMP

The CEMMP is part of the City's overall efforts to reduce and address the negative effects of the W12A Landfill on neighbouring properties surrounding the W12A Landfill. Work on developing the CEMMP began in 2006 and was approved by Council in 2009. The Program was updated in 2010 and again in 2014.

The current CEMMP consists of five programs or actions:

1. Property Value Protection Plan
2. "Right of First Refusal" Program
3. Community Mitigative Measures Fund
4. No Charge Waste Disposal
5. Public Liaison Committee (PLC)

Property Value Protection Plan
The property value protection plan requires the City to buy properties in the vicinity of the landfill at fair market value inclusive of a hypothetical assumption that the property is not in proximity to the W12A Landfill or alternatively pay the difference between the fair market value and a bona fide offer. The City has purchased seventeen properties under the property value protection plan. Six properties near the landfill were purchased prior to the establishment of the CEMMP. An additional 21 properties in the vicinity of the landfill remain eligible for the property value protection plan.

"Right of First Refusal" Program
Property owners who are part of the "right of first refusal" program are obligated to allow the City to match any offers received for the property from others. In return these property owners receive an annual payment from the City which varies depending on the distance of their home from the landfill and the amount of garbage received at the landfill in the previous year. About 33 properties are currently eligible for the program.

Community Mitigative Measures Fund
The Community Mitigative Measures Fund is used to address special circumstances in the broader community that are not covered by the other sections of the CEMMP.

The fund started with an initial balance of $350,000 in 2009. This represents the amount of money (including inflation and interest) the City would have had paid to the former Township of Westminster between 1993 and 2008 had the City not amalgamated the Town less funds already spent on community initiatives from the Sanitary Landfill Reverse

Fund (i.e., funding to connect to the municipal water system in Glanworth). Beginning in 2009, the fund received $0.25 per tonne (adjusted for inflation annually) for each new tonne of waste buried at the landfill. The fund currently has a balance of approximately $900,000.

Funds in the Community Mitigative Measures Fund can be used to cover the expenses of the W12A Landfill Public Liaison Committee (PLC) and projects recommended by the W12A Landfill PLC.

No Charge Waste Disposal
Residents in the rural portion of southern London are not subject to fees or charges for the disposal of residential waste from their property up to 200 kg per week at the landfill.

Public Liaison Committee (PLC)
The W12A Landfill PLC serves as a focal point for dissemination, review and exchange of information and monitoring results relevant to the operation of the landfill. The majority of PLC members is made up of persons living near the landfill. The PLC meets regularly and meetings are open to the public.

The PLC is responsible for recommending projects or undertakings to the City that are paid for from the Community Mitigative Measures Fund. The PLC may disburse up to $15,000 per year from the fund without Council approval on certain items (e.g., technical consultants related to landfill matters, community projects that enhance local social and/or recreational facilities or programs). Projects over $15,000 must be approved by Council.

DISCUSSION

City of London - Review of Current W12A Landfill Community Enhancement and Mitigative Measures Program (CEMMP)

Contained in Appendix A is a report entitled City of London - Review of Current W12A Landfill Community Enhancement and Mitigative Measures Program (CEMMP). This report can be used to engage stakeholders in the fall of 2020 and likely early 2021.

This report has been designed to provide initial ideas on possible changes, where available.

City staff contacted other large municipal and private landfills in southern Ontario to update information collected on community enhancement and mitigative measures in 2006 when the City's CEMMP was developed. The updated information is summarized in Section 2.0 of the report found in Appendix A.

The City of London is currently the only publically-owned large landfill site in southern Ontario that has Property Value Protection Plan, Direct Payments to Residents and a Local Community Trust Fund. The review also indicates that currently the City of London meets or exceeds most programs offered by private sector (for profit) landfill owners.

Additional work is underway to obtain any further information that will be beneficial to the review.

Next Steps and Proposed Timeline

It is proposed to seek feedback from stakeholders and report back to CWC at a future meeting. Stakeholder feedback would include:

- Discussion with the W12A Landfill PLC
- Information on the potential revisions included in the fourth Open House for the Environmental Assessment for the proposed expansion of the W12A Landfill
- Information on the City website and GetInvolved website
- Direct mailings to residents in the vicinity of the W12A Landfill

The proposed timeline (table below) for this review is between six and nine months, in part, depending on how challenging it is to solicit feedback, answer questions, conduct any new research, etc. during the pandemic.

CWC report	September 22, 2020
Council direction	September 29, 2020
Stakeholder engagement and feedback	October 2020 to March 2021
Update report to CWC	April 2021
Additional stakeholder engagement and feedback (if required)	Spring 2021
Final report to CWC	Spring/Summer 2021

PREPARED BY:	
MIKE LOSEE, B.SC., DIVISION MANAGER SOLID WASTE MANAGEMENT	

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

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c Wesley Abbott, Technical Project Manager

Appendix A City of London - Review of Current W12A Landfill Community Enhancement and Mitigative Measures Program (CEMMP)

City of London

Review of Current W12A Landfill Community Enhancement and Mitigative Measures Program (CEMMP)

(September 2020)

Table of Contents

1.0 PURPOSE OF THIS REPORT AND BACKGROUND

Purpose of this Document

This document has been designed to seek stakeholder feedback on potential changes to the Community Enhancement and Mitigative Measures Program (CEMMP) for the W12A Landfill. The CEMMP is not part of the current Environmental Assessment (EA) for the expansion of the W12A Landfill that is currently under way. It is considered a parallel or complimentary process in addressing issues associated with the expansion of the landfill.

This report has been designed to provide initial ideas on possible changes, where available.

City staff recently contacted other large municipal and private landfills in southern Ontario to update information collected on community enhancement and mitigative measures in 2006 when the City's first CEMMP began development. The updated information is summarized in Section 3.0 of this document with additional details found in Appendix A. Additional work is underway to obtain any further information that will be beneficial to the review.

Background

The W12A Landfill began operation in 1977. It has capacity to continue to accept waste until approximately the end of 2023 or early 2024 based on current disposal rates and approved capacity (volume-based).

In the last 20 years, the City has invested millions of dollars to enhance and upgrade the infrastructure at the landfill. These upgrades have included improvements to the stormwater management ponds, leachate collection system, expansion of landfill gas collection and flaring system and the supply of municipal water to the landfill. The City is committed to continue to improve the operation of the landfill by taking reasonable efforts to reduce or address negative effects of the W12A Landfill Site for the remainder of the approved capacity.

As part of the design features for the proposed expansion of the W12A Landfill Site, additional technical features are being proposed including enhanced control of leachate mounding via installation of finger drains; enhanced landfill gas and odour control via the use of horizontal landfill gas collectors during the active phase of landfilling followed by installation of permanent vertical landfill gas extraction wells once areas of the expanded site are completed; additional onsite leachate storage capacity to provide more control on how much leachate is pumped for disposal during periods of extended precipitation; and additional onsite berms to better control noise emissions for nearby sensitive receptors.

In the mid-2000s, it was determined that developing a community enhancement and mitigative measures program as part of the City's overall efforts to help reduce or address the negative effects of the landfill on the local community was a key step as part of the W12A Landfill Area Study (2005-2006). The W12A Landfill Community Enhancement and Mitigative Measures Program (CEMMP) was developed over a three year period between 2006 and 2009. The program was approved by Municipal Council in May 2009. The steps in the development of the CEMMP included:

- Review comments of area residents
- Review other landfill policies
- Preparation of Draft Guiding Principles
- Preliminary input from the community
- Revisions to Draft Guiding Principles
- Stakeholder meetings
- Updates on other landfill policies
- Additional stakeholder meetings
- Preparation of alternative Draft Mitigative Measures and Policies
- Review of additional comments
- Selection of Preferred Mitigative Measures and Policies
- Several public meetings at Environment & Transportation Committee (a Standing Committee of Council, now called the Civic Works Committee)
- Additional direction from Council and final Council approval

2.0 CURRENT W12A LANDFILL COMMUNITY ENHANCEMENT AND MITIGATIVE MEASURES PROGRAM (CEMMP)

The CEMMP is part of the City's overall effort to reduce and address the negative effects of the W12A Landfill on neighbouring properties surrounding the W12A Landfill. Work on developing the CEMMP began in 2006 and was approved by Council in 2009. The Program was updated in 2010 and again 2014. The program consists of five programs or actions:

1. Property Value Protection Plan
2. "Right of First Refusal" Program
3. Community Mitigative Measures Fund
4. No Charge Waste Disposal
5. Public Liaison Committee (PLC)

1. Property Value Protection Plan

The property value protection plan requires the City to buy properties in the vicinity of the landfill at fair market value inclusive of a hypothetical assumption that the property is not in proximity to the W12A Landfill or alternatively pay the difference between the fair market value and a bona fide offer. The City has purchased seventeen properties under the property value protection plan. Six properties near the landfill were purchased prior to the establishment of the CEMMP. An additional 21 properties in the vicinity of the landfill remain eligible for the property value protection plan.

2. "Right of First Refusal" Program

Property owners who are part of the "right of first refusal" program are obligated to allow the City to match any bona fide offers received for the property from others. In return these property owners receive an annual payment from the City which varies depending on the distance of their home from the landfill and the amount of garbage received at the landfill in the previous year. About 33 properties are currently eligible for the program.

3. Community Mitigative Measures Fund

The Community Mitigative Measures Fund is used to address special circumstances in the community that are not covered by the other sections of the Community Enhancement and Mitigative Measures Program.

The fund started with an initial balance of $350,000 in 2009. This represents the amount of money (including inflation and interest) the City would have paid to the former Township of Westminster between 1993 and 2008 had the City not amalgamated the Town less funds already spent on community initiatives from the Sanitary Landfill Reverse Fund (i.e., funding connection to the municipal water system in Glanworth). Beginning in 2009, the fund received $0.25 per tonne (adjusted for inflation annually) for each new tonne of waste buried at the landfill. The fund currently has a balance of approximately $900,000. The per tonne fee in 2019 was $0.30.

Funds in the Community Mitigative Measures Fund can be used to cover the expenses of the W12A Landfill Public Liaison Committee (PLC) and on projects recommended by the W12A Landfill PLC.

4. No Charge Waste Disposal Program

Residents in the rural portion of southern London are not subject to fees or charges for the disposal of residential waste from their property up to 200 kg per week at the landfill.

5. Public Liaison Committee (PLC)

The W12A Landfill PLC serves as a focal point for dissemination, review and exchange of information and monitoring results relevant to the operation of the landfill. The majority of PLC members is made up of persons living near the landfill. The PLC meets regularly and meetings are open to the public.

The PLC is responsible for recommending projects or undertakings to the City that are paid for from the Community Mitigative Measures Fund. The PLC may disburse up to $15,000 per year from the fund without Council approval on certain items (e.g., technical consultants related to landfill matters, community projects that enhance local social and/or recreational facilities or programs). Projects over $15,000 must be approved by Council.

COMMENTS, FEEDBACK, IDEAS REGARDING THE CURRENT W12A LANDFILL COMMUNITY ENHANCEMENT AND MITIGATIVE MEASURES PROGRAM (CEMMP)

3.0 REVIEW OF OTHER COMMUNITIES IN SOUTHERN ONTARIO

Staff contacted other large municipal and private landfills in southern Ontario to update information collected on community enhancement and mitigative measures in 2006 when the City's CEMMP was developed. The updated information is summarized in Table 1. Further details are provided in Appendix A.

Table 1: Community Enhancement and Mitigative Measures Programs at Landfills in Southern Ontario

Municipality/ Company	Landfill	Most Recent Approval for Landfill Capacity	Property Value Protection Plan	Direct Payments to Residents	Community Trust Fund (or Equivalent)
Publically–owned (Municipal) Landfill Sites (large)					
City of London	W12A	1976	✓	✓	✓
City of Brantford	Mohawk Street	1974	×	×	×
Essex-Windsor Solid Waste Authority	EWSWA Regional	1997 (expansion)	✓	✓	×
Region of Halton	Halton	1989	×	×	×
City of Hamilton	Glanbrook	1979	×	×	×
Region of Niagara	Humberstone	2015 (expansion)	×	×	×
	Road 12	2007 (expansion)	✓	×	×
City of Ottawa	Trail Road	2005 (expansion)	-	-	-
County of Oxford	Salford	1983	×	×	×
City of Peterborough	Bensfort Road	2002 (expansion)	✓	✓	×
City of Toronto	Green Lane	2006 (expansion)	✓	×	✓
Region of Waterloo	Waterloo	1991 (expansion)	✓	×	×
Private (large) Landfill Sites					
GFL Environmental	Moose Creek	1999, EA underway	-	-	-
Taggart Miller	Ottawa	2017	✓	✓	✓
Terrapure	Stoney Creek	2019 (expansion)	×	×	✓
Waste Management	Twin Creeks	2008 (expansion)	✓	✓	✓
Waste Connections	Ridge	1998 (expansion) EA submitted	✓	✓	✓
	Navan Road	2007 (expansion)	✓	×	✓
Walker Industries	South	2008 (expansion)	✓	✓	×
	Southwestern	EA underway (proposed)	✓	✓	To be determined

COMMENTS, FEEDBACK, IDEAS REGARDING THE REVIEW OF OTHER COMMUNITIES IN SOUTHERN ONTARIO (INCLUDING APPENDIX A)

4.0 REVIEW OF CURRENT W12A LANDFILL COMMUNITY ENHANCEMENT AND MITIGATIVE MEASURES PROGRAM (CEMMP)

Key aspects of the City's CEMMP are summarized below and potential revisions to the program discussed.

4.1 Measuring Distance from the W12A Landfill

Current Program

The CEMMP provides access to the Property Value Protection Plan and the "Right of First Refusal " program based on distance from the landfill property boundary. The distance from the landfill property boundary is determined by combining the approved disposal area for the landfill (the area where waste is permitted to be disposed of) and the onsite buffer area (the area that includes ancillary features such as the buildings, screening berms, etc.). The on-site buffer varies from 30 to 90 metres.

Potential Revisions

For the proposed landfill expansion, the on-site buffer between the waste footprint and the property boundary will vary from 90 metres (west, east and south sides) to 330 metres (north side). Given that most of the nuisance impacts from a landfill come from the approved disposal area, it may not be appropriate to determine access to programs based on distance from the landfill's property boundary. Options for determining access to programs are listed in Table 2.

Table 2: Current (Italics) and Options for Revising Measuring Distance from the Landfill

Option	Comments
Distance from original landfill property boundary	*No change to current policy. Consistent with historical measurements (on-site buffer ranges from 30 metres to 90 metres).*
Distance from landfill's new (proposed) property boundary	No change to current policy except the buffer range distances have changed from 30 to 90 metres to 90 metres to 330 metres.
Distance from landfill's waste disposal area	Most of the nuisance impacts from within waste disposal area (no on-site buffer used in measuring the overall distance).
Distance from landfill's new property boundary or 100 metres whichever is less	Results in similar on-site buffer to current program (ranges from 90 metres to 100 metres) and consistent with recommended minimum buffer by MECP.

COMMENTS, FEEDBACK, IDEAS REGARDING MEASURING DISTANCE FROM THE EXANDED W12A LANDFILL

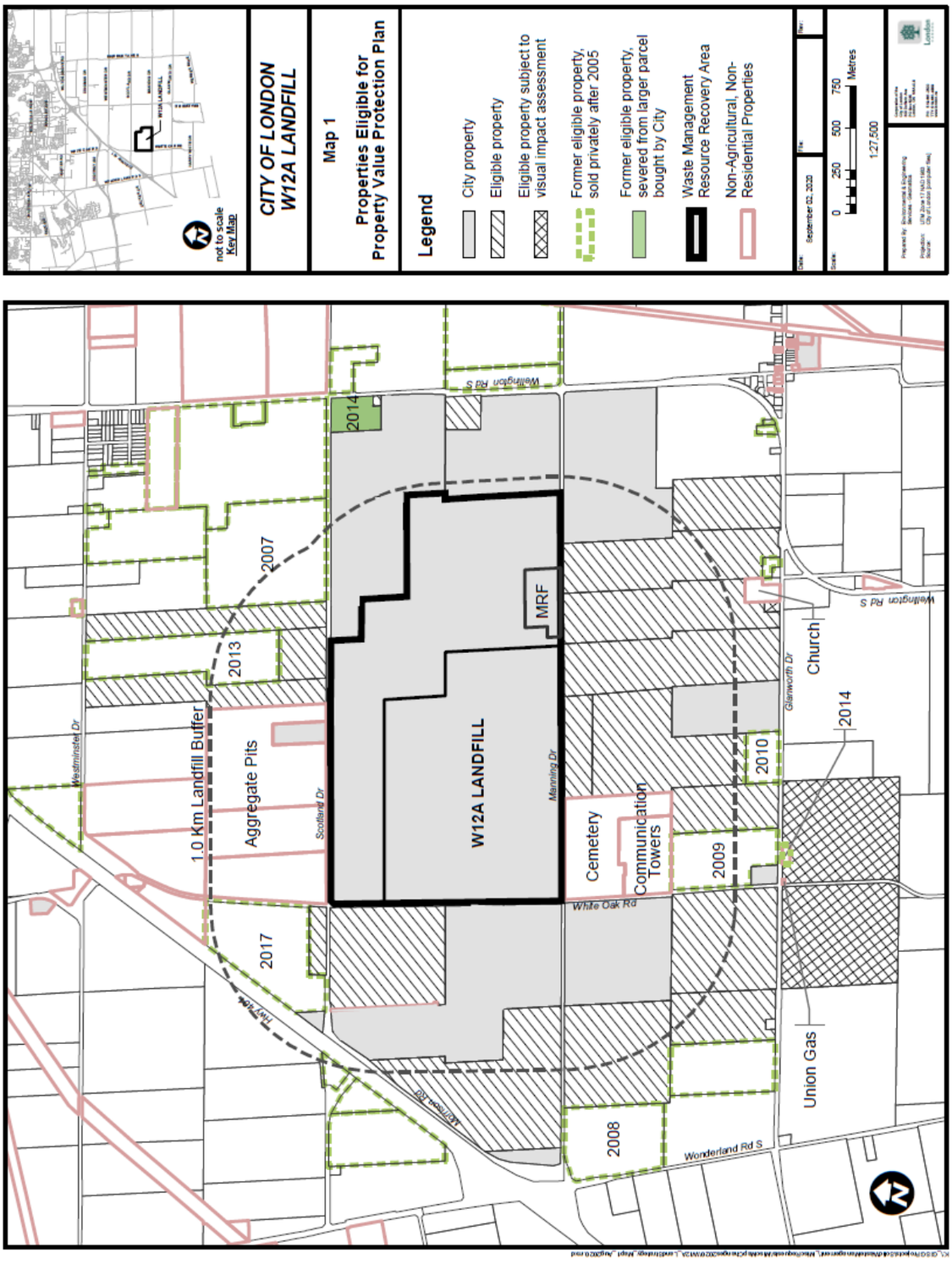
4.2 Property Value Protection Plan

Current Program
The City offers property value protection to properties purchased prior to September 2006 and in the following context (eligibility criteria):

1. properties within the block of land bounded by White Oak Road, Manning Drive, Scotland Drive and Wellington Road;
2. residential or agricultural properties that are south of the 401, within a kilometre of the landfill; and,
3. residential or agricultural properties within 1.5 kilometres of the landfill with a residence having a significant visual impact.

There are currently 21 eligible properties (3 of which are eligible subject to determining if a significant visual impact exists) for the Property Value Protection Plan. When the program started the number was 44 properties. Eligible properties are shown in Map 1.

Map 1: Properties Eligible for the Property Value Protection Program



Potential Revisions

Eligibility to the property value protection program should continue to be restricted to persons who purchased their residential or agricultural property before August 31, 2006. Persons purchasing their property before that date may have bought their property expecting that the W12A Landfill would have closed in 2006 based on historical agreements between the City and the former Town of Westminster. By August 31, 2006 the City Council confirmed it planned to keep the landfill open and was in the process of completing an Area Study to provide for long term waste management planning in the area.

Persons purchasing properties after August 31, 2006 would have had the benefit of any price reduction resulting from being near the landfill and would have bought their property knowing about the likely continued existence of the landfill.

Consideration could be given to increasing the area where properties purchased before August 31, 2006 qualify for the property value protection plan given the increased height of the landfill and the potential for a greater visual impact. Only properties which have a house would be considered since properties without a house are considered not to have visual impacts.

It is recommended that there be no change to the first and second condition of eligibility for property value protection and the plan continue to include all properties within the block of land bounded by White Oak Road, Manning Drive, Scotland Drive and Wellington Road and all residential and agricultural properties within one kilometre of the landfill

Potential options for revising the third condition of eligibility to the property value protection that would enlarge the eligible area are listed in Table 3.

Table 3: Current (Italics) and Options for Revising Area Eligible for Property Value Protection Program (Within 1.5 Kilometres of the Landfill)

Option	Comments	# of Properties Added/Removed from Program
Residential or agricultural properties within 1.5 kilometres of the landfill with a residence having a significant visual impact.	*Current policy in use*	• *21 properties currently eligible*
Properties south of the 401 with a residential dwelling within 1.5 kilometres of a landfill	Will remove properties that are within 1.5 kilometres but whose house is more than 1.5 kilometres from the program. Eliminates the visual impact requirement for access to program.	• 1 removed • 6 added • Net change of plus 5
Properties south of the 401 within 1.5 kilometres of a landfill with residential dwelling	Eliminates the visual impact requirement for access to program. This is similar to the wording currently used for the right of first refusal payments (right of first refusal does not exclude properties north of the 401).	• 12 added
Properties south of the 401 with a residential dwelling within 1.5 kilometres of a landfill which have an increased visual impact	Will remove properties that are within 1.5 kilometres but whose house is more than 1.5 kilometres from the program. Reduces visual impact requirement for access to program.	• 1 removed • 5 added • Net change of plus 4
Properties south of the 401 within 1.5 kilometres of a landfill with residential dwelling which have an increased visual impact	Reduces the visual impact requirement for access to program.	• 11 added

COMMENTS, FEEDBACK, IDEAS REGARDING PROPERTY VALUE PROTECTION PLAN

4.3 Right of First Refusal Program

Current Program
The City offers to pay an annual fee for the "right of first refusal" on the sale of:

- properties within the block of land bounded by White Oak Road, Manning Drive, Scotland Drive and Wellington Road;
- residential or agricultural properties within 1.5 kilometres of the landfill with a residence; or,
- agricultural properties within 1.0 kilometres of the landfill.

Homeowners who purchased their home after August 2006 do not qualify.

The annual fee paid is based on distance from the landfill and the amount of waste being received. Payments are increased the closer the house is to the landfill and increased as the amount of waste going to the landfill increases. The level of payments range from approximately $2,900 (Group 3) to $8,800 (Group 1) per year.

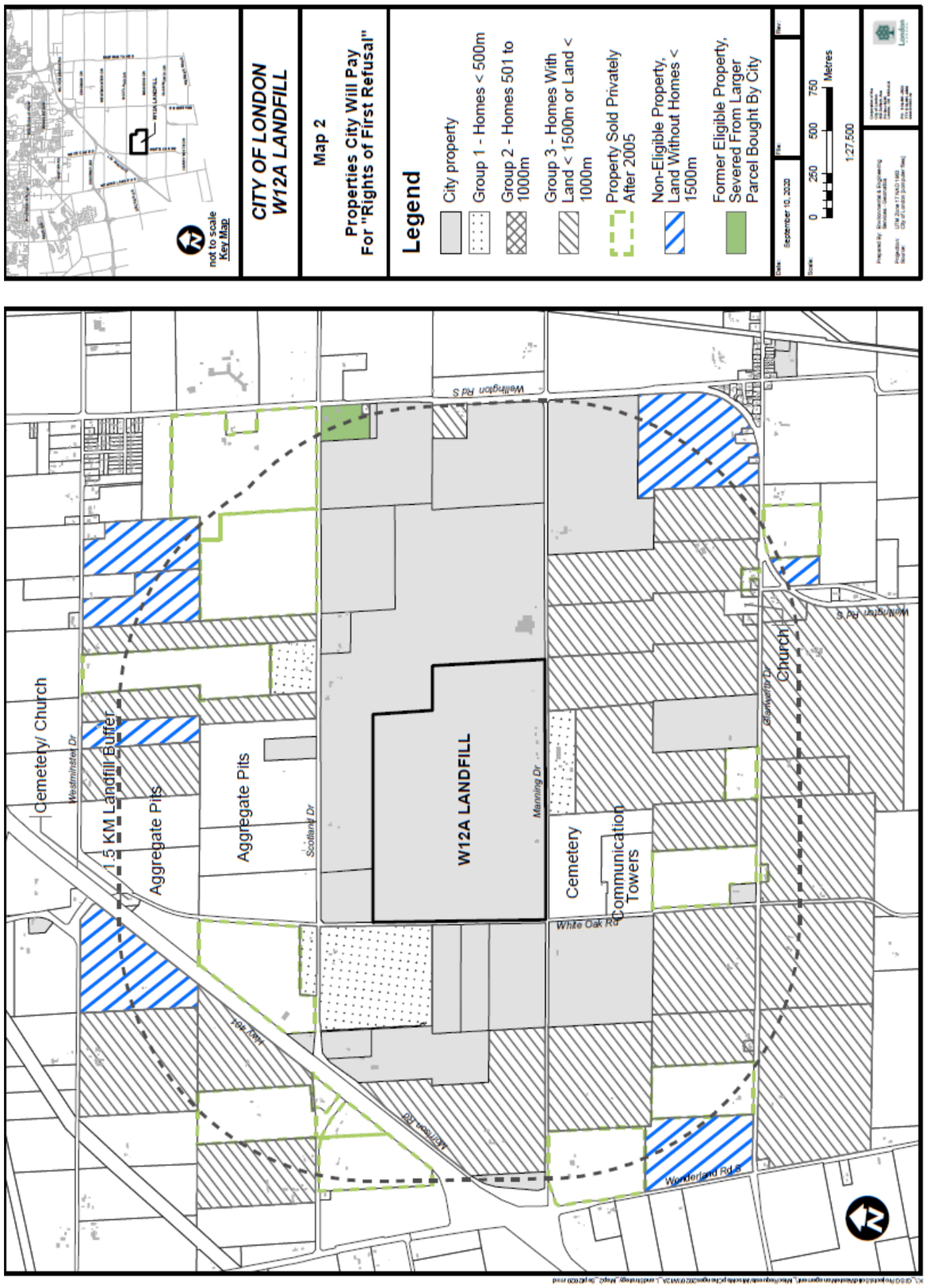
Based on details until the end of 2019, there are currently 32 eligible properties and the majority have joined the program (Table 4). The current total annual payments are about $78,500 based on the properties that are participating. Eligible properties are shown in Map 2.

Table 4: "Right of First Refusal" Program (2020)

Group	Eligible Properties		Properties Currently Participating	Approximate Annual Payment
	Program Start	Currently Eligible		
1. House within 500 m	10	3	2	$8,800
2. House between 500 & 1,000 m	3	0	0	$5,900
3. House between 1,000 & 1,500 m	46	29	21	$2,900
Total	59	32	23	

Other Programs in Southern Ontario
Most private landfills, but only a few municipal landfills, provide annual payments to property owners in the vicinity of the landfill. The current City program provides funds to property owners further from the landfill than most other landfills. The level of funding is generally higher than payments in other programs.

Map 2: Properties Eligible for Right of First Refusal Program



Potential Revisions

The current approach seems reasonable but consideration could be given to adjusting the payment to two groups of home owners.

The program could include all homeowners who live on Manning Drive prior to August 2006 as Group 1 homes. In 2016, the City amended its Environmental Compliance Approval to allow waste collection vehicles to use the new intersection at Highway 401 and Wonderland Road South to access Manning Drive and approach the landfill entrance from the west. Waste collection vehicles were previously prohibited from this road. There are two residential properties on the new haul route and both properties are currently considered Group 3 homes which receive the lowest annual payment for their “right of first refusal”. Consideration could be given to making these Group 1 properties given the increase in traffic due to the landfill.

Homeowners who purchased their home after August 2006 do not qualify for the “right of first refusal”. Obtaining “right of first refusal” on these properties may be warranted given the continuation of the landfill. Consideration could be given to making these Group 3 properties or creating a new Group 4 level.

COMMENTS, FEEDBACK, IDEAS REGARDING RIGHT OF FIRST REFUSAL PROGRAM

4.4 Community Mitigative Measures Fund

Current Program

The Community Mitigative Measures Fund is to address any real or perceived nuisances that may not be reasonably mitigated. Nuisance impacts include odours, noise, dust, litter and traffic. The Fund:

- has a current balance of about $900,000 and received approximately $0.30 per tonne in 2019. The payment per tonne increases with inflation. Table 5 contains Fund payment details over the last five years; and,
- future payments (in today’s dollars) will total approximately an additional $3,000,000 over 25 years.

Table 5: Annual Payments to the Community Mitigative Measures Fund (2015 to 2019)

Year	Number of Tonnes Managed at W12A Landfill	Fee Paid Per Tonne	Total
2015	214,950	$0.28	$60,186
2016	237,391	$0.28	$66,496
2017	271,566	$0.29	$78,754
2018	287,230	$0.30	$86,169
2019	301,357	$0.30	$90,407

As previously noted, the PLC is responsible for recommending projects or undertakings above the annual allocation of $15,000 to the City that are paid for from the Community Mitigative Measures Fund. To date, approximately $195,000 has been spent on two projects. Approximately $180,000 towards a Point of Source Water Treatment Program in 2016 and $15,000 towards the Glanworth Library in 2013.

Other Programs in Southern Ontario

Most private landfills, but only one other municipal landfill, have a Community Trust Fund (or Equivalent) like London. The level of funding is consistent with the level of funding at other landfills that have local community trust funds.

It is noted that most private landfills provide funding directly to the local municipality which is not applicable to municipal landfills.

Potential Revisions
Consideration could be given to increasing the per tonne fee.

Concerns have been expressed by some members of the PLC that the money from Community Mitigative Measures Fund could hypothetically be spent on initiatives anywhere. Consideration could be given to placing geographical restrictions on where the money could be spent. This could be within a set distance of the landfill (e.g., 2 kilometres) or within an area such as shown on Map 3.

COMMENTS, FEEDBACK, IDEAS REGARDING COMMUNITY MITIGATIVE MEASURES FUND

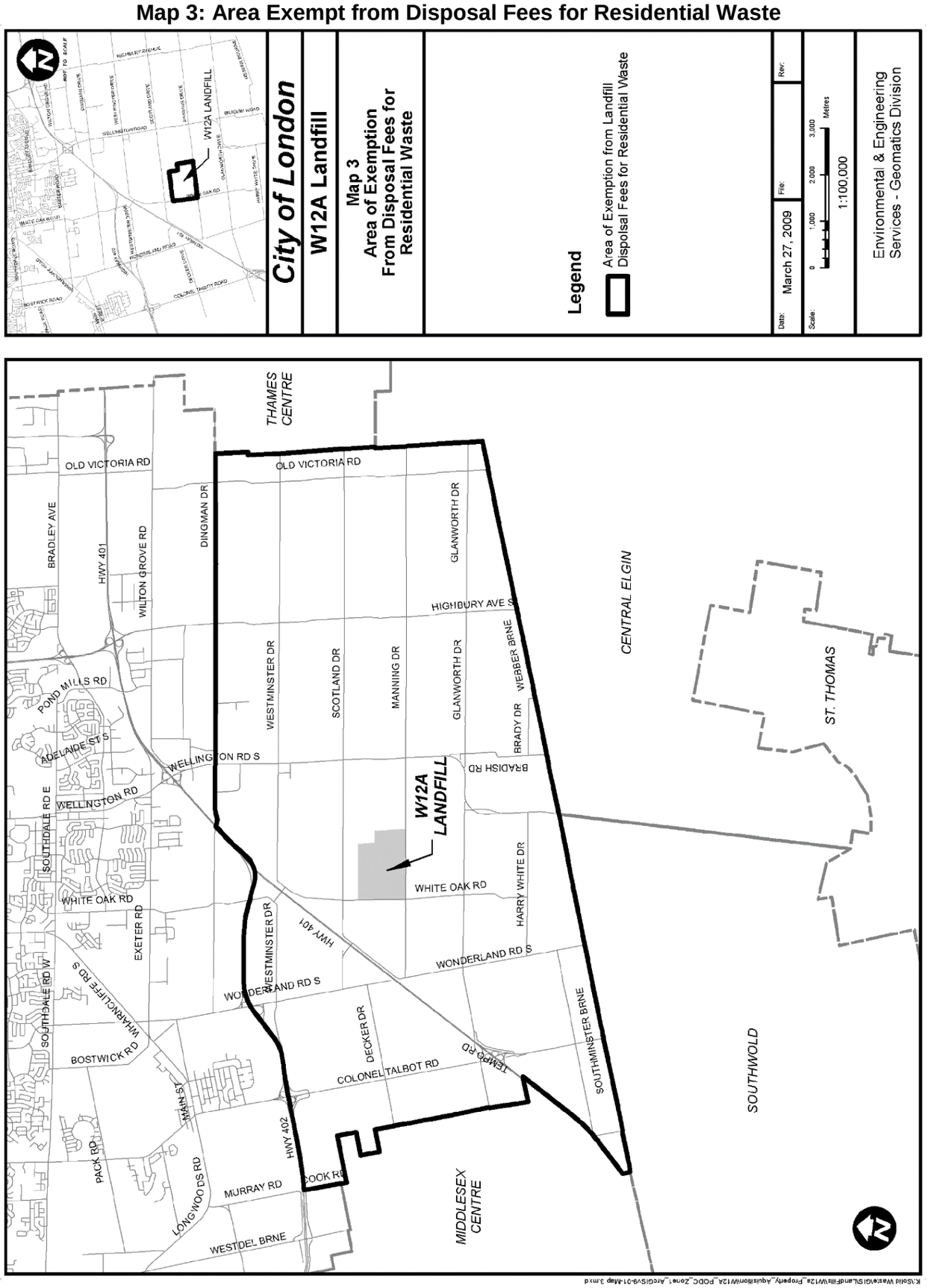
4.5 No Charge Waste Disposal

Current Program
Residents in the area outlined in Map 3 are not subject to fees or charges for the disposal of residential waste from their property up to 200 kg per week at the landfill. These same households also have access to the curbside garbage collection program and all other waste management services.

Potential Revisions
The area eligible for free disposal and the quantity eligible seem reasonable. No revisions are proposed to this initiative.

COMMENTS, FEEDBACK, IDEAS REGARDING NO CHARGE WASTE DISPOSAL

Map 3: Area Exempt from Disposal Fees for Residential Waste



4.6 Public Liaison Committee (PLC)

Current Program

An effective PLC can serve as a focal point for dissemination, review and exchange of information and monitoring results relevant to the operation of the landfill. The W12A Landfill PLC has a Terms of Reference that governs its operation (Appendix B). The PLC is open to anyone in the City but the majority of members must be made up of residents living close to the landfill.

Potential Revisions
No revisions are proposed to the program.

COMMENTS, FEEDBACK, IDEAS REGARDING THE PLC

4.7 Potential Additions to the CEMMP and/or Landfill Operating Commitments

Broader Community Enhancements
Currently the broader area around the W12A Landfill Site has access to free disposal up to 200 kg per week. The area is best defined as being south of Highway 401 (see Map 3). Within this area and potentially outside this area, community members and/or businesses can make requests to the PLC to access the existing Community Mitigative Measures Fund.

Some private sector landfill sites provide funds that go beyond the immediate area of the landfill and support community based projects (e.g., parks projects, not-for-profit group projects, leisure events, etc.). In some cases these funds are used for projects that benefit people well beyond the immediate area of a landfill.

Should further enhancements be desired and/or supported in a broader area, ideas and criteria could include:

- Supporting projects that benefit the maximum number of residents and businesses south of Highway 401 (e.g., beautification projects along Wellington Road South; community projects that enhance community pride, etc.);

- Supporting partnership projects whereby funds are provided by others to create larger, more impactful projects;

- Ensuring that geographic boundaries as to where projects can occur is defined along with other criteria

- Funding could be obtained as a per tonne fee in a similar manner as the Community Mitigative Measures Fund which generally is focused on projects in close proximity to the W12A Landfill;

- Approval of the projects in a new category could be undertaken by the Civic Works Committee and Council twice per year as these initiatives are part of the broader community more so than neighbours of the landfill;

Potential Nuisance Control Measures
There are a number of nuisance control measures that have be discussed at the PLC over the years (Table 5). Some of these nuisance control measures could be included in the CEMMP.

Table 5: Potential Neighbourhood Nuisance Control Measures

Program	Current	Comments/ Potential Revisions
Off-site litter control	• Twice daily inspections of White Oak/Scotland/ Wellington/Manning block • Daily inspections: Manning from White Oak to Wonderland and White Oak from Scotland to Church • Litter pick-up as required	• Consider increasing the roads being monitored.
Bird Control – Gulls	• Bring in hawk as required	• Bring hawk on a regular/permanent basis. • Consider additional bird control measures such as noise-makers.
Bird Control - Vultures	• No service in place	• Proposed pilot project to test ways to protect buildings on private property rejected by PLC. • Consider building habitat in on-site buffer area to keep nesting off private property.
Area Roadway Maintenance (grass cutting)	Responsibility of Transportation, Roadside and Forestry Division	• Area receives same level of service that other rural areas receive.
Management of City properties and roadways	Responsibility of Realty Services Division	• Area receives same level of service that other rural areas receive. • Proposal for development of plan to enhance the area that would be jointly funded by the City and the Community Mitigative Measures Fund was rejected by the PLC.
Management of Private Properties	Responsibility of Licensing and Municipal Law Enforcement - By-Law Enforcement Division	• Area receives same level of enforcement that other rural areas receive.

COMMENTS, FEEDBACK, IDEAS REGARDING POTENTIAL ADDITIONS TO THE CEMMP AND/OR LANDFILL OPERATING COMMITMENTS

5.0 NEXT STEPS, PROPOSED TIMELINE AND HOW TO PROVIDE FEEDBACK

Next Steps and Timeline

It is proposed to seek feedback from stakeholders and report back to CWC at a future meeting in 2021. Stakeholder feedback would include:

- Discussion with the W12A Landfill PLC;
- Information on the potential revisions included in the fourth Open House for the Environmental Assessment for the proposed expansion of the W12A Landfill;
- Information on the City website and GetInvolved website; and
- Direct mailings to residents in the vicinity of the W12A Landfill.

The proposed timeline for this review is between six and nine months, in part, depending on how challenging it is to solicit feedback, answer questions, conduct any new research, etc. during the pandemic.

CWC report	September 22, 2020
Council direction	September 29, 2020
Stakeholder engagement and feedback	October 2020 to March 2021
Update report to CWC	April 2021
Additional stakeholder engagement and feedback (if required)	Spring 2021
Final report to CWC	Spring/Summer 2021

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How to Provide Feedback

Feedback, comments and/or questions on this document can be directed to:

In writing, by email to: wroberts@london.ca (Will Roberts)

In writing, by mail to: Will Roberts, Technician, Solid Waste
City of London
300 Dufferin Avenue
P.O Box 5035
London, Ontario N6A 4L9

By telephone: 519 661-2489, ext. 7364 (Will Roberts)

Project Website: https://getinvolved.london.ca/whywastedisposal

Appendix A – Summary of Programs at Other Southern Ontario Landfills

Property Value Protection Plans

Community/ Landfill	Who qualifies	Method of Determining Value of Property	How the Process Works
Essex-Windsor EWSWA Regional	▪ Property within 1km. ▪ Residential property owner within 1.6 km or on haul road. ▪ Owned land prior to landfill.	▪ EWSWA and property owner obtain appraisals at EWSWA expense. ▪ If the difference is <10%, higher value. ▪ If the difference is >10%, appraisers select 3rd appraiser and the average of 3 appraisals paid.	▪ Property owner places on market. ▪ Offer higher – no compensation. ▪ Offer lower - Landfill has the option of buying at appraised price or paying difference. ▪ EWSWA has first right of refusal in any sale.
Niagara Region Road 12 Landfill	▪ Property owners within 700 metres of landfill.	▪ Region obtains appraisals.	▪ Homeowner places on market. ▪ Offer higher – no compensation. ▪ Offer lower – Region has the option of buying at appraised price or paying difference.
City of Peterborough Bensfort Road	▪ Property owners with 500 metres. ▪ Owned land prior to landfill.	▪ Median of three appraisals plus 10%. ▪ All appraisals paid for by City. ▪ City selects 1st appraiser, landowner selects 2nd appraiser, appraisers select 3rd appraiser.	▪ Written offers with price adjustments will be given by City to homeowners for a period of five years (after expansion).

Property Value Protection Plans

Community/ Landfill	Who qualifies	Method of Determining Value of Property	How the Process Works
City of Toronto Green Lane	▪ Property owners within 1 km. ▪ Residential property owners within 2 km. ▪ Owned land prior to expansion.	▪ Landfill gets 1st appraisal. ▪ Homeowner can accept or obtain 2nd appraisal. ▪ Landfill can accept higher of two appraisals or get a third appraisals and pay average.	▪ Homeowner places on market. ▪ Offer higher – no compensation. ▪ Offer lower - City has the option of buying at appraised price or paying difference.
Waterloo Region Waterloo Landfill	▪ Residential property owner within 750 metres. ▪ Owned land prior to landfill.	▪ Region and homeowner each get an appraisal, paid for by Region. ▪ If within 10%, the average price is used. ▪ If difference is > 10%, the average will be used (if acceptable to both parties) or a third appraisal will be obtained by the Region. The average of the two closest appraisals will be used.	▪ Region purchases property for fair market value, less 6% for real estate commission. ▪ Region then lists property for sale; current homeowner can stay in the house for $1/month until the property is sold.
Taggart Miller Ottawa (proposed)	▪ Residential property owner within 5 kilometres.	▪ Taggart Miller obtains 1st appraisal. ▪ Homeowner can accept or get 2nd appraisal (cost split). ▪ Average appraisals if < 10% apart. ▪ If > 10%, the two appraisers select a third appraiser.	▪ Homeowner places on market. ▪ Offer higher – no compensation. ▪ Offer lower – Taggart Miller has the option of buying at appraised price or paying difference.
Waste Management Twin Creeks Landfill	▪ Land owners within predicted significant visual impact zone. ▪ Owned land prior to landfill.	▪ Waste Management obtains appraisal. ▪ If disagreement, second appraisal conducted, at landfill expense, and average taken of two.	▪ Landowner places on market for 12 months. ▪ Waste Management can buy property at fair market value or pay the difference between highest offer and identified market value.

Property Value Protection Plans

Community/ Landfill	Who qualifies	Method of Determining Value of Property	How the Process Works
Waste Connections Ridge (Proposed)	▪ Properties determined to have highest potential (level 1) for off-site impact as the result of a socioeconomic impact assessment. ▪ All properties are residential properties within 500 metres. ▪ May add level 2 properties.	▪ Independent property value assessment based on comparable properties not in proximity to the landfill.	▪ First right of refusal on property purchase. ▪ Waste Connections has the option of buying at appraised price or paying difference between market value and assessed value if necessary.
Waste Connections Navan Landfill	▪ Residential property owners within a specified area (all properties within 500 metres).	▪ Independent property value assessment based on comparable properties.	▪ Waste Connections has the option of buying at appraised price or paying difference between market value and assessed value if necessary.
Walker Industries Niagara South Landfill[a]	▪ Details not provided.	▪ Details not provided.	▪ Details not provided.
Walker Industries Proposed Southwestern Landfill (Proposed in EA Documents)	▪ Residential or agricultural property owners within 500 metres. ▪ Owned land prior to landfill.	▪ Property owner obtains an appraisal from certified appraiser. ▪ If Walker doesn't agree with the property owner's appraisal, Walker gets its own appraisal. ▪ If property owner doesn't agree with Walker's appraisal, a third and independent appraisal is obtained and the value of the property determined by averaging all three appraisals.	▪ Walker has option to purchase the property or property owner markets the property. ▪ If property owner doesn't get appraised value from the market, Walker will pay the difference.

Notes a) There are other operations on the same property (including a quarry and organics management facility) that potentially create nuisance effects.

Direct Payments to Property Owners

Community/ Landfill	Who qualifies	Amount of Payment	How the Process Works
Essex-Windsor EWSWA Regional	▪ Property owners within 0.5 km. ▪ Residential property owners with 1km or on haul route.	▪ $0.30/tonne landfilled in 2020. ▪ Indexed to inflation.	▪ Fund divided equally among all qualifying properties. ▪ Subsequent owners and owners of new residences share in the fund.
City of Peterborough Bensfort Road	• Landowners with 1.0 km. • Owned land prior to landfill.	▪ $5,000/year per landowner if within 0.5 km. ▪ $2,500/year per landowner if within 1.0 km. ▪ Long term tenants of land acquired or expropriated may be compensated (no fixed amount).	▪ Owner must provide a release from any nuisance related claims.
Waste Management Twin Creeks Landfill	• Homeowners within impact zone for 2 or more nuisance impacts (dust, noise, odour). • Total of 15 properties all located within 1 kilometre of landfill and/or on primary haul route.	▪ Details not provided.	▪ Details not provided.
Waste Connections Ridge (Proposed)	▪ Properties determined to have potential for off-site impact as the result of a socioeconomic impact assessment.	▪ $X/tonne landfilled. ▪ Details not provided.	▪ Residents are divided into high, medium and low potential impact based on socioeconomic study. Higher tiers gets a higher percentage of payment.
Niagara South Landfill[a]	▪ Details not provided.	▪ Details not provided.	▪ Details not provided.

Direct Payments to Property Owners

Community/ Landfill	Who qualifies	Amount of Payment	How the Process Works
Walker Industries Proposed Southwestern Landfill (Proposed in EA Documents)	▪ Envisioned where residual nuisance effect can't be mitigated (one property). ▪ Details to be determined at a later date.	▪ Details to be determined at a later date.	▪ Details to be determined at a later date.

Notes a) There are other operations on the same property (including a quarry and organics management facility) that potentially create nuisance effects.

Community Trust Fund (or Equivalent)

Community/ Landfill	Amount of Funding	Method for Determining Use of Funds	Other
Toronto Green Lane	▪ 5% of gross landfill revenue.	▪ Local directors decide how money will be spent.	▪ -
Taggart Miller Ottawa (proposed)	▪ $0.47 per tonne.	▪ To be administered by a new community based group.	▪ -
Terrapure Stoney Creek Landfill	▪ $0.44 per tonne.	▪ Fund is administered by a third-party group (Heritage Green Community Trust) who determined allocation of funding in the community.	▪
Waste Connections Ridge (Proposed)	▪ Amount is determined by X/tonne landfilled minus direct payments to property owners.	▪ Fund is administered by a third-party group of residents who determined allocation of funding in the community.	▪ -

Community Trust Fund (or Equivalent)

Community/ Landfill	Amount of Funding	Method for Determining Use of Funds	Other
Waste Connections Navan Landfill	▪ $0.44 per tonne.	▪ Fund is administered by a third-party group (Friends of Mer Bleue) who determined allocation of funding in the community.	▪ -
WM – Twin Creeks Landfill	▪ $ provided annually.	▪ Funds administered through Community Fund Committee.	▪ -
Walker Industries Proposed Southwestern Landfill	▪ To be determined.	▪ To be determined.	▪ Not noted in the EA document but will be considered as the EA process moves forward.

COMMENTS, FEEDBACK, IDEAS REGARDING APPENDIX A

Appendix B
Terms of Reference for the W12A Landfill Public Liaison Committee

City of London W12A Landfill
London, Ontario

Public Liaison Committee

TERMS OF REFERENCE

1. BACKGROUND

1.1. Establishment of a Public Liaison Committee (PLC, Committee)

This is a Terms of Reference for the establishment and operation of a Public Liaison Committee (PLC) to advise the City of London (Owner) on the operation of the W12A Landfill Site (Site), located at 3502 Manning Drive, London, ON.

Establishment and operation of the PLC is a component of the W12A Landfill Site Community Enhancement and Mitigative Measures Program, adopted by the City of London, which is committed to a positive and constructive relationship with the general public and with the owners and tenants of properties located in the vicinity of the Site.

1.2. Approval of Terms of Reference

This Terms of Reference and any future amendments thereto, shall be subject to review by the PLC and in consultation with the Owner.

2. NAME OF COMMITTEE

The PLC shall be named the W12A Landfill Public Liaison Committee.

3. MANDATE

3.1. The purpose of the PLC will be to provide for regular communication between the major stakeholders, to identify and remedy issues in a timely and cooperative manner, to enable development of goodwill initiatives with the community, and to recommend projects or undertakings to the Owner that funds in the Community Mitigative Measures Fund should be spent on.

The PLC shall not exercise any supervisory, regulatory or approval functions in connection with the Site or its operation.

For the purposes of carrying out its mandate, members of the PLC shall have reasonable access to the Site during regular business hours, subject to health and safety requirements and the fair and reasonable availability of representatives of the Owner to accompany PLC members while on-Site. Members are asked to confirm their intention to visit the Site ahead of time.

3.2. The PLC’s responsibilities shall include:

- Hearing deputations from any member of the public pertaining to Site operations.
- Reviewing for its purpose necessary technical documents pertaining to the operation of the Site.
- Acting as a liaison between and among the public (including owners/tenants of properties around the Site), the Owner and the Ministry of the Environment, Conservation and Parks.
- Reviewing and providing comments on the Annual Operating Report submitted by the Owner to the Ministry of the Environment, Conservation and Parks.

- Carrying out their responsibilities under Section 3.0 of the W12A Landfill Community Enhancement and Mitigative Measures Program.
- Initiating neighbourhood enhancement/mitigation projects.
- Implementing public input procedures/participation for area residents.
    - Welcoming the public as observers at meetings.
    - Providing a brief window at the end of meetings for non-member input.
    - Advertising meetings and developing a distribution system to keep interested persons informed.

4. MEMBERSHIP

4.1. Composition of PLC

PLC seats shall be available on the following basis:

- A maximum of 12 members, plus a Chair (13 total).
- When applicable, a Vice-Chair may be appointed.
- Seats are open to any resident of the City of London.
- Members will be selected by the City of London to provide broad representation based on:
    - Reasons for wanting to join
    - Geographical location, and
    - Background.
- The 7 residents or property owners closest to the W12A Landfill (measured from the landfill property boundary) who apply for membership are automatically appointed to the PLC and not subject to term limits.
- All persons applying are automatically appointed to the PLC if 13 or fewer apply.

City staff are a resource to the PLC and will attend meetings as required.

Ministry of the Environment, Conservation and Parks representatives will attend as a resource when available.

4.2. Voting

Voting will occur by simple majority. Simple majority requires a single vote more than half of the votes cast. All members, including the Chair and Vice-Chair, are allowed to participate in all votes. Recorded voting will be used at the request of a member of the committee. Proxy voting will not be allowed.

4.3. PLC Chair and Vice-Chair

A member of the PLC will be elected to serve as the Chair of the Committee. The members of the PLC shall, by vote of a majority of members, elect the Chair of the Committee from the nominated candidate members. The Chair shall serve at the pleasure of a majority of PLC members and the term of office shall coincide with his/her one-year term of membership, at which time it will be subject to renewal by a vote of a majority of PLC members. In accordance with Section 4.4, the Chair may serve for a maximum of three consecutive terms. In the interim, the Chair may be replaced at any time by a vote of the majority of PLC members. The responsibilities and functional conduct of the Chair include:

- To act as a facilitator for the Committee (i.e. call meeting to order, organize meeting conduct, etc.).
- To monitor issues to ensure adequate input and discussion by members.
- To remind the Committee of its mandate, purpose and mission.
- To give clear direction to staff concerning the Committee's priorities.

The Chair may speak to a motion brought forth by a member, but cannot place a motion on the floor themselves. Should the Chair wish to place or move a motion, they must first appoint a member to act as the Chair in their place. Once the vote has taken place, the Chair will resume their responsibilities.

In the interest of sharing administrative responsibilities and allowing PLC members with a potential interest in serving as Chair to gain experience, a position of Vice-Chair shall be established. The filling of the Vice-Chair position is not a mandatory requirement for the function of the PLC and shall be filled on an ad-hoc basis if it is requested. The Vice-Chair position shall be filled by vote of majority of the PLC members.

4.4. Terms of Office

The Terms of Office shall be enforced in accordance with the two scenarios outlined below.

4.4.1 All PLC seats are filled and additional interested potential members are known.

All PLC members shall serve for one year from their initial date of appointment. Members will be able to serve for a maximum of three consecutive terms. Under this scenario the Chair and Vice-Chair positions shall operate as outlined in Section 4.3.

4.4.2 All PLC Seats are not filled and there is no perceived strong public interest

All PLC members shall preserve their seats until the appropriate public interest is regained in order to operate the PLC in accordance with Section 4.4.1. Under this scenario the Chair and Vice-Chair shall maintain their positions unless voted out by a majority of the PLC members.

4.5. Replacement of Members

Members may be replaced on an as-needed basis as a result of resignation or incapacity. Vacancies will be advertised to the public through the local newspaper, City website, current members and local libraries. Members may be removed from the PLC by a vote of a majority of PLC members.

Should the situation arise where all current PLC members are due to be replaced at the same time as the result of maximum terms of office, three members nominated by the PLC shall be permitted to extend their term of office by a maximum of one year to preserve the PLC's knowledge and continuity.

4.6. Removal of Members in the Instance of Non-Participation

In the event that during the term of a sitting member and/or members of the PLC does not attend three consecutive meetings, the City at the request of the Chair will contact the absent member and/or members by mail to request their attendance or written notification of special circumstances which prevent them from attending. If the member and/or members do not respond, and following a fourth missed consecutive meeting, the City will advise the member in writing of the PLC's intention to entertain a motion to declare the aforementioned absent member and/or member's seat(s) vacant.

5. FREQUENCY AND NOTICE OF MEETINGS

5.1. Schedule

The PLC shall meet on the third Thursday of the month, every two months (6 meetings per year) or at the call of the Chair. The PLC may determine an appropriate meeting frequency which may be adjusted over the term, but in any event shall be no less than once per operating year.

Notice of meetings will be communicated to members of the PLC via email and/or by postage addressed mail. Agendas and minutes of meetings will be disseminated to PLC members by email and/or by postage addressed mail 1.5 weeks prior to any scheduled meeting.

5.2. Agenda

An agenda will be prepared prior to each meeting by a City of London designate. The agenda will contain a general outline of all matters to be discussed at the upcoming meeting. No motions can be brought forward on business not listed in the agenda.

5.3. Minutes

Meeting minutes will be recorded by a City of London designate. The minutes will include a brief description on the outcome of agenda topics, any arising action items and voting outcomes.

6. CONDUCT OF MEETINGS

6.1. A quorum shall consist of at least half of the current voting members of the PLC.

6.2. Respect and courtesy shall be observed by all PLC members at all times during meetings. Discussion and debate shall be confined to the agenda and those matters that are within the mandate of the PLC.

6.3. If any member of the PLC or the public is disruptive at a meeting, the Chair has the authority to ask that person to leave the meeting place. If the person refuses to leave, the Chair shall terminate the meeting and, at his/her discretion, call for assistance from the police. Examples of this type of behavior include:

- Interrupting fellow members during discussions
- Intimidation/bullying of other members
- Dominating the discussion on the floor.

6.4. Members are generally allowed to speak to a maximum of five minutes on an individual agenda item. The Chair has the option to extend this time period, depending on the circumstance.

7. AMENDMENT TO THESE TERMS OF REFERENCE

These terms of Reference may be amended from time to time by approval of a majority of members of the PLC and with approval of the Owner.

8. ADMINISTRATIVE COSTS FOR THE OPERATION OF THE PLC

The Owner shall provide for administration costs of operating the PLC including the cost of meeting places and clerical services.

300 Dufferin Avenue
P.O. Box 5035
London, ON
N6A 4L9

September 13, 2020

Chair and Members of the
Civic Works Committee

Re: Street Renaming By-law, Policies and Guidelines

In support of the Municipal Council's commitment to eradicate anti-Black, anti-Indigenous and people of colour oppression and to ensure that our own actions reflect our words, I bring this concern forward. After reviewing the City of London's established street renaming By-law, Policies and Guidelines, consultation with several black community organizations and the Civic Administration, I am seeking support of the following recommendation:

That the following actions be taken with respect to street renaming:

a) the petition dated September 1, 2020 submitted by London resident Lyla Wheeler, regarding the renaming of "Plantation Road" BE RECEIVED; it being noted that the petition is available for viewing in the City Clerk's Office;

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 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 petition noted in a) above, recognizing Historically, the word "Plantation" has a strong correlation to slavery, oppression and racism;

c) the Civic Administration BE DIRECTED to expand the established Municipal Addressing Advisory Group (M.A.A.G.) to include the City's Diversity and Inclusion Specialist; and,

d) the Civic Administration BE DIRECTED to establish a list of potential street names that are reflective of suggestions from the community reflecting the contribution London's Historic Black Families (including those names provided for by the London Black History Coordinating Committee), Indigenous communities and people of colour; it being noted, the following letter of support pertaining to this motion BE RECEIVED:

- African Canadian Federation of London and Area (ACFOLA)

Respectfully submitted,

Elizabeth Peloza
Councillor, Ward 12

The Corporation of the City of London
Office 519.661.5095
Fax 519.661.5933
www.london.ca

African Canadian Federation of London & Area

Fédération Africaine-Canadienne de London et ses Environs

September 13, 2020

Chair and Members
Civic Work Committee
London City Council

Re: Street Renaming Support from ACFOLA

Dear Committee.

Recent and ongoing events in the United States of America on the aftermath of the death of George Floyd have galvanized all concerned citizens to give their support to Black Lives Matter activities and advocacy from all races and cultures around the world, London Ontario included. The ongoing support has also re-awakened a positive conversation here in London Ontario for all the stakeholders to correct some wrongs of the past against black and indigenous people, and at forefront now are the activities against "Anti-black racism", the goodwill of the London City Council is one of them.

African Canadian Federation of London and Area (ACFOLA), a non-for-profit organization which represent peoples of African ancestry (predominantly black), would like to add its voice of support and advocacy for this noble cause in favor of humanity. ACFOLA's specific support goes to the work of Councilor Peloza on comprehensive policy which will allow the renaming of streets that bring back the ugly face of the past which treated black people inhumanely. We are aware of a particular petition by a London resident, Lyla Wheeler, to rename Plantation Rd. ACFOLA definitely supports the renaming of the road in question due to reasons already explained above.

In conclusion, ACFOLA as a voice of multiracial communities and individuals of African origin in London and Area is giving its support to this mutually beneficial ongoing conversation for a positive change. We strive to work in partnership and collaboration with the city of London for a meaningful integration of our members and to be equal contributors to the development of London Municipality.

Sincerely,

John Kok

John Kok, MD, MPH
President, ACFOLA Board of Directors

AFRICAN CANADIAN FEDERATION OF LONDON & AREA (ACFOLA)
Pathways Skill Development Building, 2nd Floor
205 Horton St. E, Unit 1, London, ON, N6B 1K7
Tel: 226.289.2668 . office@acfola.ca

From: Paul McCallum
Sent: Thursday, September 17, 2020 12:17 PM
To: London News <londonnews@ctv.ca>; ASKCITY <ASKCITY@london.ca>
Subject: [EXTERNAL] New Cast September 16,2020 on CTV London

Watching the news last night CTV did a piece on a girl in London starting a petition to change the street name of Plantation.

First of all I can believe the city of London would even consider this silly request and secondly CTV why would you even give the story facetime without FACT CHECKING... Please see the dictionary on the meaning of Plantation.. It is NOT racisit or a slavery term.. Sure that is what Southern USA States called their farms during slaver but again the true meaning is NOT a reference to slavery and to fact check farms in Southern USA still define Plantation as a farm ..

I sure do hope the city of London doesn't entertain this silly petition by educating the girls parents on the exact meaning of Plantation..

Paul McCallum

LONDON BLACK HISTORY
COORDINATING COMMITTEE

September 18, 2020

Chair and Members
Civic Work Committee
London City Council
Re: Street-Renaming Support from LBHCC

Dear Committee Members:
Recent and ongoing events in the United States of America on the aftermath of the death of George Floyd and many incidents effecting Black and Indigenous lives in Canada, has galvanized all concerned citizens to give their support to *Black Lives Matter* activities and advocacy from all races and cultures around the world. This ongoing support has also re-awakened a positive conversation here in London Ontario for all those who are concerned about justice and equity, to correct and right some wrongs of the past against Black and Indigenous Peoples; and at forefront now are the activities against '*Anti-Black Racism'* - the goodwill of the London City Council is one of them.

London Black History Coordinating Committee was formed in 2001 out of a desire to increase awareness of Black History, especially during Black History Month, highlighting and coordinating activities in the London area. The Committee is dedicated to providing programs and services that will increase public understanding of the diversity and history of London's Black community. We would like to add our support and advocacy for this worthwhile cause. LBHCC's specific support goes to the work of Councilor Peloza on a comprehensive policy that will allow the renaming of streets that bring back the ugly face of the past, which treated Black people inhumanely. We are aware of a particular petition by a London resident, Lyla Wheeler, to rename Plantation Rd. LBHCC definitely supports the renaming of the road in question due to reasons already explained.

LBHCC is a broad base group of multiracial communities and individuals who is giving its support to this mutually beneficial ongoing conversation for a positive change. We strive to work in partnership and collaboration with the city of London for a meaningful integration of our members and to be equal contributors to the development of our City.

Respectfully,

Carl Cadogan
Chair
London Black History Coordinating Committee

DEFERRED MATTERS

CIVIC WORKS COMMITTEE
(as of September 14, 2020)

Item No.	Subject	Request Date	Requested/Expected Reply Date	Person Responsible	Status
1.	**Rapid Transit Corridor Traffic Flow** 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.	Dec 12/16	Q4 2020	K. Scherr J. Dann	
2.	**Garbage and Recycling Collection and Next Steps** That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, with the support of the Director, Environment, Fleet and Solid Waste, the following actions be taken with respect to the garbage and recycling collection and next steps: b) the Civic Administration BE DIRECTED to report back to Civic Works Committee by December 2017 with: i) 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, ii) an Options Report for the introduction of a semi or fully automated garbage collection system including considerations for customers and operational impacts.	Jan 10/17	Q1 2021	K. Scherr J. Stanford	
3.	**Bike Share System for London - Update and Next Steps** 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:	Aug 12/19	Q1 2021	K. Scherr	

	that 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.				
4.	**745-747 Waterloo Street** 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: 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; it being further noted that the Planning and Environment Committee reviewed and received the following communications with respect to this matter: 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; it being pointed out that at the public participation meeting associated with these matters, the individuals indicated on the attached 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: the recommended Zoning By-law Amendment would allow for the reuse of the existing buildings with an expanded range of office conversion uses that are complementary to the continued development of Oxford Street as an Urban Corridor, consistent with The London Plan polices for the subject site. Limiting the requested	Oct 2/18	Q2 2021	K. Scherr	

	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.				
5.	**Best Practices for Investing in Energy Efficiency and GHG Reduction** 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.	June 18/19	Q4 2020	K. Scherr	
6.	**Parking Changes** That the following actions be taken with respect to overnight parking restrictions contained in the Traffic and Parking By-law PS-113, as amended and the Administrative Monetary Penalty System By-law, A-54, as amended: a) the Civic Administration BE DIRECTED to bring forward for consideration the following amendments to Traffic and Parking By-law PS-113, as amended: i) section 9(1)n) of the By-law be amended to provide for parking on a roadway or shoulder for 18 hours, instead of the current 12 hour restriction; it being noted that this amendment would be brought forward as part of the omnibus review of the By-law; ii) until such time as i. above is in effect, an administrative practice be implemented to provide for warnings to be given to the owner(s) of vehicles who exceed the current 12 hour restriction; and, iii) section 9(3) of the By-law be amended to allow the parking of non-recreational	Mar 10/20	Q1 2021	K. Scherr	

	vehicles between April 30th and November 1st of each year, commencing April 30, 2020; b) the Civic Administration BE DIRECTED to include as part of the staff report being brought forward on March 31, 2020 with respect to the Administrative Monetary Penalty System By-law A-54, as amended, an amendment to the By-law to increase parking violation fines by $5.00 in order to achieve By-law compliance; it being noted that the winter road maintenance program for the City of London aligns with the proposed overnight program noted in a)iii. above; it being further noted that the current additional restrictions with respect to on-street parking in near campus neighbourhoods would remain in effect. (2020-T02)				
7.	**Active Transportation Manager** a) the Civic Administration BE DIRECTED to develop a plan for the creation of an Active Transportation Manager under Environmental & Engineering Services and the City Engineer, including options to offset the costs for such a position through the reallocation of resources including but not limited to the redeployment of unfilled positions in the “Smart Cities” area; b) the Civic Administration BE DIRECTED to report back to the Civic Works Committee by the end of Q3 2020 with an update on progress made with regard to this initiative; it being noted and understood that the City of London is currently in a hiring freeze and hiring would occur once this has concluded; and, c) the Civic Administration BE DIRECTED to investigate opportunities to address the immediate need of residents for secure bicycle parking in key locations as existing budget opportunities allow; it being noted providing secure bike parking in the Core Area relates to several council approved components of the Core Area Action Plan.	June 23/20	Q3 2020	K. Scherr D. MacRae	
8.	**MADD Canada Memorial Sign** 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:	July 14, 2020	Q4 2021	D. MacRae A. Salton	

	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; it being noted that MADD will cover all sign manufacturing and installation costs; 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; it being further noted that MADD provides messages consistent with the London Road Safety Strategy; and, b) the Civic Administration BE DIRECTED to work with MADD Canada to find a single permanent location in London for the purpose of memorials.				

300 Dufferin Avenue
P.O. Box 5035
London, ON
N6A 4L9

18 Sept 2020

Members and Chair
Civic Works Committee

Low-cost active transportation infrastructure for COVID-19 Resilience funding stream

Dear Colleagues,

In early August, the federal government announced a $3.3 billion COVID-19 Community Resilience stream of the Investing in Canada Infrastructure Program (ICIP), which will have a simplified funding application process. Importantly, **federal funding can cover up to 80%** of the eligible cost of approved projects. These changes allow cities to move more quickly to build pandemic-resilient infrastructure.

As the economy has reopened, workers, including essential workers, as well as students commuting to school, are facing mobility challenges. It is up to cities to identify and implement homegrown solutions to reboot their local economies while keeping their citizens safe, while building resilient infrastructure safeguarding against the potential social and economic impact of a future pandemic wave. Perhaps the lowest cost and fastest way to do this in a manner consistent with London's existing plans and strategic priorities is to rapidly scale up existing infrastructure for active transportation. Enhancing cycling, walking, and other accessible mobility options, gives Londoners increased safe choices as they help to drive the economic recovery of our city.

Eligible COVID-19 Resilience funding stream infrastructure projects include:

- COVID-19 response infrastructure, including measures to support physical distancing;
- Active transportation infrastructure, including parks, trails, footbridges, bike lanes and multi-use paths;

As you know, we have a Cycling Master Plan, approved in 2016, that sets out cycling infrastructure to be built over the coming years. This funding stream represents an opportunity to accelerate the construction of these and other active transportation projects at a lower cost to municipal taxpayers.

Therefore, we are seeking support for the following motion:

> That Civic Administration BE DIRECTED to report back to a future meeting with a proposed plan for construction of active transportation infrastructure that would be eligible for the COVID-19 Resilience stream and can be built within the timelines of the COVID-19 Resilience funding program. Noting Construction must start no later than September 30, 2021; and, projects must be completed by the end of 2021.
>
> That the proposed plan referred to above consider equity, ease and speed of implementation, cost, connections with the existing active transportation network, and opportunities for multi-mode interconnectivity.
>
> That the report on this matter include consideration of how maximizing this federal funding stream would affect the city's capital budget. Noting approved budget allotments that could be moved forward, as well as potential reallocations from projects not moving forward as planned due to COVID-19 impacts.

Sincerely,

Elizabeth Peloza
Councillor, Ward 12

Shawn Lewis
Councillor, Ward 2

Jesse Helmer
Deputy Mayor
Councillor, Ward 4

The Corporation of the City of London
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