TO:	**CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON APRIL 17, 2018**
FROM:	**KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER**
SUBJECT:	**DRAFT PROPOSED TERMS OF REFERENCE – ENVIRONMENTAL ASSESSMENT OF THE PROPOSED W12A LANDFILL EXPANSION**

RECOMMENDATION

That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, with the support of the Waste Management Working Group, the following actions be taken with respect to the Draft Proposed Terms of Reference for the Environmental Assessment of the Proposed W12A Landfill Expansion:

a) the report **BE RECEIVED**;

b) the Draft Proposed Terms of Reference **BE CIRCULATED** for review and comment by the Government Review Team, Aboriginal Communities, stakeholders and the general public from April 26, 2018 to June 8, 2018;

c) the Civic Administration **BE DIRECTED** to consider the feedback from the consultation noted in b), above, and revise the Draft Proposed Terms of Reference as appropriate; and

d) in accordance with Council Policy, the revised Proposed Terms of Reference noted in c), above, **BE POSTED** on the City of London's website at least 30 days prior to a public participation meeting to be held by the Civic Works Committee, to consider the revised Proposed Terms of Reference.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

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

- Residual Waste Disposal Strategy Scope of Work as Part of the Environmental Assessment Process (October 24, 2017 meeting of the Civic Works Committee (CWC), Item #14)

- 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)

- Individual Environmental Assessment Long Term Solid Waste Resource Recovery & Disposal Plans (October 6, 2015 meeting of the CWC, Item #14)

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

- Decision Report #6: Preliminary Draft Proposed Terms of Reference (March 8, 2018 meeting of the Waste Management Working Group (WMWG), Item #2.1)

- Terms of Reference Outline and Next Steps (January 18, 2018 meeting of the WMWG, Item #9)

COUNCIL'S 2015-2019 STRATEGIC PLAN

Municipal Council has recognized the importance of solid waste management in its 2015-2019 - Strategic Plan for the City of London (2015 – 2019 Strategic Plan) as follows:

Building a Sustainable City
- Strong and healthy environment
- Robust infrastructure

Growing our Economy
- Local, regional, and global innovation
- Strategic, collaborative partnerships

Leading in Public Service
- Proactive financial management
- Innovative & supportive organizational practices
- Collaborative, engaged leadership
- Excellent service delivery

BACKGROUND

PURPOSE

The purpose of this report is to seek approval for release of the *Draft Proposed Terms of Reference Environmental Assessment of the Proposed W12A Landfill Expansion, City of London* for review and comment from the various stakeholders.

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.

The first phase of the Individual EA process, used for large-scale projects like landfill sites, is the development and approval of a Terms of Reference (ToR) by the Minister. 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 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.

The City is also undertaking two parallel projects directly related to the EA; a 60% Waste Diversion Action Plan and a long-term Resource Recovery Strategy.

DISCUSSION

Terminology
The ToR has a different title depending how far along it is in the approval process. For clarity these various titles are listed below in Table 1.

Table 1 - ToR Terminology

Title	Definition
Preliminary Draft Proposed ToR	An early draft of the Draft Proposed ToR. The Ministry of the Environment and Climate Change (MOECC) does a preliminary screening of the Preliminary Draft Proposed ToR to ensure all documentation requirements have been met.
Draft Proposed ToR	(Note: this is the current step and purpose of this report.) Council approves release of the Draft Proposed ToR for feedback. The Draft Proposed ToR is submitted to the Government Review Team, Aboriginal Communities, stakeholders and the general public for review and comment.

Title	Definition
Proposed ToR	Council approves submission of the Proposed ToR to the MOECC for approval. The MOECC may ask for revisions to the Proposed ToR to address concerns prior to MOECC staff submitting the Proposed ToR to the Minister for approval.
ToR	ToR as approved by the Minister of the Environment and Climate Change. EA must be carried out according to the ToR.

Development of ToR
Development of the ToR began on March 30, 2017 with the release of the Notice of Commencement and the start of the Community Engagement Program. The Community Engagement Program included:

- Project Website (Getinvolved.London.ca/WhyWasteDisposal) that had over 1,300 unique visitors;
- Series of Open Houses in May 2017 and November 2017. Each series of open houses was followed by a Virtual Open House on the project website;
- Indigenous Community engagement;
- Creation of Waste Management Community Liaison Committee with includes representatives from various stakeholder groups;
- Presentations to key City advisory committees (ACE, AAC, and EEPAC);
- Regular updates to the W12A Landfill Public Liaison Committee;
- Booths at various community events (e.g., Sunfest, Gathering on the Green, Neighbourhood Service Days); and,
- Traditional media and social media advertising.

Overview of Draft Proposed ToR
The full Draft Proposed ToR is provided under separate cover. The Executive Summary of the report is provided in Appendix A.

It is worth noting that the majority of the Draft Proposed ToR has been before the Civic Works Committee, Council, and community stakeholders as it was being developed. The current report pulls all these details together in a prescribed format to ensure that future activities are identified, how alternatives will be evaluated is documented, and how further input and review will occur is known.

The Waste Management Working Group reviewed the Preliminary Draft Proposed TOR at its February 15, 2018 meeting and passed the following resolution:

> *"Release of the report for review and comment by the Government Review Team and the general public **BE SUPPORTED** noting that minor changes/revisions to the report may be made prior to release to accommodate preliminary comments from the Ministry of the Environment and Climate Change scheduled to be received by March 14, 2018"*

The MOECC provided the City with a number of comments following their initial screening of the Preliminary Draft Proposed ToR. Changes were made to address these comments. It is anticipated that additional comments will be received following the comprehensive review by MOECC and other government review agencies.

The key features of the ToR are:

- Previous waste management studies (e.g., W12A Landfill Area Plan) allows the City to focus the EA to look at expansion of the W12A Landfill.

- The landfill expansion will be based on:
    - 25 year site life;
    - committing to 60% diversion of residential waste by 2022 noting this does not prevent increasing London's residential waste diversion rate above 60%;
    - consider allowing neighbouring municipalities to use the landfill noting City of London Council will have the authority to determine which, if any, municipalities or businesses outside of London are allowed to use any City residual waste disposal facility or facilities in the future; and
    - reducing the maximum annual amount of waste that will be allowed to be landfilled from current approved level of 650,000 tonnes per year to 500,000 tonnes per year.

- Landfill expansion alternatives are limited to vertical expansion and/or lateral expansion to the north and/or east of the landfill within the Waste Management Resource Recovery Area. The Waste Management Resource Recovery Area is already approved for landfilling in the City's Official Plan.

- The different landfill expansion alternatives will be assessed based on atmosphere, geology and hydrogeology, surface water, biology, land use, agriculture, archeology, culture, socio-economic, visual, transportation, and design & operations factors.

- The assessment of alternatives will consider three study areas; on-site (the area where landfilling could occur); site-vicinity (land extending a minimum of 500 metres in all directions around the on-site area); and haul route study area (likely only relevant to the traffic assessment and noise portion of the atmosphere assessment).

Next Steps
The next steps and tentative timetable for approval of the ToR are presented on Table 2.

Table 2 - Tentative Timetable for ToR Approval

Date*	Step
April 26, 2018 to June 8, 2018	• Circulate Draft Proposed ToR to Government Review Team • Notify interested stakeholders; place Draft Proposed ToR on-line and in libraries, City Hall for review
Mid June or mid July, 2018 (tentative)	• Review of Proposed ToR by WMWG
July 17 or August 13, 2018 (tentative)	• CWC to hold public participation meeting for Proposed ToR • CWC to consider recommending approval for submission to MOECC approval for submission to MOECC
July 27 or August 28, 2018 (tentative)	• Council
Late July/Late August	• Formal submission of Proposed ToR to MOECC (includes notice to all stakeholders)
August to late 2018/ early 2019	• MOECC provides 30 day review period for stakeholders to provide comments to the MOECC • MOECC evaluates Proposed ToR submission and makes recommendation to the Minister • Minister makes Decision to Approve or Reject

Notes:
*The range in dates is a function of a 30 to 45 day period required for the Government Review Team to complete their individual reviews.

ACKNOWLEDGEMENTS

This report was prepared with assistance from Mike Losee, Division Manager, Solid Waste Management and Jane Kittmer, Solid Waste Planning Coordinator.

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

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Appendix A: Executive Summary – Draft Proposed Terms of Reference

Draft Proposed Terms of Reference (under separate cover)

Appendix A
Executive Summary – Draft Proposed Terms of Reference

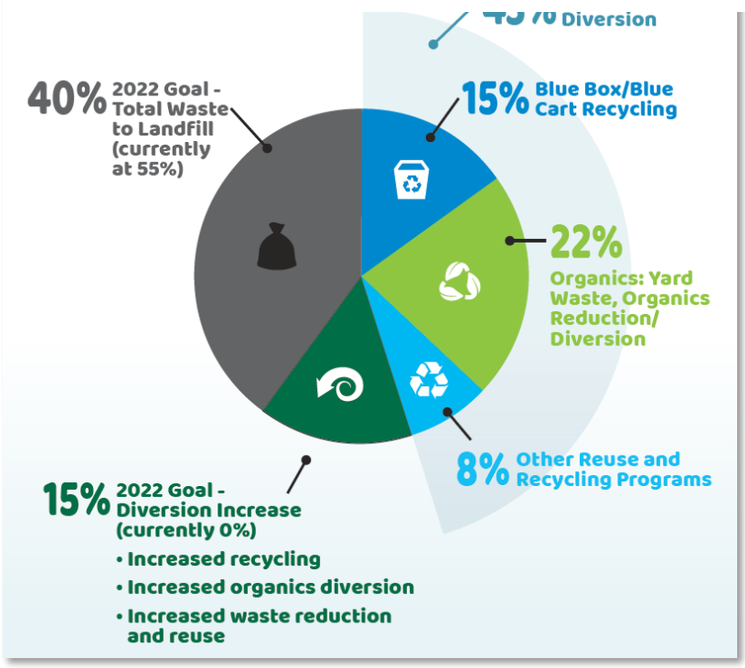
Phase 1: Preparation of a Terms of Reference:

An Individual Environmental Assessment (EA) for expansion of the W12A Landfill site is being undertaken by the City of London and requires approval under the provincial Environmental Assessment Act. The first phase in the EA process is preparation of a Terms of Reference (ToR). Work on the ToR started in March, 2017. The ToR becomes the framework for carrying out the EA.

This is an Executive Summary of the content of the draft proposed ToR, which has been prepared by the City and will be circulated to government review agencies, Indigenous communities, a number of City committees and the public for comment. The comments received will be considered by the City of London in making revisions and preparing the proposed ToR, which will then be submitted to the Minister of Environment and Climate Change (Minister) for a decision. Once approved by the Minister, the ToR provides the framework or work plan that must be subsequently completed to prepare the EA, and the basis for review and approval.

The City of London has implemented many waste diversion programs over the years and has achieved 45% diversion of its residential waste stream (Figure 1). This diversion rate is comparable to other medium to large size municipalities in Ontario with the exception of communities with Green Bin programs. The City has commenced the development of its long-term Resource Recovery Strategy. The first component of the strategy is to complete a 60% Diversion Action Plan to determine how best to increase residential waste diversion to 60% by 2022.

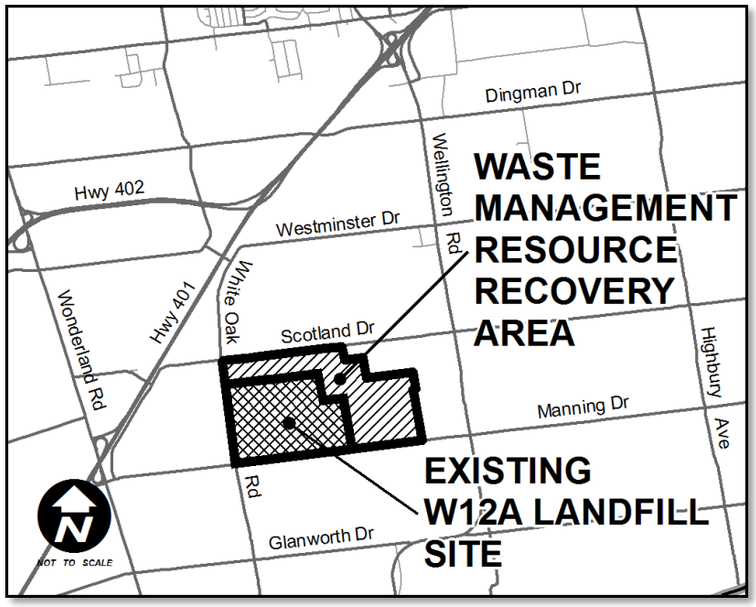
Figure 1 - Residential Waste Diversion



In parallel, and recognizing that despite measures to maximize diversion there will still be waste requiring disposal, expansion of the W12A Landfill site is the approach the City is taking for the long term Residual Waste Disposal Strategy for materials that cannot be diverted.

The W12A Landfill Site

Figure 2 - W12A Landfill Location



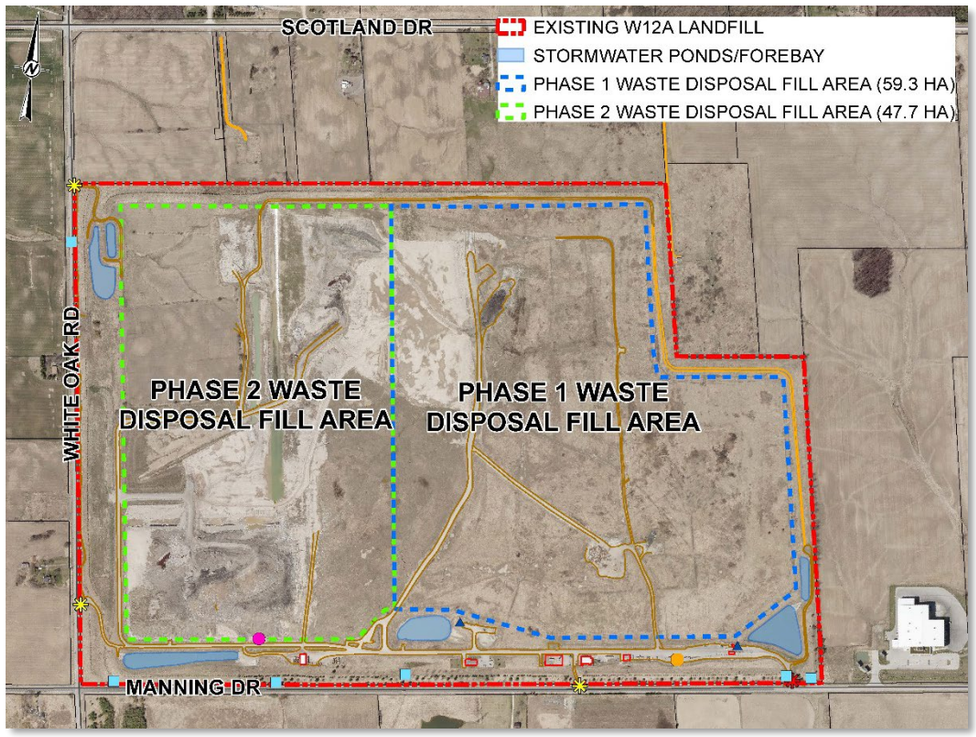
The W12A landfill site is located in the south portion of the City of London, within the western part of the block of land bounded by Manning Drive, Scotland Drive, White Oak Road and Wellington Road South (Figure 2). The site is currently licensed by the Province of Ontario to dispose of waste within a 107 hectare disposal area, which is located within a 142 hectare property. There is an approved site capacity of 12,500,000 cubic metres for waste (about 10,000,000 tonnes), cover soil and final cover. The site is allowed to accept solid non-hazardous waste from a specified area, consisting of the City of London, the Municipality of Thames Centre, the Lake Huron and Elgin Area water treatment plants and Try Recycling Facilities located adjacent to the City's northern boundary. The site can also accept Municipal Hazardous or Special Waste from the City of London, the County of Elgin and the County of Middlesex for transfer off-site for recycling or disposal.

The landfill property is located within the Waste Management Resource Recovery Area, which is a large area of City-owned land identified within the City's Official Plan for future waste management facilities. A City-owned Material Recycling Facility (MRF) is located within these lands just east of the landfill site.

The W12A Landfill Site has been in operation since 1977. The majority of the wastes that it receives are from London residences and some businesses. The remainder of the businesses within the city export their waste for disposal to facilities outside the City. At current disposal rates, the W12A Landfill is expected to reach its approved capacity at the beginning of 2025.

The landfill is divided into two phases (Figure 3). Phase 1 occupies the eastern portion of the disposal area and was filled to capacity in the first 25 years of operation. Phase 2 occupies the remaining western portion and has been constructed with a number of engineering design and operational upgrades (i.e., modern landfill design), and is the active area being used for the residual waste materials generated and requiring disposal. There are engineered collection systems for the leachate (the contaminated liquid produced by precipitation contacting the waste) produced at the site.

Figure 3 - W12A Landfill



For Phase 1 there is a leachate collection system around the perimeter of the disposal area, while for Phase 2 there is a full underdrain collection system below the entire base area. The collected leachate is sent off-site through a piping system for treatment at the Greenway Wastewater Treatment Plant. There is an active landfill gas collection system installed within the completed areas that have received final cover. The collected gas is flared. This gas management system reduces greenhouse gas and odour emissions from the landfill site. There is also a stormwater management system to control the quality and quantity of runoff discharged from the site.

The landfill property and surrounding area is underlain by an extensive deposit of low permeability clayey glacial till soil that provides a natural barrier to control migration of leachate into the groundwater. There are two permeable aquifer zones within the till deposit that are used for water supply from private wells by residences, agricultural and other business purposes in this rural area of the City.

Based on the results from ongoing groundwater and residential well monitoring programs, there is no evidence of leachate effects on the aquifer zones and the W12A Landfill is operating in accordance with the province's requirements in terms of effects on groundwater quality at the property boundary. The W12A Landfill is not having an effect on off-site water well quality.

The ongoing surface water quality monitoring program indicates that the surface water discharged via the stormwater management system meets provincial requirements. The landfill gas monitoring program indicates that landfill gas is not migrating off-site through the subsurface.

Rationale for Expanding the W12A Landfill Site

Since 1969, the City has undertaken a number of waste management planning studies to be able to provide secure, long-term waste management infrastructure for the city. The continued operation of the W12A Landfill site has been a component of the City's long-term plan to provide waste management services since 1977. In 1991 a provincially-appointed arbitrator addressed the City's request to annex additional lands in the Township of Westminster. The arbitrator reported that the W12A Landfill was the most desirable location for a landfill site and that the adjacent lands were likely suitable for an additional landfill site. In the City's 'Vision 96' strategic planning process, it was concluded that the W12A Landfill was a key component of the City's long-term waste management infrastructure.

From 1995 to 1999 the City of London and County of Middlesex were involved in a cooperative long term waste management planning exercise referred to as the London/Middlesex Waste Management plan. This project was 50% funded by the Province. Outcomes of the planning exercise included the approval of the City's long term strategy known as the Waste Management Continuous Improvement System and expansion of the City's Household Special Waste depot to serve the County of Middlesex.

The City commenced the W12A Landfill Area Plan study process in 2005 to study the evolution of the W12A Landfill facility within an overall integrated waste management centre with a planning horizon of 40 years. The study compared seven alternatives that included closing the W12A Landfill and either establishing a new landfill within London or exporting the waste for disposal outside its boundaries, and expanding the W12A Landfill. This study, which included public consultation events, concluded in 2008 and identified the preferred approach as expansion of the W12A Landfill within an integrated resource recovery centre. This was followed by establishment and designation of the Waste Management Resource Recovery Area in the City's Official Plan, and additional public consultation to develop a Community Enhancement and Mitigative Measures Program to involve the community in the site operations and to benefit the community in the area of the landfill site.

As part of developing this ToR, a confirmatory screening assessment of the seven alternatives evaluated in the previous study was completed and the results presented to the public, various committees and City Council. This assessment confirmed that expansion of the W12A Landfill site remains the preferred approach for the City's Residual Waste Disposal Strategy.

Previous waste management studies and work completed as part of the TOR process concluded that expansion of the W12A Landfill is the most appropriate disposal option. Consequently, the City is proposing not to look at other disposal alternatives as part of the EA.

It is proposed that additional assessment of long-term waste disposal alternatives (known as 'Alternatives To' the undertaking) will not be part of the EA.

Description of the Project

Based on previous community engagement activities and ongoing input received, Guiding Principles were developed by the City and approved by City Council to direct the development of the Residual Waste Disposal Strategy. Among these guiding principles, the most support was received for making waste reduction the highest priority, being socially responsible and ensuring that the solution is financially sustainable. In addition, there was support for London managing its waste within its own boundaries.

The W12A Landfill site expansion project will be defined by:

A 25 year planning period beyond 2025, i.e., until 2050.

The service area will be expanded to neighbouring municipalities to create a regional service area: The City of London and the Counties of Huron, Perth, Elgin and Lambton and Middlesex will be included in the regional service area. The City of London Council will have the authority to decide which, if any, of these other municipalities will be allowed to use the W12A Landfill for disposal of their wastes, and under what conditions.

At current disposal rates, the site is expected to reach its approved capacity at the beginning of 2025. An additional 14,700,000 cubic metres of airspace at the W12A Landfill site, which will about double the current approved capacity, will be required to satisfy disposal requirements for residual waste for the next 25 year period.

Reduction in the maximum allowable annual tonnage that can be accepted at the landfill from 650,000 tonnes to 500,000 tonnes.

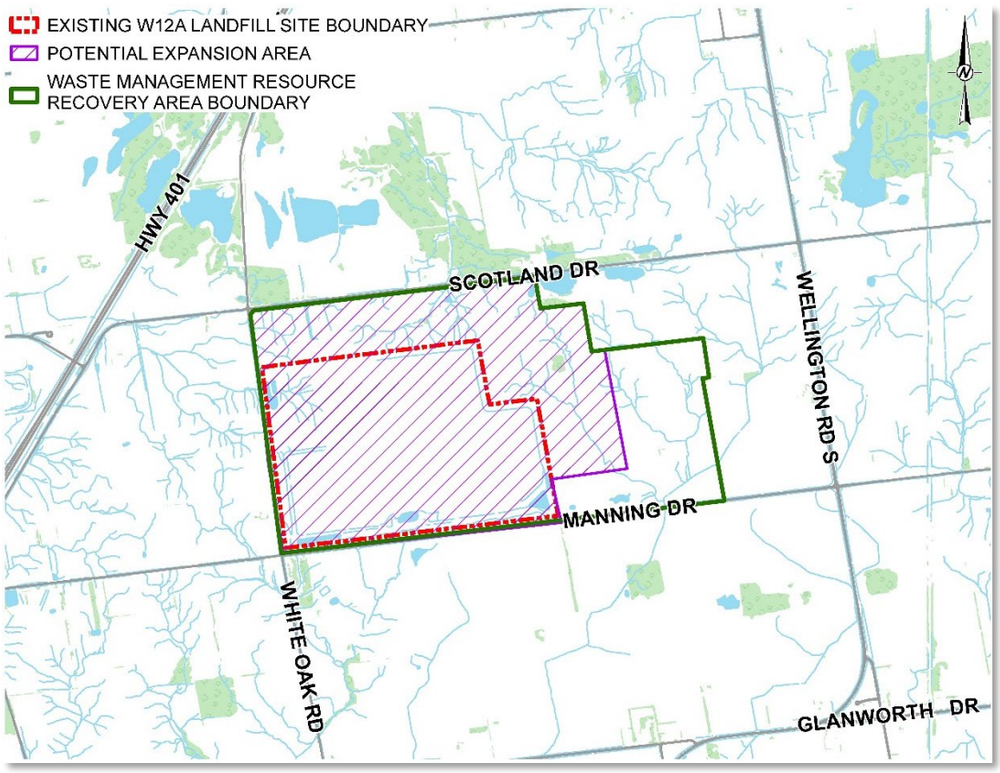
Achieving 60% residential waste diversion by 2022.

To satisfy these disposal requirements, expansion of the W12A Landfill should allow for an additional landfill capacity of 14,700,000 cubic metres.

The different ways in which this additional airspace can be achieved on the W12A Landfill site are known as ‘Alternative Methods.’ The alternative methods of expanding the W12A Landfill site will be developed and described during the EA and will consist of a vertical expansion above the existing waste disposal area and/or a horizontal expansion to the north and/or to the east within a portion of the Waste Management Resource Recovery Area (Figure 4).

The area proposed for horizontal expansion extends beyond the current landfill site about 300 metres northward to Scotland Drive, and eastward about 420 metres. These expansion alternatives will consist of variations in and combinations of landfill height, landfill area and configuration. It is expected that there will be three or four different landfill expansion alternatives developed at a conceptual level, their potential effects on the environment assessed, and the alternatives then compared to identify the overall preferred expansion alternative.

Figure 4 – Potential Expansion Area



Phase 2: Environmental Assessment

The EA work will be undertaken in a series of nine steps:

Step 1 – Identify the 'Alternative Methods' of landfill expansion (and incorporate conceptual design mitigation measures);

Step 2 – Characterize the existing environmental conditions;

Step 3 – Qualitative evaluation of 'Alternative Methods';

Step 4 – Compare the 'Alternative Methods' for landfill expansion and identify the preferred alternative;

Step 5 – Determine the net effects of the preferred alternative;

Step 6 – Describe the preferred 'Alternative Method' for landfill expansion;

Step 7 – Consideration of climate change;

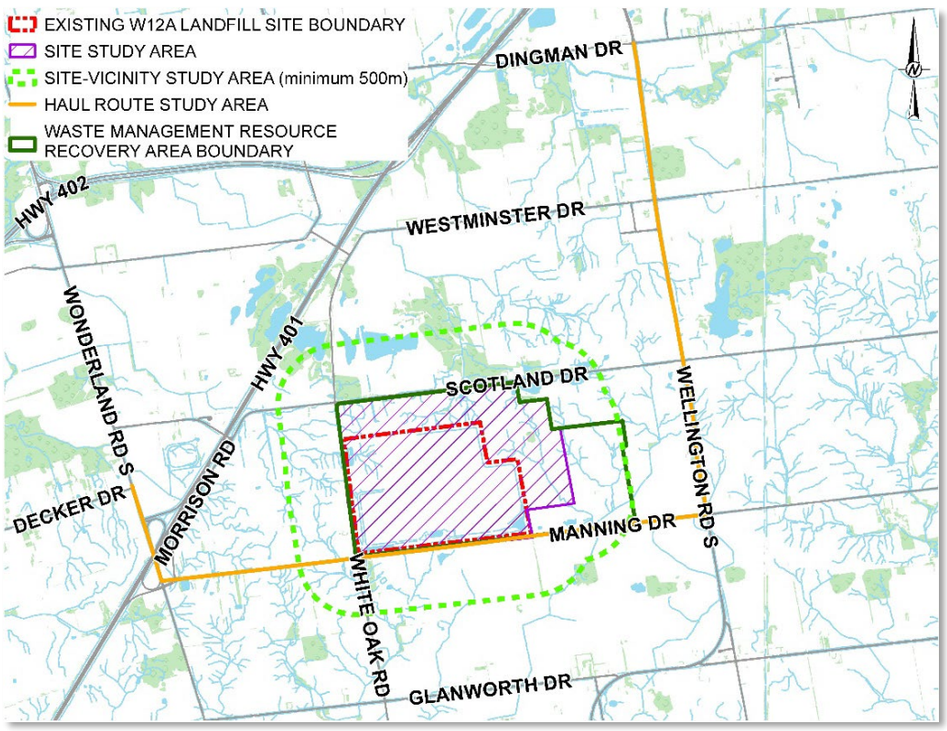
Step 8 – Cumulative Impact Assessment; and

Step 9 – Preparation of the EA Study Report.

Consultation (community engagement) with the public, Indigenous communities, Government review team members, City of London Advisory Committees, and other stakeholders will be ongoing throughout the EA process.

The EA study area is the area within which activities associated with the proposed project will occur and where potential environmental effects will be studied. Three preliminary generic study areas (Figure 5) for the assessment, which may be refined and will be confirmed during the EA, have been identified as follows:

Figure 5 – Proposed Study Areas



Site Study Area – The existing W12A Landfill Site, located at 3502 Manning Drive and adjacent lands where landfill expansion may occur.

Site-vicinity Study Area – The lands in the area immediately adjacent to the Site Study Area that have the potential to be directly affected by the landfill expansion and activities with the Site Study Area. The extent of the Site-vicinity Study Area will be determined for each of the environmental components. For most environmental components, a Site-vicinity Study Area of 500 metres from the Site Study Area is appropriate.

Wider Study Area – An area that takes on the broader community generally beyond the immediate site vicinity and for specific environmental components may include the entire Municipality.

The components and sub-components of the environment that will be evaluated during the EA such that the potential effects of the proposed landfill expansion alternatives are determined and compared using a set of comparative evaluation criteria, are:

Environmental Components:	Atmosphere (air and noise)
	Geology and Hydrogeology (groundwater quality)
	Surface Water (quality and quantity)
	Biology (aquatic and terrestrial)
Socio-Economic Components:	Land Use
	Agriculture
	Archaeology and Cultural Heritage
	Socio-economic
	Visual Impacts
Technical Components:	Design & Operations
	Transportation

The ToR provides technical work plans for each of these components and sub-components that will be undertaken during the EA study.

Consultation (Community Engagement)

The ToR describes the Community Engagement Program prepared and undertaken by the City for the development of this ToR, as well as the program proposed for the subsequent EA process.

Engagement and consultation with the public and other stakeholders is a key component of the EA process. It enables stakeholders to participate in the planning process and enhance the quality of the project. The key instruments in the Community Engagement Program that were used to engage the public and the other stakeholders and elicit feedback during the ToR preparation are summarized in Table 1). Input received from this program was considered by the City in preparing the draft ToR.

A list of potentially affected Indigenous communities was developed in consultation with the MOECC during the development of this ToR. A program to engage and consult with the eight identified Indigenous communities was carried out considering their specific needs and specific issues. The Indigenous communities were consulted on how they would like to be involved in the EA process. City staff were available to meet with interested Indigenous communities and discuss the proposed project at any time during the development of the ToR.

Table 1 - Key Community Engagement Activities Between March 2017 and January 2018

Community Engagement Activity	Comments
Open Houses	• Two sets of open houses (one in May, one in November 2017) • Each set had an afternoon and evening sessions at two locations plus a follow-up virtual open house on the project website
W12A Landfill Public Liaison Committee	• Existing committee • Provided updates at six meetings
City of London Advisory Committees	• Advisory Committee on the Environment, Agricultural Advisory Committee and Environmental and Ecological Planning Advisory Committee • Attended and presented at two meetings for each advisory committee
Community Liaison Committee	• New committee with members representing various stakeholder groups • Four meetings
Community Events	• Booth at 10 community events (e.g., Sunfest, Lifestyle Home Show, etc.)
Project Website	• Getinvolved.London.ca/WhyWasteDisposal • Over 1,300 unique visitors
Letter/email correspondence	• Contacted 275 nearby property owners and residents, 28 landfill customers, 15 stakeholder groups and over 30 government agencies on three occasions (Notice of Commencement and both sets of open houses)
Newspaper and social media advertisements	• Numerous ads at various point in the process

To assist in the comparative evaluation of the expansion alternatives during the EA, the public was asked at open house #2 to rank the environmental components that they considered more important, important and less important. Based on the input received, groundwater quality, aquatic ecosystems and terrestrial ecosystems were the environmental components identified as most important, while cultural heritage landscapes, cultural heritage resources and archaeology were ranked less important.

Following approval of this ToR and during preparation of the EA, a consultation program will be continued to engage the public, businesses, the Government review team, Indigenous communities, as well the various groups and committees during the EA process. Input will be obtained through a number of engagement activities, which will be generally similar to the activities completed during preparation of the ToR.

The Draft EA will be circulated for a seven week public comment period prior to finalization and submission to the MOECC for approval. In addition, consultation specific to individual Indigenous communities will also be carried out.

Other Regulatory Approvals

In addition to EA approval, the W12A Landfill expansion will also require approvals under the *Environmental Protection Act*, the *Ontario Water Resources Act* and the *Planning Act*, and perhaps from the Upper Thames and Kettle Creek Conservation Authorities in terms of a permit to undertake specific works associated with the expansion. These approvals processes are expected be undertaken after EA approval is in place.

Overview of the EA Schedule

The following schedule is anticipated:

Circulation of Draft ToR for public and agency review	April/May 2018
Submission of Proposed ToR for Minister's Approval	August 2018
Approval of ToR	Late 2018/Early 2019
EA Studies and EA Submission for Minister`s Approval	2019 and 2020
Approval of EA	Mid-2021
Other Approvals	2021-2022

It is anticipated that all approvals will be in place to allow final design of the preferred landfill expansion and any required construction prior to the W12A Landfill reaching its currently approved capacity, which is predicted at the beginning of 2025.