



A Walker Industries Company

Walker Environmental Group Inc.
160 Carnegie Street
Ingersoll, ON, N5C 4A8
855-392-5537
www.walkerea.com

March 28, 2016

To: Southwestern Landfill Proposal Community Liaison Committee

RE: Material from Notice of Approval (March 18, 2016)

Please find enclosed a bound hard copy and a digital copy on USB drive of:

- Terms of Reference, submitted August 29, 2013
- Amendment to the Terms of Reference, submitted May 26, 2014
- Letter of Approval, received March 18, 2016
- Terms of Reference Notice of Approval, received March 18, 2016

We look forward to seeing you at the Community Liaison Committee on April 6, 2016 at 6:00 pm at our Ingersoll Office (160 Carnegie Street, Ingersoll ON).

Warm Regards,

A handwritten signature in black ink that reads "Becky Oehler". The signature is written in a cursive, flowing style.

Becky Oehler
Consultation Manager



CLC Meeting 16 - Agenda

Southwestern Landfill Environmental Assessment

Date: Wednesday, April 6, 2016

Time: 6:00 p.m. – 9:30 p.m.

Location: 160 Carnegie Street, Ingersoll (Lower Meeting Room)

Meeting Materials:

- Letter of Decision (sent 03/28/16)
- Notice of Approval (sent 03/28/16)
- Terms of Reference and ToR Amendment (sent 03/28/16)

	Description	Lead	Time
1	Welcome & Introductions	DF	15
2	Approval of the Agenda	ALL	5
3	Business Arising Report Transcript from CLC Meeting 15	DF	15
4	SWLF EA Proposal Status & Next Steps - Question & Answer	DF ALL	30 30
5	Community Engagement Next Steps - Question & Answer	DF ALL	20 20
6	CLC Correspondence	DF	10
7	Adjournment	ALL	5
8	CLC Discussion with EA Advisor	CLC/AG	60

CLC Meeting 16 (Part 1)

Other documents sent as materials, but not included as pages in this Appendix (to cut down on duplication, paper waste and/or very large digital files):

- 1) Transcript: http://www.walkerea.com/uploads/659/Doc_635972676344233306.pdf

Please contact us at info@walkerea.com or toll-free at 1-855-392-5537 if you require assistance accessing this document online or in hard copy.

CLC Meeting 16 (Part 1)

Other documents sent as materials, but not included as pages in this Appendix (to cut down on duplication, paper waste and/or very large digital files):

- 1) Transcript: http://www.walkerea.com/uploads/659/Doc_635972676344233306.pdf

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April 12, 2016

Dear _____,

RE: SWLF CLC Meeting April 20, 2016 – 6:00 pm

Further to the CLC meeting scheduled for April 20, 2016 at 6:00 pm the following email was sent out.

Good afternoon,

Please find attached the Agenda for the April 20, 2016 CLC meeting, at 6:00 pm. The meeting is numbered "CLC Meeting 16 (part 2)" as this is a continuation of the discussion from the previous meeting. The meeting is scheduled for 3 hours, and Anneliese, the EA Advisor, will be available for an hour after the meeting.

I've also attached a digital copy of the CLC Charter for your reference.

Dinner will arrive by 5:45 pm, please feel free to arrive early for dinner.

*Looking forward to seeing you next week,
Becky*

905-680-3675

Thank you,

Leticia Koole
EA Assistant

Encl.

Date: Wednesday, April 20, 2016

Time: 6:00 p.m. – 10:00 p.m.
(dinner will arrive by 5:45 pm, you are welcome to come early)

Location: 160 Carnegie Street, Ingersoll (Lower Meeting Room)

Meeting Materials:

- List of tabled items for CLC Meeting 17
- Community Liaison Committee Charter

	Description	Lead	Time
1	Meeting Purpose	AG	5 min
	Purpose: Continuation of discussion regarding CLC from April 6, 2016 meeting.		
2	Approval of the Agenda	ALL	5 min
3	Business Arising Report	AG	15 min
	Business Arising will be limited to items carried over from the previous meeting. Other items will be discussed at the following meeting, in respect of time and agenda. <ul style="list-style-type: none"> CLC members will send any CLC-related topics they would like to discuss at the next meeting to Becky Becky to confirm who is available and interested in continuing as members of the CLC 		
4	Discussion of tabled items regarding CLC from previous meeting	AG	2.5 hr
	Membership – List of current members and alternates, resignations Meeting scheduling – day, time, duration Meeting materials and agenda – advance material distribution timing, distribution to alternates Transcript, minutes, action items (Business Arising) – approval and distribution of transcripts, communicating CLC discussion to the public, note taking for highlights/action items/motions Facilitation Voting Conflict resolution Meeting substance – allowing for productive dialogue Dialogue between the CLC and other stakeholders Role of CLC in consultation with the local community Review of Charter		
7	Adjournment	ALL	5 min
8	CLC Discussion with EA Advisor	CLC/AG	1 hr



CLC Worksheet – April 20, 2016

Southwestern Landfill Environmental Assessment

A worksheet to record your thoughts on today's topics of discussion. You may want to use it for brainstorming. Also, you can provide it to Becky at the end of the meeting as a record of your ideas and comments.

Topic 1: Membership

Topic 2: Meeting scheduling



CLC Worksheet – April 20, 2016

Southwestern Landfill Environmental Assessment

Topic 3: Meeting materials and agenda

Topic 4: Transcript, minutes, action items (Business Arising)



CLC Worksheet – April 20, 2016

Southwestern Landfill Environmental Assessment

Topic 5: Facilitation

Topic 6: Voting



CLC Worksheet – April 20, 2016

Southwestern Landfill Environmental Assessment

Topic 7: Conflict Resolution

Topic 8: Meeting Substance

Topic 9: Dialogue between CLC and other stakeholders

Topic 10: Role of CLC in consultation with the local community



CLC Worksheet – April 20, 2016

Southwestern Landfill Environmental Assessment

Topic 11: Review of Charter

Other Comments



Community Liaison Committee Charter

Mission Statement

The *Community Liaison Committee* (CLC) is an advisory body that will provide a forum for community input and guidance to Walker Environmental Group during the (Environmental Assessment process) for a proposed landfill in a mined quarry in Zorra Township at the site known locally as Beachville Lime.

Purpose and Mandate

The purpose of the CLC will be to review and provide input to the *Environmental Assessment* (EA) for the Southwestern Landfill Proposal. This input will be part of the public consultation activities required under Ontario's *Environmental Assessment Act*.

The Community Liaison Committee will:

- provide Walker Environmental Group and its consultants an understanding of the characteristics of the site and neighbouring community
- provide Walker Environmental Group better understanding of community interests, goals and aspirations, and social and economic development objectives that will better align the proposal with the community
- help identify potential impacts, issues, concerns and opportunities that are important to the local community
- provide suggestions on mitigation or enhancement
- provide suggestions on public consultation efforts necessary to enhance community participation

Membership

By participating in the CLC, members agree to abide by this Committee Charter.

Walker Environmental Group acknowledges that membership on the CLC does NOT constitute support for the Southwestern Landfill Proposal.

Members participate in the CLC as individuals. It is understood that the views and comments expressed by Committee Members do not necessarily represent the views of the community, the neighbourhood or specific community groups.

The CLC will consist of up to 10 local stakeholders (e.g., neighbours, interested public and members of community organizations) together with representatives of Walker Environmental Group and Observer Representatives from government agencies.

Members are expected to:

- participate voluntarily
- work with the facilitator to establish working groups or subcommittees as required from time to time
- strive to attend all meetings

- declare any situation that is, or has the potential to be, a conflict of interest before agenda items are presented
- carry out their functions with integrity
- act responsibly and fairly with the care, diligence and prudence of a reasonable individual
- respect all viewpoints and follow rules of decorum

CLC Members will participate voluntarily and will be reimbursed only for reasonable out of pocket expenses.

In addition to the 10 local stakeholders, local governments and government agencies may choose to have staff members participate on the CLC as Members.

Role of the Chair

The Chair will plan meeting agendas, preside over meetings and coordinate activities of the CLC. The Chair will:

- Set meeting agendas and determine the frequency of meetings
- Be responsible for managing the meetings including timing of agenda items and adherence to this Committee Charter
- Be responsible for ensuring that discussions are focused to matters considered to be 'in scope' with this Committee Charter
- Moderate the discussion to ensure a balanced and inclusive exchange of ideas
- Encourage advice and feedback from all Members during meetings, with no tolerance for Members who make it difficult for others to have their opinions heard
- Determine options for managing disruptions to meeting decorum
- Be responsible for leading the process to periodically review the CLC membership to replace members that may leave the Committee

The Chair will be appointed by Walker Environmental Group and will be experienced in chairing Committees of this nature.

Committee Meetings

Committee meetings will generally include presentations by Walker Environmental Group and its technical consultants, opportunities to discuss materials and presentation content, review of any action items, and review of agendas and minutes.

A quorum of Members is not necessary for Committee meetings to proceed.

From time to time, Committee Members may wish to establish working groups or sub-committees to address specific issues. Membership on working groups may be open to other interested stakeholders, with the consent of the Committee.

Committee members will provide input to Walker Environmental Group on the Southwestern Landfill Proposal. As an advisory body, the Committee will not make decisions on the EA process. Committee decisions will focus on the approval of agendas and minutes, appointing an Independent Advisor and determining membership on any working groups or subcommittees.

The Committee will meet approximately once each month during the preparation of the Terms of Reference for the Environmental Assessment and will continue to meet throughout the Environmental Assessment process until the formal conclusion of the process or until such time that the committee has voted to disband and/or re-establish under a different mandate.

Meetings will generally be held on the 4th Wednesday of each month, from 6 PM to 8 PM. A meal will be served for Committee Members and invited guests ½ hour prior to each meeting to accommodate everyone's busy schedules and provide an opportunity for informal discussion.

All Committee meetings will be open to the public, with date, time and place of each meeting published on the Southwestern Landfill Proposal website – www.walkerea.com. Members of the public in attendance at meetings will sit in a public Observer section of the meeting room and will not have speaking status. Public observers who wish to discuss the content of the meeting may do so by email, phone or face-to-face meeting with a Walker Environmental Group Team Member. Members of the public who wish to attend a Committee meeting should notify Walker Environmental Group seven days in advance of the meeting so that space and observer seating arrangements can be adjusted. The Chair will make efforts to accommodate members of the public, but cannot guarantee adequate space or seating even if advance notification of attendance is provided. Requests to attend meetings can be made by telephone to 1-855-392-5537-(1-855-3-WALKER), or by email to info@walkerea.com.

Meeting Notes, Documentation and Administration

Meeting notes and documentation produced or received by the Committee and its working groups will be made accessible to the public through the website www.walkerea.com. All members of the public are welcome to provide their comments on the information by email, phone or face-to-face meeting with a Walker Environmental Group Team Member.

Administrative services associated with the Committee and its working groups will be the responsibility of Walker Environmental Group.

Independent Environmental Assessment Advisor

An independent third-party Environmental Assessment (EA) Advisor will be made available to advise the Committee on requirements of the Environmental Assessment Process. This person will be a qualified expert in the requirements Ontario's *Environmental Assessment Act* and the process of undertaking Environmental Assessments.

The Committee will select the Independent EA Advisor of their choice from a short-list of qualified and experienced individuals provided by Walker Environmental Group.

The Independent EA Advisor takes direction from, and reports to, the Chair of the CLC on behalf of the Committee.

Discussions between Committee members and the Independent EA Advisor are deemed to be private conversations. The Independent EA Advisor will not, unless requested by individual Committee members, share information about private discussions with Walker Environmental Group or any other parties.

The Independent EA Advisor will be contracted to, and paid by, Walker Environmental Group or one of its subsidiaries. Invoices shall be submitted to the Chair of the Committee for review and approval of payment by Walker Environmental Group. Walker Environmental Group reserves the right to set limits on the costs for the work of the Independent EA Advisor, in consultation with the CLC.

Alternates and Resignations

CLC Members may not be able to attend each meeting. Some CLC Members may wish to have an alternate who can attend in the case of an absence. It will be the responsibility of the respective CLC Member to provide the alternate with a suitable briefing and materials in advance of the meeting so that the alternate is sufficiently prepared at the meeting.

CLC Members who wish to have an alternate will submit the name of their alternate to the Chair in the event that they cannot fulfill their full term, or should they determine that participation with an alternate present at some meetings will assist with fulfillment of their term on the CLC.

If a Member's alternate is present at a meeting at the same time as the Member, the alternate will be an Observer and not have speaking status. If an alternate is present at a meeting representing the member, the alternate will be assumed to be speaking on behalf of the Member.

CLC Member resignations shall be tendered in writing to the Chair.

Items from Meeting 16, including:

- Meeting Part 1 (April 6, 2016)
- Meeting Part 2 (April 20, 2016)

Business Arising		Responsibility	Status
1	Once WEG sends letter to MOECC in regard to Ministers conditions, outlining how they will be integrated into ToR, the letter will be shared with the CLC and posted on the project website.	BO	Complete
2	Request that a representative from the MOECC attend a CLC meeting to discuss ToR Amendments.	DF	Complete
3	Produce and provide a map to the CLC that identifies the Carmeuse property boundaries that Walker is required to review during the Alternative Methods phase.	BO	Complete
4	Confirm who is available and interested in continuing as a member of the CLC.	BO	Complete
5	Provide a preliminary timeline on the EA process up to the finalization of the technical work plans. Include CLC and public consultation commitments outlined in the approved ToR.	DF	Complete
6	Produce a CLC Roster and distribute to CLC membership.	BO	Complete
7	Integrate discussion from April 20 th CLC Meeting into a revised Charter and distribute to CLC membership.	BO	Complete
8	Prepare a list of pre-approved facilitators and provide their resumes to the CLC. The CLC will use this list to choose a new facilitator	DF	

Carry-Over Items from Meetings during ToR Phase:

Business Arising		Responsibility	Status
1	Revisit the Mayor of Ingersoll regarding municipal green initiatives.	DF	In Progress DF to discuss with Mayor of Ingersoll.
2	Clarify question – is there a mental health study being done?	DF	In Progress The question will be referred to the Economic expert for consideration during the EA
3	Evaluate the connection between HHRA and Economic Impact assessment in criteria table regarding potential economic impacts on area health system. (Show the link on the EA Criteria Table)	DF	In Progress This comment will be referred to the Economic expert for consideration during the EA.
4	Determine if there will be a truck wash. If so, identify if there will be a liner under the truck wash.	DF	In Progress This comment will be referred to the landfill design team for consideration during the EA.
5	Combinations of quarry and landfill monitoring and the margin of error – create data analysis from the South Landfill comparing the predictions with the actual data.	DF	In Progress This comment will be referred to each expert for inclusion in the background data collection task during the EA.
6	Intrinsic to review their landfill-specific human health risk assessments literature and its performance evaluation of what has been predicted and what the results are to identify any trends and gaps.	DF	In Progress Will be included when the work plans are finalized.
7	Provide information on Richmond Landfill. Intrinsic will see what information is available from work they may have done.	JT	In Progress Intrinsic to follow up regarding public HHRA information.
8	Look at establishing sensitive receptors that will include industrial and businesses such as Carmeuse, Blue-con and Federal White.	DF	In Progress This comment will be referred to the HHRA expert for consideration during the EA.

Business Arising		Responsibility	Status
9	Provide a report on health trends based on information available from local, provincial and federal sources that pertains to this region as soon as possible, and be made available for the human health risk assessment and to the CLC.	DF	In Progress This comment will be referred to the HHRA expert for inclusion in the background data collection task during the EA.
10	Determine how much licensed capacity remains under the quarry floor	DF	In Progress
11	If the CLC is aware of local natural/environmental events, provide information to Walker who will then pass it along to Golder Associates.	CLC	Ongoing
12	Contact the Agricultural agencies and let them know the CLC Members would like to attend the meeting when they meet with the technical expert.	DF	In Progress

CLC Meeting 16 (Part 2)

Other documents sent as materials, but not included as pages in this Appendix (to cut down on duplication, paper waste and/or very large digital files):

- 1) Transcript: http://www.walkerea.com/uploads/660/Doc_635989110836422406.pdf

Please contact us at info@walkerea.com or toll-free at 1-855-392-5537 if you require assistance accessing this document online or in hard copy.

Date: May 25, 2016

Time: 6:00 p.m. - 10:00 p.m.

Location: 160 Carnegie Street, Ingersoll (Lower Meeting Room)

[Full meeting transcript](#) is available at www.walkerea.com or by contacting our office. (1-855-392-5537 or info@walkerea.com)

Attendees

- **CLC Members**
- **Guests:**
 - Andrew Evers, Ministry of Environment and Climate Change (MOECC) EA Branch Special Project Officer (*assigned to the Southwestern Landfill file*)
 - Pat Almost, MOECC London District Office, Issues Project Coordinator
 - Steve Hollingshead, Environmental Approvals Specialist, Walker Environmental

Meeting Objective

The purpose of this meeting was to review the [Notice of Commencement](#), which was published on May 11, 2016, and to hold a question and answer session with Andrew Evers. The questions were focused on the [Terms of Reference - Notice of Approval](#) issued by the MOECC on March 17, 2016, including the Minister's Amendments.

Discussion Topics

1. Notice of Commencement & Letter of Acknowledgement Overview

Darren Fry, Walker Environmental, provided an overview of the [Notice of Commencement](#) & [Letter of Acknowledgement](#).

- On May 11, 2016 the [Notice of Commencement](#) (NoC) was published. The NoC officially marks the start of the study phase of the EA.
- The NoC was published in the Ingersoll Times and Oxford Review, on the proposal website (www.walkerea.com), and distributed to the mail and [website subscriber](#) lists.
- Walker also submitted a [Letter of Acknowledgement](#) to the Ministry. It communicates that Walker will be proceeding with EA, acknowledges the Minister's Amendments and states how Walker will integrate them into the Environmental Assessment.

2. Question and Answer Session

The question and answer session with representatives from the MOECC was focused on the approval of the Terms of Reference and the 15 Minister's Amendments. Written questions were provided by the CLC to the MOECC in advance. Key outcomes are listed below:

- The main purpose of the Minister's Amendments is to address concerns from the public and technical reviewers.

- Proposed annual waste quantities to be studied are 850,000 metric tonnes (weight) per year of solid non-hazardous waste with an additional requirement for daily cover material. The amount and nature of daily cover will be determined during the studies and planning. The preliminary proposed total waste volume is 17 million cubic meters (volume) over a planning period of 20 years.
- In reference to air quality, “species” means compounds that will be monitored in the air.
- In addition to the regular haul route, an alternate haul route will be proposed for the landfill.
- To determine the needs for managing storm water, climate change information and predictions will be taken into consideration.
- Walker will be expected to use and perform to the standards/policies/regulations that are in place. Where a standard/policy/regulation doesn’t exist, those in other jurisdictions will be considered for use, in consultation with the MOECC.
- Cumulative effects and climate change are integrated within each discipline and reviewed by a discipline-specific technical expert. The MOECC does not expect Walker to add additional experts for these two areas as the expertise is expected to already exist within Walker’s technical team. However, there will be a separate “Cumulative Effects Work Plan” to identify how cumulative effects will be considered.
- A karst expert will determine if karst features are present. It will then be determined what expertise is needed moving forward.

Closing Remarks

Moving forward, a representative from the MOECC London District Office will attend CLC meetings as a liaison, however, EA related requests will be managed by A. Evers. There will be a written response to questions provided prior to the meeting and questions that required more information.

The next CLC meeting will be held on Wednesday June 22, 2016. It will focus on the EA Process and timeline, with specific focus on the Alternative Methods assessment.

If you have any questions contact the Walker Environmental office at 1-855-392-5537 or info@walkerea.com.

This document contains a summary of the question & answer session that occurred at the May 25, 2016 Community Liaison Committee meeting attended by representatives from the Ministry of Environment and Climate Change Andrew Evers (Special Project Officer, Environmental Assessment Branch) and Pat Almost (Issues Project Coordinator, London District Office).

The [full meeting transcript](#) is available at www.walkerea.com or by contacting our office. (1-855-392-5537 or info@walkerea.com)

KEY TOPICS	RESPONSE
Overall Purpose of the Minister's Amendments	<ul style="list-style-type: none"> To address concerns from the public and technical reviewers. Time was taken was to review comments/concerns and incorporate input as amendments to Terms of Reference (ToR).
No specific references to the CLC	<ul style="list-style-type: none"> Anywhere the "public" is referenced to in the amendments, it includes the CLC.
Availability of Professional Expertise, particularly around cumulative effects, climate change, and karst features	<ul style="list-style-type: none"> Cumulative effects and climate change are integrated within each discipline and reviewed by a discipline-specific technical expert. The MOECC does not expect Walker to add additional experts for these two areas as the expertise is expected to already exist within Walker's technical team or the JMCC technical team. A karst expert will determine if karst features are present. It will then be determined what expertise is needed moving forward. Walker will be expected to relay complete and comprehensive information to the public, technical reviewers, other stakeholders and First Nations for review.
Anticipated Results from Minister's Amendments	<ul style="list-style-type: none"> The results are not anticipated in advance of the studies, the MOECC will review the studies once complete.
Use of standards, policies and regulations	<ul style="list-style-type: none"> Walker will be expected to use and perform to the standards/policies/regulations that are in place. Where a standard/policy/regulation is not in place, those in other jurisdictions will be reviewed, in discussion with the MOECC.
Amendments "change" the requirements of the ToR	<ul style="list-style-type: none"> Change can mean an addition or removal of requirements, but in this case there are no known requirement removals. Walker will need to justify how they have fulfilled the requirements set out in the ToR.

KEY TOPICS	RESPONSE
Known conflicts	<ul style="list-style-type: none"> • There are no known conflicts between the ToR and Minister’s Amendments.
Clarification on Total Volume of the Proposed Landfill	<ul style="list-style-type: none"> • Proposed annual waste quantities to be studied are 850,000 metric tonnes per year of solid non-hazardous waste with an additional requirement for daily cover material. • Total estimated waste volume is 17 million cubic metres over a planning period of 20 years. • This is the preliminary description of the undertaking as stated in the ToR. • At this time, the amount and nature of the cover material is unknown. • The MOECC waste engineer will review the EA document to ensure applicable regulations are met.
During consultation, “find resolution” of any outstanding technical issues and commitments	<ul style="list-style-type: none"> • Includes Walker, Peer Review Team and MOECC technical experts, as well as the public. Unknown at this time if all groups will meet together or if there will be separate meetings. • Does not necessarily mean “final resolution” of all technical issues or differences in opinion, but rather a discussion to determine a path forward with action items. • Input is welcomed at any point from any stakeholder and is not limited to specific committed events.
What are “Objectives”?	<ul style="list-style-type: none"> • Not legally binding; not standards. Used as precautionary measure. (example: Provincial Water Quality Objectives)
Benthic Community Monitoring (organisms living in the sand/mud underwater)	<ul style="list-style-type: none"> • No enforceable standards but there are protocols and best practices that Walker’s technical experts will be required to follow during the field studies. • The technical work plans that identify how the studies will be carried out will be discussed with the MOECC and Peer Review Team technical experts prior to starting.
“Species” to be monitored (air study)	<ul style="list-style-type: none"> • “Species” in regard to air quality refer to the compounds that will be monitored in the air.

KEY TOPICS	RESPONSE
Air Monitoring locations	<ul style="list-style-type: none"> • Walker will propose the monitoring locations. There is no requirement for the MOECC to place co-monitors although that option will be made available by Walker where possible, as required by the Minister's Amendments. • The MOECC will determine if and when to co-locate monitors. • The MOECC has guidelines for identifying locations for air monitors.
Definition of Thames River Basin	<ul style="list-style-type: none"> • "River basin" and "watershed" are considered to be synonymous.
Broader ecosystem: Great Lakes	<ul style="list-style-type: none"> • Walker will not be required to quantify potential impacts on the larger ecosystem of the Great Lakes.
Alternative Methods	<ul style="list-style-type: none"> • Walker will determine how the alternative methods will be presented. It is typically a comparative analysis and must be a transparent process that has justification for preferred alternatives.
Addition of recycling/composting operations to EA	<ul style="list-style-type: none"> • Not required since it is outside the scope of the EAA. The Minister's Amendments require Walker to demonstrate tangible support for diversion activities.
Planning for alternate routes to the site (EDR)	<ul style="list-style-type: none"> • There will be an alternate haul route proposed for the site.
Cumulative Effects Work Plan	<ul style="list-style-type: none"> • There will be a separate "Cumulative Effects Work Plan". • Cumulative effects will also be considered as part of each of the other technical work plans.
Storm Water Management	<ul style="list-style-type: none"> • Typically based on 100-year storm. • Climate change information and modelling information must be considered.
Climate Change Work Plan	<ul style="list-style-type: none"> • Walker is not expected to create a climate change work plan. It will be considered as part of the relevant technical work plans. • Walker will be expected to include a separate section in their final EA document specifically about how they addressed climate change.



CLC Meeting 17 - Materials

Southwestern Landfill Environmental Assessment

May 13, 2016

Please find enclosed the materials for Community Liaison Committee Meeting #17, which will be held on Wednesday, May 25, 2016 at 6:00 pm. Also enclosed is the transcript from the April 20, 2016 meeting.

We are sensitive to the request for a new facilitator for the CLC in a timely fashion. At the May 25th meeting, Anneliese Grieve will act as facilitator as well as fulfilling her role as EA Advisor. We have spent time seeking and reviewing potential facilitators, and are currently in the process of interviewing in order to provide a list of pre-approved facilitators. From this list, the CLC will interview and select the new facilitator.

Please let me know if you have any comments or questions prior to the meeting.

Regards,

Becky Oehler
Consultation Manager
905-680-3675
boehler@walkerind.com

Date: Wednesday, May 25, 2016

Time: 6:00 p.m. – 10:00 p.m.
(Dinner will be available at 5:30)

Location: 160 Carnegie Street, Ingersoll (Lower Meeting Room)

Meeting Materials:

- Notice of Commencement (May 11, 2016)
- NoA and Amendments Acknowledgement Letter to MOECC (May 11, 2016)
- List of questions sent by members of the CLC to the MOECC in preparation for meeting
- CLC Membership and Alternates List (May 13, 2016)
- Map of Carmeuse landholdings
- Summary of CLC & Public Consultation Commitments Timeline
- CLC Meeting 16 (parts 1 and 2) Business Arising Report
- CLC Meeting 15 Business Arising Report (updated)
- Revised CLC Charter

	Description	Lead	Duration	Time
1	Welcome & Introductions	Facilitator	5 min	6:00
2	Review and Approval of Agenda	Facilitator	5 min	6:05
3	Notice of Commencement Overview	DF	5 min	6:10
4	Letter of Acknowledgement Overview	DF	5 min	6:15
5	Question & Answer session with MOECC Representatives Regarding the Notice of Commencement and Minister's Amendments	Facilitator	2 hr, 15 min	6:15
6	Review of Materials Provided to CLC, including updated CLC Charter	BO	10 min	8:30
	Business Arising Report			
7	- Meeting 15 Report - Meeting 16 (parts 1 and 2) Report	BO	5 min	8:40
8	CLC Correspondence - Review of updated website (focus on document section)	BO	10 min	8:45
9	Action Items and Adjournment	ALL	5 min	8:55
10	CLC Discussion with EA Advisor	CLC/AG	60 min	9:00

May 13, 2016

THIS LETTER WAS SENT TO THE SOUTHWESTERN LANDFILL PROPOSAL MAILING LIST AND IS PROVIDED TO THE COMMUNITY LIAISON COMMITTEE AS INFORMATION INCLUDED WITH THE NOTICE OF COMMENCEMENT.

Notice of Commencement of the Environmental Assessment

You are receiving this letter because you are part of mailing list for the Walker Environmental Southwestern Landfill Proposal. This letter is to inform you that the Notice of Commencement of the Environmental Assessment (EA) was published on May 11, 2016. A copy of the Notice is attached.

The intent of the Notice of Commencement is to announce that the EA process has formally begun. This means that we will be starting the activities that are described in the Approved Terms of Reference, as amended by the Minister of Environment and Climate Change.

During the Environmental Assessment phase, we will be consulting with interested members of the community, government, and Aboriginal Communities. We will be discussing 'alternative methods' on 5 topics over the next few months:

- Haul route and site entrance
- Landfill footprint (placement on Carmeuse property)
- Landfill design (height above/below ground, liner design)
- Leachate treatment (how to treat water that comes into contact with waste)
- Landfill gas management (examples: flaring, power generation)

What are "Alternative Methods"?

"Alternative Methods" are different ways of carrying out the proposed project. For example, various potential haul routes. Through consultation, the "Alternative Methods" are narrowed down to one "Preferred Alternative", which will be studied.

We'll be talking to people about what alternative methods we should consider for each topic, and how we evaluate those different methods to come up with the design that will be studied. Opportunities to be involved in consultation and engagement activities will be clearly explained and advertised in advance, and you are always welcome to contact our team if you have input or questions.

If you no longer wish to receive updates on the Southwestern Landfill Environmental Assessment, please let us know by calling us at 1-855-392-5537 (toll free) or by emailing us at info@walkerea.com.

Sincerely,



Becky Oehler
Consultation Manager

11-May-2016

Mr. Andrew Evers
Special Project Officer
135 St Clair Ave W, 1st Floor
Toronto ON
M4V 1P5

Dear Mr. Evers:

**Re: Walker Environmental Group (WEG) Southwestern Landfill
Notice of Approval and Minister's Amendments Acknowledgement
MOECC EA File No. EA 03-08-02**

This letter acknowledges receipt of the *Notice of Approval* for Terms of Reference (ToR) for the Southwestern Landfill proposal, dated March 17, 2016. We have carefully reviewed the instructions contained in the covering letter, the *Notice of Approval* and Minister's amendments and will be proceeding with our Environmental Assessment (EA) in accordance with the Minister's approval.

The purpose of this letter is to confirm and further outline how we plan to incorporate the Minister's amendments into our EA process.

As required, we have issued an Approved Amended Terms of Reference that incorporates the:

- Southwestern Landfill Terms of Reference as submitted on August 29th, 2013
- Addendum consisting of the Minister's *Notice of Approval* and its associated amendments, along with additional commitments made by WEG in the May 26, 2014 submission.

As directed, these additional commitments consist of those not otherwise addressed in the Minister's amendments. A copy of the Approved Amended Terms of Reference has been submitted to the Director and made available on the EA project website, as required.

The following points are numbered to correspond to the Minister's amendments and they are intended to be read in conjunction.

1. Step-by-step details of the process for consulting with key technical agencies on the revised draft EA Work Plans is set out in Item #1 of WEG's additional commitments; following that process will ensure that the requirements of Minister's amendment #1 are fully met.
2. In meeting with the MOECC and its Source Protection Branch regarding the revised draft EA Work Plans for groundwater and surface water, we will include in that agenda a discussion of how the Work Plan includes data collection and analysis consistent with subsequent approvals required under the OWRA or EPA, and if necessary we will amend the final Work Plans according to the MOECC input.

3. WEG will work closely with the licensee to identify any associated *Aggregate Resources Act (ARA)* approvals during the EA process, and also in consultation with the Ministry of Natural Resources and Forestry (MNRF) who are responsible for the ARA.
4. WEG will include in its meeting with the MOECC and its Source Protection Branch regarding the revised draft EA Work Plans for groundwater and surface water an agenda item specific to the appropriate Provincial Water Quality Objectives/Guidelines to be employed in the studies, and if necessary amend the final Work Plans according the MOECC input.
5. WEG has instructed its ecology consultant to incorporate these benthic sampling and analyses requirements into its revised draft EA Work Plans, which will be made available for further review by MOECC, the Conservation Authority and the MNRF prior to finalization.
6. WEG will consult with the technical reviewers assigned by MOECC for air quality regarding the matters detailed in this amendment as part of the review of the revised draft EA Work Plan, and if necessary amend the final Work Plans according the MOECC input. We will ensure that the previous air quality studies noted in this amendment are addressed in the EA. WEG has no objection to allowing MOECC full access to WEG's air monitoring locations and co-located sampling; where the most appropriate or necessary monitoring locations are on private property, WEG will make its best efforts to include this provision for MOECC in its access agreement with the landowner(s) but failing that, we expect that MOECC can employ its own authority as provincial inspectors to gain property access if necessary. We also advise that MOECC staff may be required to undertake certain training or follow certain protocols for access as may be required by the landowners. WEG requests that we be notified of any events where the monitoring equipment was accessed by the MOECC as a means of managing data integrity.
7. Section 8.2 of the approved ToR describes the process by which the potential net environmental effects of the proposed landfill will be characterized during the EA, while Appendix B to the Approved Amended ToR details the specific groundwater, surface water and ecology criteria that will be addressed (note particularly Criteria #4, 5, 8, 32, 33, 34, 35, & 36). Table A-2 in Appendix B illustrates the linkages between the groundwater, surface water and ecology studies in the EA and WEG will extend the characterization to the Thames River basin scale where necessary and appropriate, understanding that Provincial regulation will also require certain standards to be met in closer proximity (for instance, *Reasonable Use Policy* establishes minimum groundwater quality standards at the property boundary).
8. WEG proposes to meet with its MOECC Project Officer prior to undertaking the comparative evaluation of the alternative methods in order to further review and confirm the evaluation methodology set out in Section 8.1 of the Approved Amended ToR.

As set out in section 10.2 of the Approved Amended ToR, WEG will consult with interested parties, including a public event and CLC meeting, regarding the identification and evaluation of alternative methods, as well as the preferred alternative. In addition, the comparative evaluation methodology will be reviewed in a meeting with the JMCC Peer Review Team EA planning expert. WEG also commits to consulting with Aboriginal Communities prior to the selection of the preferred alternative, consistent with this amendment.

During the development of the ToR, WEG consulted with the MOECC, other government reviewers, members of the public, and Aboriginal Communities on the proposed EA studies through the release of draft EA Work Plans (including air quality, human health, surface water and groundwater). WEG received input from these parties, and responded through summary tables with commitments to amend and update the draft Work Plans accordingly following the selection of the preferred alternatives (so that the studies can be designed specific to the proposed undertaking). Step-by-step details of the process for further consultation on the revised draft EA Work Plans is set out in Item #1 of WEG's additional commitments.

The methodology set out in Section 8.2 of the Approved Amended ToR for the evaluation of the proposed undertaking, in conjunction with the associated technical studies to be set out in the final Work Plans, will meet the MOECC's requirements to identify the potential environmental effects in a sound and scientifically defensible manner. Specifically, Item #2 in Section 8.2 details the methodology for incorporating the "do nothing" alternative into the EA through the use of a forecasting technique for the baseline conditions. The EA Criteria in Appendix B of the approved ToR were developed in consultation with the public, Aboriginal communities and government reviewers; WEG will further confirm the use of these criteria during the EA in conjunction with the development of Indicators as part of Step #3 of the evaluation of the proposed undertaking (Section 8.2 of the approved ToR), all of which will be subject to consultation with these same parties as part of the EA.

9. In the course of developing the facility characteristics in Step #1 of the evaluation of the proposed undertaking (see approved ToR, Section 8.2), WEG will carry out and document a further¹ review of the potential for additional diversion activities (which could also include information and awareness programs, workshops, etc.) for IC&I waste at the landfill or at source and incorporate any feasible diversion activities into the EA.
10. WEG has retained the services of a recognized expert in the field of Karst geology; the results of their Karst assessment will be incorporated within the hydrogeology Work Plan, and EA assessment.
11. WEG agrees to characterize sound levels from the proposed landfill, Carmeuse's adjacent quarry & lime plant operation, and other baseline sources, as directed by the Minister.

We will also characterize the combined sound emissions from the proposed WEG Southwestern landfill and Carmeuse quarry as directed, for the purpose of characterizing the "cumulative effects" in the EA.

We will seek further advice from the MOECC noise reviewers in conjunction with their review of the revised draft EA Work Plan for the noise assessment.

12. WEG will carefully review the CEAA guidance document² regarding cumulative effects assessment. Recognizing that there are fundamental differences between the Federal and Ontario EA processes, we will draft a briefing note indicating how the Federal guidance is, or can be, incorporated into the present EA.

¹ Further to (or updating) the detailed analyses of further waste diversion opportunities documented in Supporting Document #3, and Attachment #1, submitted in support of the approved ToR.

² The 2007 document referenced in the Ministry's Amendment #12 has been updated to March 2015; the more recent version will be used, unless otherwise instructed by the MOECC.

WEG will then meet with its MOECC Project Officer to review the above, and confirm our approach to cumulative effects in this present EA.

Based on this input, WEG will then prepare a draft EA Work Plan explaining how the assessment of cumulative effects is incorporated into its EA methodology. This draft will be circulated to the MOECC Project Officer, and undergo public, Aboriginal and government agency consultation in conjunction with the other technical work plans as set out in Item #1 of WEG's additional commitments.

13. Concurrent with the ToR development, WEG consulted with, received input from, and responded to, the JMCC health expert and the local medical officer of health regarding the draft Work Plan. In association with the process set out in Item #1 of WEG's additional commitments to the approved ToR, we will be updating this work plan to reflect this input and subsequently consulting with these two parties on the revised draft Work Plan before finalizing. We will ensure that our approach to addressing health determinants and the stages in the assessment are included in that agenda for discussion. We will also document issues, concerns, resolutions, and any outstanding issues arising from their comments and the meeting. We will carry out a similar process with these parties at the completion of the health assessment.
14. WEG will address climate change in this EA, including how this project may contribute to or reduce greenhouse gas emissions, and the potential effects of climate change on the preferred alternative. During the development of the ToR, we met and reviewed our approach with the MOECC personnel who are preparing the Ministry's guidelines on incorporating climate change into the EA process and will use MOECC guidance documents if and when available. Briefly, climate change will be addressed as follows in this present EA:
 - Incorporate best available climate projections into the forecasts of the future baseline conditions.
 - Estimate the net GHG emissions or reductions, from the proposed landfill and its operations relative to the forecast baseline conditions (see EA Criterion #2, Appendix B, approved ToR).
 - Evaluate and document the net effects of these GHG emissions or reductions during both the construction/operation and post-closure periods.
 - Develop specific adaptation plans for potential climate extremes, in conjunction with the contingency/emergency response plans, and document these in the Design & Operations Report.
15. As set out in Section 8.2, Step #1 in the approved ToR, the Facility Characteristics Report that will be developed during the assessment of the proposed undertaking will include *all of the basic elements of landfill design and operations set out in O. Reg. 232/98 (the Landfill Standards)*, and then updated to incorporate any additional mitigation found to be necessary or appropriate as a result of the potential effects assessment (Step #4). This will demonstrate through the EA that the proposed undertaking will be capable of meeting the requirements of *O. Reg. 232/98*.

WEG states its intention in Section 3, p. 3 of the Approved Amended ToR that the EA prepared in accordance with the ToR will be consistent with the purpose and requirements of the *Environmental Assessment Act*, and intends to demonstrate such in its EA submission.

We appreciate your continuing guidance as we conduct the Southwestern Landfill Environmental Assessment. Please contact me at any time if we can provide further information.

Warm Regards,

A handwritten signature in blue ink, appearing to read 'Darren Fry', with a stylized flourish extending to the right.

Darren Fry
Project Director, SWLF EA

Identification and Evaluation of Alternatives

Estimated Timeline: June – August 2016

Purpose of Consultation: To receive input on the alternatives to be evaluated and the process that will be used to evaluate them

Process: In consultation with stakeholders, Walker will prepare a list of alternative methods (options) on 5 different topics, and how the preferred alternative (best option) identified using a comparative analysis. Topics:

- Landfill footprint
- Landfill design
- Leachate treatment
- Landfill gas management
- Haul route/site entrance

Consultation Commitments:

1	Open House or Drop-In Exhibit
2	CLC Meeting
3	Community Exchange and/or Newsletter

Identification of Preferred Alternative

Estimated Timeline: September 2016

Purpose of Consultation: To announce the preferred alternative and receive input in advance of the finalization of the technical work plans. Interested parties can use this consultation opportunity to present any input about the preferred alternative that may influence the design of the final technical work plans.

Process: Walker identifies which alternative methods were chosen as the consolidated into the “preferred alternative”. Walker will consult on how the preferred alternative will be integrated into the technical work plans.

Consultation Commitments:

1	Open House or Drop-In Exhibit
2	CLC Meeting
3	Community Exchange and/or Newsletter

Finalization of the Baseline Scenario

Estimated Timeline: October – November 2016

Purpose of Consultation: To receive input on the baseline scenario. Interested parties can use this consultation opportunity to provide information or insight about the current and future land uses and development of their community.

Process: Walker will consult on the baseline scenario and may use input to revise the baseline scenario.

Consultation Commitments:

1	Two (2) CLC Meetings
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Review of the Final Technical Work Plans

Estimated Timeline: December 2016 – January 2017

Purpose of Consultation: To receive input on the final technical work plans. Interested parties can use this consultation opportunity to discuss the final work plans and provide input on items they consider important.

Process: Walker will identify on how the final technical work plans incorporate the preferred alternative. The Final Technical Work Plans will be available for review by interested parties. Walker will answer questions, and may use input to revise the final work plans.

Consultation Commitments:

1	Open House or Drop-In Exhibit
2	CLC Meeting
3	Community Exchange and/or Newsletter

TECHNICAL STUDIES (FEBRUARY/MARCH 2017 – FEBRUARY/MARCH 2018)



CLC & Public Consultation Commitments Summary & Estimated Timeline

Southwestern Landfill Environmental Assessment

Review of the Preferred Design and Mitigation Programs

Estimated Timeline: March/April 2018

Purpose of Consultation: To receive input on the preferred design and mitigation programs. Interested parties can use this consultation opportunity to provide input on the preferred design and mitigation programs before the completion of EA document.

Process: Walker will provide information on the preferred design and mitigation programs, answer questions and may use input to revise the final work plans.

Consultation Commitments:

1	Open House or Drop-In Exhibit
2	CLC Meeting
3	Community Exchange and/or Newsletter

Prior to Release of the Draft EA

Estimated Timeline: Summer 2018

Purpose of Consultation: To receive input on the Draft EA

Process: Walker will provide the Draft Environmental Assessment for review, answer questions, and may use input to revise the document.

Consultation Commitments:

1	CLC Meeting
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Prior to Release of the Final EA

Estimated Timeline: Fall 2018

Purpose of Consultation: To receive input on the Final EA

Process: Walker will identify if and how input on the Draft EA was integrated into the Final EA document. Walker will provide the Final Environmental Assessment for review, answer questions, and may use input to revise the document.

Consultation Commitments:

1	CLC Meeting
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Notice of Submission of Environmental Assessment

Estimated Timeline: Fall 2018

Purpose of Consultation: To announce to interested parties that the Environmental Assessment has been prepared and submitted to the Minister

Process: Walker will issue the Notice of Submission of Environmental Assessment when the Final EA document is submitted to the Ministry of Environment and Climate Change and made available for review.

Consultation Commitments:

1	Publish Notice in Newspapers
2	Publish Notice on project website
3	Send to distribution list Mail and digital; interested parties, local municipalities, interested Aboriginal Communities
4	7 Week Public Review Period

Southwestern Landfill CLC Meeting #18 Summary

Date: June 22, 2016
Time: 6:00 p.m. - 9:00 p.m.
Location: 160 Carnegie Street, Ingersoll (Lower Meeting Room)

Meeting Overview

The purpose of this meeting was to review with CLC Members the Environmental Assessment (EA) process and estimated timelines. In addition, the meeting provided an opportunity to discuss the approach for deciding on the components that will make up the project (e.g. landfill footprint, truck routes) and how the CLC and the public can provide input during the EA assessment process. Suggestions and ideas were also provided on upcoming public engagement activities.

Welcome & Introductions

Laurie Bruce, Facilitator

A sub-committee was formed to choose a new facilitator from a short-list of candidates provided by Walker Environmental (Walker). The sub-committee agreed on Laurie Bruce, appreciating her EA experience in industrial projects. Laurie presented her background as public consultation and environmental assessment practitioner.

Transfer Environment and Society (TES)

TES was introduced as a specialized firm with over 25 years of experience in socially responsible development and participatory approaches for EA in Canada. TES was hired by Walker to help create good discussion at CLC and public events. Katrina Kroeze from TES' Toronto office will be documenting the CLC and public events. Julie Reid Forget, Vice-president at TES for Ontario projects, answered questions about the firm and its role.

Topics Discussed

- 1. Review of Changes to the CLC Charter:** Becky Oehler, Walker, confirmed with the CLC Members that they had read through and agreed with the revisions made to the CLC Charter. The amendments to the Charter reflect the discussions of a previous CLC meeting (#16b).
- 2. Website Overview:** Becky showed where all project documents can be found and explained how to subscribe to specific notifications that go directly to the subscriber's inbox.
- 3. Walker Presentation - Environmental Assessment (EA) Process Overview:** Becky delivered a presentation on the EA process and CLC Members were able to ask questions including how the public will be engaged. Becky explained that there are two main phases in the EA process: The first is the assessment of the options for the project components. This phase will define in more detail what the landfill will look like and how it will operate. The next phase will be the detailed environmental impact assessment of the proposed landfill and its operations.

Southwestern Landfill CLC Meeting #18 Summary

Becky spoke in detail about the first phase, using the South Landfill operation in Niagara as an example to show how different options are evaluated.

Main points of concern were the followings:

- i. **The selection of preferred options before contracting technical experts.** It was explained that Walker's experts are able to complete this step because it is straight-forward. During the comparative analysis to reach the preferred options for the landfill, the public and the EA experts from Walker will assess technical, economic, social and environmental criteria with a sufficient level of information to differentiate one alternative to the other.
 - ii. **Definition of experts in this context of the Project.** Walker specialists will be responsible for evaluating and selecting the preferred options with the input from the CLC and public. If there is a need to bring in technical experts during this phase, Walker will make sure that happens.
 - iii. **Cumulative Effects.** The independent EA Advisor, Anneliese Grieve, was asked to clarify. Cumulative effects mean the overlapping effects of past, present, and foreseeable future. She stated that perhaps what is missing in the WEG process is the past. In the case of Walker, the Social Technical Expert (SLR Consulting) is known for cumulative effects experience. Two other subtopics were subject to a short discussion:
 - a. The impact of climate change (climate effects) on the landfill (more severe and frequent storms).
 - b. The contribution of this project on to climate change is part of the provincial EA process. Walker will be looking at how greenhouse gases are increased by the project, and also how they are decreased (less waste trucks driving to Michigan, landfill gas as a renewable energy source).
- 4. Input on Public Engagement:** The CLC identified ways to best engage the public. It was expressed that the content presented is too technical and needs to be more user-friendly with a limit on the amount of information provided to avoid overwhelming people. Finally, ideas on the location and hours for public events were suggested.
- 5. Community Update and CLC Correspondence:** It was proposed by Becky that an additional ongoing item be added to the agenda where CLC Members and Walker would update one another on key concerns and news in the community.

Closing Remarks - Adjournment – 8:48 p.m.

The next CLC meeting will be held on **Wednesday July 27, 2016**. The meeting will focus on discussing the options for Landfill Footprint and Landfill Design.

This Summary was prepared by Katrina Kroeze, CLC documenter. *Full meeting transcript is available at www.walkerea.com. If you have any questions, contact the Walker office at 1-855-392-5537 or info@walkerea.com.*



CLC Meeting 18 - Materials

Southwestern Landfill Environmental Assessment

June 10, 2016

Please find enclosed the materials for Community Liaison Committee Meeting #18, which will be held on Wednesday, June 22, 2016 at 6:00 pm. Also enclosed is the transcript from the May 25, 2016 meeting.

A new facilitator will be present at the June 22 meeting. A panel of three CLC members is currently in the process of interviewing three candidates pre-approved by Walker Environmental.

For the next meeting, you may want to have the following materials from previous meetings for reference:

- Terms of Reference (specifically sections 8.1 and 8.2)
- Summary of CLC and Public Consultation Commitments Timeline (from May 25, 2016 meeting materials)
- Revised SWLF CLC Charter (from May 25, 2016 meeting materials)

Please let me know if you have any comments or questions prior to the meeting.

Regards,

Becky Oehler
Consultation Manager
905-680-3675
boehler@walkerind.com

Date: Wednesday, June 22, 2016

Time: 6:00 p.m. – 9:40 p.m.
(Dinner will be available at 5:30)

Location: 160 Carnegie Street, Ingersoll (Lower Meeting Room)

Meeting Materials:

- Presentation Slides – EA Process Overview
- Community Engagement Framework Summary
- Meeting 17 Business Arising Report
- Revised CLC Charter (sent with Meeting 17 materials)

	Description	Lead	Duration	End Time
1	Welcome & Introductions <i>Note:</i> There will be a new facilitator present at this meeting.	Facilitator	15 min	6:15
2	Review and Approval of Agenda	Facilitator	5 min	6:20
3	Review of Changes to the CLC Charter	BO	15 min	6:35
4	Website Overview	BO	10 min	6:45
	Presentation by Walker Environmental			
5	<i>TOPIC:</i> EA Process Overview with estimated timeline. <i>Questions for clarification will be welcome throughout the presentation as well as after the presentation.</i>	WEG	45 hour	7:30
	EA Process Community Engagement			
6	<i>TOPIC:</i> A discussion about consultation during the EA process. <i>Materials - Community Engagement Framework Summary</i>	WEG	30 min	8:00
	Business Arising Reports			
7	- Meeting 15 - Meeting 16 (parts 1 and 2) - Meeting 17	BO/DF	20 min	8:20
8	CLC Correspondence	BO	5 min	8:25
9	Action Items and Adjournment	ALL	5 min	8:30
10	CLC Discussion with EA Advisor	CLC/AG	60 min	9:30



CLC Meeting – June 22, 2016

ENVIRONMENTAL ASSESSMENT PROCESS & ESTIMATED TIMELINE

Environmental Assessment Process



Southwestern Landfill EA

Alternative Methods

- List different ways of carrying out the proposed project.
- Screen out options that are not feasible (e.g., technically, commercially, etc.).
- Evaluate and compare the remaining options to determine the preferred method(s) of carrying out the project.
- **Requirements are detailed in Section 8.1 of the ToR.**

Impact Assessment

- Carry out technical studies to evaluate the possible environmental effects of the proposed project.
- Determine how any negative effects could be further eliminated or reduced; adjust the project design accordingly.
- Document any net (residual) effects of the project, along with plans for monitoring and management.
- **Requirements are detailed in Section 8.2 of the ToR.**

Alternative Methods

How do we choose the best components for the landfill?

Five Sets of “Alternative Methods”



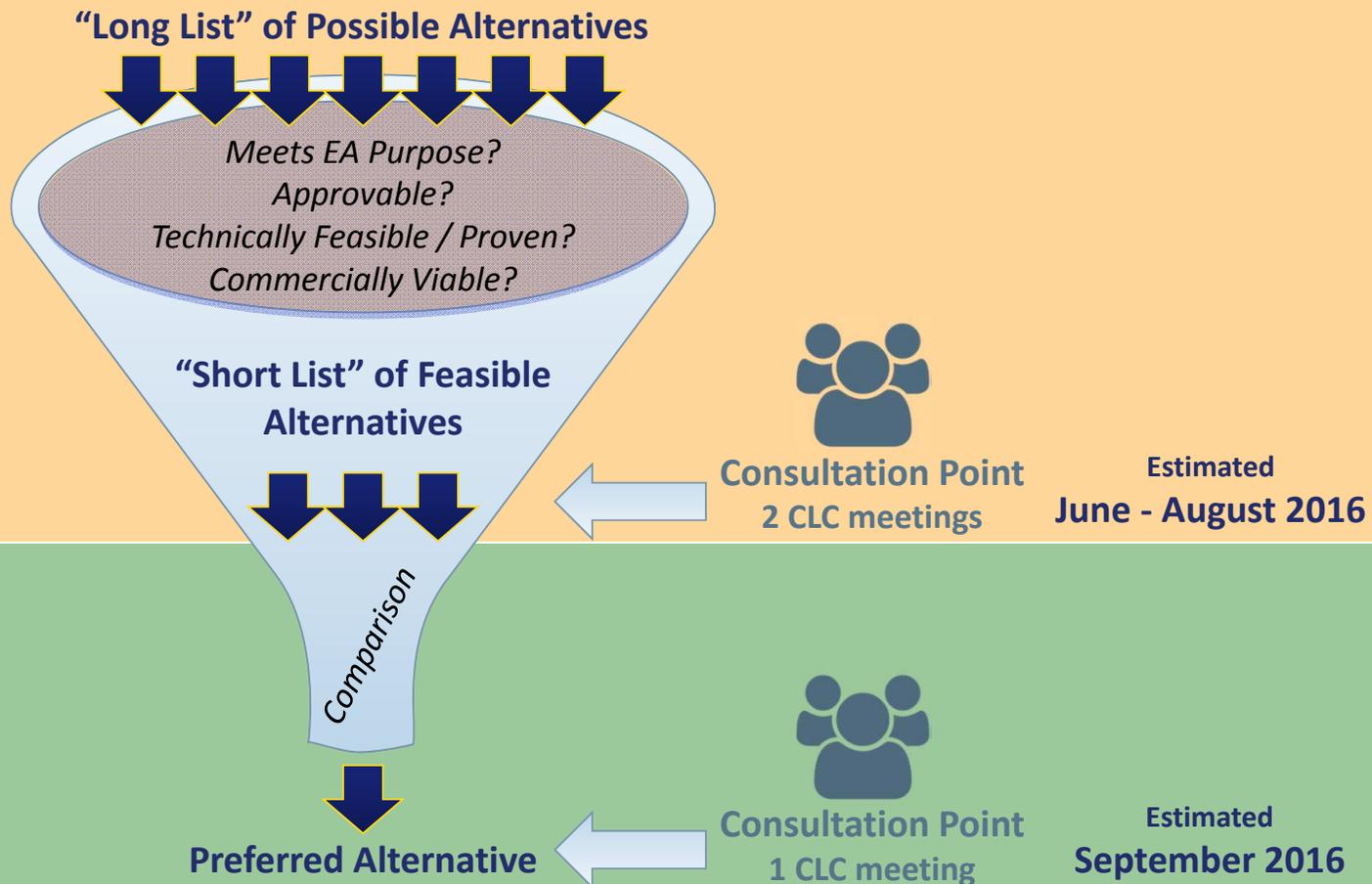
Southwestern Landfill EA

Landfill Footprint	Different locations or configurations on the Carmeuse Lime (Canada) site where the landfill could be located and developed.
Landfill Design Alternatives	Different landfill configurations (above ground, below ground or a combination) along with compatible liner designs (generic or site-specific, as per the Landfill Standards).
Leachate Treatment Alternatives	Different ways of treating and disposing of landfill leachate, including sewer discharge and/or on-site treatment.
Landfill Gas Management Alternatives	Different ways of managing the landfill gas, including flaring, industrial fuel, and/or power generation.
Haul Route/Site Entrance Alternatives	Different ways for the waste to be transported to the site, including road routes/entrances from Highway 401 and/or rail haulage.

For Each Set of Alternatives:



Southwestern Landfill EA





Consultation Point 1

June – August 2016 (estimated)



Southwestern Landfill EA

The alternative methods screening will be presented in two “consultation papers” to facilitate discussion:

Paper 1 (Meeting 1)	Paper 2 (Meeting 2)
Landfill Footprint Landfill Design	Leachate Treatment Landfill Gas Management Haul Route/Site Entrance

“Consultation Paper” – a document that reviews the work we have carried out and our reasoning. There will also be summary materials, presentations, and other communication tools using the information from the consultation paper.



Consultation Point 1

June – August 2016 (estimated)



Southwestern Landfill EA

At this consultation point, Walker will:

- Provide information on how the long list of alternatives was screened to the short list
- Answer questions
- Consider input, comments and recommendations

Comparative Evaluation



Southwestern Landfill EA

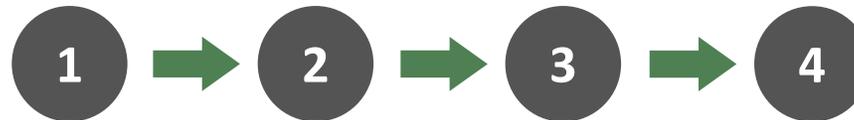
- Where two or more alternatives remain on the “short list”, a comparative evaluation is done
- **GOAL:**
Compare the alternatives to each other and choose the alternative that has the most advantages/fewest disadvantages relative to the others.

Comparative Evaluation



Southwestern Landfill EA

How is the comparative evaluation carried out?



Comparative Evaluation



Southwestern Landfill EA

- 1 Select which of the 41 criteria will be used for each comparative analysis by asking:
 - *Which ones are relevant?*
 - Example: Criterion #18 “Level of public service provided by the waste disposal facility.” would not be relevant to selecting a haul route.
 - *Which ones would help differentiate between the alternatives?*
 - Example: Criterion #27 “New business opportunities in related services and industries” – the new business opportunities would be virtually the same no matter which landfill footprint is selected, so this criterion does not help differentiate between those alternatives.

Comparative Evaluation



Southwestern Landfill EA

2 Develop “Indicators” for each of the relevant criteria in the comparison:

– *Indicators are more specific things which can be counted, measured or compared.*

- Example: Criterion #38 “Disruption of farm operations”, an indicator might be the number of field entrances along each alternative haul route.

Comparative Evaluation



Southwestern Landfill EA

3 Characterize the net effects on the environment for each criteria and indicator, relative to the other alternatives.

• *Example:*

Criterion	Indicator	Haul Route "A"	Haul Route "B"
Disruption of farm operations	Number of farm field entrances	3	9

Haul Route "A" is preferred over "B" for this indicator.

Comparative Evaluation



Southwestern Landfill EA

4 Identify the alternative that performs best in each category of criteria (with rationale):

- Public health and safety
- Social and cultural
- Economics
- Natural environment & resources

Then, identify the preferred alternative overall (with rationale).

Comparative Evaluation



Southwestern Landfill EA

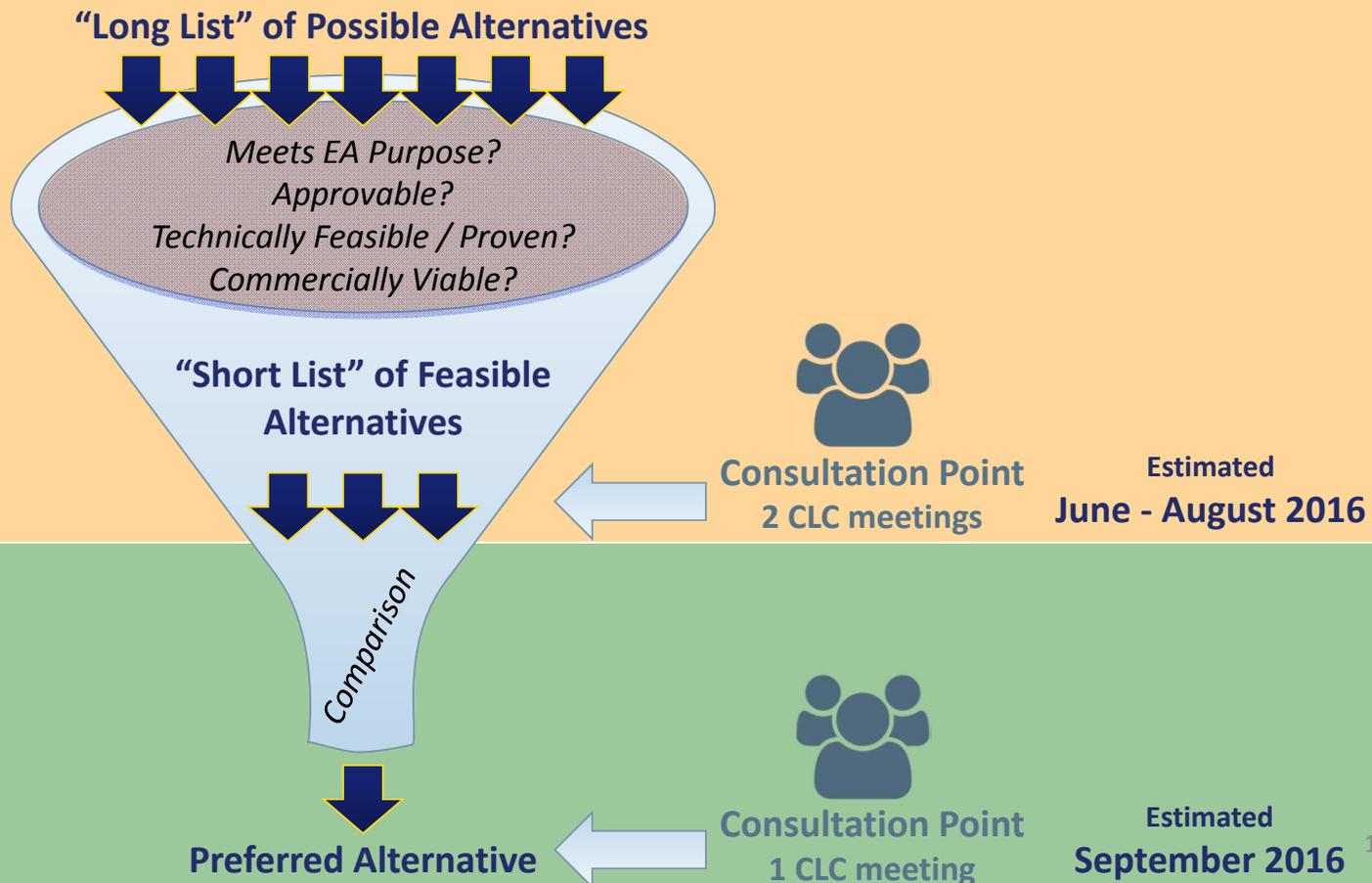
4 Continued...

- The comparative analysis **qualitative**.
- This means there will not be scores using numbers.
- The analysis compares the alternatives to each other using the indicators.
- Reasoning must be clear and transparent.

For Each Set of Alternatives:



Southwestern Landfill EA





Consultation Point 2

September 2016 (estimated)



Southwestern Landfill EA

There will be a “consultation paper” about the preferred alternatives and how/why they were chosen.

At this consultation point, Walker will:

- Provide information on:
 - How each preferred alternative was selected through the comparative analysis.
 - How stakeholder input was integrated into the analysis.
- Answer questions
- Consider input, comments and recommendations

Impact Assessment

Where are the consultation opportunities during the detailed assessment of the proposed landfill?

Environmental Assessment Process



Southwestern Landfill EA

Alternative Methods

- List different ways of carrying out the proposed project.
- Screen out options that are not feasible (e.g., technically, financially, etc.).
- Evaluate and compare the remaining options to determine the preferred method(s) of carrying out the project.
- **Requirements are detailed in Section 8.1 of the ToR.**

Impact Assessment

- Carry out technical studies to evaluate the possible environmental effects of the proposed project.
- Determine how any negative effects could be further eliminated or reduced; adjust the project design accordingly.
- Document any net (residual) effects of the project, along with plans for monitoring and management.
- **Requirements are detailed in Section 8.2 of the ToR.**



Impact Assessment Consultation



Southwestern Landfill EA

BEFORE TECHNICAL STUDIES:

- Facility Characteristics *(estimated Oct-Nov 2016)*
 - How the preferred alternatives come together in a design and operations plan for the landfill.
- Land Use Forecast *(estimated Oct-Nov 2016)*
 - Assumptions about other future development in the area, including the quarries.
- Revised Technical Work Plans *(estimated Dec 2016 – Jan 2017)*
 - Details about how all of the 14 technical studies will be carried out.

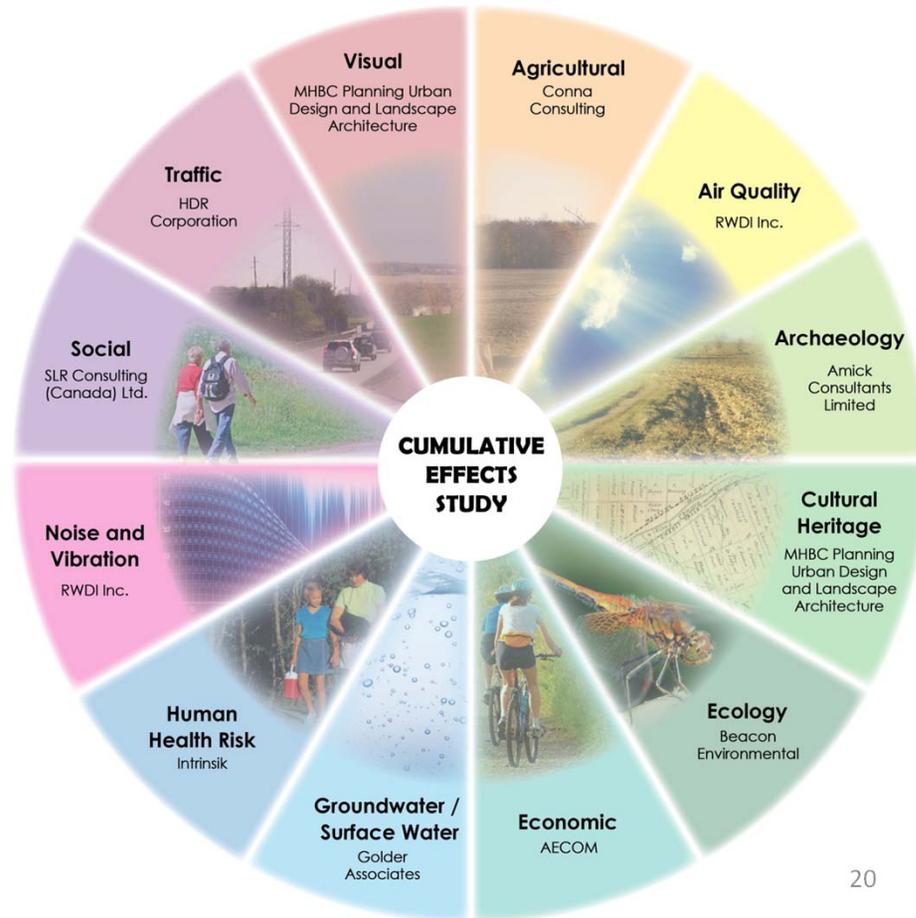
Technical Studies



Southwestern Landfill EA

Spring 2017 to
Spring 2018 (estimated)

12 technical studies
+ Cumulative
Effects Study





Impact Assessment Consultation



Southwestern Landfill EA

AFTER TECHNICAL STUDIES:

- **Design & Mitigation Programs (*estimated Spring 2018*)**
 - The final landfill design as a result of the technical studies, as well as the proposed programs to prevent and mitigate potential impacts.
- **Prior to Release of Draft EA (*estimated Summer 2018*)**
 - Discussion of the Draft Environmental Assessment document.
- **Prior to Release of Final EA (*estimated Fall 2018*)**
 - Discussion of the Final Environmental Assessment document.
- **Notice of Submission of EA (*estimated Fall 2018*)**
 - 7 week public review period.

CLC

Type: Small Group

Objective: Walker provides information and space for discussion. The CLC provides input to Walker.

Public Events

Type: Large Group

Objective: Walker provides information and space for discussion. The Public provides input to Walker.

Communication

Type: Website, Community Exchange, Documents

Objective: Walker communicates user-friendly information to interested parties.

Community Relations

Type: Individuals & Organizations

Objective: Meetings to provide information and receive input from individuals and organizations.

Items from Meeting 17

Business Arising		Responsibility	Status
1	Check boundary of Carmeuse landholdings in Zorra with Carmeuse, make any necessary changes and provide map to the CLC.	BO	In progress
2	Provide responses to specific questions as identified during the meeting.	Andrew Evers	In progress
3	Provide written responses to written questions from the CLC.	Andrew Evers	In progress
4	Provide current list of government review team to CLC.	Andrew Evers/BO	In progress
5	Q: When will the local community be able to provide input on air monitoring locations?	BO	Answer: During consultation on the revised work plans
6	Make sure documents on the new website are posted in the same way (ie. same number of parts per document) as they were previously.	BO	In progress
7	Provide MTO with community and public concerns relating to traffic and contingency planning	DF	In progress Walker will provide this information to the MTO.

Items from Meeting 16, including:

- Meeting Part 1 (April 6, 2016)
- Meeting Part 2 (April 20, 2016)

Business Arising		Responsibility	Status
1	Once WEG sends letter to MOECC in regard to Ministers conditions, outlining how they will be integrated into ToR, the letter will be shared with the CLC and posted on the project website.	BO	Complete
2	Request that a representative from the MOECC attend a CLC meeting to discuss ToR Amendments.	DF	Complete
3	Produce and provide a map to the CLC that identifies the Carmeuse property boundaries that Walker is required to review during the Alternative Methods phase.	BO	Complete

4	Confirm who is available and interested in continuing as a member of the CLC.	BO	Complete
5	Provide a preliminary timeline on the EA process up to the finalization of the technical work plans. Include CLC and public consultation commitments outlined in the approved ToR.	DF	Complete
6	Produce a CLC Roster and distribute to CLC membership.	BO	Complete
7	Integrate discussion from April 20 th CLC Meeting into a revised Charter and distribute to CLC membership.	BO	Complete
8	Prepare a list of pre-approved facilitators and provide their resumes to the CLC. The CLC will use this list to choose a new facilitator	DF	Complete

Carry-Over Items from Meetings during ToR Phase:

Business Arising		Responsibility	Status
1	Revisit the Mayor of Ingersoll regarding municipal green initiatives.	DF	In Progress DF to discuss with Mayor of Ingersoll.
2	Clarify question – is there a mental health study being done?	DF	In Progress The question will be referred to the Economic expert for consideration during the EA
3	Evaluate the connection between HHRA and Economic Impact assessment in criteria table regarding potential economic impacts on area health system. (Show the link on the EA Criteria Table)	DF	In Progress This comment will be referred to the Economic expert for consideration during the EA.
4	Determine if there will be a truck wash. If so, identify if there will be a liner under the truck wash.	DF	In Progress This comment will be referred to the landfill design team for consideration during the EA.

Business Arising		Responsibility	Status
5	Combinations of quarry and landfill monitoring and the margin of error – create data analysis from the South Landfill comparing the predictions with the actual data.	DF	In Progress This comment will be referred to each expert for inclusion in the background data collection task during the EA.
6	Intrinsic to review their landfill-specific human health risk assessments literature and its performance evaluation of what has been predicted and what the results are to identify any trends and gaps.	DF	In Progress Will be included when the work plans are finalized.
7	Provide information on Richmond Landfill. Intrinsic will see what information is available from work they may have done.	JT	In Progress Intrinsic to follow up regarding public HHRA information.
8	Look at establishing sensitive receptors that will include industrial and businesses such as Carmeuse, Blue-con and Federal White.	DF	In Progress This comment will be referred to the HHRA expert for consideration during the EA.
9	Provide a report on health trends based on information available from local, provincial and federal sources that pertains to this region as soon as possible, and be made available for the human health risk assessment and to the CLC.	DF	In Progress This comment will be referred to the HHRA expert for inclusion in the background data collection task during the EA.
10	Determine how much licensed capacity remains under the quarry floor	DF	In Progress
11	If the CLC is aware of local natural/environmental events, provide information to Walker who will then pass it along to Golder Associates.	CLC	Ongoing
12	Contact the Agricultural agencies and let them know the CLC Members would like to attend the meeting when they meet with the technical expert.	DF	In Progress



INGERSOLL

CENTREVILLE

BEACHVILLE

LINE 68

LINE 66

LINE 33

BEACHVILLE RD

COUNTY RD 6

THAMES RIVER

HWY 401



— APPROXIMATE LIMIT OF CARMEUSE LIME HOLDINGS

Southwestern Landfill CLC Meeting #19 Summary

Date: July 27th, 2016
Time: 6:00 p.m. - 9:35 p.m.
Location: 160 Carnegie Street, Ingersoll (Lower Meeting Room)

Meeting Overview

The main purpose of the meeting was to consult CLC Members on the landfill footprint (physical location) and the design (depth and width). The three objectives of the meeting were to:

- (1) Present consultation documents to provide information on the selection process, the options to study, and criteria to assess/discard the landfill footprint and design.
- (2) Discuss with CLC Members to obtain their inputs on options considered and assessment process.
- (3) Respond to questions and provide additional information if need be.

During the meeting, CLC Members worked through a Consultation Document on Landfill Footprint and Design that described the steps that Walker has taken in applying the screening criteria outlined by Environmental Assessment. CLC Members worked as a single group providing their inputs, raising questions, and addressing concerns for the landfill components under study.

This consultation opportunity was the first in a series of consultation meetings in which CLC will be able to provide inputs in the refining of the overall landfill components.

The CLC approved the agenda with one amendment; to combine 3.a (small group discussions) and 3.b (single group debriefing) and propose to have one full group discussion for the meeting format.

Consultation Discussion Summary: Landfill Footprint and Landfill Design

Feedback for Landfill Footprint:

- The group was of the opinion that the screening process to eliminate Option 1 was unclear and they would like to see Option 1 (Greenfield/Future Quarry Land) be considered and its elimination be further justified. Walker noted that the decision to eliminate Option 1 was because it did not meet the screening criteria for commercial viability or approval under Provincial Policy Statement (PPS) however, that a clearer rationale with more information will be provided.
- Strong interest from certain CLC Members in having the landfill located at the far North side (Option 1) of the Carmeuse property, farthest of all options to the Thames River and the local community residents.
- Certain members of the group would have preferred that Walker provides a constraint map to better relate to the presented screening criteria.
- Walker will be providing a revised map with clearer rationale on all five footprint options to CLC Members.

Feedback for Landfill Design:

- Certain CLC Members asked questions as to why double composite landfill liner was likely the option Walker was going to use. Walker clarified that the double composite liner was designed and approved by the Ministry of Environment and Climate Change (MOECC), and that Walker is familiar with the use of a double liner from their operations in Niagara. Although a landfill specific liner could be developed, Walker explained that it could be very challenging technically to develop and test prior to submission of the EA.
- Walker was able to show CLC Members aspects of the liner with a pull up banner and sample materials.

Southwestern Landfill CLC Meeting #19 Summary

- Regardless of the liner chosen, some CLC Members expressed their concern with the level of liner protection.
- Some Members would like to know more about what liners other landfills in Ontario are using. Walker and the representative from the MOECC committed to providing the CLC with liner information at the major landfills in Ontario.
- Water protection was a key concern raised by many CLC Members. Some members identified a preference for a landfill design that would be higher from the quarry floor, reducing risk of water contamination.
- Some CLC members voiced the opinion that the liner is the same regardless of height above the quarry floor and would therefore rather the landfill be lower to reduce impacts associated with height.
- Many questions related to the composition of the proposed double composite liner were asked and Walker provided information on their experience with its use at the South Landfill in Niagara.
- Concerns related to the visual impact, odors, and birds were raised by certain CLC Members indicating that the landfill should not be too high above ground.
- Additional questions related to water quality monitoring and reporting requirements were asked to Walker and to the MOECC. Walker and the MOECC indicated that through regulatory requirements that Walker will be required to monitor water quality quarterly and submit to the Ministry annual reports that are publicly available.

Meeting Feedback

- Most of CLC Members prefer to work through the consultation documents as a single group, instead of small subgroups.
- The information contained in the consultation document was clear but lacked some details for CLC members to provide a more complete feedback.

Other Agenda Topics

- 1. Feedback on Public Engagement:** Unfortunately, there was not enough time to discuss with CLC Members the upcoming public events. This item is postponed to August 24 meeting.
- 2. Community Update and CLC Correspondence:** Walker briefly provided an update on community relations efforts that have been taking place over the past month. Walker has been meeting with individuals through door-knocking activities, meeting with organizations and groups making presentations and answering questions, as well as planning a bus tour of the Niagara operations.

Closing Remarks - Adjournment – 9:30 p.m.

The next CLC meeting will be held on **Wednesday August 24, 2016**. The meeting will focus on discussing the options for Haul Routes.

This Summary was prepared by Katrina Kroeze, CLC documenter and approved by Laurie Bruce, CLC Facilitator. Full meeting transcript is available at www.walkerea.com. If you have any questions, contact the Walker office at 1-855-392-5537 or info@walkerea.com.



CLC Meeting 19 - Materials

Southwestern Landfill Environmental Assessment

July 15, 2016

Please find enclosed the materials for Community Liaison Committee Meeting #19, which will be held on Wednesday, July 27, 2016 at 6:00 pm. **Please bring these materials with you to the meeting.**

Also enclosed are two items from the June 22, 2016 meeting:

- Meeting transcript
- Draft meeting summary.

Please provide any comments on the draft meeting summary by July 31, 2016, after which it will be posted on walkerea.com with other meeting materials.

Please let me know if you have any comments or questions prior to the meeting.

Regards,

Becky Oehler
Consultation Manager
905-680-3675
boehler@walkerind.com

Date: Wednesday, July 27, 2016

Time: 6:00 p.m. – 10:00 p.m.
(Dinner will be available at 5:30 p.m.)

Location: 160 Carnegie Street, Ingersoll (Lower Meeting Room)

Meeting Materials:

- Consultation Booklet – Landfill Footprint and Design
- Handout - Landfill Design Comparative Evaluation Criteria & Indicators
- Presentation Slides – Public Events Update
- Meeting 18 Business Arising Report

	Description	Lead	Duration	End Time
1	Welcome	Facilitator	5 min	6:05
2	Review and Approval of Agenda	Facilitator	5 min	6:10
3	Presentation - Explanation of Breakout Session <i>Guiding Document: Consultation Booklet - Landfill Footprint and Design</i>	Facilitator	10 min	6:20
	Breakout Session <u>TOPIC:</u> Landfill Footprint and Design			
3.a.	<i>CLC Members to break-out in small groups to work through the consultation booklet as well as the criteria and indicators for landfill design. Input is recorded individually and as a group. Walker and Facilitator to support discussion.</i>	ALL	90 min	7:50
3.b.	Group Discussion <i>As a group, discuss and summarize key points of breakout. CLC to provide feedback on breakout session. Documenter to gather all inputs from CLC.</i>	ALL	30 mins	8:20
4	Public Engagement Activities <u>TOPIC:</u> Upcoming Public Open House & Workshops	WEG	15 min	8:35
5	Business Arising Report Meeting 18	WEG	10 min	8:45
6	CLC Update & Correspondence	Facilitator	10 min	8:55
7	Next Meeting Agenda and Action Items	ALL	5 min	9:00
8	CLC Discussion with EA Advisor	CLC/AG	60 min	10:00



Southwestern Landfill Environmental Assessment

CLC Consultation Booklet Landfill Footprint & Design Alternatives

This booklet has information about different options for landfill footprint and landfill design.

This booklet was prepared for use at the July 27, 2016 Community Liaison Committee meeting.

We will report back to you on how your input was considered as we identify the chosen landfill footprint and design.

Landfill Footprint & Design Consultation Paper

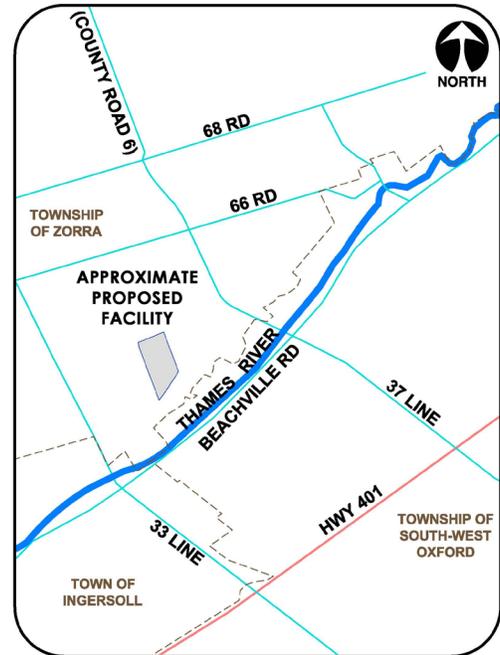
Who is Walker Environmental?

Walker Environmental Group Inc. is a subsidiary of Walker Industries, a Canadian, 5th generation, family-owned company that has been operating from our head office in the Niagara Region since 1887. Walker Industries now employs more than 600 people and the company takes pride in providing infrastructure that builds communities. The Walker Industries group of companies offers aggregates, paving & construction, emulsions, and environmental waste & recycling solutions.

As we continue to invest in responsible growth, Walker Environmental has grown to be nationwide, and we have three core businesses: Waste Management, Renewable Energy, and Organic Recycling. Walker Environmental is committed to building facilities that use proven technology to manage society's waste while protecting the environment. Learn more about our commitment to the environment at www.EARTH1st.ca.

What is the Southwestern Landfill Proposal?

Walker Environmental is proposing a landfill in the Township of Zorra. If approved, it would accept only non-hazardous waste that is created in Ontario. The landfill proposal is in the middle of a Provincial approval process called an Environmental Assessment (EA). The EA evaluates and weighs the overall environmental advantages and disadvantages of the proposed landfill. Once complete, the Ontario Minister of Environment and Climate Change will decide if the EA is approved. If the EA is approved the project will need to obtain other approvals before construction can begin.



What is an Environmental Assessment (EA)?

An Environmental Assessment (EA) is a process that is required for many large infrastructure projects in the mining, electricity, transportation, waste management, infrastructure, and forestry sectors, among others.

During an EA, community members, local government, other interested stakeholders, and First Nations are consulted so they can provide input on the project. At the end of the EA process, a report is provided to the government, who then makes a decision on whether or not the EA is approved.

Both the Federal and Provincial governments have EA processes. The Southwestern Landfill project falls under the Provincial (Ontario) EA process. The EA process is intended to balance economic, social, cultural, and natural environmental needs for the benefit of the Province of Ontario.

What is the topic of this booklet?

There are many options to consider when developing a landfill. During this part of the Environmental Assessment process, we are evaluating options on two topics:

1. Landfill Footprint

The location on the Carmeuse Lime property.

2. Landfill Design

How the landfill would be situated and what design would be used.

The booklet reviews:

- The different options for landfill footprint and landfill design (long list)
- Why some options were screened out (not feasible)
- The criteria that will be used to evaluate the remaining options

Screening Criteria

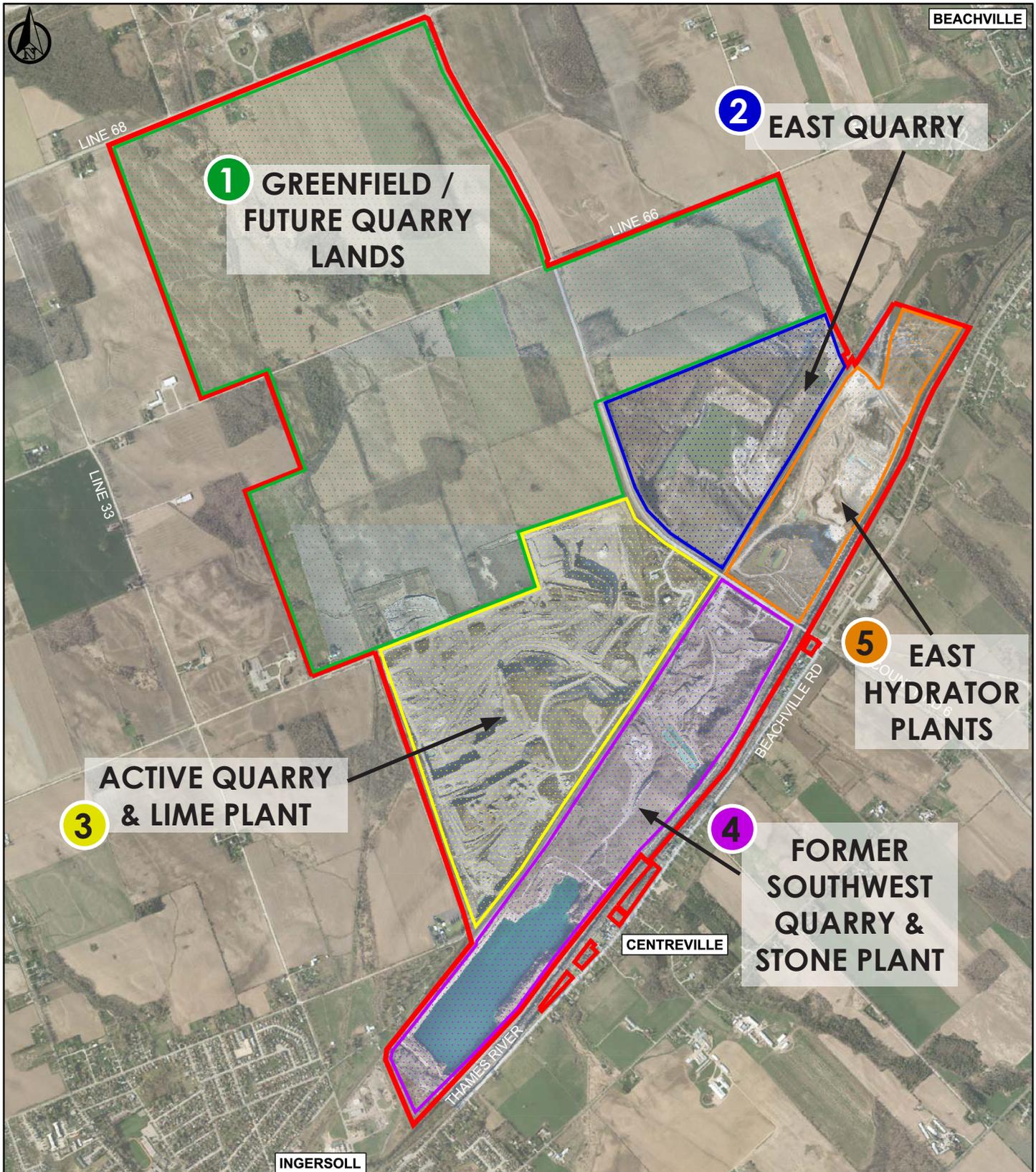
For each topic (landfill footprint and landfill design) there is a “long list” of options that are reviewed in this booklet. The “long list” of options is screened using four criteria. If an options fails to meet any of the criteria, it is screened out because it is not feasible.

The four criteria are:

Criteria	Explanation
1. Must be consistent with the stated purpose of the Environmental Assessment	The purpose of the Southwestern Landfill EA is to create a landfill capacity at the Carmeuse Lime property for solid, non-hazardous waste generated in Ontario. If an option doesn't align with this goal, it is screened out.
2. Must be reasonably capable of approval pursuant to the statues of Ontario and Canada	There are many different approvals that are required for a landfill. Any option that could not be approved is screened out.
3. Must be technically feasible and proven technology	The landfill must be constructed and operated safely, meeting all requirements. If an option can't be feasibly carried out, or if the technology has not been proven to work, the option is screened out.
4. Must be commercially viable	Private-sector companies like Walker Environmental can only invest in infrastructure that is financially sustainable. If the cost of an option is too high for the landfill to be profitable, it is screened out.

Part 1: Landfill Footprint

In the beginning of the Southwestern Landfill Proposal, Walker identified that the entire Carmeuse property would be evaluated to find a suitable landfill footprint location. Now, the footprint possibilities are evaluated.



Option 1: Greenfield / Future Quarry Lands

Description	Rationale
<ul style="list-style-type: none"> Owned by Carmeuse, most is currently farmed. Part of the land is already licensed for quarrying. Part of the land is intended to be licensed in the future for quarrying. 	This option is not feasible because: <ul style="list-style-type: none"> The landfill would prevent access to the limestone resource under the ground, contrary to the Provincial Policy Statement (PPS), Section 2.5.2, which discourages land use that “sterilizes” resources (makes them inaccessible).

Option 2: East Quarry

Description	Rationale
<ul style="list-style-type: none"> Mined quarry area on Carmeuse property. Central quarry floor area is covered by water. 	This option is not feasible because: <ul style="list-style-type: none"> Section 27. (3.1) of the Environmental Protection Act does not allow landfills to be built in a “lake”. The areas around the edge of the water aren't big enough for the landfill.

Option 3: Active Quarry & Lime Plant

Description	Rationale
<ul style="list-style-type: none"> This part of the Carmeuse property is where rock is being actively removed for processing. The lime plant and offices are in the southeastern corner. 	This option is feasible for further study.

Option 4: Former Southwest Quarry & Stone Plant

Description	Rationale
<ul style="list-style-type: none"> This area includes the Carmeuse stone plant and a former quarry now filled with water. The former quarry is currently undergoing rehabilitation (to landscape and naturalize the shoreline). 	This option is not feasible because: <ul style="list-style-type: none"> There are no near-term plans to move the stone plant, and it would be cost-prohibitive. Section 27. (3.1) of the Environmental Protection Act does not allow landfill to be built in a “lake”.

Option 5: East Hydrator Plants

Description	Rationale
<ul style="list-style-type: none"> This area includes two hydrator plants, a maintenance shop, and several storm water management ponds. The east end of the property has been naturalized with vegetation and trails. 	This option is not feasible because: <ul style="list-style-type: none"> There are no near-term plans to move the infrastructure, and it would be cost-prohibitive.

Summary - Landfill Footprint

The screening of the different areas of the Carmeuse property shows that there is only one feasible option for the landfill footprint, the Active Quarry area (Option 3).

Because there is only one option that is feasible, the Active Quarry area will be carried forward as the preferred option, called the “preferred landfill footprint alternative”.

Summary - Screening of the Landfill Footprint Options

Feasibility Screening Criteria	1. Greenfield / Future Quarry Lands	2. East Quarry	3. Southwest Active Quarry & Lime Plant	4. Southwest Quarry & Stone Plant	5. East Hydrator Plants
Is it consistent with the purpose of the Environmental Assessment?					
Can it be approved under Provincial and Federal laws?	✘ Not consistent with PPS 2.5.2	✘ Prohibited by EPA S.27(3)		✘ Prohibited by EPA S.27(3)	
Is it technically feasible and is the technology proven?					
Is it commercially viable (economic)?	✘ Sterilize high-value aggregate reserves / resources			✘ Cost prohibitive to relocate stone processing plant	✘ Cost prohibitive to relocate hydrators & maintenance facilities
			Carried forward for further evaluation		



Record Your Thoughts:

1. What do you think about the preferred option for the landfill footprint?
2. Can you see any other options that we've missed?
3. What are the pros and cons of this area?
4. What are your concerns or questions about this area?

Part 2: Landfill Design

What does “Landfill Design” include?

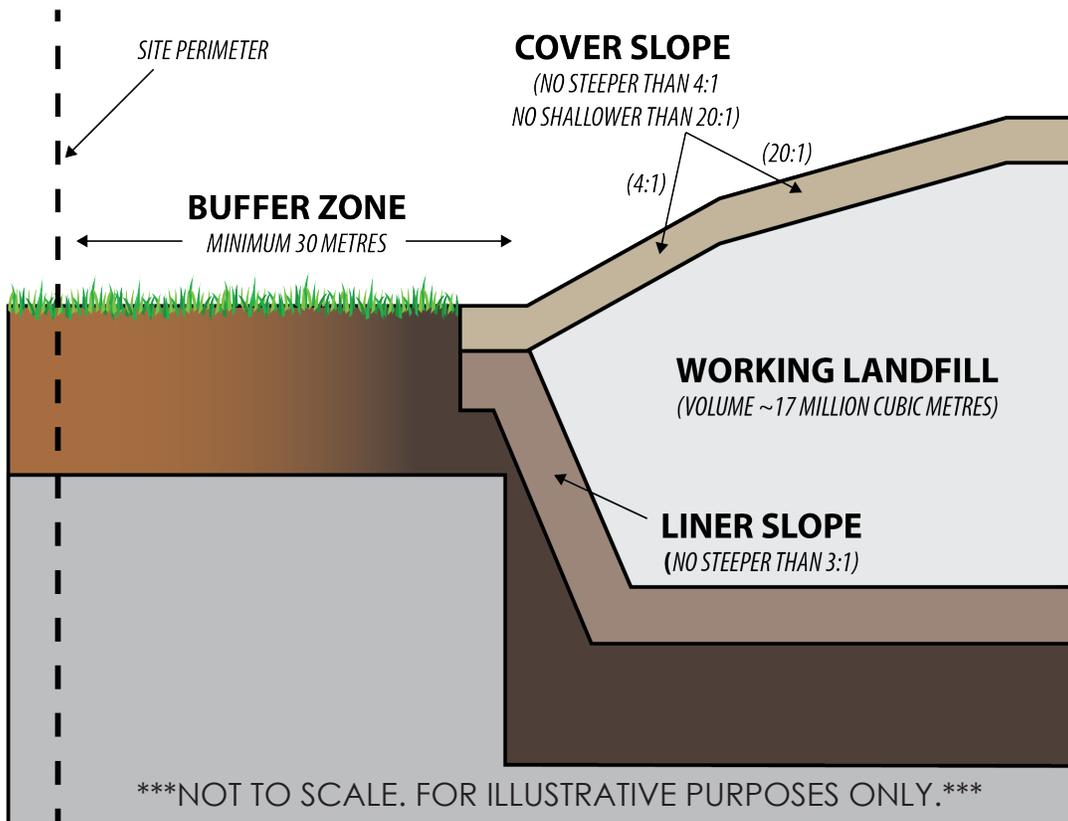
1. The location of the landfill within the selected footprint area
2. The type of landfill liner
3. The height / depth of the landfill (deep, conventional, or above ground)

Step 1: Where within the selected footprint?

To determine where within the footprint the landfill could be placed, we have to take into consideration some basic design requirements and regulations, as well as the engineering constraints on the site.

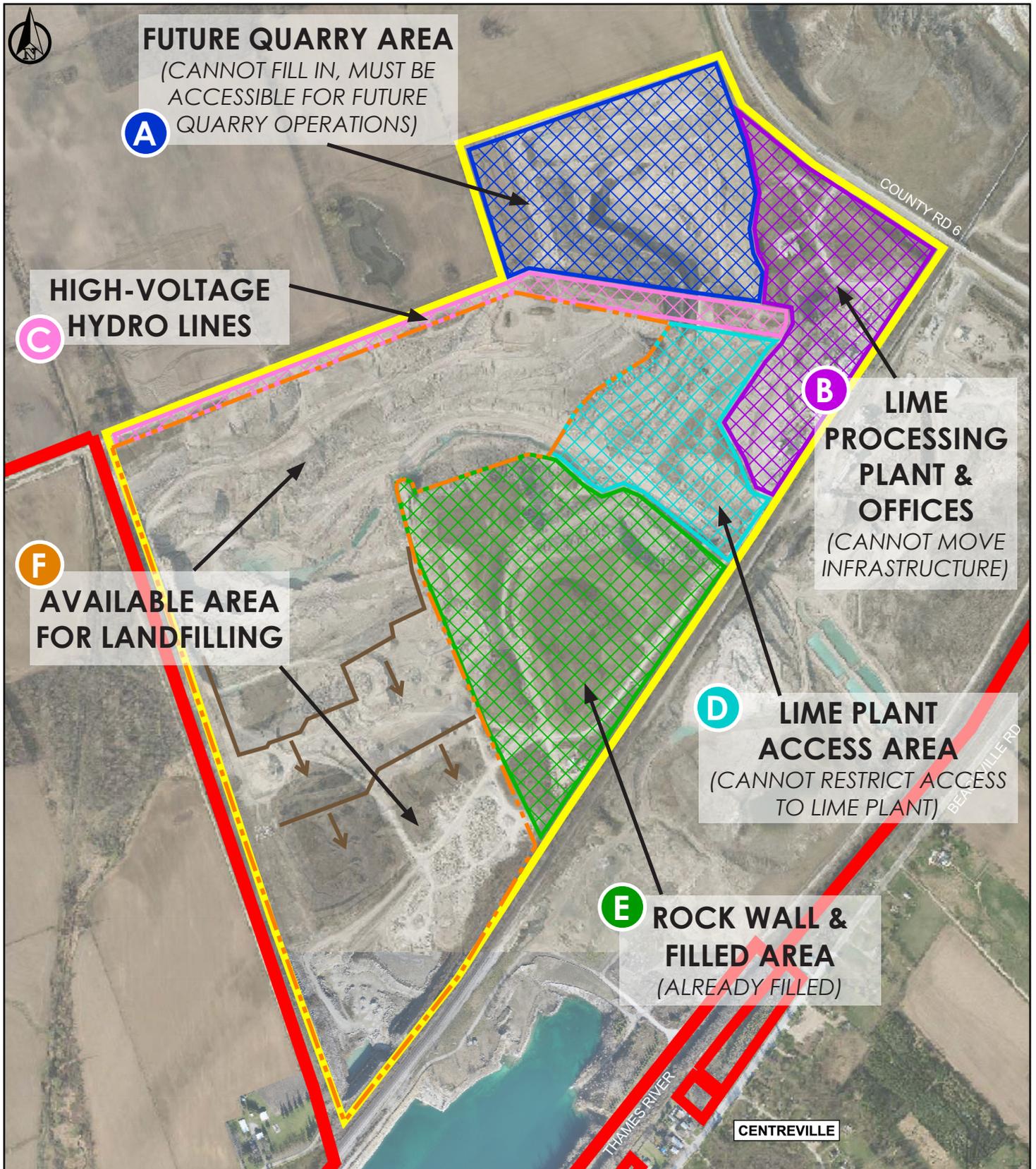
Basic Design Requirements

1. Working landfill volume that can hold approximately 17 million cubic metres, as set out in the purpose of this EA
2. Minimum 30 metre buffer area around the perimeter of the waste fill, as required by the landfill standards
3. Slopes as required by the landfill standards:
 - Liner slope no steeper than 3:1 (for stability)
 - Cover slope no steeper than 4:1 (for stability)
 - Cover slope no shallower than 20:1 (for drainage)



Physical Constraints

This map highlights different parts of the "Active Quarry & Lime Plant" area, showing which areas could be used for landfiling, and which areas cannot be used.



FUTURE QUARRY AREA

(CANNOT FILL IN, MUST BE ACCESSIBLE FOR FUTURE QUARRY OPERATIONS)

A

HIGH-VOLTAGE HYDRO LINES

C

LIME PROCESSING PLANT & OFFICES

(CANNOT MOVE INFRASTRUCTURE)

B

AVAILABLE AREA FOR LANDFILLING

F

LIME PLANT ACCESS AREA

(CANNOT RESTRICT ACCESS TO LIME PLANT)

D

ROCK WALL & FILLED AREA

(ALREADY FILLED)

E

CENTREVILLE

- ←

ACTIVE QUARRY FACE & MINING DIRECTION
- AVAILABLE AREA FOR LANDFILLING
- CARMEUSE PROPERTY LINES

Step 2: Which landfill liner design?

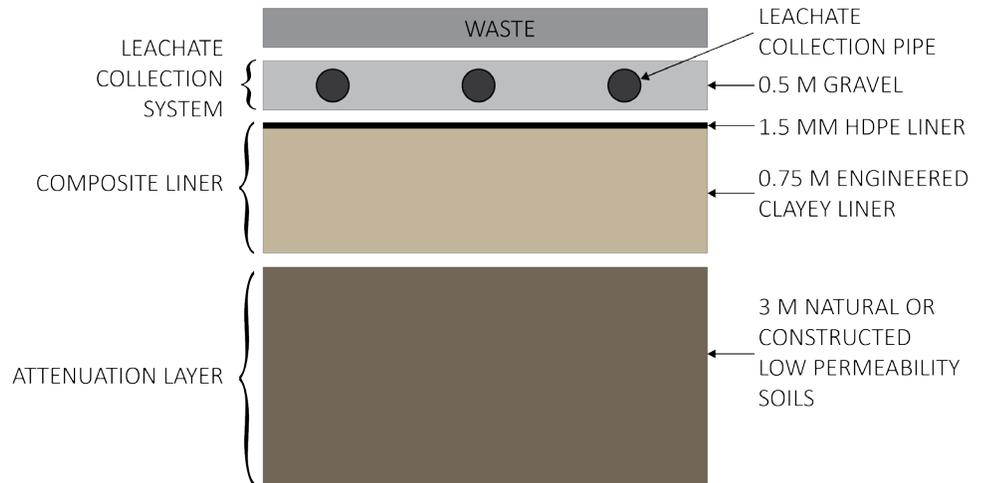
The Ontario Ministry of the Environment and Climate Change (MOECC) designed two generic landfill liner systems that protect the environment within a broad range of hydrogeologic settings (surrounding rock and water). The two generic liners are the Single Composite Liner and the Double Composite Liner.

Generic Single Composite Liner

The Single Composite Liner can have an average waste thickness of **up to 13.9 metres**.

The area required for 17 million cubic metres of waste is **at least 122 hectares** (300 acres).

X Area required is too large for the area available in the landfill footprint (80.5 hectares (199 acres)).

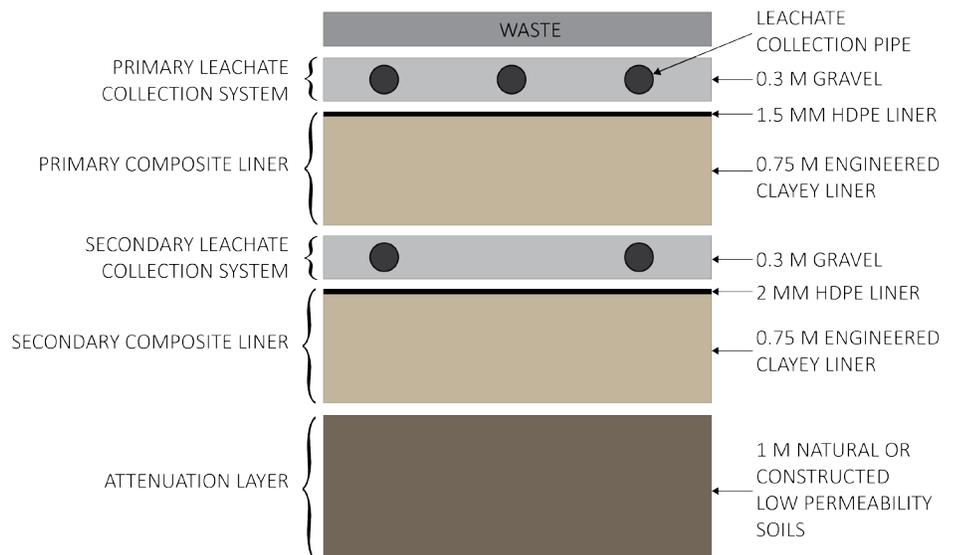


Double Generic Composite Liner

The Double Composite Liner can have an average waste thickness **up to 38.0 metres**.

The area required for 17 million cubic metres of waste is **at least 44 hectares** (110 acres).

There is enough available room in the landfill footprint for landfill design using the generic double composite liner. **This option is carried forward for further study.**



The Generic Double Composite Liner is selected as the preferred option for the Southwestern Landfill because:

- It was designed by the Ministry of the Environment and Climate Change to be protective of the environment in a broad range of hydrogeologic settings.
- It supports an average waste thickness that fits in the selected landfill footprint.
- Walker has experience building this type of liner at the South Landfill in Niagara Falls (also a mined quarry).
- Walker has experience operating a landfill with this type of liner, and it has been fully protective of the environment.



Record Your Thoughts:

5. What do you think about the generic double composite landfill liner?
6. What pros and cons are there?
7. What concerns or questions do you have?

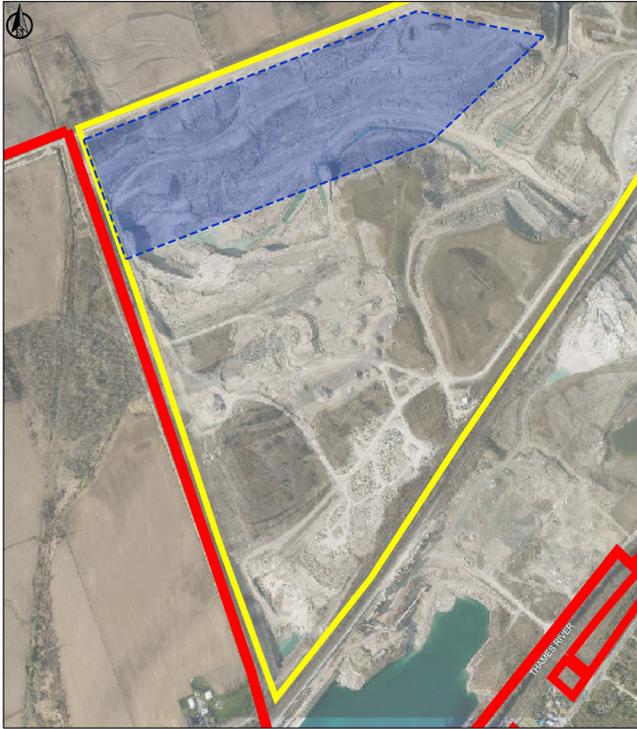
What is the purpose of the landfill liner?

A landfill liner has two purposes. The first is to act as a barrier that prevents water that has come into contact with waste (leachate) from touching the surrounding rock and ground water. The second purpose of the liner is to collect the leachate and direct it to an area where the leachate is managed and treated.

Landfill Orientation

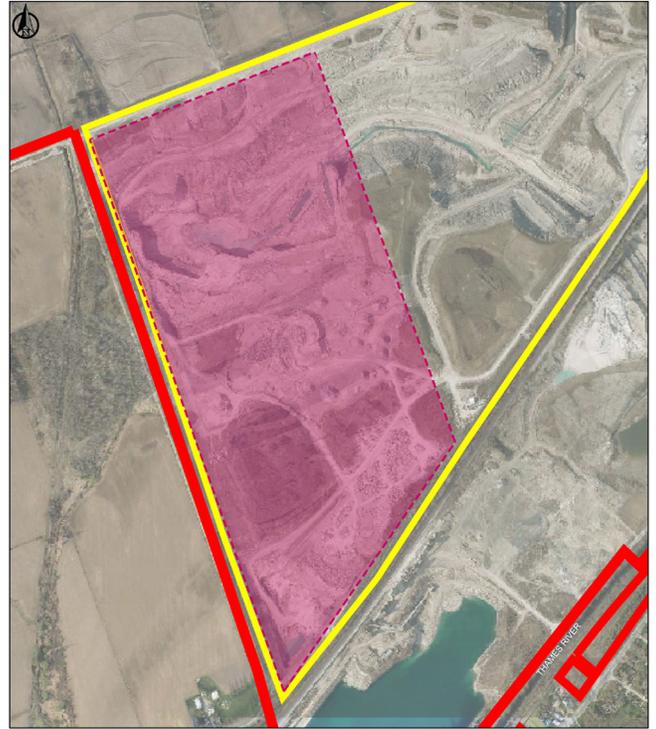
This map shows different ways the landfill could be oriented within the available area for landfilling.

1. West-East Orientation



X This orientation cannot be achieved because there is not enough volume to support the proposed landfill. (Volume is too small)

2. North-South Orientation



This orientation has enough space for:

- The proposed landfill
- Minimum 30 meter buffer zone

This orientation will be carried forward for further study.

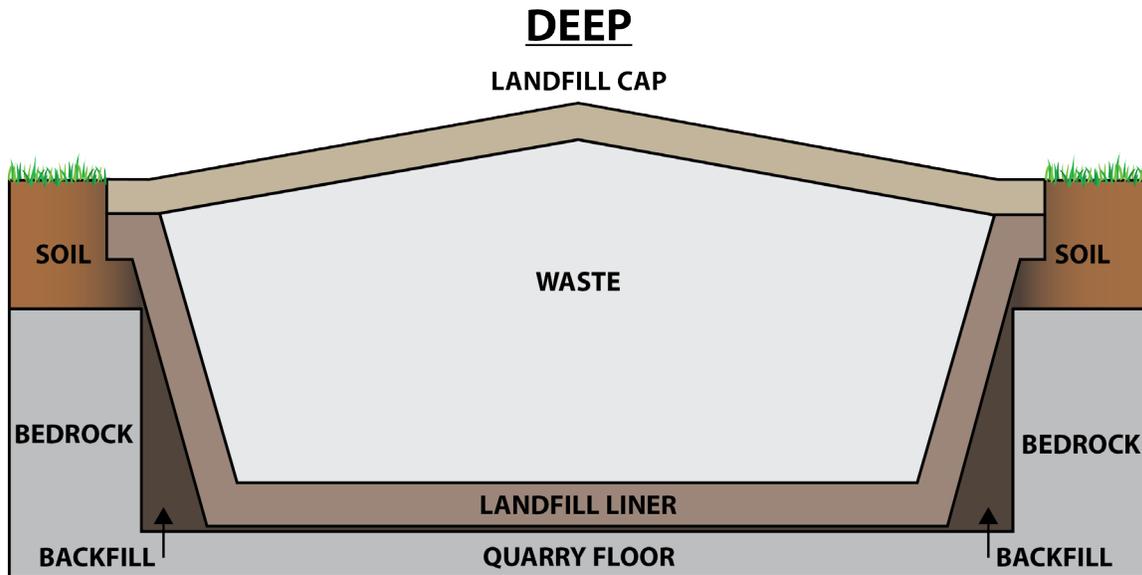


Record Your Thoughts:

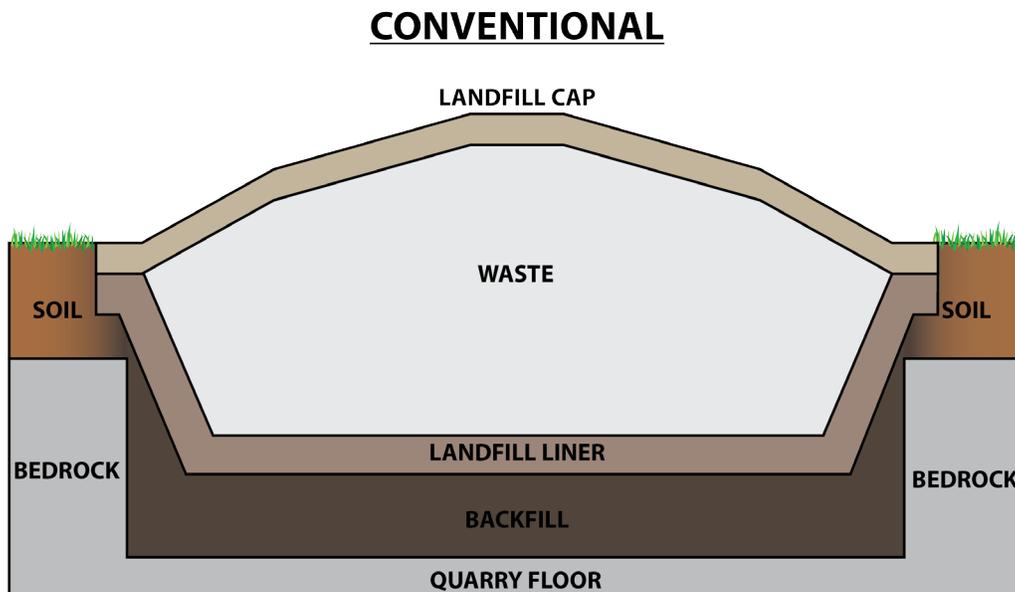
8. What do you think about the North-South orientation versus the West-East orientation of the landfill?
9. What pros and cons are there?
10. What concerns or questions do you have?

Step 3: Which design configuration?

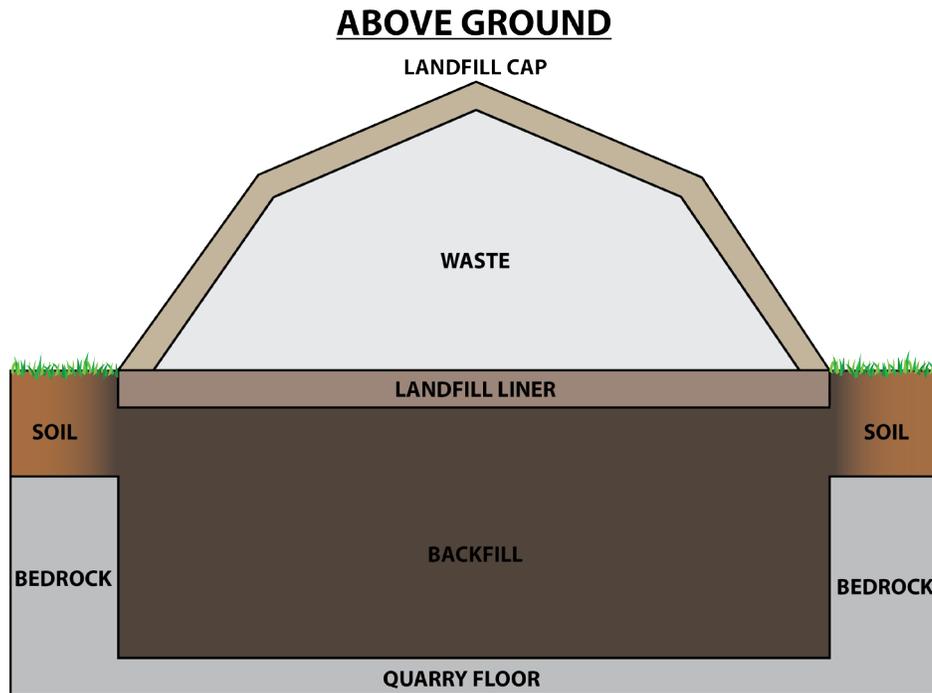
There are three standard landfill design configurations: conventional, deep and above ground. Here, we screen out any options that are not possible and explain why.



- Most of the waste is below ground surface.
- The landfill liner sits on or just above the quarry floor (i.e. some areas may be lifted higher due to bottom sloping requirements). *Note: the generic double composite liner is approximately 3.1 metres (10.2 feet) thick.*
- The landfill cap would be the minimum required height above ground (20:1 slope for drainage).



- Waste is both above and below ground surface.
- The landfill liner sits above the quarry floor with additional backfill underneath.
- The landfill cap would be the height required to contain the volume of waste (approximately 17 million cubic meters).



- The landfill liner sits at ground surface, achieved by backfilling the quarried area.
- The landfill cap would be the height required to contain the volume of waste (approximately 17 million cubic metres). All of the waste would be above ground as a hill.

SCREENING CRITERIA*	DEEP	CONVENTIONAL	ABOVE GROUND
Must be consistent with the stated purpose of the Environmental Assessment			
Must be reasonably capable of approval pursuant to the statutes of Ontario and Canada			
Must be technically feasible and proven technology			Using maximum possible side-slope of cap (4:1), there is not enough area for the above-ground option.
Must be commercially viable			
* Need clarification on these criteria? Turn back to page 3.	Carried forward for further evaluation.	Carried forward for further evaluation.	

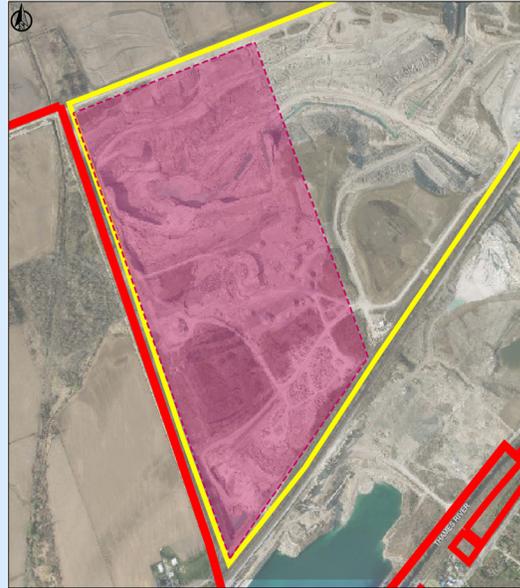


Record Your Thoughts:

11. What pros and cons are there for the conventional and deep configuration options?
12. What concerns or questions do you have about these options?

Summary & Next Steps

As a summary, here are the options that are being carried forward for further study:

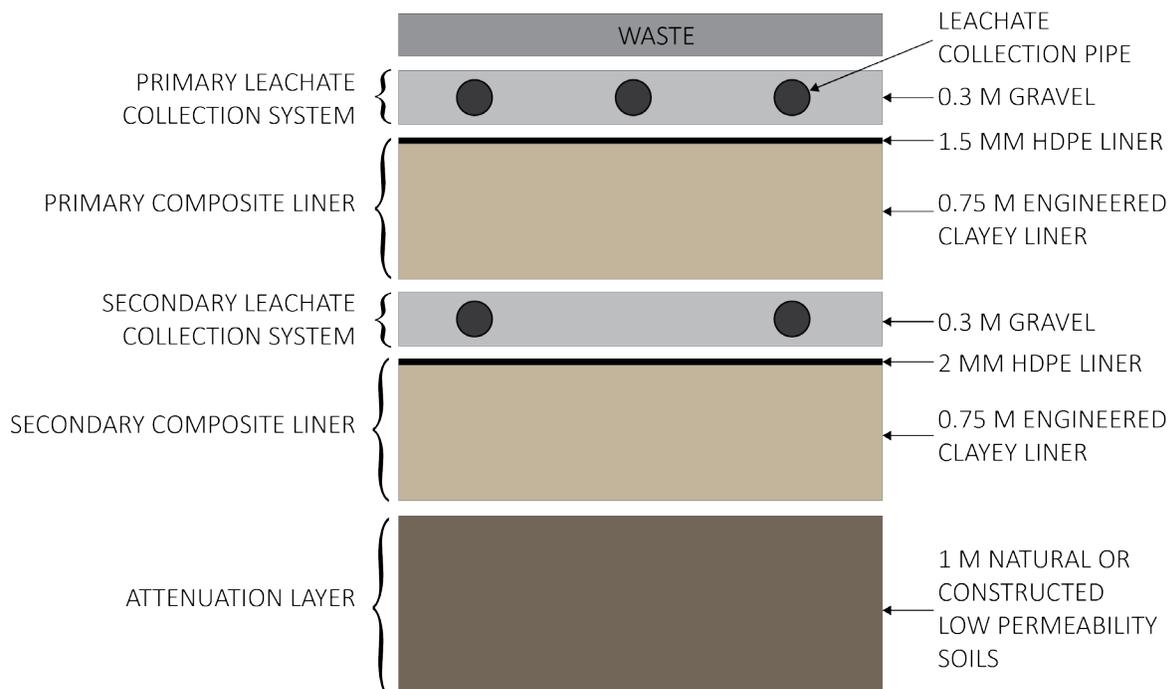


Landfill Location

Within the active quarry area of the Carmeuse Lime Property, oriented in a North-South direction.

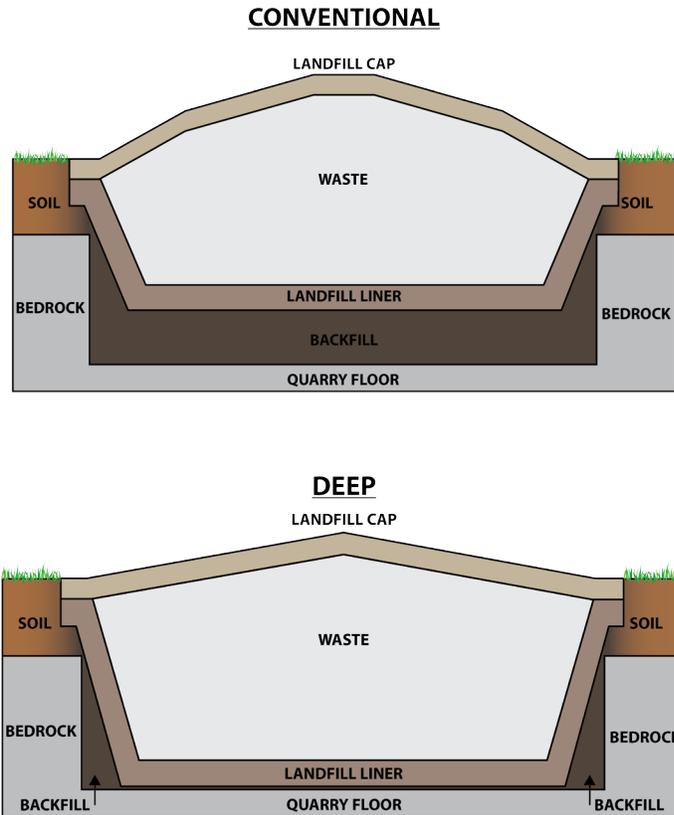
Landfill Liner

Generic Double Composite Liner, as designed by the Ontario Ministry of the Environment and Climate Change.



Landfill Configuration

There are two possible options: “Conventional” and “Deep”



The landfill configuration options will be compared using criteria in four categories:

1. Public Health and Safety
2. Social and Cultural
3. Economics
4. Natural Environment and Resources



Your Input...

Thank you for taking time to review this booklet and for providing your thoughts, suggestions, and concerns.

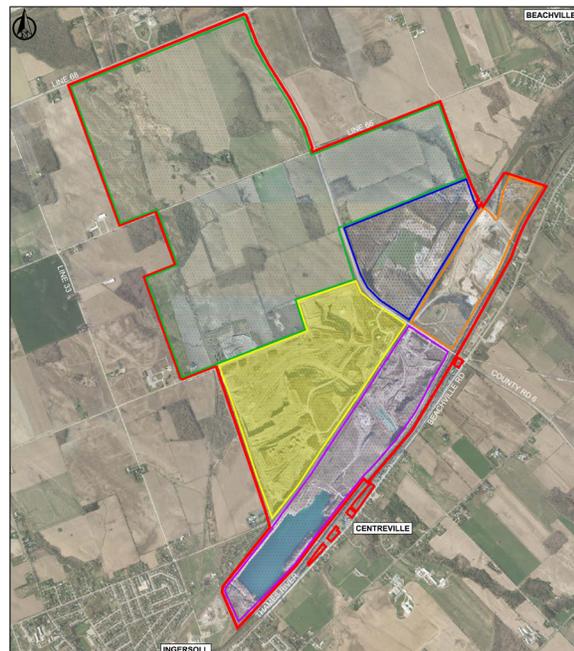
We will report back to you on how your input was considered in the evaluation of the different landfill footprint and design options.

Record Your Thoughts

These comment sheets are intended for use at the July 27, 2016 Southwestern Landfill Community Liaison Committee meeting, to be used while reviewing the Consultation Booklet - Landfill Footprint and Design Alternatives.

Part 1: Landfill Footprint

1. What do you think about the preferred option for the landfill footprint?
2. Can you see any other options that we've missed?
3. What are the pros and cons of this area?
4. What are your concerns or questions about this area?



Part 2: Landfill Design

Landfill Liner

5. What do you think about the generic double composite landfill liner?

6. What pros and cons are there?

7. What concerns or questions do you have?

Landfill Orientation

West-East



North-South



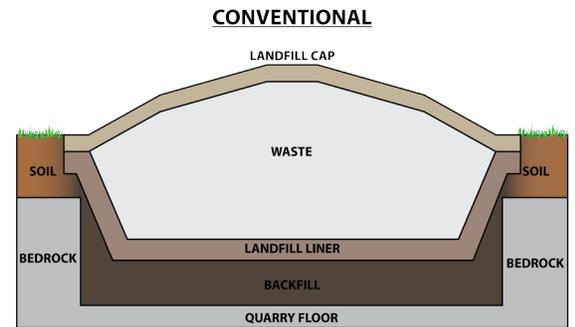
8. What do you think about the North-South orientation versus the West-East orientation of the landfill?

9. What pros and cons are there?

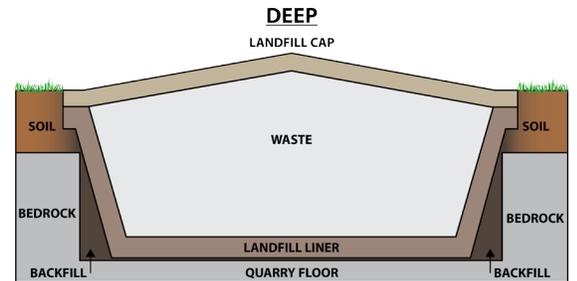
10. What concerns or questions do you have?

Part 2: Landfill Design

11. What pros and cons are there for the conventional and deep configuration options?



12. What concerns or questions do you have about these options?



Meeting Feedback

13. How did you find the format for the meeting this evening?

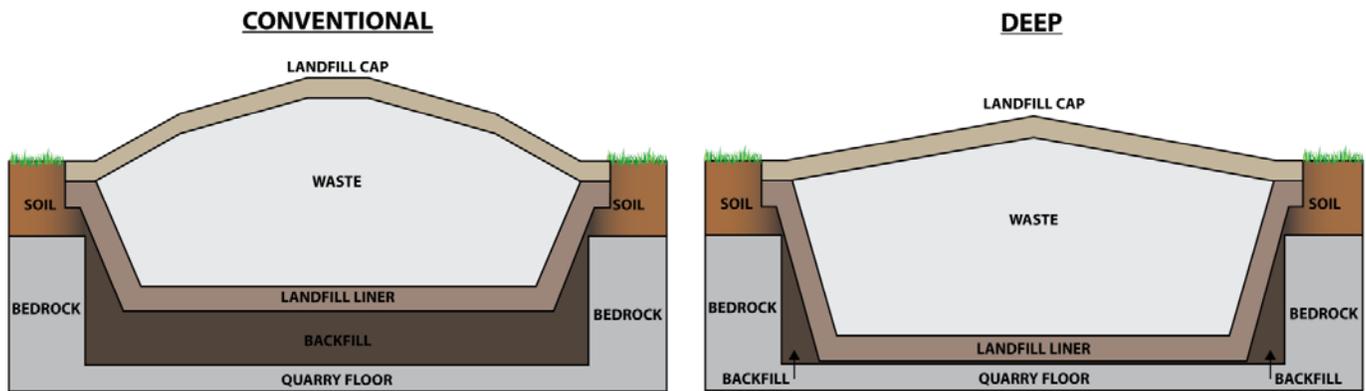
14. Were the documents provided clear?

15. Would you change the consultation booklet for a public workshop?

Would you like a copy of your "Record Your Input" Sheets?
Leave your contact information and we will send you a copy:

Name: _____

There are two landfill designs that will be evaluated to find the preferred option.



A comparative evaluation is used to select which option is preferred and will be studied further.

In essence, the comparative evaluation is trying to identify the main differences between the options in order to identify which one is preferred.

You may remember that during the Terms of Reference, 41 criteria were selected to evaluate the Southwestern Landfill Environmental Assessment. They cover four areas:

- 1) Public Health and Safety
- 2) Social and Cultural
- 3) Economics
- 4) Natural Environment and Resources

Some of the criteria do not identify differences between the options because:

- The criteria are the same for all options.
- The criteria are not applicable for the topic.

Any criteria that don't help differentiate between the options are screened out. Indicators are created for the remaining criteria.

Example: Criteria: Visual impact of the waste disposal facility.
 Indicator: Peak working elevation of the landfill.

Important Note:

Some criteria are screened out at this stage, however, they don't disappear.

All 41 criteria will be used to study the landfill and evaluate potential impacts.

A) Public Health & Safety Criteria

	Criteria	Differentiates between conventional & deep design options?
1	Effects due to exposure to air emissions.	No – options are the same Options will create the same gas and gas would be collected the same way
2	Effects due to fine particulate exposure.	Yes The designs may produce different emissions of fine particulate matter due to the different heights and exposure of the construction activities above grade.
3	Effects due to contact with contaminated groundwater or surface water.	No – options are the same Options produce the same type and quantity of leachate (contact water) and would have the same liner and leachate management system.
4	Flood hazard.	No – options are the same Options have similar surface area and will have similar storm water management systems.
5	Disease transmission <i>via</i> insects or vermin.	No – options are the same Options would use the same pest control procedures.
6	Potential for traffic collisions.	No – options are the same Options are in the same location and can use the same haul route(s) and site entrance.
7	Aviation impacts due to bird interference.	No – options are the same Options are the same distance from any airports.
8	Explosive hazard due to combustible gas accumulation in confined spaces.	No – options are the same Options have similar gas barriers and gas collection systems.

Indicator: Peak working elevation of the landfill. (lower is better)

B) Social & Cultural Criteria

	Criteria	Differentiates between conventional & deep design options?
9	Displacement of residents from houses.	No – not applicable to this comparison No displacement of residents from houses.
10	Disruption to use and enjoyment of residential properties.	Yes Different heights may result in different potential for “ <u>nuisance</u> ” to neighbouring residents.
11	Disruption to use and enjoyment of public facilities and institutions.	Yes Different heights may result in different potential for “ <u>nuisance</u> ” to public facilities and institutions.
12	Disruption to local traffic networks.	No – options are the same Options have the same location and can use the same haul route and site entrance.
13	Visual impact of the waste disposal facility.	Yes Landfill designs with higher peak elevations are more visible in the surrounding area.
14	Nuisance associated with vermin.	No – options are the same Same pest control procedures.
15	Displacement/disturbance of cultural/heritage resources.	No – not applicable to this comparison Excavated quarry, no cultural resources.
16	Effects on land resources, traditional activities or other interests of Aboriginal Communities.	No – not applicable to this comparison Excavated quarry, no known Aboriginal resources or traditional activities.
17	Displacement/destruction of archaeological resources.	No – not applicable to this comparison Excavated quarry, no archaeological resources.
18	Level of public service provided by the waste disposal facility.	No – options are the same Options have the same capacity for the same types, rate and total volume of waste.
19	Effects on other public services.	No – options are the same Options utilize or support the same public services.
20	Changes to community character/cohesion.	No – options are the same Potential impacts are related to the presence of a landfill in the community, not landfill design.

Indicator: Peak working elevation of the landfill.
(lower is better)

Indicator: Peak working elevation of the landfill.
(lower is better)

Indicator: Peak working elevation of the landfill.
(lower is better)

What is “nuisance”?
In the context of a landfill, nuisance includes potential impacts like noise, litter, dust and odours.

C) Economic Criteria

	Criteria	Differentiates between conventional & deep design options?	
21	Compatibility with municipal land use designations and official plans.	No – options are the same Current land use designations and zoning are the same for each option.	
22	Displacement/disruption of businesses or farms.	No – not applicable to this comparison No businesses or farm operations on site (aside from Carmeuse, which will have completed its quarrying in advance).	
23	Property value impacts.	Yes Landfill designs with more visible and exposed operations may have greater potential for property value impacts.	<i>Indicator: Peak working elevation of the landfill. (lower is better)</i>
24	Direct employment in waste disposal facility construction and operation.	No – options are the same Same number of employees required.	
25	Indirect employment in related industries and services.	No – options are the same Same amount of indirect employment.	
26	New business opportunities related directly to waste disposal facility construction and operation.	No – options are the same Same amount of new business opportunity would be created.	
27	New business opportunities in related industries and services.	No – options are the same Same amount of new business opportunity would be created.	
28	Public costs for indirect liabilities.	No – options are the same No expected differences in public costs. (Similar waste tonnages, construction and operations.)	
29	Effects on the municipal tax base.	No – options are the same Same amount of municipal tax revenue would be created.	
30	Effect on the cost of service to customers.	No – options are the same Similar construction and operating costs, so cost to customers will also be similar.	

C) Natural & Environmental Resources Criteria

	Criteria	Differentiates between conventional & deep design options?	
31	Effects on the provincial/federal tax base.	No – options are the same Similar construction and operating costs, so federal/provincial tax base will also be similar.	
32	Loss/displacement of surface water resources.	No – options are the same Options located in an active quarry with no natural surface water resources.	
33	Impact on the availability of groundwater supply to wells.	No – options are the same Groundwater tables will be controlled by ongoing quarry dewatering.	
34	Effects on stream baseflow quantity/quality.	No – options are the same Local stream baseflow would be controlled by ongoing quarry dewatering.	
35	Loss/disturbance of terrestrial ecosystems.	No – not applicable to this comparison Options are located in an active quarry where no significant natural ecosystems are expected.	
36	Loss/disturbance of aquatic ecosystems.	No – not applicable to this comparison Options are located in an active quarry where no significant aquatic ecosystems are expected.	
37	Displacement of agricultural land.	Yes After closure, rehab to agriculture is more difficult where the final cover slopes are steep.	<i>Indicator: Amount of final cover that would be at maximum slope (4:1). (less is better)</i>
38	Disruption of farm operations.	No – not applicable to this comparison Options are located in an active quarry where there are no farm operations.	
39	Sterilization of industrial mineral resources.	No – not applicable to this comparison Options are located in an active quarry where the economic resources have already been removed.	
40	Displacement of forestry resources.	No – options are the same Options are located in an active quarry where no forestry resources will be displaced. After closure, the potential for rehab to forestry is similar.	
41	Loss/disruption of recreational resources.	No – not applicable to this comparison Options located in an active quarry where there are no recreational resources.	

Summary:

These are the criteria and indicators that Walker Environmental proposes to use in order to differentiate between the two landfill design options:

Category	Criteria	Indicator
Public Health & Safety	2. Effects due to fine particulate exposure.	Peak working elevation of the landfill. (lower is better)
Social & Cultural	10. Visual impact of the waste disposal facility.	Peak working elevation of the landfill. (lower is better)
	11. Disruption to the use and enjoyment of public facilities and institutions.	
	13. Disruption to use and enjoyment of public facilities and institutions.	
Economic	23. Property value impacts.	Peak working elevation of the landfill. (lower is better)
Natural & Environmental Resources	37. Displacement of agricultural land.	Amount of final cover that would be at maximum slope (4:1). (less is better)



Questions for Consideration:

1. Are there any other factors that you think would help to differentiate between the two landfill design options?
2. What concerns or questions do you have?



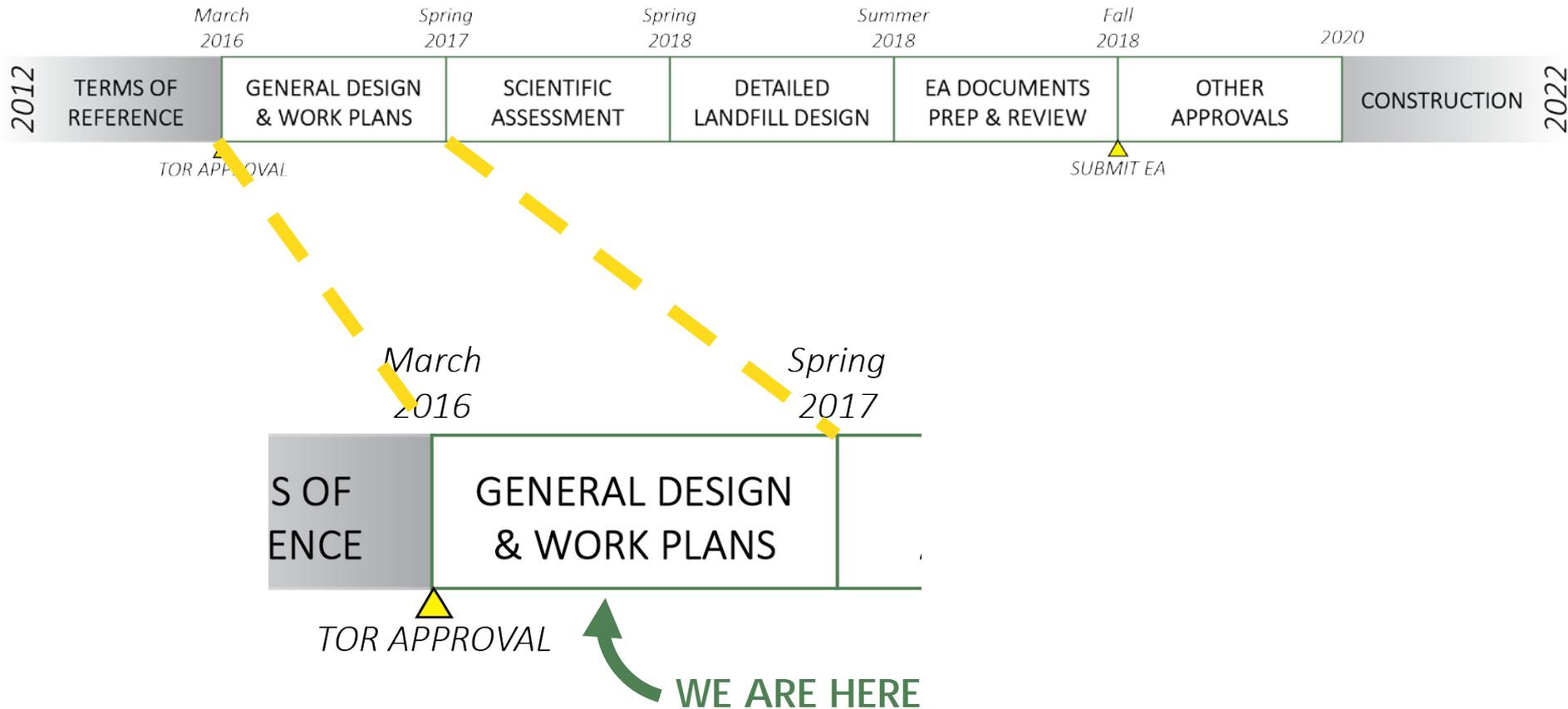
CLC Meeting – July 27, 2016

PUBLIC ENGAGEMENT OPPORTUNITIES

2016 Engagement Timeline



Southwestern Landfill EA



Upcoming Public Engagement



Southwestern Landfill EA

	Activities	Estimated Date
1	CLC Meetings	4 th Wed of Month
2	Open House	Mid-to-late August
3	Public Workshop	Early-September
4	Public Workshop (Preferred Alternative)	Mid-November
5	Public Workshop (Technical Work plans)	Feb/March 2017
6	Regular Bus Tours of Niagara Operations	Alternate weekend and weekday

Your Suggestions on Public Engagement



Southwestern Landfill EA

You Suggested:

- Less technical vocabulary
- More engaging events
- More group discussions with the public
- Public events closer to project site

We agree!

- Clear and in plain language documents
- Workshops instead of drop-ins
- Varying times for different schedules (day and evening)
- Working on booking Colombo Club in Beachville

Your Suggestions on Public Engagement



Southwestern Landfill EA

User-friendly material for meaningful participation

- ✓ Working on videos
 - Project information basics
 - How landfills are built and operated
- ✓ Regular bus tours to Niagara operations
- ✓ Event-specific take away documents
- ✓ Feedback and comment forms for improvements

Your Feedback for Today



Southwestern Landfill EA

1. Did you have a good experience at this evenings CLC meeting?
2. Were the documents clear?
3. Would you change anything for Part 2 and/or for the Public Workshop?

Thank you!

Items from Meeting 18

Business Arising		Responsibility	Status
1	Walker to send most recent up-to-date list of all the technical review team, including the Karst Expert and the government review team. (Requested at the meeting and deferred to Walker by Andrew, MOECC)	BO	In Progress
2	Walker at next CLC Meeting to provide an update on what response to how other technical experts can attend future relevant CLC Meetings. For example: MTO Representative during Haul Routes. Walker to also address the request to attend other meetings as an observer such as the JMCC and Peer-Review Technical Meetings	DF	In Progress
3	Walker to provide a more detailed timeline to the CLC Members for next meeting on the engagement not only with the CLC but also with the public.	BO	Completed
4	Carry Over from ToR phase #10. Walker work with Carmeuse to find the information and pass to CLC before the next meeting in July.	DF	In Progress
5	Walker to get back to the group on when they will be able to comment on the Alternate Haul Route as part of the contingency plan.	JT	In Progress

Items from Meeting 17:

Business Arising		Responsibility	Status
1	Check boundary of Carmeuse landholdings in Zorra with Carmeuse, make any necessary changes and provide map to the CLC.	BO	Completed
2	Provide responses to specific questions as identified during the meeting.	Andrew Evers	Completed

3	Provide written responses to written questions from the CLC.	Andrew Evers	Completed
4	Provide current list of government review team to CLC.	BO	In progress
5	Q: When will the local community be able to provide input on air monitoring locations?	BO	Completed Answer: During consultation on the revised work plans
6	Make sure documents on the new website are posted in the same way (ie. same number of parts per document) as they were previously.	BO	Completed
7	Provide MTO with community and public concerns relating to traffic and contingency planning	DF	In progress Walker will provide this information to the MTO.

Carry-Over Items from Meetings during ToR Phase:

Business Arising		Responsibility	Status
1	Revisit the Mayor of Ingersoll regarding municipal green initiatives.	DF	In Progress DF to discuss with Mayor of Ingersoll.
2	Clarify question – is there a mental health study being done?	DF	In Progress The question will be referred to the Economic expert for consideration during the EA
3	Evaluate the connection between HHRA and Economic Impact assessment in criteria table regarding potential economic impacts on area health system. (Show the link on the EA Criteria Table)	DF	In Progress This comment will be referred to the Economic expert for consideration during the EA.
4	Determine if there will be a truck wash. If so, identify if there will be a liner under the truck wash.	DF	In Progress This comment will be referred to the landfill design team for consideration during the EA.

Business Arising		Responsibility	Status
5	Combinations of quarry and landfill monitoring and the margin of error – create data analysis from the South Landfill comparing the predictions with the actual data.	DF	In Progress This comment will be referred to each expert for inclusion in the background data collection task during the EA.
6	Intrinsic to review their landfill-specific human health risk assessments literature and its performance evaluation of what has been predicted and what the results are to identify any trends and gaps.	DF	In Progress Will be included when the work plans are finalized.
7	Provide information on Richmond Landfill. Intrinsic will see what information is available from work they may have done.	JT	In Progress Intrinsic to follow up regarding public HHRA information.
8	Look at establishing sensitive receptors that will include industrial and businesses such as Carmeuse, Blue-con and Federal White.	DF	In Progress This comment will be referred to the HHRA expert for consideration during the EA.
9	Provide a report on health trends based on information available from local, provincial and federal sources that pertains to this region as soon as possible, and be made available for the human health risk assessment and to the CLC.	DF	In Progress This comment will be referred to the HHRA expert for inclusion in the background data collection task during the EA.
10	Determine how much licensed capacity remains under the quarry floor	DF	In Progress
11	If the CLC is aware of local natural/environmental events, provide information to Walker who will then pass it along to Golder Associates.	CLC	Ongoing
12	Contact the Agricultural agencies and let them know the CLC Members would like to attend the meeting when they meet with the technical expert.	DF	In Progress

From: [Almost, Patricia \(MOECC\)](#)
To: [Becky Oehler](#)
Cc: [Evers, Andrew \(MOECC\)](#); [Harris, Mark \(MOECC\)](#)
Subject: FW: Walker PLC question re generic landfill designs
Date: Wednesday, August 17, 2016 9:38:03 AM

Good morning Becky

The following is in response to a question posed at the July 21, 2016 PLC meeting. During the discussion regarding landfill design, I was asked about the whether there were any other landfill's with the double liner generic design. As indicated by Walker, the present fill area in their Niagara landfill is based on this design.

In the ministry's Southwest Region, there are no landfills constructed based on the double liner generic design option (Option II).

The key for all landfill design options is to ensure compliance with the Ministry's Reasonable Use Guideline (RUP) as described in Section 10 of Regulation 232/98. RUP limits are set such that there would not be any significant effect on the use of the groundwater on the adjacent property. RUP limits are typically set based on values that are lower (more protective) than the Ontario Drinking Water Standards.

Under the ministry's 2012 Landfill Standards (<https://dr6j45jk9xcmk.cloudfront.net/documents/1110/66-landfill-standards-en.pdf>), two generic design options, as set out in Ontario Regulation 232/98, incorporate specific liner and leachate collection system designs. These design options allow for these types of landfills to comply with the RUP in a broad range of hydrogeologic settings. They may allow a proponent to not have to rely on additional contaminant attenuation beyond the landfill footprint.

Most landfills (including those in southwestern Ontario) have chosen to develop their sites based on the Site Specific Design approach. This approach allows flexibility in design to tailor the site to the local environmental setting. An example of this "tailoring" based on local conditions is evident where landfills have been established on the naturally occurring clay overburden common in southwestern Ontario. The generic designs have been developed to ensure environmental security across a wide variety of hydrogeological conditions. The site specific designs require a proponent to provide specific information on the site setting and the performance of the proposed design as set out in Regulation 232/98 to show that the RUP limits will be met.

Best regards.....pat

CLC Meeting 19

Other documents sent as materials, but not included as pages in this Appendix (to cut down on duplication, paper waste and/or very large digital files):

- 1) Landfill Liner Handout: http://www.walkerea.com/uploads/729/Doc_636062715238726804.pdf
- 2) Transcript: http://www.walkerea.com/uploads/729/Doc_636080640021718034.pdf

Please contact us at info@walkerea.com or toll-free at 1-855-392-5537 if you require assistance accessing these documents online or in hard copy.

Southwestern Landfill CLC Meeting #20 Summary

Date: August 24, 2016
Time: 6:00 p.m. - 9:30 p.m.
Location: 160 Carnegie Street, Ingersoll (Lower Meeting Room)

Meeting Overview

The main purpose of the meeting was to consult CLC Members on the proposed landfill Haul Route options. Specifically, the meeting provided the opportunity for the CLC members to provide input on the long list of alternative haul routes considered and how it was filtered to a short list of options using the four (4) screening criteria (Consultation Paper p.10). The CLC members were also consulted on the comparative evaluation criteria and indicators (Consultation Paper p 18 to 27) that will be used for the comparative analysis leading to the preferred haul route.

At the meeting, Walker Environmental presented the Consultation Paper. CLC Members worked as a group providing their inputs at each step of the Consultation Paper (p.7, p.9, p.10, p.17, p.27), responding to questions/inputs. Walker, and CLC Members also used large printed maps to identify areas of concern for the discussion and input on the criteria and indicators for the comparative evaluation that will be used to determine the preferred haul route.

The Business Arising Report is a standard agenda item. In light of the full agenda at CLC meetings, Walker proposed providing written responses instead of a verbal response to all the business arising items at the meeting. The CLC was in agreement and therefore, moving forward the Business Arising Report Agenda Item will be removed as a discussion point in exchange for written responses, unless there is a matter that the CLC explicitly wishes to discuss.

Consultation Discussion Summary

Feedback on Landfill Footprint:

- CLC Members expressed concern about Walker's elimination of parcel 1 from the consideration and at least one member expressed concern about the use of any of the parcels

Feedback for Haul Route:

- Walker provided clarification on the consultation process and the opportunities for CLC Member input as part of a refining process. At the upcoming CLC meeting in October, Walker will be presenting the preferred haul route which will be based on the application of the comparative evaluation criteria and indicators.
- A number of CLC Members raised concerns for 401 Exit 222 to County 6 as the start point for the alternative haul routes because of issues of congestion due to the proximity of this exit to the 401 *On Route Service Centre*, steep slope/incline at the four way stop at Beachville Rd, heavy traffic on County Rd 6, and accident frequency and severity.
- With regards to the selected Site Entrance to the proposed property, CLC Members raised concerns about the challenges of the proximity to future Carmeuse Quarry operations. Walker described the types of measures that could address having a landfill coexist with a Quarry based on their previous experience.

Southwestern Landfill CLC Meeting #20 Summary

- From the long list of haul routes presented, many CLC Members agreed that traveling on Beachville Road was of concern. Walker was also clear that it is unlikely that the Beachville Road will perform well at the comparative analysis, given the number of residences and the increased traffic.
- Of the options presented, a select number of CLC Members indicated a preference for the shortest, most direct routes that stayed on County Roads and did not travel on Township Roads.
- Additional criteria and indicators were suggested by CLC Members which would account for the displacement/disruption of archaeological resources, the presence of bicycle lanes along route, number of playgrounds along route, existing traffic collisions (frequency and severity), and number of bridges which will be crossed.
- Written input was submitted by some CLC Members prior to the meeting. Walker stated these inputs would be recorded, reviewed and considered in the development of the Criteria and Indicators.

Other Agenda Topics

Feedback on Public Engagement: CLC Members provided feedback on a variety of aspects of the upcoming public event including the chosen date, the format, the content, and input on what questions to include in the feedback forms.

Community Update and CLC Correspondence: This new agenda item provides an opportunity for CLC Members to update Walker on what is happening in the community as it relates to the Southwestern Landfill Proposal and for Walker to provide an update on community engagement efforts that have taken place since the last CLC meeting.

CLC Members expressed the view that there is a lack of understanding in the community as to why the Environmental Assessment (EA) process is able to proceed with such community opposition. Walker indicated that at the upcoming public event, there will be clear information to answer and better explain how the EA process works.

Walker reported that in August they completed door-knocking activities with the residents living closest to the proposed site, presented the status of project at Zorra Council, and sent out invitations and newspaper ads for the Public Event on Sept 1, 2016. In addition, Walker had meetings with Chippewas of the Thames and Mississaugas of the New Credit, attended the Caldwell Pow Wow, and scheduled a First Nations Consultation Meeting in November.

Closing Remarks - Adjournment – 9:30 p.m.

The next CLC meeting will be held on Wednesday September 28, 2016. The meeting will focus on a discussion on the options for Landfill Gas Management and Leachate Treatment.

This Summary was prepared by Katrina Kroeze, CLC documenter and approved by Laurie Bruce, CLC Facilitator. *Full meeting transcript is available at www.walkerea.com. If you have any questions about this summary, contact the CLC facilitating team at 416-992-9669 or email communitylaisoninfo@gmail.com or if it concerns Walker, at Walker office at 1-855-392-5537 or info@walkerea.com.*

August 12, 2016

Please find enclosed the materials for Community Liaison Committee Meeting 20, which will be held on Wednesday, August 24, 2016 at 6:00 pm. The primary purpose of this meeting is to discuss potential haul routes, including:

- Long list of haul routes (Walker's list and any additional from CLC)
- Screening of long list to short list
- Criteria & indicators that will be used to find the preferred alternative (next steps)

There will be printed copies of the consultation paper available at the meeting for your use.

Follow-Up Items from the Meeting 19 (July 27, 2016)

The following enclosed documents are provided as follow-up from CLC Mtg. #19.

- Rationale for screening of Landfill Footprint Option 1
- Meeting transcript
- Draft meeting summary
- Business arising report – includes written answers to questions and two attached documents:
 - Email from Pat Almost (MOECC) regarding the definition of a Lake
 - Groundwater monitoring summary for the Walker Environmental South Landfill

Please provide any comments on the draft meeting summary by August 31, 2016, after which it will be posted on walkerea.com with other meeting materials.

We committed to updating the landfill footprint screening map and are in the process of finalizing. It will be provided for illustrative purposes to further outline our rationale in applying the screening by identifying which areas on the Carmeuse property are unable to support landfill operations and for what reason, as well as the size of open spaces that can be compared to landfill area minimum requirements. This will be provided to you at or before Meeting #20.

Other Notes:

We have booked the Colombo Club for the first in a series of public events, on September 1, 2016. This event is a reconnection point with the community to provide general information on the project and the status in the EA process. We realize that many people are still on vacation at this time of year, and we want to ensure that the alternative methods discussion occurs when most people are available (likely early October).

Please let me know if you have any comments or questions prior to the meeting.

Regards,

Becky Oehler
Consultation Manager
905-680-3675
boehler@walkerind.com

Date: Wednesday, Aug 24, 2016

Time: 6:00 p.m. – 9:30 p.m.
(Dinner will be available at 5:30)

Location: 160 Carnegie Street, Ingersoll (Lower Meeting Room)

Meeting Materials:

- Rationale for Screening Landfill Footprint Option 1
- Meeting 19 Business Arising Report with attachments
- Haul Route Alternatives & Screening Consultation Paper

	Description	Lead	Duration	End Time
1	Welcome	Facilitator	5 min	6:05
2	Objectives and Review of Agenda	Facilitator	5 min	6:10
3	Additional Information from Meeting 19	WEG	20 min	6:30
4	Consultation Paper Review & Discussion <i>Document: Haul Route Alternative Methods Consultation Paper</i>	WEG	110 min	8:20
5	Upcoming Public Consultation Activities	WEG	15 min	8:35
6	Business Arising Report	WEG	15 min	8:50
7	CLC Update & Correspondence	ALL	5 min	8:55
8	Next Meeting Agenda and Action Items	ALL	5 min	9:00
9	CLC Discussion with EA Advisor	CLC/AG	60 min	10:00



Southwestern Landfill Environmental Assessment

CLC Consultation Paper Haul Route Alternative Methods

This consultation paper has information about different options for the Southwestern Landfill Proposal haul route.

This document was prepared for use at the August 24, 2016 Community Liaison Committee meeting.

We will report back to you on how your input was considered as we identify the preferred haul route.

Landfill Haul Route Consultation Paper

Where in the EA process are we?

We are in the Alternative Methods phase of the Southwestern Landfill Environmental Assessment (EA). This is when a long list of options is identified (in this case, for haul route) and four screening criteria are applied. The options that comply with the screening criteria become the short list of feasible options.

Walker is required to use the four screening criteria listed below, as approved by the Minister of Environment and Climate Change as part of the Terms of Reference (section 8.1).

1. Must be consistent with the stated purpose of the environmental assessment.
2. Must be reasonably capable of approval pursuant to the statutes of Ontario and Canada.
3. Must be technically feasible and proven technology.
4. Must be commercially viable.

For this consultation paper and CLC discussion, a long list of haul routes has been developed and screened to a short list by Walker. A proposed list of criteria and indicators to be used for the comparative analysis are also included for discussion.

After this meeting, Walker will evaluate the short list of haul route options using the comparative evaluation in order to determine the most preferred haul route (“preferred alternative”). At a future meeting, the CLC will be consulted on the results of the comparative evaluation.

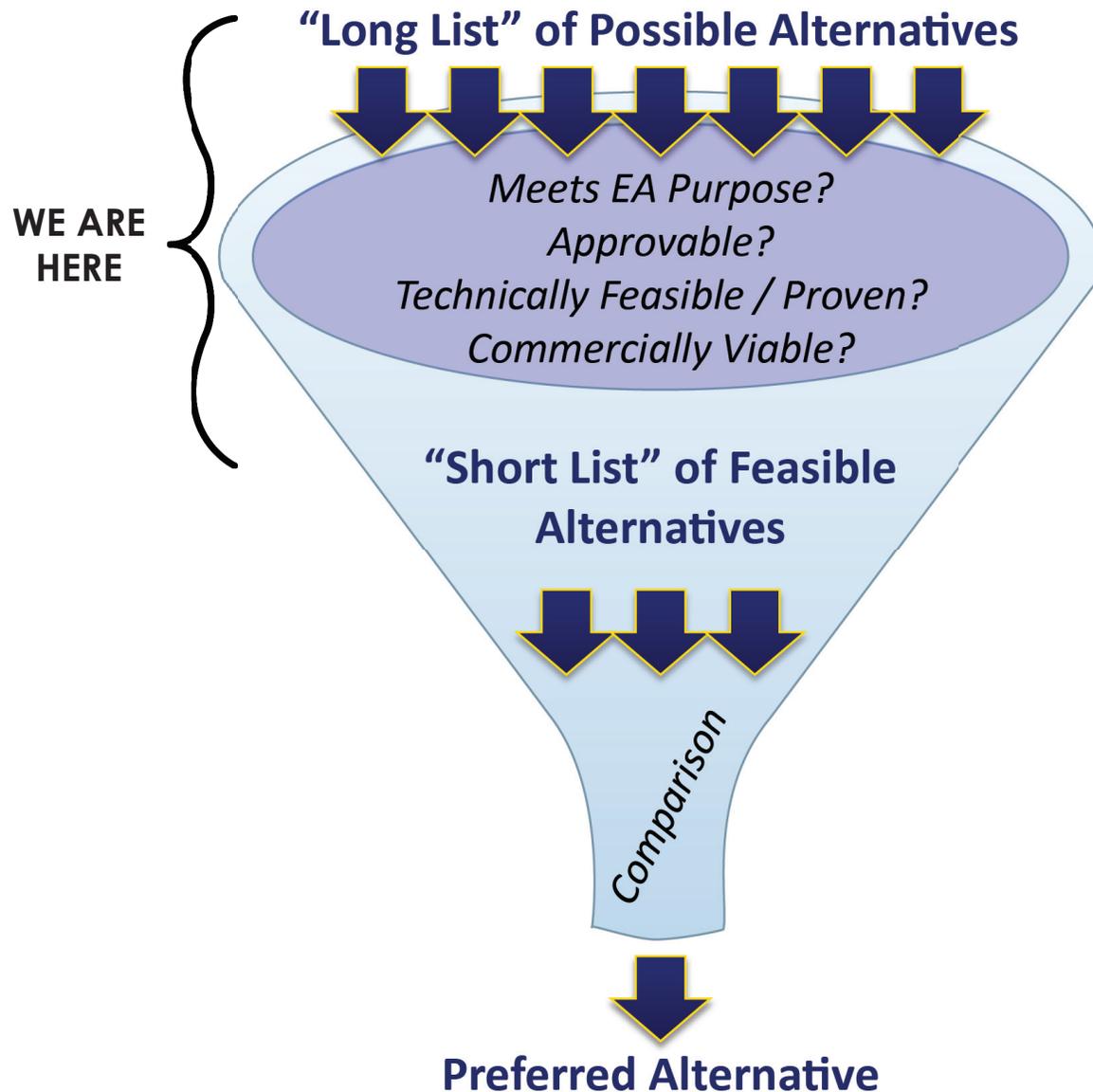
During the EA, the chosen haul route is studied by technical experts to determine the potential impacts (traffic, dust, noise, etc.). If potential impacts are identified, plans to prevent or mitigate them will be developed in consultation with the CLC and other interested parties.

This Meeting:

Discussion on how the long list of haul routes is developed and screened to a short list. Discussion on the criteria and indicators that will be used to determine the preferred haul route.

Future Meeting:

Discussion on how the short list of haul route options were compared to each other in the comparative evaluation to find the preferred haul route.



Below are some questions to be considered when providing input on haul routes:

1. Do you see any additional haul routes that should be added to the long list?
2. Do you understand how the long list was screened to the short list?
3. What are important things Walker should consider when we are evaluating the short list of haul routes? This could include things like:
 - a. Particular property uses you think should be considered
 - b. Roads or corners you feel would be practical, or those that should be avoided
 - c. Number of residents and traffic impact
 - d. Other input about a location or route

What is the purpose of this consultation paper?

This consultation paper is meant to provide the required information for CLC Members to provide meaningful input.

In this consultation paper, you will see the rationale that lead to the development of the long list of options and why some options are not feasible. Walker wants to have the perspective from community members, since you know your community best. Please let us know if a rationale is unclear, or if you can see different options.

This consultation paper is written specifically for the August 24, 2016 CLC meeting as a starting point for conversation; it is not the final document.

When the level of information is too technical, where more explanation is required, or where you feel uncomfortable providing input, please voice it. There will also be a technical review of this information by the Peer Review Team that reports to the Joint Municipal Coordinating Committee during its overall review of the EA. The Ministry of the Environment and Climate Change (MOECC) also reviews the screening rationale as part of its overall review of the EA.

How will you know how your input was considered?

After this meeting, your input will be considered and incorporated where appropriate. Walker will provide feedback on how input was integrated, or why it was not.

At an upcoming meeting on the comparative evaluation and preferred haul route we will provide feedback on:

- What input was received and considered
- How input affected the comparative evaluation and the preferred haul route outcome

Why is there a specific haul route?

Having a designated haul route is very important for landfill operations and for the local community. All trucks traveling between a major Provincial route (in this case, highway 401) and the site must follow the chosen haul route. The only exceptions for trucks coming from local starting points (not from the 401) and when there are emergency situations such as road closures.

A designated haul route is also important for the environmental assessment process. The haul route is studied by technical experts to determine what impacts may occur (increased traffic, dust, etc.) We can then make a plan to prevent or mitigate those impacts, so the trucks must follow the designated route.

Having a designated haul route has benefits including:

- Good traffic flow to and from the landfill
- Trucks do not travel through densely populated or high-traffic areas, like a downtown core
- No additional wear and tear on roads not meant for heavy truck traffic

Key Facts about the Proposed Southwestern Landfill Haul Route

of Trucks Per Day: Approximately 100 trucks (including estimate for trucks hauling daily cover soil)

Schedule: Trucks would be traveling to the site during operational hours of the landfill, which have not been finalized. For the purpose of this discussion, typical operating hours are 7 am to 5 pm (Monday to Saturday).

Haul Route Enforcement: Once a haul route is chosen, it's important that trucks follow the designated route. The details of how traffic would be enforced at the Southwestern Landfill site haven't been developed yet, but some tools Walker has used in the past are:

- Letters are provided to the hauling company in the first language of drivers to ensure that drivers are aware of the haul route requirements.
- A traffic enforcement person sits at key areas to monitor traffic, including where trucks go and their speed. Drivers are provided with warnings if there are issues, and specific drivers can be prohibited from hauling to the landfill if they have received too many warnings.
- If local residents notice any issues, they can call our complaint response line. Calls are returned as soon as possible and within 24 hours.

Type of Trucks: There are different types of trucks that would be arriving at the landfill. Some common truck types are:



Transport Trucks



**Lugger Trucks
(carry dumpsters)**

Preliminary Work - Before the Long List

The list of potential haul routes that are possible is almost endless, since the road network in the area is quite extensive.

In order to create a reasonable long list of potential haul routes, Walker established:

1. Haul Route start point (an exit from Highway 401)
2. Haul route end point (site entrance)

Next, different haul routes between the starting point and end point were identified.

Different types of roads are designed for different types of traffic. Provincial highways easily accommodate heavy vehicles, and county roads are designed for this use as well. Haul routes should maximize the use of highways and when no longer possible, use county roads. The use of local roads should be minimized.

We have also examined the possibility of using a rail haul route (description on page 14).

Haul Route Start Point - Highway 401 Exit

Most trucks (except for local deliveries) will approach the landfill from Highway 401. The closest highway exit to the site is County Road 6. Options to the east and west were also considered.

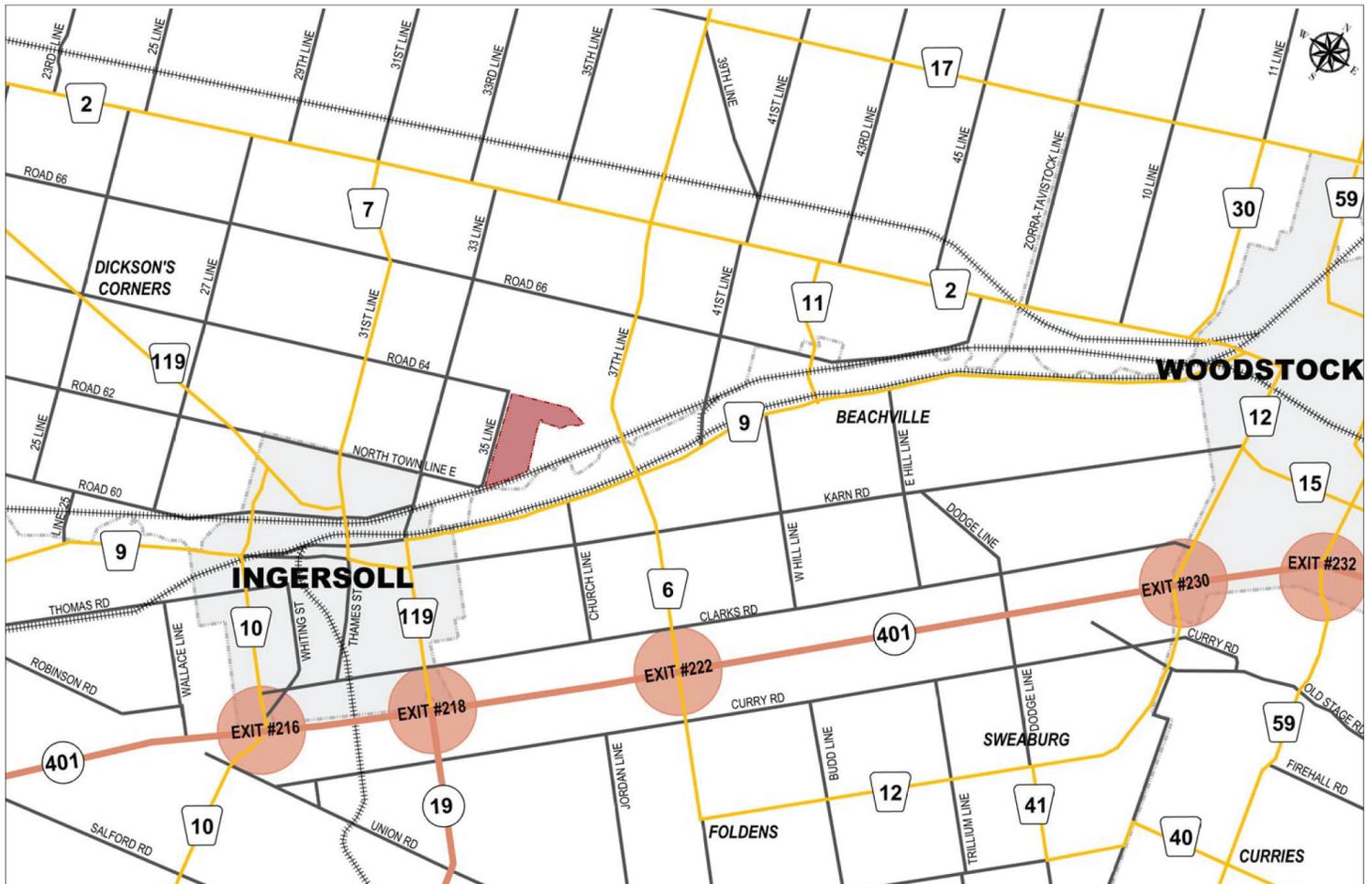
Walker Highway Exit Evaluation Process:

Exit Location	Description	Key Features
Closest Exit	Exit 222 - County Road 6 (37th Line)	<ul style="list-style-type: none">• Already used as a haul route to the Carmeuse property• Does not run through a municipal centre
From the East	Exit 230 - County Road 12 (Sweaburg Rd.)	<ul style="list-style-type: none">• Runs through the Woodstock town centre
	Exit 232 - County Road 59 (Norwich Ave.)	<ul style="list-style-type: none">• Runs through the Woodstock town centre
From the West	Exit 218 - County Road 119 (Harris St.)	<ul style="list-style-type: none">• Runs through the Ingersoll town centre
	Exit 216 - County Road 10 (Culloden Rd.)	<ul style="list-style-type: none">• Runs through the Ingersoll town centre

The 401 Exit 222 to County Road 6 is selected as the haul route start point because:

- It is the closest exit (maximize use of Provincial highways)
- It is already used as a haul route
- It does not run through a downtown area.

Map 1: Highway 401 Exits and Road Infrastructure



Questions for Consideration:

1. Do you have any comments on the haul route start point?

Haul Route End Point - Site Entrance

The exact location and layout of the site entrance will be developed at a later stage. At this point, the site entrance will be noted as a general area. That being said, feedback on a more exact location is welcome.

The northwest corner of the site is the most practical place to start landfilling. In the estimated timeline for the landfill, Walker would start landfilling at the north end of the site while Carmeuse is quarrying at the south end. It is best practice to keep as much separation between operations as possible. The location of Carmeuse operations is a key driver in selecting a practical site entrance.

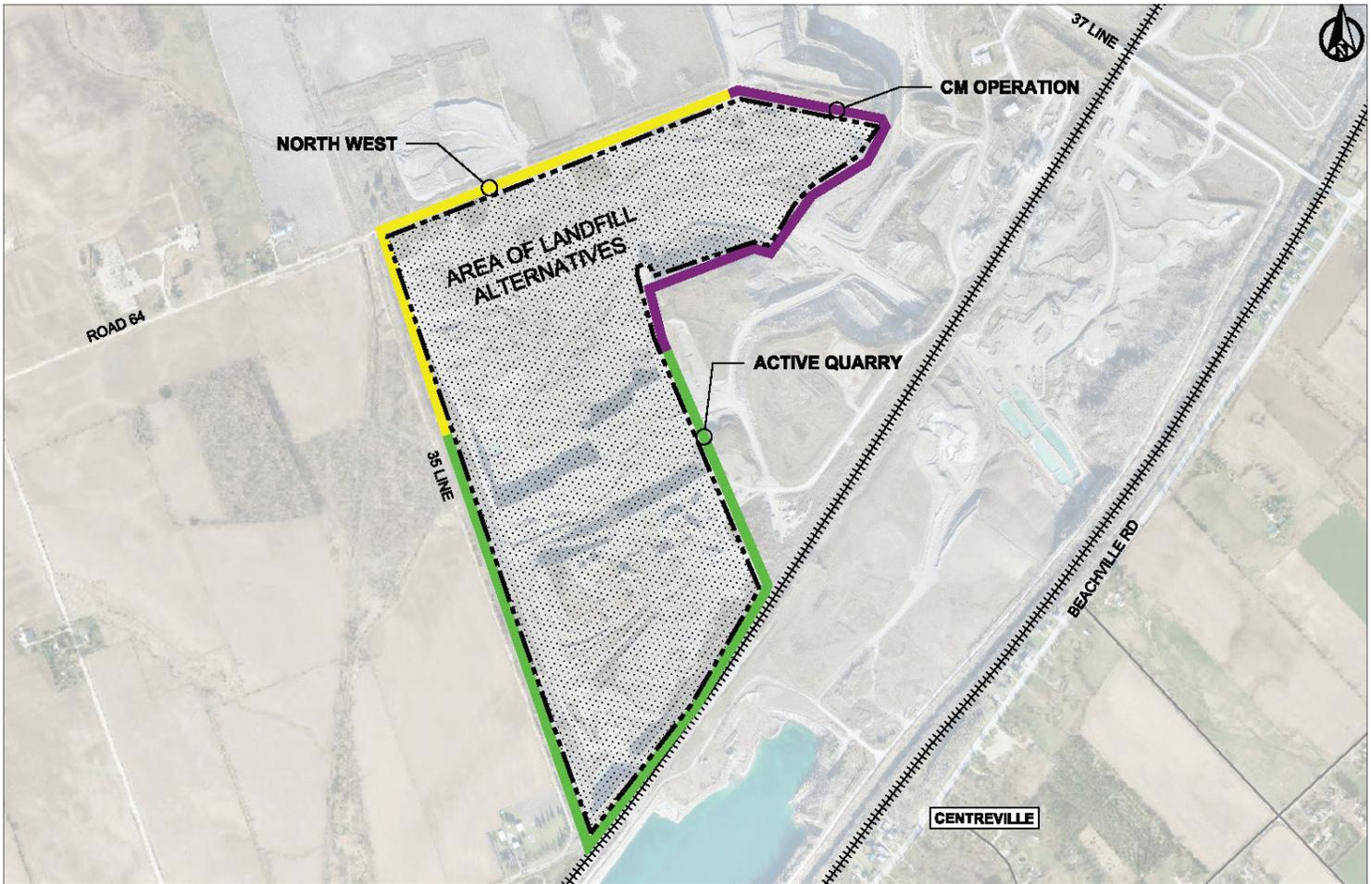
Walker Site Entrance Evaluation Process:

Site Entrance	Description	Practical as a Site Entrance?
Northwest Area	<ul style="list-style-type: none"> In preliminary design discussions, Walker believes that it would be the most practical to start landfilling in the northwestern corner of the footprint. This potential site entrance area includes the northern edge of the footprint, as well as the northern portion of the western edge (35th Line). 	This area is practical as a site entrance.
Active Quarry Area	<ul style="list-style-type: none"> In the estimated timeline for the landfill, Walker would start landfilling at the north end of the site while Carmeuse is quarrying at the south end. 	This area is not practical as a site entrance due to active quarry operations.
Carmeuse Haul Route and Operations Area	<ul style="list-style-type: none"> Carmeuse operations occur and trucks access the quarrying operations on this route. 	This area is not practical as a site entrance because it is good practice to have separation of operations, and trucks hauling waste would be using the same haul route as quarry trucks.

The northwest boundary area of the landfill footprint is selected as the haul route end point because:

- It is the area most separated from Carmeuse active operations.
- There are no other known limitations for use.

Map 2: Potential Site Entrance Areas



Questions for Consideration:

2. Do you have any comments on the selected haul route end point?

Long List of Potential Haul Routes

This section includes:

- A review of different potential haul routes (the long list)
- The “feasibility screening” of the different routes (are they feasible?)

We realize that some of these haul routes run through populated areas (ie. Beachville Road), and may not be ideal. However, at this stage, we must be thorough in considering all feasible options. We welcome your feedback on each route, or other routes we have not yet considered.

Even if we have identified an option as “feasible” it does not mean it is a good candidate for other reasons, only that it is part of the short list. The “feasibility screening” uses four criteria to find out if the haul route is feasible (below). If any of these criteria are not met, the route is screened out. If the route does meet the criteria, then it is carried forward to the next stage (comparative evaluation), when the preferred haul route will be determined.

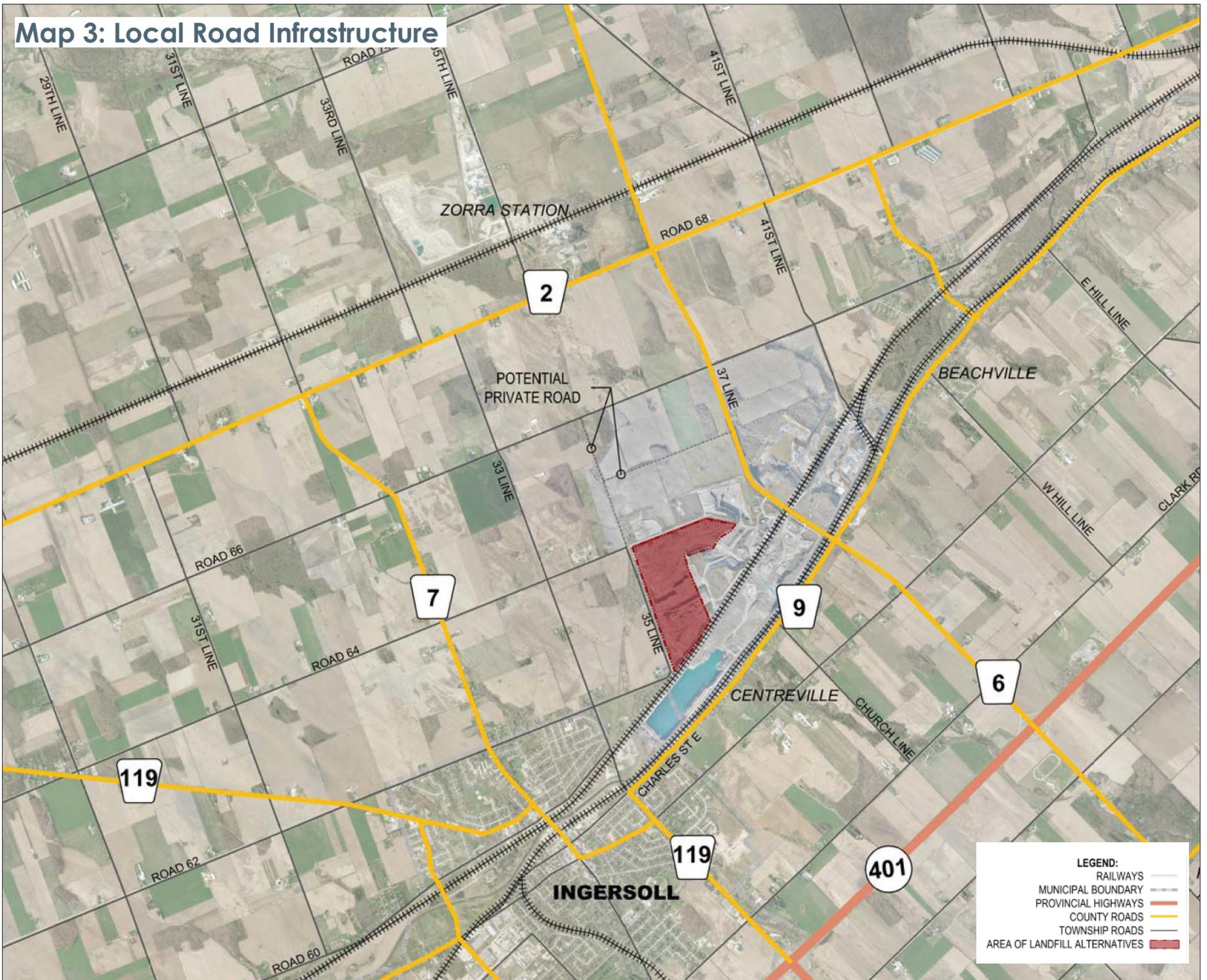
Walker is required to use the four screening criteria listed below, as approved by the Minister of the Environment and Climate Change as part of the Terms of Reference (Section 8.1).

Criteria	Explanation
1. Must be consistent with the stated purpose of the Environmental Assessment	The purpose of the Southwestern Landfill EA is to create a landfill capacity at the Carmeuse Lime property for solid, non-hazardous waste generated in Ontario. If an option doesn't align with this goal, it is screened out.
2. Must be reasonably capable of approval pursuant to the statues of Ontario and Canada	There are many different approvals that are required for a landfill. Any option that could not be reasonably approved is screened out.
3. Must be technically feasible and proven technology	The landfill must be constructed and operated safely, meeting all requirements. If an option can't be feasibly carried out, or if the technology has not been proven to work, the option is screened out.
4. Must be commercially viable	Private-sector companies like Walker Environmental can only invest in infrastructure that is financially sustainable. If the cost of an option is too high for the landfill to be profitable, it is screened out.

What haul routes do you see?

Map 3 on the right shows the different types of roads (Provincial Highway, County Roads, Local Roads). Suggestion: draw different haul routes to the proposed landfill footprint.

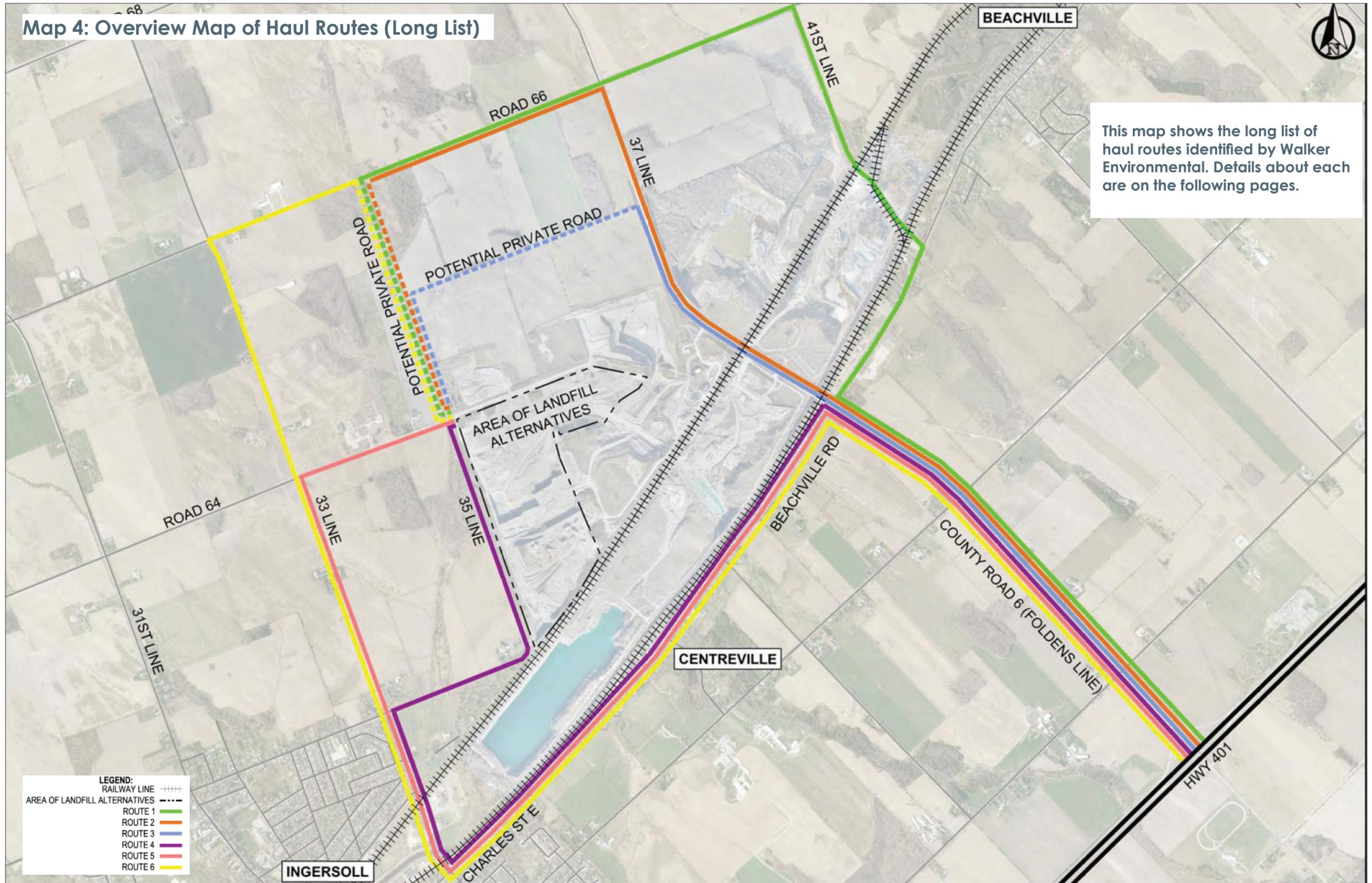
Map 3: Local Road Infrastructure



LEGEND:

- RAILWAYS
- MUNICIPAL BOUNDARY
- PROVINCIAL HIGHWAYS
- COUNTY ROADS
- TOWNSHIP ROADS
- AREA OF LANDFILL ALTERNATIVES

Map 4: Overview Map of Haul Routes (Long List)



Route 1

County Rd 6 > Beachville Rd W > 41st Line > Rd 66 > Potential Private Rd (old rail line)

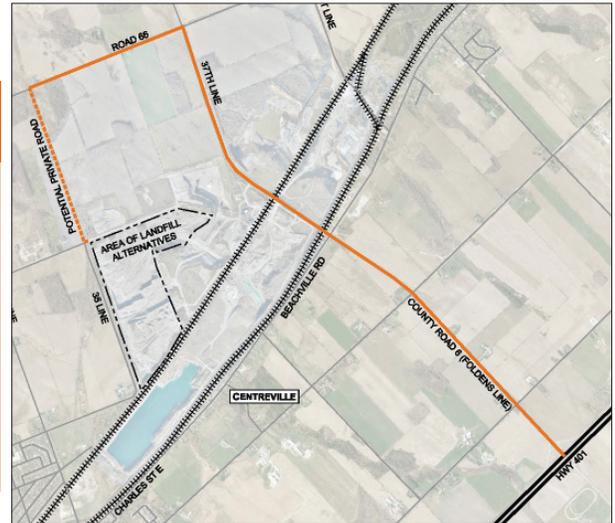
Description & Considerations	Included for Further Evaluation?
<ul style="list-style-type: none"> • Approximately 10 km • Approximately 1.5 km of private road would be constructed • Upgrades to 41st Line would be required for truck traffic • The weight limit for the bridge (over tracks) on 41st Line cannot accommodate truck traffic; would require major upgrades 	<p>No - major upgrades to the bridge are cost prohibitive.</p>



Route 2

County Rd 6 > Rd 66 > Potential Private Rd (old rail line)

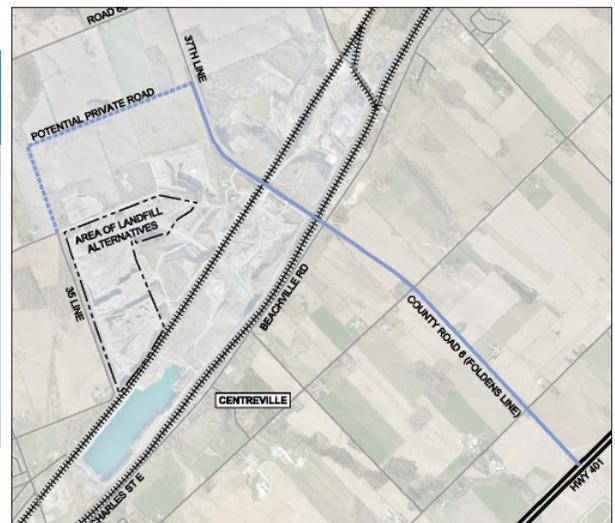
Description & Considerations	Included for Further Evaluation?
<ul style="list-style-type: none"> • Approximately 8.5 km • Approximately 1.5 km of private road would be constructed • Upgrades to Road 66 would be required for truck traffic 	<p>Yes - selected for short list and comparative evaluation.</p>



Route 3

County Rd 6 > Potential Private Rd (East-West) > Potential Private Rd (old rail line)

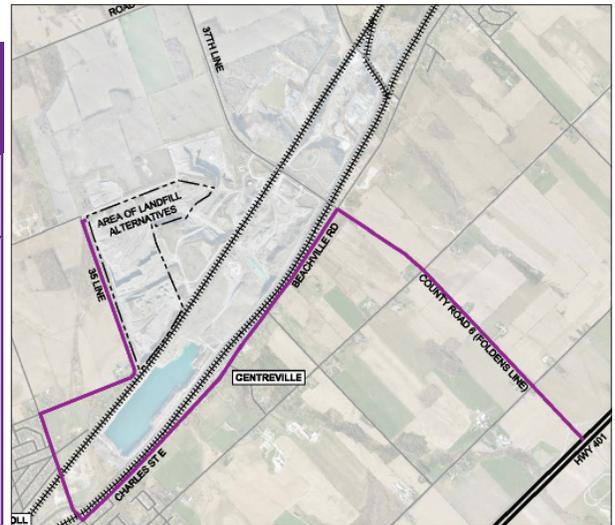
Description & Considerations	Included for Further Evaluation?
<ul style="list-style-type: none"> • Approximately 7 km • Approximately 2.25 km of private road would be constructed 	<p>Yes - selected for short list and comparative evaluation</p>



Route 4

County Rd 6 > Beachville Rd W > Pemberton St. > North Town Line E > 35th Line (Public Road)

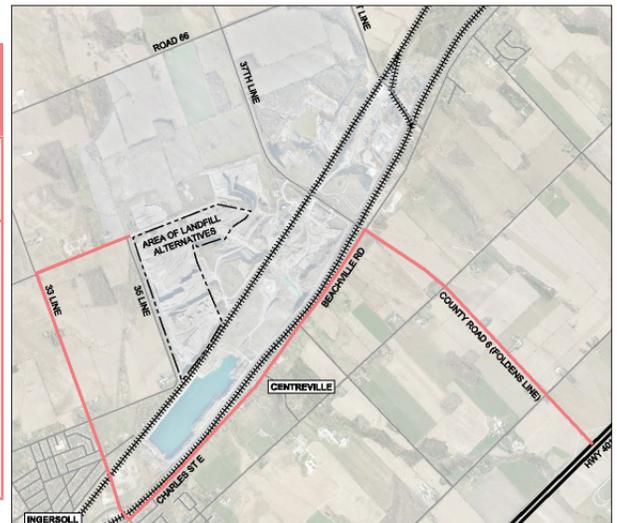
Description & Considerations	Included for Further Evaluation?
<ul style="list-style-type: none"> Approximately 10 km Upgrades to 35th Line would be required for truck traffic 	<p>Yes - selected for short list and comparative evaluation.</p>



Route 5

County Rd 6 > Beachville Rd W > Pemberton St. > Rd 64

Description & Considerations	Included for Further Evaluation?
<ul style="list-style-type: none"> Approximately 10 km Upgrades to Road 64 would be required for truck traffic 	<p>Yes - selected for short list and comparative evaluation.</p>



Route 6

County Rd 6 > Beachville Rd W > Pemberton St. > Rd 66 > Potential Private Rd (old rail line)

Description & Considerations	Included for Further Evaluation?
<ul style="list-style-type: none"> Approximately 13 km Approximately 1.5 km of private road would be constructed Upgrades to Road 66 would be required for truck traffic 	<p>Yes - selected for short list and comparative evaluation.</p>



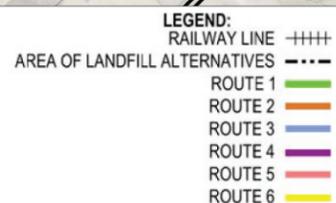
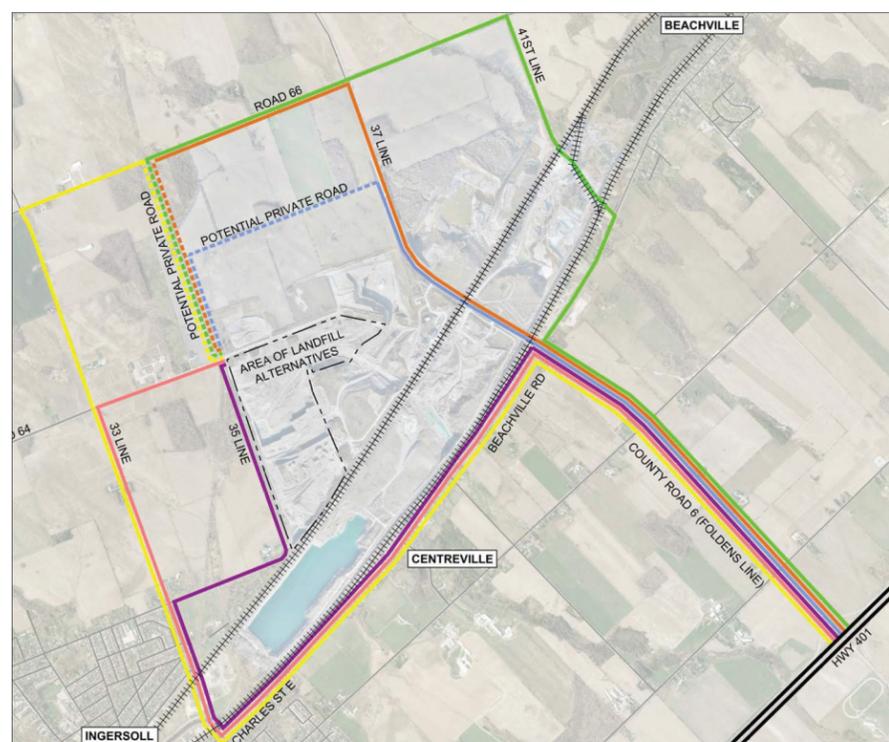
Route 7

Railway Haul	
Description	Included for Further Evaluation?
<ul style="list-style-type: none"> A railway track runs through the Carmeuse property. Third party waste haulers would not use rail haul infrastructure if it is more expensive than trucking. The transportation of solid, non-hazardous waste via rail has typically not been economical for distances less than 400 km. Additional considerations: <ul style="list-style-type: none"> Siting and development of rail loading and unloading infrastructure would be required. Reliability of regular waste shipments would depend on haulers using the infrastructure. Truck-haul infrastructure would still be required for materials not arriving from the designated rail transfer station (starting point). 	<p>No - screened out as not commercially viable.</p>



Questions for Consideration:

- Are there any other options for haul routes?
- Were there any options that were removed through the screening of the long list that you think should remain?
- What pros and cons do you see for the short list options?



Feasibility Screening Criteria	Haul Route 1	Haul Route 2	Haul Route 3	Haul Route 4	Haul Route 5	Haul Route 6	Rail Haul
Consistent with the stated purpose of the Environmental Assessment.							
Reasonably capable of approval pursuant to the statutes of Ontario and Canada.							
Technically feasible and proven technology.							
Commercially viable.	✗ Cost prohibitive to reconstruct bridge over CN tracks						✗ Cost prohibitive
Conclusion	Not feasible - screen out from further consideration	Potentially feasible - carry forward for further evaluation	Potentially feasible - carry forward for further evaluation	Potentially feasible - carry forward for further evaluation	Potentially feasible - carry forward for further evaluation	Potentially feasible - carry forward for further evaluation	Not feasible - screen out from further consideration

Comparative Evaluation Criteria & Indicators

How the short list will be narrowed to one (preferred alternative)

During the Terms of Reference, 41 criteria were developed to evaluate the Southwestern Landfill Environmental Assessment. They cover four areas:

1. Public Health and Safety
2. Social and Cultural
3. Economics
4. Natural Environment and Resources

Some of the criteria do not identify differences between the haul route options because:

- The criteria are the same for all options.
- The criteria are not applicable for the topic.

The selected criteria are applicable and help to differentiate between the different haul route options. For each selected criteria specific indicators are developed.

Example:

Criteria: Potential for traffic collisions.

- Indicators:**
- Length of haul route on public roads
 - Number of intersection crossings
 - Number of turns

Important Note:

Some criteria are screened out for the comparative evaluation, however, they don't disappear. All 41 criteria will be used to study the landfill and evaluate potential impacts.

A) Public Health & Safety Criteria

Criteria		Differentiates between haul routes?	
1	Effects due to exposure to air emissions.	Yes - Air emissions from vehicle exhaust. Haul routes will differ in impacts depending on the number of receptors (residences).	Indicator: Number of residences along the haul route
2	Effects due to fine particulate exposure.	Yes - Dust may come from road shoulders or mud tracked onto road. Haul routes will differ in impacts depending on the number of receptors (residences).	Indicator: Number of residences along the haul route
3	Effects due to contact with contaminated groundwater or surface water.	No – not applicable to this comparison Waste trucks are closed while in transit.	
4	Flood hazard.	No – options are the same All routes are existing roads or would be new roads, both with drainage controls.	
5	Disease transmission via insects or vermin.	No – not applicable to this comparison Waste trucks are closed while in transit.	
6	Potential for traffic collisions.	Yes - Routes use different sections of public roads, so there may be related differences in the potential for traffic collisions.	Indicators: <ul style="list-style-type: none"> • Length of haul route on public roads • Number of intersection crossings • Number of turns
7	Aviation impacts due to bird interference.	No – not applicable to this comparison Waste trucks are closed while in transit.	
8	Explosive hazard due to combustible gas accumulation in confined spaces.	No – not applicable to this comparison Haulage does not produce combustible gas in a confined space.	

B) Social & Cultural Criteria

Criteria		Differentiates between haul routes?
9	Displacement of residents from houses.	No – not applicable to this comparison No displacement of residents from houses.
10	Disruption to use and enjoyment of residential properties.	Yes - Potential for difference in disruption nuisance due to differences in receptors (residences).
		Indicators: <ul style="list-style-type: none"> • Number of residences along the haul route • Number of intersection crossings • Number of turns
11	Disruption to use and enjoyment of public facilities and institutions	Yes - Potential for difference in disruption nuisance due to differences in receptors (facilities and institutions).
		Indicators: <ul style="list-style-type: none"> • Number of public facilities and institutions along the haul routes • Number of intersection crossings • Number of turns
12	Disruption to local traffic networks.	Yes - Each route requires different stops and turns, which may contribute to differences in local traffic congestion and delays.
		Indicator: Number of stops and turns associated with each route
13	Visual impact of the waste disposal facility.	No – not applicable to this comparison Choice of haul route will not affect visibility of the landfill.
14	Nuisance associated with vermin.	No – not applicable to this comparison Waste trucks are closed while in transit.
15	Displacement/ disturbance of cultural/ heritage resources.	No – not applicable to this comparison No known cultural/heritage resources on existing roads or on roads that may be built on licensed future quarry lands.
16	Effects on land resources, traditional activities or other interests of Aboriginal Communities.	No – not applicable to this comparison No known Aboriginal resources or traditional activities on existing roads or on roads that may be built on licensed future quarry lands.

Criteria		Differentiates between haul routes?	
17	Displacement/ destruction of archaeological resources.	<p>No – not applicable to this comparison</p> <p>No known archaeological resources on existing roads or on roads that may be built on licensed future quarry lands.</p>	
18	Level of public service provided by the waste disposal facility.	<p>No – options are the same</p> <p>Options will deliver the same types, rate, and volume of waste.</p>	
19	Effects on other public services.	<p>Yes - Heavy waste trucks have the potential to cause additional wear-and-tear on public roads, especially roads not designed or intended as major trucking routes.</p>	<p>Indicator: Length of each route on local road system (not Provincial, County, or private roads)</p>
20	Changes to community character/cohesion.	<p>Yes - Potential for changes to community character/cohesion for residences along haul routes.</p>	<p>Indicator: Number of residences along the haul route</p>
21	Compatibility with municipal land use designations and official plans.	<p>Yes - Existing roads may or may not be designated for heavy truck traffic. Reconstruction and use of closed roads or unopened road allowances may require new land use or environmental approvals.</p>	<p>Indicators:</p> <ul style="list-style-type: none"> • Provincial and municipal road designations for heavy truck traffic • Existing provincial and municipal land use designations for closed or unopened sections of road allowances

C) Economic Criteria

Criteria		Differentiates between haul routes?	
22	Displacement/disruption of businesses or farms.	Yes - Potential for differences due to the nuisance effects of truck traffic. Some types of businesses might be more sensitive to truck traffic.	<ul style="list-style-type: none"> • Indicator: Number and types of businesses and farms along the haul routes
23	Property value impacts.	Yes - Different haul routes may have different potential property value impacts.	Indicators: <ul style="list-style-type: none"> • Number of properties along the haul route • Number and types of businesses and farms along the haul route
24	Direct employment in waste disposal facility construction and operation.	No – options are the same The same number of employees.	
25	Indirect employment in related industries and services.	No – options are the same The same amount of indirect employment.	
26	New business opportunities related directly to waste disposal facility construction and operation.	No – options are the same Same amount of new business opportunity would be created.	
27	New business opportunities in related industries and services.	No – options are the same Same amount of new business opportunity would be created.	
28	Public costs for indirect liabilities.	Yes - Heavy trucks have the potential to require additional maintenance on public roads, especially local roads not designed or intended as trucking routes.	Indicator: Length of each route on local road system (not Provincial, County, or private roads)

Criteria		Differentiates between haul routes?	
29	Effects on the municipal tax base.	No – not applicable to this comparison Municipal taxes will not be based on haul route usage.	
30	Effect on the cost of service to customers.	Yes - Haul routes that require major investment will add to the cost of the service to customers.	Indicator: Relative cost of reconstruction/upgrade for heavy truck traffic
31	Effects on the provincial/federal tax base.	No – not applicable to this comparison Provincial taxes will not be based on haul route usage.	

D) Natural & Environmental Resources Criteria

Criteria		Differentiates between haul routes?
32	Loss/displacement of surface water resources.	No – options are the same Haul routes use existing roads or new roads on licensed future quarry lands where no natural surface water resources will be displaced.
33	Impact on the availability of groundwater supply to wells.	No – not applicable to this comparison Haulage will not affect the well water supply.
34	Effects on stream baseflow quantity/ quality.	No – not applicable to this comparison Haulage will not affect the groundwater baseflow to streams.
35	Loss/disturbance of terrestrial ecosystems.	No – options are the same Haul routes use existing roads or new roads on licensed future quarry lands with no significant difference on impact to terrestrial ecosystems.
36	Loss/disturbance of aquatic ecosystems.	No – options are the same Haul routes use existing roads or new roads on licensed future quarry lands with no significant difference on impact to aquatic ecosystems.
37	Displacement of agricultural land.	No – not applicable to this comparison Haul routes use existing roads or new roads on licensed future quarry lands.

Criteria		Differentiates between haul routes?	
37	Displacement of agricultural land.	No – not applicable to this comparison Haul routes use existing roads or new roads on licensed future quarry lands.	
38	Disruption of farm operations.	Yes - Trucks traveling to or from the landfill could interact with farm vehicles and field access.	Indicator: Number of field entrances along the haul route
39	Sterilization of industrial mineral resources.	No – not applicable to this comparison Haul routes use existing roads or new roads on licensed future quarry lands that will be extracted after the haul route is needed.	
40	Displacement of forestry resources.	No – options are the same Haul routes use existing roads or new roads on licensed future quarry lands with no significant difference to displacement of forestry resources.	
41	Loss/disruption of recreational resources.	Yes - Different haul routes use different sections of public and private land, so there may be differences in the potential for disturbance to recreational resources.	Indicator: Number and proximity of recreational resources along the haul route

Summary of Haul Route Criteria & Indicators

These are the criteria and indicators that Walker Environmental proposes to use in order to differentiate between the five options on the short list of potential haul routes:

Category	Criteria	Indicator
Public Health & Safety	1. Effects due to exposure to air emissions.	Number of residences along the haul route
	2. Effects due to fine particulate exposure.	Number of residences along the haul route
	6. Potential for traffic collisions.	<ul style="list-style-type: none"> • Length of haul route on public roads • Number of intersection crossings • Number of turns
Social & Cultural	10. Disruption to use and enjoyment of residential properties.	<ul style="list-style-type: none"> • Number of residences along the haul route • Number of intersection crossings • Number of turns
	11. Disruption to use and enjoyment of public facilities and institutions.	<ul style="list-style-type: none"> • Number of public facilities and institutions along the haul routes • Number of intersection crossings • Number of turns
	12. Disruption to local traffic networks.	Number of stops and turns associated with each route
	19. Effects on other public services	Length of each route on local road system (not Provincial, County, or private roads)
	20. Changes to community character/cohesion.	Number of residences along the haul route
	21. Compatibility with municipal land use designations and official plans.	<ul style="list-style-type: none"> • Provincial and municipal road designations for heavy truck traffic • Existing provincial and municipal land use designations for closed or unopened sections of road allowances

Category	Criteria	Indicator
Economic	22. Displacement/disruption of businesses or farms.	Number and types of businesses and farms along the haul route
	23. Property value impacts.	<ul style="list-style-type: none"> • Number of properties along the haul route • Number and types of businesses and farms along the haul route
	28. Public costs for indirect liabilities.	Length of each route on local road system (not Provincial, County, or private roads)
	30. Effect on the cost of service to customers.	Relative cost of reconstruction/upgrade for heavy truck traffic
Natural & Environmental Resources	38. Disruption of farm operations.	Number of field entrances along the haul route
	41. Loss/disruption of recreational resources.	Number and proximity of recreational resources along the haul route



Questions for Consideration:

6. Are there any other factors that you think would help to differentiate between the two landfill design options?



During Community Liaison Committee (CLC) meeting #19 on July 27, 2016, there was a discussion about the long list of options (alternative methods) for landfill footprint. As part of that discussion, concern was expressed by a few members of the CLC on the validity of the rationale for screening out Option 1: Greenfield/Future Quarry lands.

The rationale provided at the July 27, 2016 meeting was based on the Provincial Policy Statement. The rationale read: *“This option is not feasible because the landfill would prevent access to the limestone resource under the ground, contrary to the Provincial Policy Statement (PPS), Section 2.5.2, which discourages land use that “sterilizes” resources (makes them inaccessible).”*

It was suggested that while the PPS is an important guiding document, it is not legislation, and therefore exceptions can be made, particularly in the case where it is in the best interest of the public (“public good”) to carry out an activity contrary to the PPS.

For information purposes, this response is intended to elaborate on Walker’s rationale for screening out Option 1. The full rationale will be documented and available for review in a future document detailing the alternative methods evaluation, and subsequently in the draft EA report as well.

Rationale for Screening of Landfill Footprint Option 1:

All of the presently undisturbed lands owned by Carmeuse outlined in Option 1 are designated as a high-purity calcium stone resource. Some of the lands are already licenced for aggregate extraction (i.e., south of Line 66). Some are not currently licensed, but are future resources that are intended to be licenced (mainly north of Line 66).

All of these lands are designated as *“Quarry Area”* in the County of Oxford Official Plan, described as follows in Section 3.4.1.2 of the Plan:

Lands designated on Schedules Z-1 and S-1, as Quarry Area are those lands associated with the high purity calcium limestone resource which may be proposed for quarry extraction during the lifespan of this Plan. Lands designated Quarry Area include the existing licensed areas as well as land which may be required for new licenses.

The Official Plan notes that these policies and designations have been formulated with regard for the *Provincial Policy Statements* (PPS). Although not itself legislation, Section 3 of the *Planning Act* requires that decisions affecting planning matters *“shall be consistent with”* policy statements issued under the Act.

Section 2.5.2 of the *Provincial Policy Statements* (2014) directs that “*mineral aggregate operations shall be protected from development and activities that would preclude or hinder their expansion or continued use*”. A landfill site in this location would effectively sterilize the resources, since it is unlikely and unreasonable that a modern landfill, once constructed, would be excavated and relocated to a new location to permit quarrying beneath. It is also not feasible for Carmeuse to quarry out the rock in this location in time for the proposed landfill to be built here (even if the mining plan was altered to start stripping this area immediately, the mining operation would progress more slowly than the need for landfill construction).

Section 2.5.2.5(b) of the PPS does allow an exception where “*the proposed land use or development serves a greater long-term public interest*”. However, Walker believes that it would be unable to conclusively demonstrate that landfill footprint Option 1 is in the greater long-term public interest, as it specifically relates to PPS section 2.5.2.5(b), given that:

- The high-purity calcium limestone at this location is a resource that is only accessible in limited locations in Ontario; and
- There is an opportunity to avoid sterilizing the resource by utilizing adjacent portions of the land where the high-purity calcium limestone has already been removed.

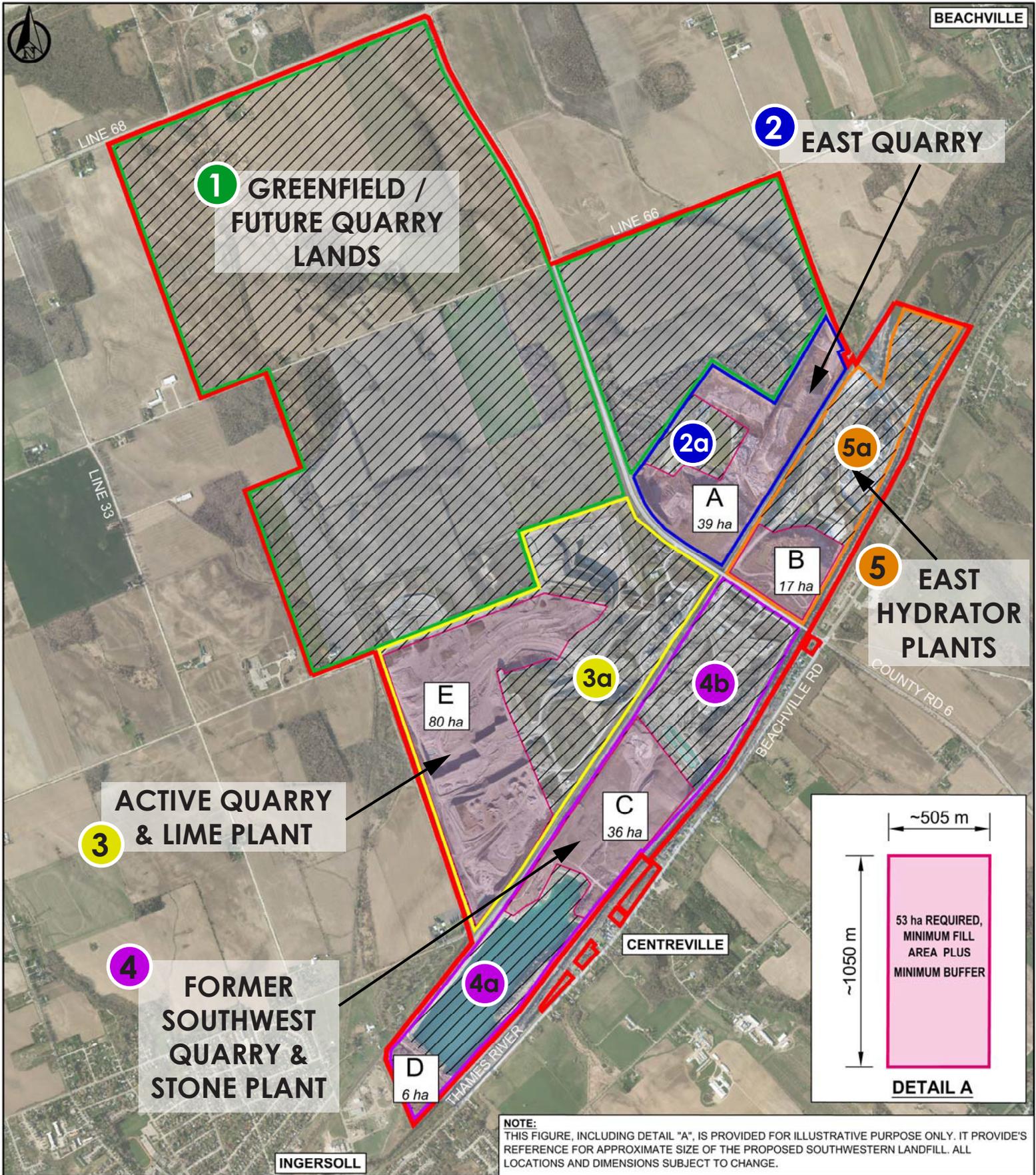
Even if the sterilization of the bedrock resources was allowed under the *Provincial Policy Statements* and associated Official Plan policies, it would still not be commercially viable for Carmeuse to abandon licenced reserves or planned future resources, and/or to easily replace them with equivalent reserves of similar quality elsewhere, given the infrastructure and processing plant investment already in place at this location, coupled with the potential impacts of a new quarry location (e.g., displacing agricultural land elsewhere). Similarly, it would not be commercially viable for WEG to acquire the property from Carmeuse at the combined cost of the land plus the value of the un-extracted aggregate reserves, as well as the cost of relocating the existing lime processing infrastructure.

For these two reasons, the Greenfield/Future Quarry Lands are screened out from further consideration as a potential footprint location in this EA.

Summary of Feasibility Screening Criteria for Landfill Footprint Option 1:

Feasibility Screening Criteria ¹	Option 1: Greenfield/Future Quarry Lands
Consistent with the stated purpose of the environmental assessment.	
Reasonably capable of approval pursuant to the statutes of Ontario and Canada.	<p style="text-align: center;">✘</p> <p style="text-align: center;">Not consistent with PPS 2.5.2.</p>
Technically feasible and proven technology.	
Commercially viable.	<p style="text-align: center;">✘</p> <p style="text-align: center;">Sterilize high-value aggregate reserves/ resources. Not economically feasible.</p>
Conclusion	Not feasible - screen out from further consideration

¹ *Approved Amended Terms of Reference*, p. 29; based on *Code of Practice, Preparing and Reviewing Terms of Reference for Environmental Assessments in Ontario*, Ontario Ministry of the Environment, October 2009, p. 16-17.



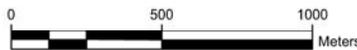
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SOUTHWESTERN LANDFILL ENVIRONMENTAL ASSESSMENT

FIGURE 1
LANDFILL FOOTPRINT ALTERNATIVE
MAPPING CONSTRAINTS

LEGEND:

- CARMEUSE LIME LANDHOLDINGS
- CONSTRAINED AREAS
- POTENTIALLY UNCONSTRAINED AREAS



Items from Meeting 19

Business Arising		Responsibility	Response	Status
1	Provide the definition of a Lake from the Adam's Mine Act.	Pat Almost	<p>Please see separate document containing email from Pat Almost regarding lakes with respect to permitting requirements for a Permit to Take Water.</p> <p>Aspects of the Adam's Mine Lake Act were incorporated into Section 27 of the <i>Environmental Protection Act</i> (EPA).</p> <p>A definition of "lake" from the EPA (subsection 3.1 and 3.2) is summarized as a body of water at least one hectare in size that results from human activities and directly influences or is directly influenced by ground water.</p>	Completed
2	Clarify approximately how much space is required for the landfill footprint, with and without buffer lands (not including ancillary facilities).	WEG	<p>Approximately 80 hectares (200 acres) are estimated to be required for the landfill, buffer lands, and ancillary facilities. It should be noted that for the purposes of screening, areas that do not meet a minimum size of 53 hectares were initially screened out as not technically feasible as they would be too small to accommodate even the minimum area needed for landfill and buffer. However, 80 hectares is a much more realistic estimate.</p>	Completed
3	Clarify what liners are being used at major Landfills in Ontario.	Pat Almost & WEG	<p>South Landfill (Walker Environmental) uses a generic double composite liner. With inward groundwater gradient design. The older East Landfill (Walker Environmental) uses a clay liner with inward groundwater gradient design.</p> <p>To the best of Walker's knowledge, other landfills use:</p> <ul style="list-style-type: none"> West Carleton Environmental Centre (Waste Management), which was recently approved, has a generic double composite liner 	Completed

			<ul style="list-style-type: none"> Proposed Capital Region Resource Recovery Centre (Taggart Miller), which is still in EA process, is proposing a generic double composite liner Green Lane Landfill (City of Toronto) uses a clay soil liner with leachate collection system in hydraulic trap design Ridge Landfill (Progressive Waste) uses an engineered clay liner on the sidewalls and natural clay liner on the base (ie. site-specific design) Twin Creeks/Warwick Landfill (Waste Management) uses the generic single composite liner design Stony Creek Landfill (Terrapure) uses a site-specific hydraulic trap design that is similar to a generic double composite liner design. <p>It should be noted that the <i>Ontario Landfill Standards</i> were adopted in 1998 and some sites noted above were approved prior to this date.</p>	
4	Confirm the Monitoring Schedule of the South Landfill in Niagara.	DF	<p>Please see separate document with detailed information. In general, groundwater is monitored for quality and quantity (level). Requirements are different for each of the landfills, including the South Landfill (currently operating) as well as the East and West landfills (closed), but many of the same wells are used since the landfills are near each other.</p>	Complete
5	Provide a link to the Landfill Standards Document where the information on average elevations and thickness of waste as it relates to liner requirements.	DF	<p><i>Ontario's Landfill Standards</i> Document: https://www.ontario.ca/document/landfill-standards-guideline-regulatory-and-approval-requirements-new-or-expanding-landfilling-sites</p> <p>Information about generic liner design options starts on page 26 (section 4.5).</p>	Complete

			<p>Table 5 in the Landfill Standards lists the maximum waste loadings for each of the Generic Design Options, expressed in cubic meters per hectare (m³/ha). These can be converted into an average thickness in meters by dividing by 10,000 (ie. by converting hectares to m²).</p> <p>The maximum waste loadings are related to the amount of waste and leachate, not the weight of the waste.</p>	
6	Provide more information on the rationale for the differences in thickness of the attenuation layer beneath the single and double composite liner designs.	DF	The single composite liner design requires three metres of attenuation layer while the double composite liner requires 1 metre. This is because the double composite liner has two leachate collection systems, so it requires less attenuation layer to be fully protective of the environment than the single composite liner, which only has one leachate collection system.	Completed
7	Provide more information or the rationale for the differences in thickness of HDPE (plastic) liner for the primary and secondary liners in the generic double composite liner system.	DF	<p>Section 4.5 (b) of <i>Ontario's Landfill Standards</i> outlines the requirements of the generic double composite liner design.</p> <p>Section 4.5.1(5).4 outlines the required service life of the primary HDPE geomembrane liner (150 years) and the secondary HDPE geomembrane liner (350 years).</p> <p>To summarize, the secondary liner must have a longer service life than the primary liner, which is why it is thicker. Note that the geomembrane liners are used in addition to clayey soil primary and secondary liners and associated leachate collection and attenuations layers, which comprise the full double composite generic liner system.</p>	Completed
8	Actual thickness and length of life for the semi-permeable cap in Niagara	DF	The landfill cap/cover requirement as set out in section 4.5 (b) of <i>Ontario's Landfill Standards</i> requires a landfill final cover to have an infiltration rate greater than or equal to 15 cm per year. Section 6.11.1 sets out the requirement of a minimum of	Completed

			60 cm of cover material and a minimum of 15 cm of topsoil able to sustain plant growth.	
9	Provide information on if landfill temperature has any impact landfill performance.	WEG	The temperature within a landfill and its effect on the geomembrane layer of the landfill liner is considered in <i>Ontario's Landfill Standards</i> . Schedule 3 – Service Life – Geomembrane Liners, Section 3 outlines the specifications that the geomembrane liners must meet.	Completed

Items from Meeting 18 – written responses

Business Arising		Responsi-bility	Response	Status
1	Walker to send most recent up-to-date list of all the technical review team, including the Karst Expert and the government review team. (Requested at the meeting and deferred to Walker by Andrew, MOECC)	BO	Provided in hard copy at CLC Meeting 19 (July 27, 2016)	Completed
2	Walker at next CLC Meeting to provide an update on what response to how other technical experts can attend future relevant CLC Meetings. For example: MTO Representative during Haul Routes. Walker to also address the request to attend other meetings as an observer such as the JMCC and Peer-Review Technical Meetings	DF	Walker received this request, dated June 21, 2016 from D. Clark, and is taking it into consideration as we determine the format of the CLC Technical Work Plan meetings, We are interested in further exploring interest in a CLC member attending JMCC, Peer Review Team, and other technical meetings, and would like to discuss further.	In Progress
3	Walker to provide a more detailed timeline to the CLC Members for next meeting on the engagement not only with the CLC but also with the public.	BO	3-Month Timeline provided in the CLC Meeting 19 Materials	Completed

4	Carry Over from ToR phase #10. Walker work with Carmeuse to find the information and pass to CLC before the next meeting in July.	DF	<p>The area within Carmeuse’s Beachville property, known as the Southwest Pit, is where the primary quarry operations are occurring. Within this area, the bottom limit of the ARA licence is 228 metres above sea level (masl). The quarry floor at the current quarry rock face is approximately 231 masl which is lower extent of commercially viable chemical stone.</p> <p>In other words, at the current quarry face the rock below 231 masl does not meet the specifications for chemical stone and therefore does not have commercial value as chemical stone. The chemical stone formation dips to south.</p> <p>It should be noted that in areas north of the current quarry face and within the Southwest Pit, overburden is being placed and quarrying has been completed.</p>	Completed
5	Walker to get back to the group on when they will be able to comment on the Alternate Haul Route as part of the contingency plan.	JT	Alternate Haul routes will be identified as part of the contingency plan in the Design and Operations Report. The CLC will be able to comment on the alternate haul routes during the circulation of the Draft EA Report.	Completed

Items from Meeting 17:

	Business Arising	Responsibility	Status
1	Check boundary of Carmeuse landholdings in Zorra with Carmeuse, make any necessary changes and provide map to the CLC.	BO	Completed
2	Provide responses to specific questions as identified during the meeting.	Andrew Evers	Completed
3	Provide written responses to written questions from the CLC.	Andrew Evers	Completed
4	Provide current list of government review team to CLC.	BO	Completed
5	Q: When will the local community be able to provide input on air monitoring locations?	BO	Answer: During consultation on the revised work plans

6	Make sure documents on the new website are posted in the same way (ie. same number of parts per document) as they were previously.	BO	Completed
7	Provide MTO with community and public concerns relating to traffic and contingency planning	DF	In progress Walker will provide this information to the MTO.

Carry-Over Items from Meetings during ToR Phase:

Business Arising		Responsibility	Status
1	Revisit the Mayor of Ingersoll regarding municipal green initiatives.	DF	In Progress DF to discuss with Mayor of Ingersoll.
2	Clarify question – is there a mental health study being done?	DF	In Progress The question will be referred to the Economic expert for consideration during the EA
3	Evaluate the connection between HHRA and Economic Impact assessment in criteria table regarding potential economic impacts on area health system. (Show the link on the EA Criteria Table)	DF	In Progress This comment will be referred to the Economic expert for consideration during the EA.
4	Determine if there will be a truck wash. If so, identify if there will be a liner under the truck wash.	DF	In Progress This comment will be referred to the landfill design team for consideration during the EA.
5	Combinations of quarry and landfill monitoring and the margin of error – create data analysis from the South Landfill comparing the predictions with the actual data.	DF	In Progress This comment will be referred to each expert for inclusion in the background data collection task during the EA.
6	Intrinsic to review their landfill-specific human health risk assessments literature and its performance evaluation of what has been predicted and what the results are to identify any trends and gaps.	DF	In Progress Will be included when the work plans are finalized.

Business Arising		Responsibility	Status
7	Provide information on Richmond Landfill. Intrinsic will see what information is available from work they may have done.	JT	In Progress Intrinsic to follow up regarding public HHRA information.
8	Look at establishing sensitive receptors that will include industrial and businesses such as Carmeuse, Blue-con and Federal White.	DF	In Progress This comment will be referred to the HHRA expert for consideration during the EA.
9	Provide a report on health trends based on information available from local, provincial and federal sources that pertains to this region as soon as possible, and be made available for the human health risk assessment and to the CLC.	DF	In Progress This comment will be referred to the HHRA expert for inclusion in the background data collection task during the EA.
10	Determine how much licensed capacity remains under the quarry floor	DF	Completed
11	If the CLC is aware of local natural/environmental events, provide information to Walker who will then pass it along to Golder Associates.	CLC	Ongoing
12	Contact the Agricultural agencies and let them know the CLC Members would like to attend the meeting when they meet with the technical expert.	DF	In Progress

From: [Almost, Patricia \(MOECC\)](#)
To: [Becky Oehler](#)
Cc: [Evers, Andrew \(MOECC\)](#)
Subject: PLC question re Permit to Take Water
Date: Thursday, July 28, 2016 10:59:42 AM

Good morning Becky and PLC members.

During our discussions last evening, I committed to following up on the Permit to Take Water (PTTW) process. I indicated that I would seek clarification into the requirement to designate if the taking was associated with "lakes".

I have provided a link to the actual PTTW application. As I mentioned in the meeting, a proponent can apply to draw water for a number of sources.....from a man-made dewatering trench/hole all the way up to a natural water body. The requirement for the PTTW is linked to the volume of water to be taken (all takings that exceed 50,000 litres/day require a PTTW).

As indicated on the application, a proponent is required to identify from where the water is being proposed to be obtained. A lake is one of a number of potential sources.

<https://dr6j45jk9xcmk.cloudfront.net/documents/4531/pttw-application-form-in-english-5046e02.pdf>

I have also included a link, following, that has some general information (and sub-links to other relevant documents) on the permitting process.

<https://www.ontario.ca/page/permits-take-water>

my best regards.....pat

Pat Almost

Issues/Projects Coordinator

Ministry of the Environment and Climate Change

Ministère de l'Environnement et de l'Action en matière de changement climatique

London District Office

(519) 873-5037

Patricia.almost@ontario.ca

Walker Environmental South Landfill – Groundwater Monitoring Requirements

This information is provided in response to a question at the July 27, 2016 Community Liaison Committee (CLC) meeting for the Walker Environmental Southwestern Landfill Environmental Assessment. The CLC requested information about the schedule of groundwater monitoring at the Walker Environmental South Landfill in Niagara.

Groundwater Quality	Groundwater Quantity
<ul style="list-style-type: none">• Quarterly sampling at select locations in March, June, September, and December.• Sampling 3 times per year in March, June, and September at select locations.• Annual sampling at select locations in March.• Sampling every 4 years in June at select locations.	<ul style="list-style-type: none">• Water level measurements 5 times per year in February, March, June, September, and December at select locations.• Quarterly water level measurements in March, June, September, and December at select locations.

The following questions were provided by a CLC member prior to the August 24, 2016 meeting.

Walker provided written responses on August 23, 2016 and are written below in blue.

1. Question – what is the definition of “local” road? Is it the same as a “township” road?

WEG - our definition of a “local” road is any public road that isn’t designated a Provincial or County road. Therefore, we would consider a township road a local road.

2. Question – what is the “estimate timeline for the landfill”?

WEG - The estimated timeline of the landfill would be the period in which the landfill is operating and receiving waste. Pending EA and other approvals (EPA, OWRA, Planning, etc.), we estimate the site could start receiving waste in 2022 and operate for approximately 20 years as stated in section 5.2 (page 12) of the ToR.

3. Question – how long is Carmeuse estimated to be quarrying in the south quarry

WEG - Carmeuse is estimated to quarry in the Southwest Pit until approximately 2028.

The following questions were provided by a CLC member prior to the August 24, 2016 meeting.

Walker provided written responses on 23.Aug.16 which are provided below in blue.

Rationale for Screening Landfill Option 1

Page 1

"some are not currently licensed, but are future resources that are intended to be licensed"

this is of course pure speculation as far as it being licensed, it is not etched in stone that it will happen, for the record there was an effort to license it that was withdrawn because it was going to fail. Does WEG have a written agreement with Carmeuse that they will pursue licensing of the 600 acres, and would this agreement be binding on any future owner of this property?

Response – you are correct in noting that there is no commitment to license. It can be assumed that there is an intent to license for these reasons:

- Carmeuse is a producer of high calcium lime,
- Carmeuse owns these lands being discussed,
- These lands are as designated as high purity calcium limestone,

Therefore, it can be assumed that the intent is that the limestone will be extracted in the future and to do so would require a license. WEG does not have any agreement with Carmeuse pertaining to licensing of future reserve.

"All of these lands are designated as *"Quarry Area"* in the County of Oxford Official Plan", the Official Plan (OP) can be amended by the County, does WEG have an agreement with the County that the OP will not be amended as it applies to the 600 acres of Carmeuse land located north of road 66, south of road 68 and west of County road 6?

Response – no, WEG does not have such an agreement.

Page 2

- This is partially true, but there are other locations where it is available and considering that various levels of government have seriously weakened our steel industry and with it the demand for Lime and Limestone this stone may never be used.
- The area where the limestone has been removed is considerably closer to Beachville, Centreville, Ingersoll, the River and most importantly the Highly Vulnerable Aquifers that supply drinking water in Beachville, Ingersoll, the surrounding area and beyond.

Second Last Paragraph:

"given the infrastructure and processing plant investment already in place at this location" first the current stone processing plant will be history in less than 10 years, and the current Lime Plant operation will be history in 25 years, any extraction from the 600 acres will not occur for 150 to 200 years, if it could be licensed at that time.

Page 3

"not consistent with the PPS 2.5.2" This is not etched in stone!

"Sterilize high-value aggregate reserves/resources" Again this is not etched in stone.

"Not economically feasible" The only way this can be established is if the 600 acres are carried forward for a full and complete assessment along with the location that WEG/Carmeuse wants. It is not the concern of the residents of Oxford County who will adversely affected by the landfill how much money WEG makes, just because profits may be less it doesn't mean it won't work financially.

Response – as the proponent of this EA, any decisions WEG makes will ultimately be tested by the MOECC during its review. This includes WEG's position on the 600 acres/Option 1 as presented in the CLC Landfill Footprint and Design Consultation Paper. It should be further noted that WEG has agreed to an independent, comprehensive and professional peer review with the local municipalities. The Peer Review will review and report on WEG decisions, Alternative Methods Evaluation methodology and all other facets of this EA. You will also be provided additional opportunities to comment on EA prior to and after it is submitted.

Business Arising Report

Items from meeting 19

1. *"one hectare in size that results from human activities and directly influences or is influenced by groundwater"* Are there any exceptions to this statement?

Response – WEG is not aware of any exceptions to the Adams Mine Lake Act as it would contravene legislation.

2. *"areas that do not meet a minimum size of 53 hectares were initially screened out as not technically feasible"* Does this mean that areas that are between 53 hectares and 80 hectares are technically feasible?

Response – for clarity, 80 hectares was used, as a preliminary site screening metric to identify sites potentially capable of supporting the proposed landfill (see Sec. 4 – Size, pg. 5 of the ToR). 80 hectares would provide sufficient area to support the landfill fill area, buffer and ancillary facilities (ie. landfill gas control and leachate management facilities).

53 hectares is the absolute minimum area required for the fill area and minimum buffer. This is used to screen out footprints in the Alternative Methods that would not have sufficient size to accommodate the proposed landfill.

5. *"The maximum waste loadings are related to the amount of waste and leachate, not the weight of the waste"* How is it possible to know the actual amount of leachate that is being contained by the liner at any given time? Given the fact that we have been told by a representative of WEG that the leachate could be held in a cell for an extended period of time if there was a problem with the treatment system, does this mean that a cell could be virtually full of leachate and the liner still be capable of containing it?

Response – the maximum waste loading (ie. thickness of waste) for generic liner designs is determined by the amount of leachate generated over a given area (ie. square metre). Please refer to Sec. 4.5 – Design Criteria for Groundwater Protection and Table 5 of the Landfill Standards (<https://dr6j45jk9xcmk.cloudfront.net/documents/1110/66-landfill-standards-en.pdf>).

The amount or level of leachate contained within a landfill can be determined by a number of methods including measurements from leachate monitoring wells (similar to groundwater wells), landfill gas extractions wells and leachate collection system access ports throughout the landfill.

6. *" The single composite liner design requires three metres of attenuation layer while the double composite liner requires 1 metre."* How much leachate is each of these attenuation layers meant to contain in a given area and for how long before it reaches whatever base exists under it?

Response – The generic liner designs and associated attenuation layers are designed to accommodate the leachate volumes associated with the maximum waste loadings set out in Table 5 of Sec. 4.5 – Design Criteria for Groundwater Protection of the Landfill Standards (<https://dr6j45jk9xcmk.cloudfront.net/documents/1110/66-landfill-standards-en.pdf>)

7. *"the required service life of the primary HDPE geomembrane liner (150 years) and the secondary HDPE geomembrane liner (350 years)"* Does this mean that combined they are supposed to last for 500 years? Combined with the clayey soils and attenuation layer what is the total expected service life? Given the fact that liner designs of this type have only existed for about 20 years or less is it not true that the service expectancy in years is an engineered estimate, or perhaps more accurately and engineered guess?

Response – Schedule 2 of the Landfill Standards states “The geomembrane used as part of a landfilling site's secondary liner may be assumed to have a service life of 350 years, starting at the earlier of the midpoint of the site's operating life and the tenth anniversary of the first deposit of waste in the waste fill zone, if all of the conditions set out above for a 150 year service life are met with the following change:”. In other words, the secondary geomembrane is expected to have a service life of greater than 350 years if the primary liner is designed and constructed properly.

Schedules 1 through 4 of the Landfill Standards set out the service life of all the components of the generic liner designs, specifically:

- Primary Leachate Collection System 100 yrs.
- Secondary Leachate Collection System 1,000 yrs.
- Primary Geomembrane 150 yrs.
- Secondary Geomembrane 350 yrs.
- Compacted Clayey Liners (Primary & Secondary) Unlimited
 - Note that “unlimited” is used to denote that the clay is a natural material that is not expected to degrade over time in the manner that a geomembrane would.

Scientific processes, standards such as American Society of Testing and Materials (ASTM), tests and modelling were used to determine a products service life of the generic liner systems, similar to how many other product specifications are determined by material engineers and scientists.

8. *"infiltration rate greater than or equal to 15 cm per year"* Is there an upper limit to the amount of infiltration that is allowed?

Response – no, not in the Landfill Standards. When a proponent applies for an ECA under the Environmental Protection Act, they would specify the type of final cover to be used, for approval in the ECA.

Items from Meeting 18 - written responses

2. *"interest in a CLC member attending"* As I recall the request was for *"members" to attend"*

Response – we are open to further discussion but feel that a single representative of the CLC is sufficient to observe the technical meetings. The CLC could convene a subcommittee of a few members that are interested/available in attending the meetings as observers.

4. *"known as the Southwest Pit"* I have never heard this name before, is this phase 2 of 2136?

Response – it is the location of the current quarry face but not the area known as the “slot”.

"the rock below 231 masl does not meet the specifications for chemical stone" This is not true, this stone does have a higher sulphur content but it is perfectly viable if it is mixed with the rock above it, the truth is that Carmeuse raised the level of the quarry floor so that they could get the area quarried out faster in order to accommodate the landfill. Given the fact that it is licensed to 228 masl it should be extracted to that level, or is WEG only concerned about aggregate resources/reserves when it seems to be in their best interest? It is true that the chemical stone formation slopes to the south, it also slopes to the west, but there is not 3 meters difference.

Response – your assertion is incorrect. The stone below the current quarry floor is considered to be not economical to mine. In fact, Carmeuse mines in a manner that allows for the mixing of different qualities of stone to meet the quality requirements of their products.

"overburden is being placed and quarrying has been completed" This is not completely true, several 100 thousand tonnes have been stockpiled north of the towerline road on phase 3 of 2136 in spite of the fact that there was more than enough room to put it into the quarried out area of phase 2, this was obviously done in preparation for the landfill, there is also a significant amount of chemical stone along the 35th line (Maloney Road) that is being used as a haul road and must be quarried out if Carmeuse/WEG are at all serious about using available aggregate resources, plus some of the rock wall on the east side of phase 2 could be extracted.

Response – the material currently stockpiled north of towerline road is a result of quarry operations and the proposed landfill has had no bearing on this. The remainder of this question relates to quarry operations and not the landfill proposal.

5. Commenting on the alternate haul routes in the Draft EA is much too late because the MOECC will not give a damn about a minor detail (their opinion) at that time, plus I always understood that it would be "alternate haul route" not "routes". Regardless of when they are commented on all potential haul routes that haven't been fully studied during the selection of the preferred route must be eliminated from consideration as an alternate route, will this be done?

Response – alternative haul routes are developed in the event the designated haul route is unavailable due to things like road closures, etc. They are only used in certain circumstances such (ie. emergency road closures) and not considered "normal operating conditions". An alternative haul route may include routes, or portions thereof, that were not identified as the preferred alternative. Alternative haul routes are not assessed in the technical studies.

Items from Meeting 17:

7. Why hasn't this been completed?

Response – assuming that this question relates to Item #7; WEG will be consulting with the MTO later in this EA process as committed to in the 'status' column. There are specific 'touch points' with the MTO as laid out in the Approved Amended ToR, where this will be discussed.

Carry-Over Items from Meetings during the ToR Phase:

1. Why hasn't this been completed?
2. Has this actually been referred to the Economic expert?
3. Has this actually been referred to the Economic expert?
4. What does a truck wash have to do with landfill design, it is needed to prevent material from being carried onto roadways?

Response – these questions related to a level of facility characteristics that will be considered at a later stage in the EA.

7. Why hasn't this been completed?
8. Why hasn't this been completed?
10. This has not been answered as to how much "licensed capacity" remains under the quarry floor.
12. What if anything has been done to date?

Response – as stated in the status column, these items are “In Progress” as they will be incorporated into elements of the EA at the appropriate stage (ie. provide to our technical consultants for consideration into workplans, studies, etc.).

Walker Environmental South Landfill - Groundwater Monitoring Requirements

Groundwater Quality

What type of tests are done on the samples taken at the all of the times listed?

Response – we will provide the link to the South Landfill Environmental Compliance Approval which is where the types and frequency of monitoring is set out. The website is currently unavailable (ie. the search function is not working properly). Access Environment can be found here:

<http://www.accessenvironment.ene.gov.on.ca/AEWeb/ae/GoSearch.action>

Are the type of tests done and the frequency of sampling required by the MOECC and is it a minimum?

Response – the sampling requirements are specific to the site, as set out in the Environmental Compliance Approval #0084-78RKAM.

Given the fact that the groundwater around the South landfill can not be used a drinking water because of a high salt content, will WEG commit to much more frequent testing here if the landfill is approved?

Response – for clarity, some rural neighbours at our South Landfill rely on groundwater for their drinking water. Groundwater monitoring requirements would be set out by the waste disposal site Environmental Compliance Approval.

Groundwater Quantity

Is this strictly done to determine if the ground level has changed?

Response – assuming the question is intended to say “groundwater level has changed”; yes, monitoring groundwater levels is important for several reasons. It provides information relating to groundwater flow direction, rate of flow, and changes in elevation over time.

The following questions were provided by a CLC member prior to the August 25, 2016 meeting.

Walker provided written responses on 23.Aug.16 which are provided below in blue.

CLC Consultation Paper Haul Route Alternative Methods

Page 4

3rd Paragraph: When is this meeting projected to occur allowing the CLC to question and comment on this issue?

Response – please confirm the meeting that is being referenced?

6th Paragraph: When is this meeting projected to occur, will it be at the same meeting as above?

Response – the agenda for the October (Oct. 26th) CLC meeting will be a discussion on the draft results of the comparative evaluation and the identification preferred alternatives.

8th Paragraph: How will WEG mitigate increased traffic.

Response – if potential impacts related to increased traffic are identified in the traffic studies, measures will be explored to mitigate them. This will be conducted at a later stage in the EA, after the technical studies that will describe potential impacts.

Page 5

of Trucks per day: Would this number only be correct if all of the trucks were large transport trucks? Is this a very low estimate given the fact that the East Landfill had an actual peak day of 400 trucks in July of 2004, at the time it was receiving around 650,000 tonnes?

Response – the traffic studies will assess if there are any impacts associated with the trucks using the site. 100 trucks per day has been provided as a general reference point and should be considered an average. This estimate assumes a variety of truck types with a majority of large transport trucks (ie. tractor trailers).

Schedule: Why would the Saturday hours be different from what is in place at the South Landfill?

Response – to provide context, we have provided “typical” operating hours, since operating hours for the proposed Southwestern Landfill have not yet been determined. We did not reference South Landfill operating hours.

Haul Route Enforcement: Why wouldn't you start with what has is in place at the South Landfill and make it tougher until it has been established that the drivers will abide by the rules?

Response – traffic enforcement measures used at the South Landfill in Niagara have been effective and we will discuss these options as well as other at the appropriate phase in the EA (ie. impact prevention and mitigation).

Type of Trucks: Are you prepared to show all of the trucks including Leachate trucks in case they are ever used, that could be going to and coming from the landfill?

Response – if the trucking of leachate offsite for treatment is chosen as the preferred alternative, it will be included in the technical studies.

Page 8

1st Paragraph: Will there be a CLC meeting to held to question and/or comment on the exact location?

Response – yes, the CLC will have the opportunity to comment on a more refined location of the site entrance at the CLC Meeting for Preferred Characteristics. The location of the site entrance may be further refined as the EA progresses.

Page 10

Criteria Explanation:

1. How does this apply to Haul Routes?

Response – some criteria may not apply to all the different sets of alternatives but it is provided to ensure all screening criteria are considered, as required by the Approved Amended ToR.

2. Will you provide a list of other approvals that apply to Haul Routes?

Response – we can once any other approvals are identified (ie. turning lane approval, etc.)

3. How does this apply to Haul Routes?

Response – an alternative of hauling waste to the site must be proven and technically feasible (ie. trucking of waste is technically feasible).

4. How can this be determined before the actual studies are completed?

Response – the costs of certain haul options (ie. rail haul and major construction) can be calculated to a sufficient degree of accuracy so that it can be determined if it is commercially viable or not.

Page 14

Route 2 Is it true that an Archaeological and Ecology Assessment will be required for the private road?

Response – yes.

Route 2 Is it true that an Archaeological and Ecology Assessment will be required for the private road?

Response – yes.

Page 17

Haul Routes 2, 3, 4, 5 and 6 must be carried forward for complete studies and assessment before a selection can be made, will this be done?

Response – the process for assessment and evaluation of alternative methods (ie. the routes noted above) is set out in Sec. 8.1 of the ToR. To summarize, the routes noted above will be screened against screening criteria (as demonstrated in this booklet), any routes that are not screened out will then be evaluated using a comparative evaluation and a preferred alternative will be identified. As outlined in Sec. 8.2 of the ToR, the preferred alternative will be used to develop facility characteristics, finalize workplans and conduct the technical studies.

Pages 19, 20, 21, 22, 23, 24 and 25

2. *"mud tracked onto road"* I believe that is a reason why there will be a truck wash required.

Response – the requirement for a truck wheel wash will be determined at a later stage in the EA (ie. impact prevention and mitigation).

3. Are all trucks washed before they go onto the road?

Response – trucks do not require a wheel wash at the South Landfill in Niagara. The South Landfill has long internal roads and Walker employs a full time street sweeper to keep private and public roads in and around the facility clean.

5. Are the trucks sealed to the point that insects cannot enter or exit them?

Response – trucks are typically closed or their loads are covered. It can be assumed that they are not sealed to the point that insects could not enter them.

8. Is there never any methane in a garbage truck?

Response – the presence of methane gas in the garbage while in a truck is highly unlikely. Methane is formed when waste is decomposed in an anaerobic state (ie. no oxygen present). It can take weeks or months before the microbes that create methane gas can be established. They also cannot tolerate oxygen. The process of loading waste into a truck would add

sufficient oxygen to the waste to eliminate the presence of methane generating microbes, therefore the presence of methane gas in the waste while in the truck is highly unlikely.

9. Is it possible that the very existence of 200 plus trucks per day and the odours, noise etc. associated with them could cause residents to have to leave their residences?

Response – this EA will evaluate haul routes, study any potential impacts from the preferred haul route, consider any potential mitigation measure if required, and report on the findings. It should be noted that we can look to the operating example of our Niagara campus which includes a landfill similar in both the characteristics of the proposed South Landfill and as well as the surrounding area. Our operations there combined with an operating quarry, compost facility, biosolids facility and residential drop-off have not create traffic issues to the extent that neighbours had to leave their home.

13. Is it possible the 200 plus trucks per day would be considered to be a negative Visual Impact that wouldn't exist without the landfill?

Response – the traffic study will assess impacts as they relate to truck traffic. The visual study will not assess truck traffic (ie.moving objects).

16. How can this be determined before an Archaeological Assessment has been done on the private roads, licensed or not (the RR allowance is not licensed)?

Response – we understand that the rail road allowance is not licensed as aggregate resource. Given the private roads are on either licensed aggregate land or privately owned, disturbed rail road allowance, it is not expected that any effects on land resources, traditional activities or other interests of Aboriginal Communities exist. It should be further noted that WEG is consulting with Aboriginal Communities on this EA and specifically, the Alternative Methods Assessment.

17. How can this be determined before an Archaeological Assessment has been done on the private roads, licensed or not (the RR allowance is not licensed)?

Response – we understand that the rail road allowance is not licensed. We will include criteria #16 as applicable to this comparison. The proposed indicator will be “Length of route along undisturbed land”.

18. Why would roads not designed or intended as major trucking routes be used before being upgraded?

Response – assuming the question asks “could a road not currently designed for heavy trucks be used”? If so, the comparative evaluation may identify a road or route as the preferred alternative although that road/route may not be currently designed to handle truck traffic. Therefore, the road/route would need to be upgraded prior to use.

21. Does this mean that the proposed private road(s) would require new land use or environmental approvals?

Response – municipal approvals may be required (ie. zoning bylaw or Official Plan amendment) as the related to any proposed private road.

28. Does this mean that WEG will not have any responsibility for additional maintenance required on County roads because of the 200 plus landfill trucks?

Response – a preferred alternative has not yet been selected and subsequent studies conducted so it is premature to determine if any additional maintenance is required. This criteria is being included to accommodate various potential outcomes. Mechanisms such as host community fees can be used to address impacts such increased maintenance on a road, if such an impact has been determined.

30. Does this mean that costs for reconstruction/upgrades are passed on to customers directly?

Response –yes, although not directly as the costs are included in WEG’s overall service fee (ie tip fee). Costs related to upgrades/reconstruction are considered as they may impact the viability of a route (ie. the route may need significant reconstruction to the point that it is less feasible than another route).

32. This is not completely true because the RR allowance is not licensed, is WEG aware of this fact?

Response – WEG understands that the rail road allowance is not licensed for aggregate extraction. If use of the existing rail road allowance is identified, it is not envisioned that any surface water resources would be destroyed or displaced (ie. a natural stream being physically relocated).

35. This is not true, because the RR allowance is not licensed and even the areas that are licensed it is for aggregate extraction not for a landfill road, is WEG aware of these facts?

Response - WEG understands that the rail road allowance is not licensed for aggregate extraction.

36. This is not true given the fact that the the Caddy Drain/Patterson and Robins (known locally as the Cemetery Creek) runs in the RR allowance, is WEG aware of this fact?

Response – WEG is aware of these features that run alongside the rail road allowance. It is not envisioned that any significant impact on aquatic ecosystems would occur by developing a roadway within an existing rail road allowance.

37. The potential private road on the licensed quarry lands are being used for agriculture and would be lost sooner if it is used for a landfill road, is WEG aware of this?

Response – WEG is aware of the current agricultural use on the licensed lands. We can discuss this further (ie. the addition of this criteria #37).

38. Do the actual entrances into farms not count?

Response – we can add an additional criteria (ie. number of farm entrances).

40. What is considered to be "forestry resources"?

Response – the Ministry of Natural Resources defers to the municipality for the definitions of forestry resources or signification woodlands. Oxford County defines a woodland in its Woodlands Conservation By-law No. 4489-2004 as amended (<http://www.oxfordcounty.ca/Portals/15/Documents/Planning/Woodlands%20Conservation%20By-law%20-%204489-2004%20as%20amended.pdf>). It should be noted that exceptions to the by-law include land designated as aggregate resource or land licensed as aggregate.

Summary of Haul Route Criteria & Indicators

My concerns, comments and questions are covered on previous pages.

CLC Meeting 20

Other documents sent as materials, but not included as pages in this Appendix (to cut down on duplication, paper waste and/or very large digital files):

- 1) Transcript: http://www.walkerea.com/uploads/734/Doc_636114646744889509.pdf

Please contact us at info@walkerea.com or toll-free at 1-855-392-5537 if you require assistance accessing this document online or in hard copy.

Southwestern Landfill CLC Meeting #21 Summary

Date: September 28, 2016
Time: 6:00 p.m. - 9:30 p.m.
Location: 160 Carnegie Street, Ingersoll (Lower Meeting Room)

Meeting Overview

The primary purpose of the CLC Meeting 21 was to consult CLC Members on the long-list of options for Leachate Treatment Management and Landfill Gas Management. More specifically, CLC Members provided their input on how the four (4) screening criteria (Consultation Paper p.5) were applied by Walker and used to determine the short list of options. In this particular case, once the four screening criteria were applied, one option for Leachate Treatment Management and a combined option for Landfill Gas Management remained.

In addition to these two key landfill component discussion, the CLC provided feedback on the September 1, 2016 Public Event and input on the format of the October 13, 2016 Public Workshop.

Consultation Discussion Summary

Inputs on Leachate Treatment Management:

- Walker provided an explanation of what leachate is, how much leachate is expected for the proposed landfill size, and why leachate is managed was presented by Walker.
- Walker then presented a long list of four options for leachate management. Of the four options presented, only one, on-site treatment, was potentially feasible when the four screening criteria were applied.
- Water quality was a primary concern for CLC Members when considering how leachate would be managed.
- CLC Members raised questions about regulations for regular monitoring and testing of treated leachate. Walker outlined the regulatory requirements that will be followed and also provided examples of how routine and regular monitoring of leachate is managed at the South Landfill in Niagara.
- A CLC Member raised questions around financial assurance during and post-closure of the Landfill in the event of leachate leaking or other potential problems. Walker responded that they are responsible for any issues that arise during operations or after the landfill is closed.
- If Walker were unable to pay for any issues that arise e.g. as a result of bankruptcy) then there is a fund set aside, called Financial Assurance, that is administered by the Ministry of Environment and Climate Change (MOECC). The amount of Financial Assurance a proponent such as Walker must pay to the fund is calculated by the MOECC. This money can only be accessed by the MOECC if the proponent is unable to pay for reparations.

Southwestern Landfill CLC Meeting #21 Summary

Inputs on Landfill Gas Management:

- Walker described what landfill gas is, how much landfill gas there would be, and why it is managed. They also stated that collecting and managing landfill gas is an important source of renewable energy.
- Walker Environmental presented the three long list options for Landfill Gas Management. Of the three options, two are carried forward directly to the preferred alternatives as a combined option to be studied.
- CLC Members asked clarifying questions on how landfill gas is used in Niagara as a renewable energy that displaces greenhouse gas emissions.
- The primary concern from CLC Members was around the safe management and operation of landfill gas including flaring.

Other Agenda Topics

Feedback on Public Engagement:

- Walker reported that in September they hosted a Public Event on September 1, 2016 and began preparing for a Workshop in October to consult on Five of the Key Landfill Components.
- CLC Members provided feedback on the September 1, 2016 Public Event. More specifically, CLC Members who participated at the event discussed their experience in liaising with the community, the concerns raised, and provided suggestions on how to reach residents to increase participation at future events.
- The CLC expressed concern about the timing of the September 1, 2016 event since it was the Thursday before the Labour Day weekend.
- For the October 13, 2016 workshop, Walker invited CLC Members to participate as a CLC Member resource at each of the workshop tables.

Community Update and CLC Correspondence:

- The facilitation team presented a new email: communityliaisoninfo@gmail.com to get in contact with the facilitator and documenter for any questions or feedback related to the CLC meeting format.
- Walker recapped for the CLC Members a description of their methodology and rationale for the ***Comparative Evaluation process for the Identification and Evaluation of the Alternative Methods*** as outlined in the approved Terms of Reference Section 8.1.

Closing Remarks - Adjournment – 9:30 p.m.

The next CLC meeting will be held on **Wednesday October 26, 2016**. The purpose of this meeting will be to review and discuss the Preferred Alternatives for each of the five landfill components.

This Summary was prepared by Katrina Kroeze, CLC documenter and approved by Laurie Bruce, CLC Facilitator. *Full meeting transcript is available at www.walkerea.com. If you have any questions about this summary, contact the CLC facilitating team at 416-992-9669 or email communityliaisoninfo@gmail.com or if it concerns Walker, at Walker office at 1-855-392-5537 or info@walkerea.com.*

Monday, September 19th, 2016

Dear _____:

Please find enclosed the materials for Community Liaison Committee Meeting 21, which will be held on Wednesday, September 28, 2016 at 6:00 pm. The primary purpose of this meeting is to discuss Leachate Treatment Management and Landfill Gas Management Alternatives.

Follow-Up Items from the Meeting 20 (August 24, 2016)

The following enclosed documents are provided as follow-up from CLC Meeting 20.

- Meeting transcript
- Draft CLC meeting summary
- Business arising report – includes written answers to questions and two attached documents:
 - Revised Criteria and Indicators for Haul Route Comparative Analysis

Please provide any comments on the draft CLC meeting summary by September 30, 2016, after which it will be posted on walkerea.com with other meeting materials.

Other Notes:

We have booked the Colombo Club for a workshop, on October 13, 2016. This event will be a consultation on the Alternative Methods (5 Landfill Components) that the CLC has been reviewing and providing input over the past three meetings.

Additionally, we have scheduled a Bus Tour on Saturday October 15, 2015. We encourage CLC Members to take this opportunity to attend.

More information on both these dates will be further discussed at the CLC Meeting 21.

Please let me know if you have any comments or questions prior to the meeting.

Date: Wednesday, September 28, 2016

Time: 6:00 p.m. – 9:00 p.m.
(Dinner will be available at 5:30)

Location: 160 Carnegie Street, Ingersoll (Lower Meeting Room)

Meeting Materials:

- Landfill Gas Management and Leachate Management Consultation Paper
- Presentation: Public Event Summary, Public Workshop, Upcoming CLC Meeting Schedule
- Meeting 20 Business Arising Report with attachments

	Description	Lead	Duration	End Time
1	Welcome	Facilitator	5 min	6:05
2	Objectives and Review of Agenda	Facilitator	10 min	6:15
3	Comparative Evaluation Process	WEG	20 min	6:35
4	Consultation Paper Review & Discussion <i>Document: Landfill Gas Management and Leachate Treatment Consultation Paper</i>	WEG	110 min	8:25
5	Public Consultation Activities <i>Public Event Summary, CLC Participation Experience and Upcoming Workshop</i>	WEG	20 min	8:45
6	CLC Update & Correspondence	ALL	10 min	8:55
7	Next Meeting Agenda and Action Items	ALL	5 min	9:00
8	CLC Discussion with EA Advisor	CLC/AG	1 hour	10:00



Southwestern Landfill Environmental Assessment

CLC Consultation Paper - Leachate and Landfill Gas Management Alternative Methods Screening

This document was prepared for use at the September 28, 2016
Community Liaison Committee meeting.

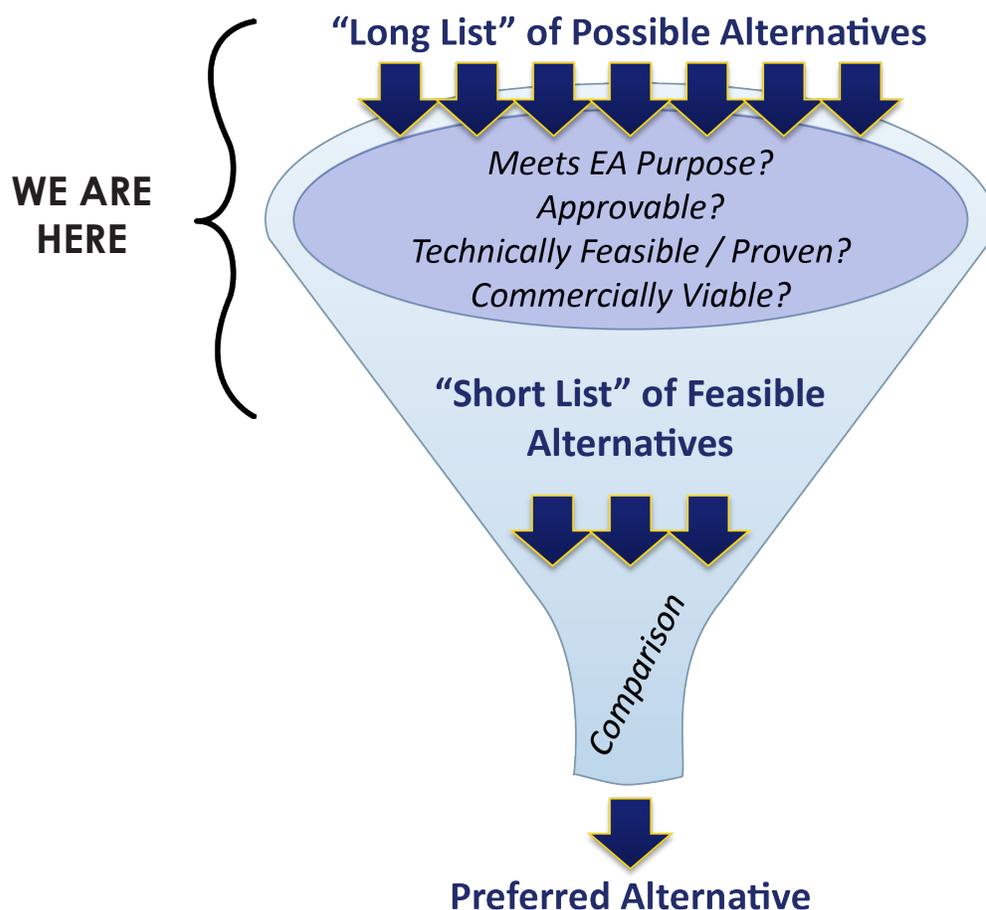
Walker Environmental will report back to you on how your input
was considered.

Leachate & Landfill Gas Management Alternatives Methods Screening Consultation Paper

Where in the EA process are we?

We are in the Evaluation of Alternative Methods & Identification of Preferred Alternatives phase of the Southwestern Landfill Environmental Assessment (EA). This is when a long list of alternatives (options) is identified and four screening criteria are applied. The alternatives that comply with the screening criteria become the short list of feasible alternatives. If a short list exists after the screening, the shortlisted alternatives undergo further comparative evaluation to determine a Preferred Alternative.

Further information on this phase can be found in Section 7 and 8.1 of the Approved Amended Terms of Reference. The preferred alternative(s) are then subject to further study through the remainder of the EA.



What is the purpose of this consultation paper?

This consultation paper is meant to provide the required information for CLC members to provide meaningful input.

In this consultation paper for leachate management and landfill gas management, you will see the rationale that led to the development of the long list of options for each topic, and why Walker has identified some alternatives as either not feasible, or feasible and requiring further study. Walker wants to have the perspective of community members on these topics, since you know your community best.

This consultation paper is written specifically as a consultation tool for the September 28, 2016 CLC meeting to facilitate dialogue and input; it is not the final document.

When you feel the level of information is too technical, where more explanation is required, or where you feel uncomfortable providing input, please voice it. There will also be a technical review of this information by the Peer Review Team that reports to the Joint Municipal Coordinating Committee (JMCC) during its overall review of the EA. The Ministry of the Environment and Climate Change (MOECC) also reviews the screening rationale as part of its overall review of the EA.

How will you know how your input was considered?

After this meeting, your input will be recorded and considered. Walker will provide feedback on how input was integrated, or why it was not.

At an upcoming meeting on the comparative evaluation of the short-list of alternatives, we will provide feedback on:

- What input was received and considered
- How input affected the comparative evaluation and the preferred outcomes

In this consultation paper and CLC discussion, a long list of alternatives has been developed for both leachate management and landfill gas management. During this meeting, we will discuss the screening process carried out by Walker, if there are any additional options to consider, and next steps.

Later in this EA, the chosen (Preferred Alternatives) leachate management and landfill gas management options will be studied by technical experts to determine the potential impacts. If potential impacts are identified, plans to prevent or mitigate them will be developed in consultation with the CLC and other interested parties.

Leachate Management

What is leachate?

Leachate is water that has come into contact with waste. Leachate is created when rain water or snow melt filters through waste in the landfill. Once at the bottom of the landfill, leachate is retained on the landfill liner and then pumped out of the landfill for treatment.

How much leachate is expected?

The rate of leachate production will gradually increase as the landfill area increases (more area = more rainfall). It is estimated that up to an average of 570 cubic meters of leachate per day could be produced.

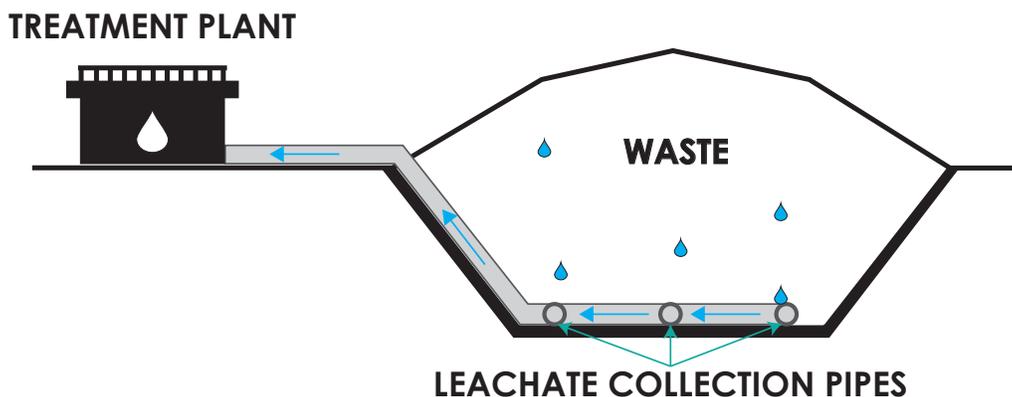
Why is leachate managed?

Leachate is managed to protect human health and the environment. Water can pick up, or "leach" a variety of chemical compounds from waste (for example, iron). Through a leachate management system, landfills collect and treat leachate. The treatment facility must clean the collected leachate according to established standards before it can flow back into the environment.

In general, how is leachate managed at a landfill?

While we'll be looking at some specific management methods in this paper, there are a few considerations that are the same for all options:

1. Leachate will be collected in the perforated pipes and stone layers of the landfill liner system, then pumped out of the landfill for treatment.
2. Leachate will be initially stored (typically in holding ponds or tanks) to balance out flow into the treatment system. There could also be pre-treatment in the storage area.
3. Leachate is treated.
4. Leachate treatment and management continues after landfill closure.



Long List of Leachate Management Alternative Methods (Options)

As explained in the previous CLC Consultation Papers, when reviewing the long list of potential leachate management options, Walker is required to use the four screening criteria as approved by the Minister of the Environment and Climate Change as part of the Terms of Reference (Section 8.1).

Criteria	Explanation
1. Must be consistent with the stated purpose of the Environmental Assessment	The purpose of the Southwestern Landfill EA is to create a landfill capacity at the Carmeuse Lime property for solid, non-hazardous waste generated in Ontario. If an option doesn't align with this goal, it is screened out.
2. Must be reasonably capable of approval pursuant to the statues of Ontario and Canada	There are many different approvals that are required for a landfill. Any option that could not be reasonably approved is screened out.
3. Must be technically feasible and proven technology	The landfill must be constructed and operated safely, meeting all requirements. If an option can't be feasibly carried out, or if the technology has not been proven to work, the option is screened out.
4. Must be commercially viable	Private-sector companies like Walker Environmental can only invest in infrastructure that is financially sustainable. If the cost of an option is too high for the landfill to be profitable, it is screened out.

Option 1: Pipe to Municipal Wastewater Treatment Plant (WWTP)

Description & Considerations	Included for Further Evaluation?
<ul style="list-style-type: none"> Leachate is pumped to the municipal sewer system by pipe and is treated at a local WWTP. Nearest municipal sewer connection is about 1 km to the west of the proposed site. Preliminary information suggests the Ingersoll WWTP currently has enough capacity and can treat leachate (ie., It accepts leachate from Oxford County's Salford landfill). 	<p>Not included for further evaluation.</p> <p>Rationale:</p> <ul style="list-style-type: none"> Not permitted under Oxford County by-law No. 2719-87, Section 2.3.

Option 2: Haul via Truck to Wastewater Treatment Plant (WWTP)

Description & Considerations	Included for Further Evaluation?
<ul style="list-style-type: none"> Leachate is trucked to a WWTP where it is treated. Approximately 13 trucks per day at full landfill size (added to traffic study). Ingersoll WWTP is set up to receive hauled wastewater. Preliminary information suggests the Ingersoll WWTP currently has enough capacity and can treat leachate. Other municipal and private WWTPs are also a possibility. 	<p>Not included for further evaluation.</p> <p>Rationale:</p> <ul style="list-style-type: none"> Not permitted within Oxford County under Oxford County by-law No. 5707-2015. Haulage to an off-site WWTP (municipal or private) is cost prohibitive, however, can be considered as a potential contingency plan.

Option 3: On-site Treatment Plant

Description & Considerations	Included for Further Evaluation?
<ul style="list-style-type: none"> An on-site treatment plant constructed at the landfill. Would use a combination of physical, chemical, and/or biological treatment processes designed for the leachate produced at the landfill. The treatment process could include the use of aeration/holding ponds, tanks, filters, subsurface beds, engineered wetlands, and other technologies as primary or tertiary treatment. Several private landfills in Ontario use on-site leachate treatment plants. 	<p>Yes – include for further evaluation.</p>

Option 4: On-site Evaporation Plant

Description & Considerations	Included for Further Evaluation?
<ul style="list-style-type: none"> Leachate is heated to produce steam, either in a boiler or by injecting the leachate into a combustion flare. About 5%-10% of the leachate volume remains as an ash, sludge or slurry that must be disposed of at an appropriate facility. Requires significant amounts of energy to run the plant. The evaporation plant would occupy a relatively small area and would have a stack emitting water vapour (steam). There are some small-scale examples of this option in the United States, but currently none that are approved or operating at any major landfill site in Ontario. 	<p>Not included for further evaluation.</p> <p>Rationale:</p> <p>Screened out because it is not proven technology.</p> <ul style="list-style-type: none"> Evaporation technology has not been approved or used for full-scale leachate treatment in Ontario. Pilot and small-scale tests in the United States suggest the technology may be feasible, but there are still issues to deal with (e.g. precipitate fouling, high energy and maintenance costs, unacceptable air emissions).



Example of Typical Leachate Treatment Equipment

Summary - Screening for Leachate Management Options

Feasibility Screening Criteria	Pipe to Municipal Wastewater Treatment Plant	Haul via Truck to Wastewater Treatment Plant	On-site Treatment Plant	On-Site Evaporation Plant
Consistent with the stated purpose of the Environmental Assessment.				
Reasonably capable of approval pursuant to the statutes of Ontario and Canada.	✘ Not permitted under Oxford County by-law.	✘ Not permitted under Oxford County by-law.		
Technically feasible and proven technology.				✘ Not yet proven technology at this scale.
Commercially viable.		✘ Prohibitively high cost to haul elsewhere.		
Conclusion	Not feasible - screen out from further consideration.	Not feasible - screen out from further consideration.	Potentially feasible - carry forward for further evaluation.	Not feasible - screen out from further consideration.



Record Your Thoughts:

1. Did you understand the options presented for leachate management?
2. Are there any options you would suggest be considered?
3. Have we been clear on our rationale for the chosen preferred alternative for leachate management?
4. What pros and cons do you see for the chosen option?

Landfill Gas Management

What is landfill gas?

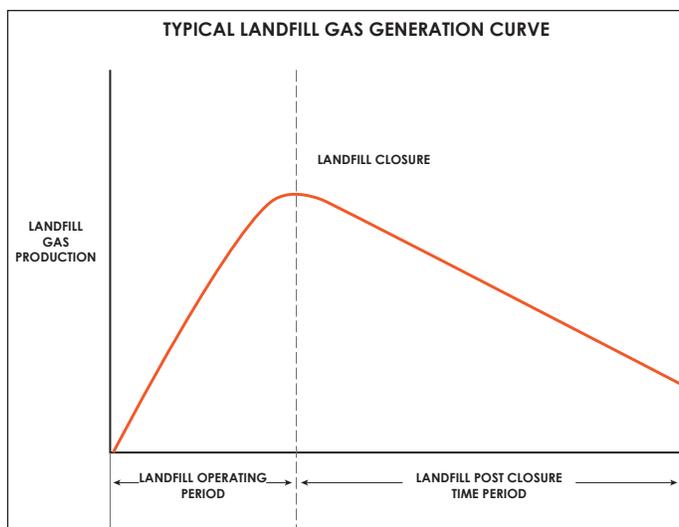
Landfill gas is created when waste breaks down within the landfill; particularly organic waste. Landfill gas is approximately 50% methane and 50% carbon dioxide, with trace amounts of other compounds, including sulphur compounds and Volatile Organic Compounds (VOCs).

How much landfill gas would there be?

Landfill gas production increases as the landfill is filled, peaks just after closure, then slowly declines over a few decades.

At the Walker Environmental South Landfill in Niagara, which is similar in size to the proposed Southwestern Landfill, the peak gas collection rate is predicted to be 17,000 cubic meters per hour.

This is equivalent to enough renewable energy to heat approximately 15,000 Canadian homes every year.



Why is landfill gas managed?

Landfill gas is managed to protect the local community and environment from impacts of landfill gas, especially as it relates to odour and greenhouse gas emissions.

In addition to preventing or minimizing impacts, landfill gas can also be a renewable energy source. It can be used to generate renewable electricity or displace the need for non-renewable industrial fuels like natural gas or coal. Walker Environmental partnership company, Integrated Gas Recovery Services Inc. (IGRS), offers custom design, build, and operation solutions for landfill gas utilization, control and Greenhouse Gas (GHG) emissions reductions projects. IGRS is Canada's largest landfill gas utilization company.

Long List of Landfill Gas Management Alternative Methods (Options)

This section includes a review of the different potential Landfill Gas Management Options (the long list). As defined in the previous section, the four screening criteria are:

1. Must be consistent with the stated purpose of the environmental assessment.
2. Must be reasonably capable of approval pursuant to the statutes of Ontario and Canada.
3. Must be technically feasible and proven technology.
4. Must be commercially viable.

Option 1: Passive Venting

Description & Considerations	Included for Further Evaluation?
<ul style="list-style-type: none"> • Landfill gas is allowed to pass through the landfill cover into the atmosphere. • Vent pipes may be required in the cover or around the perimeter to assist with venting. 	<p>Not carried forward</p> <p>Rationale</p> <ul style="list-style-type: none"> • Not permitted for Ontario landfills with a capacity greater than 1.5 million cubic meters (O. Reg 232/98).

Option 2: Flaring

Description & Considerations	Included for Further Evaluation?
<ul style="list-style-type: none"> • Landfill gas is flared (burned) under controlled conditions. • Exhaust from flare must meet air quality standards. • Flaring typically destroys over 98% of the methane and 99.9% of trace organic compounds. • Capturing and flaring is the primary means to reduce greenhouse gas emissions. 	<ul style="list-style-type: none"> • Feasible - carry forward for further evaluation.



**Walker South Landfill
- Landfill Gas Flares**

Option 3: Power Generation

Description & Considerations	Included for Further Evaluation?
<ul style="list-style-type: none"> • Landfill gas can be pre-treated (remove moisture and some impurities), compressed and then used: <ul style="list-style-type: none"> - As an industrial fuel in boilers, dryers, or kilns to replace natural gas or other fuels; - To power engines that generate electricity; or - Turned into renewable natural gas (RNG) and injected into the natural gas pipeline/network. • The destruction efficiencies of methane and trace compounds are equal to or better than flaring. • The industrial user must be relatively close to the landfill to justify pipeline construction costs. In this case, there is an adjacent lime manufacturing kiln that could be suitable. • As an example, up to 2.1 million GJ per year (equivalent of heating 23,000 Canadian homes per year) of processed landfill gas from the Walker Environmental Niagara landfills is sold to local industries, displacing fossil fuels. • As another example, Walker Environmental has installed and is operating four landfill gas electrical generating plants across Ontario that produce 120,000 MWh/yr of electricity (equivalent of 11,000 Canadian homes per year). • Landfill gas is a recognized source of low cost renewable energy that can lessen Ontario's dependence on non-renewable fuels. 	<ul style="list-style-type: none"> • Potentially feasible - carry forward for further evaluation.



Walker South Landfill - Landfill Gas Processing Facility



Walker's Moose Creek Energy
4.6 MW Electricity Generating Facility

Which landfill gas management options are carried forward?

Rather than choose either flaring or utilization, Walker will carry both options forward into the Environmental Assessment (EA) for further, detailed assessment. In other words, a combination of these two is the preferred alternative. Why?

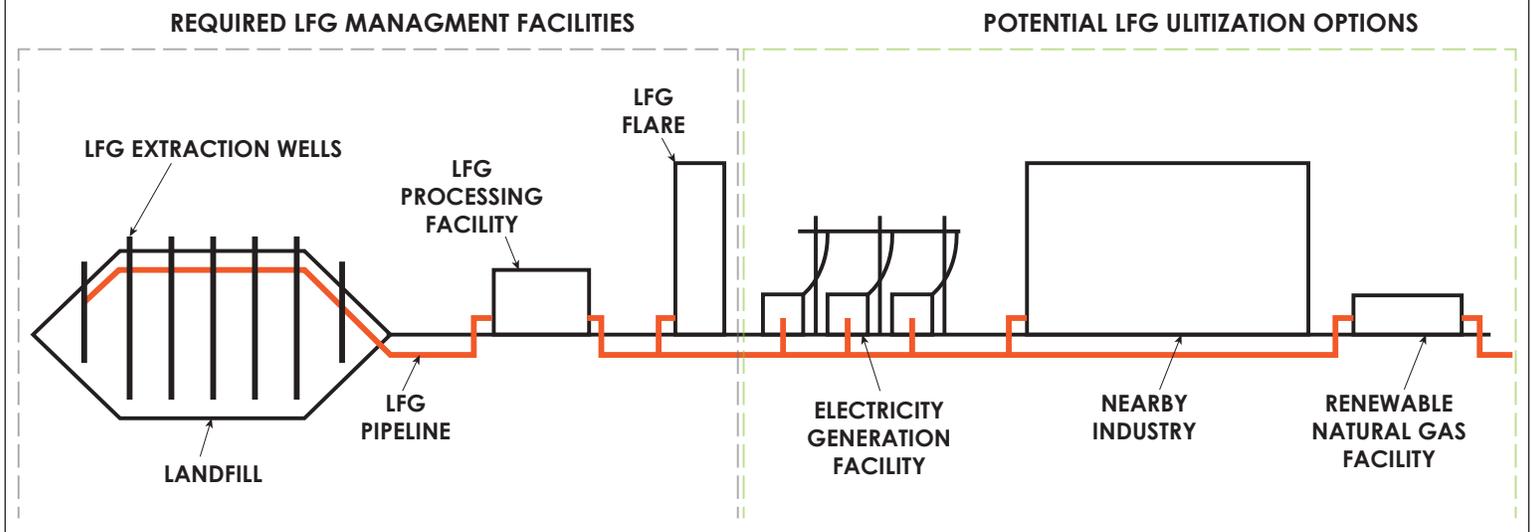
- Despite the beneficial aspects of gas utilization, a flaring system will be required to safely manage excess gas that cannot be utilized (e.g., early/late years, low demand periods, maintenance, etc.)
- Landfill gas production will not reach commercially viable quantities until at least five years into the landfill operations. A flaring system will be required until then.
- Utilizing the landfill gas as a renewable energy source will help Ontario reduce its GHG emissions. Different ways of utilizing the landfill gas exist and further studies will determine how and when to implement a utilization project.

In general, how will landfill gas be managed?

Here's how the two preferred options, flaring and utilization, could work together:

1. Perforated pipes (usually PVC) are drilled into the landfill to extract the gas from the landfill. These are called landfill gas extraction wells.
2. A vacuum is placed on the extraction wells to draw landfill gas into the wells.
3. A network of pipes connects to all the extraction wells. The landfill gas flows into the pipe network to a central landfill gas processing facility where it is either flared or used to generate renewable energy.
4. Typically, there are dedicated staff who monitor, test, and perform maintenance on the landfill system on a regular basis.
5. Landfill gas collection and management continues after the landfill closure.

EXAMPLE OF HOW LANDFILL GAS (LFG) IS MANAGED & POTENTIALLY UTILIZED



Summary - Screening for Landfill Gas Management Options

Feasibility Screening Criteria	Passive Venting	Flaring	Landfill Gas Utilization
Consistent with the stated purpose of the environmental assessment.			
Reasonably capable of approval pursuant to the statutes of Ontario and Canada.	 Not allowed under Ontario Regulation 232/98		
Technically feasible and proven technology.			
Commercially viable.			
Conclusion	Screened out from further evaluation.	Potentially feasible - carry forward for further evaluation.	Potentially feasible - carry forward for further evaluation.



Walker South Landfill - Landfill Gas Pipeline to Nearby Industrial Energy Users



Record Your Thoughts:

5. Did you understand the options presented for the landfill gas management?
6. Are there other options you would suggest be considered?
7. Have we been clear on our rationale for screening out landfill gas management options?
8. What pros and cons do you see for the chosen option?

Summary & Next Steps

Preferred Alternative for Leachate Management

On-site Treatment Plant

- Leachate would be managed and treated via an on-site treatment plant constructed at the landfill.
- The facility would use a combination of physical, chemical, and/or biological treatment processes designed for the specific quantity and quality of leachate produced at the landfill.
- The treatment process could include the use of aeration/holding ponds, tanks, filters, subsurface beds, engineered wetlands, and other technologies as primary or tertiary treatment.
- Several private landfills in Ontario use on-site leachate treatment plants.



An Example of a Leachate/
Wastewater Treatment Plant

Preferred Alternative for Landfill Gas Management

Flaring & Utilization

- Landfill gas generated in the landfill would be flared (burned) under controlled conditions.
- Emissions from flare must meet air quality standards.
- Flaring destroys over 98% of the methane and 99.9% utilization of trace organic compounds.
- When gas generation rates and economics allow, consider implementing gas utilization with additional approvals required at that time.



Walker South Landfill - Landfill Gas Flaring &
Utilization Facilities

Next Steps

In future CLC meetings, we will discuss additional detail related to how leachate and landfill gas will be managed, how the technical work plans have been updated to reflect the preferred alternatives, other information like climate change projections and community input.



Record Your Thoughts:

Utilize this space to record your thoughts while working through this booklet.



CLC Meeting 21– Sept 28, 2016

October Public Workshop



Southwestern Landfill EA

Event Details

Date	Thursday October 13, 2016
Time	<i>Open:</i> 3p.m. to 8:30p.m. <i>Presentation/Working Session 1:</i> 3p.m <i>Presentation/Working Session 2:</i> 6p.m
Location	Colombo Club
Format	Registered: Facilitated Table Discussion on Identification of Alternatives for 5 Landfill Components (no Comparative Analysis or Identification of Preferred Alternative): <ul style="list-style-type: none">• Landfill Footprint• Landfill Design• Haul Routes• Leachate Management Treatment• Landfill Gas Management Not Registered: Additional Tables with SWLF Project Team and Poster Boards

Upcoming CLC Meetings



Southwestern Landfill EA

Date	Topic for Discussion
October 26, 2016	<ul style="list-style-type: none">• Results of Comparative Analysis• Preferred Alternatives (Feedback received, how it was integrated)
November 23, 2016	<ul style="list-style-type: none">• Facility Characteristics, Climate Change and Planning Assumptions

No CLC Meeting in December

Updated Summary of Haul Route Criteria & Indicators

A)Public Health & Safety Criteria

Criteria		Differentiates between haul routes?	
1	Effects due to exposure to air emissions.	Yes - Air emissions from vehicle exhaust. Haul routes will differ in impacts depending on the number of receptors (residences).	Indicator: Number of residences along the haul route
2	Effects due to fine particulate exposure.	Yes - Dust may come from road shoulders or mud tracked onto road. Haul routes will differ in impacts depending on the number of receptors (residences).	Indicator: Number of residences along the haul route
3	Effects due to contact with contaminated groundwater or surface water.	No – not applicable to this comparison Waste trucks are closed while in transit.	
4	Flood hazard.	No – options are the same All routes are existing roads or would be new roads, both with drainage controls.	
5	Disease transmission via insects or vermin.	No – not applicable to this comparison Waste trucks are closed while in transit.	
6	Potential for traffic collisions.	Yes - Routes use different sections of public roads, so there may be related differences in the potential for traffic collisions.	Indicators: <ul style="list-style-type: none"> • Length of haul route on public roads • Number of intersection crossings • Number of turns • Number and type of railroad crossings • Existing traffic collisions (frequency and severity)
7	Aviation impacts due to bird interference.	No – not applicable to this comparison Waste trucks are closed while in transit.	
8	Explosive hazard due to combustible gas accumulation in confined spaces.	No – not applicable to this comparison Haulage does not produce combustible gas in a confined space.	

B) Social & Cultural Criteria

Criteria		Differentiates between haul routes?	
9	Displacement of residents from houses.	No – not applicable to this comparison No displacement of residents from houses.	
10	Disruption to use and enjoyment of residential properties.	Yes - Potential for difference in disruption nuisance due to differences in receptors (residences).	Indicators: <ul style="list-style-type: none"> • Number of residences along the haul route • Number of intersection crossings • Number of turns
11	Disruption to use and enjoyment of public facilities and institutions	Yes - Potential for difference in disruption nuisance due to differences in receptors (facilities and institutions).	Indicators: <ul style="list-style-type: none"> • Number of public facilities and institutions along the haul routes • Number of intersection crossings • Number of turns • Location and length at bus routes along haul route
12	Disruption to local traffic networks.	Yes - Each route requires different stops and turns, which may contribute to differences in local traffic congestion and delays.	Indicator: Number of stops and turns associated with each route
13	Visual impact of the waste disposal facility.	No – not applicable to this comparison Choice of haul route will not affect visibility of the landfill.	
14	Nuisance associated with vermin.	No – not applicable to this comparison Waste trucks are closed while in transit.	
15	Displacement/disturbance of cultural/heritage resources.	No – not applicable to this comparison No known cultural/heritage resources on existing roads or on roads that may be built on licensed future quarry lands.	

Criteria		Differentiates between haul routes?	
16	Effects on land resources, traditional activities or other interests of Aboriginal Communities.	No – not applicable to this comparison No known Aboriginal resources or traditional activities on existing roads or on roads that may be built on licensed future quarry lands.	
17	Displacement/destruction of archaeological resources.	No – not applicable to this comparison Yes – Archaeological resources could potentially be discovered on new or expanded roads. No known archaeological resources on existing roads or on roads that may be built on licensed future quarry lands.	Indicator: Length of new road construction required for haul route.
18	Level of public service provided by the waste disposal facility.	No – options are the same Options will deliver the same types, rate, and volume of waste.	
19	Effects on other public services.	Yes - Heavy waste trucks have the potential to cause additional wear-and-tear on public roads, especially roads not designed or intended as major trucking routes.	Indicator: Length of each route on local road system (not Provincial, County, or private roads)
20	Changes to community character/cohesion.	Yes - Potential for changes to community character/cohesion for residences along haul routes.	Indicator: Number of residences along the haul route
21	Compatibility with municipal land use designations and official plans.	Yes - Existing roads may or may not be designated for heavy truck traffic. Reconstruction and use of closed roads or unopened road allowances may require new land use or environmental approvals.	Indicators: <ul style="list-style-type: none"> • Provincial and municipal road designations for heavy truck traffic • Existing provincial and municipal land use designations for closed or unopened sections of road allowances

C) Economic Criteria

Criteria		Differentiates between haul routes?	
22	Displacement/disruption of businesses or farms.	Yes - Potential for differences due to the nuisance effects of truck traffic. Some types of businesses might be more sensitive to truck traffic.	Indicator: <ul style="list-style-type: none"> Number and types of businesses and farms along the haul routes
23	Property value impacts.	Yes - Different haul routes may have different potential property value impacts.	Indicators: <ul style="list-style-type: none"> Number of properties along the haul route Number and types of businesses and farms along the haul route
24	Direct employment in waste disposal facility construction and operation.	No – options are the same The same number of employees.	
25	Indirect employment in related industries and services.	No – options are the same The same amount of indirect employment.	
26	New business opportunities related directly to waste disposal facility construction and operation.	No – options are the same Same amount of new business opportunity would be created.	
27	New business opportunities in related industries and services.	No – options are the same Same amount of new business opportunity would be created.	
28	Public costs for indirect liabilities.	Yes - Heavy trucks have the potential to require additional maintenance on public roads, especially local roads not designed or intended as trucking routes.	Indicator: Length of each route on local road system (not Provincial, County, or private roads)
29	Effects on the municipal tax base.	No – not applicable to this comparison Municipal taxes will not be based on haul route usage.	
30	Effect on the cost of service to customers.	Yes - Haul routes that require major investment will add to the cost of the service to customers.	Indicator: Relative cost of reconstruction/upgrade for heavy truck traffic

Criteria	Differentiates between haul routes?	
31	Effects on the provincial/ federal tax base.	No – not applicable to this comparison Provincial taxes will not be based on haul route usage.

DRAFT

D) Natural & Environmental Resources Criteria

Criteria		Differentiates between haul routes?	
32	Loss/displacement of surface water resources.	No – options are the same Haul routes use existing roads or new roads on licensed future quarry lands where no natural surface water resources will be displaced.	
33	Impact on the availability of groundwater supply to wells.	No – not applicable to this comparison Haulage will not affect the well water supply.	
34	Effects on stream baseflow quantity/quality.	No – not applicable to this comparison Haulage will not affect the groundwater baseflow to streams.	
35	Loss/disturbance of terrestrial ecosystems.	No – options are the same Haul routes use existing roads or new roads on licensed future quarry lands with no significant difference on impact to terrestrial ecosystems.	
36	Loss/disturbance of aquatic ecosystems.	No – options are the same Haul routes use existing roads or new roads on licensed future quarry lands with no significant difference on impact to aquatic ecosystems.	
37	Displacement of agricultural land.	No – not applicable to this comparison Haul routes use existing roads or new roads on licensed future quarry lands.	
38	Disruption of farm operations.	Yes - Trucks traveling to or from the landfill could interact with farm vehicles and field access.	Indicator: Number of field entrances along the haul route
39	Sterilization of industrial mineral resources.	No – not applicable to this comparison Haul routes use existing roads or new roads on licensed future quarry lands that will be extracted after the haul route is needed.	

Criteria		Differentiates between haul routes?	
40	Displacement of forestry resources.	No – options are the same Haul routes use existing roads or new roads on licensed future quarry lands with no significant difference to displacement of forestry resources.	
41	Loss/disruption of recreational resources.	Yes - Different haul routes use different sections of public and private land, so there may be differences in the potential for disturbance to recreational resources.	<p>Indicators:</p> <ul style="list-style-type: none"> • Number and proximity of recreational resources along the haul route • Number of playgrounds along haul route • Length of haul route coinciding with bike routes

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Items from Meeting 20

Business Arising		Responsibility	Response	Status
1	List of additional Criteria and Indicators included in Comparative Evaluation	WEG	WEG has updated the draft list of Comparative Evaluation criteria and indicators for the Haul Route comparative evaluation based on input from the CLC, public and other interested parties. It is attached as reference.	Complete
2	Update on engaging MTO or other resources for the Haul Route comparative evaluation	WEG	MTO will not be engaged during the comparative analysis; however, MTO has been identified as part of the Government Review Team (GRT) and will be consulted on the finalization of the technical Work Plans.	Complete
3	Provide additional information on Rail Haul as a haul route option and why it was screened out.	WEG	Additional information will be provided in the Alternative Methods Paper which will be issued for public comment in November. This paper remains in draft form until the submission of the Final EA Report.	In Progress
4	Explanation on how the Environmental Assessment (EA) Process works for private sector entities in the Province of Ontario	WEG	Included as a designated poster at the September Public Event	In Progress

Items from Meeting 19

Business Arising		Responsibility	Response	Status
1	Provide the definition of a Lake from the Adam's Mine Act.	Pat Almost	<p>Please see separate document containing email from Pat Almost regarding lakes with respect to permitting requirements for a Permit to Take Water.</p> <p>Aspects of the Adam's Mine Lake Act were incorporated into Section 27 of the <i>Environmental Protection Act</i> (EPA).</p>	Completed

			A definition of “lake” from the EPA (subsection 3.1 and 3.2) is summarized as a body of water at least one hectare in size that results from human activities and directly influences or is directly influenced by ground water.	
2	Clarify approximately how much space is required for the landfill footprint, with and without buffer lands (not including ancillary facilities).	WEG	Approximately 80 hectares (200 acres) are estimated to be required for the landfill, buffer lands, and ancillary facilities. It should be noted that for the purposes of screening, areas that do not meet a minimum size of 53 hectares were initially screened out as not technically feasible as they would be too small to accommodate even the minimum area needed for landfill and buffer. However, 80 hectares is a much more realistic estimate.	Completed
3	Clarify what liners are being used at major Landfills in Ontario.	Pat Almost & WEG	<p>South Landfill (Walker Environmental) uses a generic double composite liner. With inward groundwater gradient design. The older East Landfill (Walker Environmental) uses a clay liner with inward groundwater gradient design.</p> <p>To the best of Walker’s knowledge, other landfills use:</p> <ul style="list-style-type: none"> • West Carleton Environmental Centre (Waste Management), which was recently approved, has a generic double composite liner • Proposed Capital Region Resource Recovery Centre (Taggart Miller), which is still in EA process, is proposing a generic double composite liner • Green Lane Landfill (City of Toronto) uses a clay soil liner with leachate collection system in hydraulic trap design • Ridge Landfill (Progressive Waste) uses an engineered clay liner on the sidewalls and natural clay liner on the base (ie. site-specific design) 	Completed

			<ul style="list-style-type: none"> • Twin Creeks/Warwick Landfill (Waste Management) uses the generic single composite liner design • Stony Creek Landfill (Terrapure) uses a site-specific hydraulic trap design that is similar to a generic double composite liner design. <p>It should be noted that the <i>Ontario Landfill Standards</i> were adopted in 1998 and some sites noted above were approved prior to this date.</p>	
4	Confirm the Monitoring Schedule of the South Landfill in Niagara.	DF	<p>Please see separate document with detailed information. In general, groundwater is monitored for quality and quantity (level). Requirements are different for each of the landfills, including the South Landfill (currently operating) as well as the East and West landfills (closed), but many of the same wells are used since the landfills are near each other.</p>	Complete
5	Provide a link to the Landfill Standards Document where the information on average elevations and thickness of waste as it relates to liner requirements.	DF	<p><i>Ontario's Landfill Standards</i> Document: https://www.ontario.ca/document/landfill-standards-guideline-regulatory-and-approval-requirements-new-or-expanding-landfilling-sites</p> <p>Information about generic liner design options starts on page 26 (section 4.5).</p> <p>Table 5 in the Landfill Standards lists the maximum waste loadings for each of the Generic Design Options, expressed in cubic meters per hectare (m³/ha). These can be converted into an average thickness in meters by dividing by 10,000 (ie. by converting hectares to m²).</p> <p>The maximum waste loadings are related to the amount of waste and leachate, not the weight of the waste.</p>	Complete
6	Provide more information on the rationale for the differences in thickness	DF	<p>The single composite liner design requires three metres of attenuation layer while the double composite liner requires 1</p>	Completed

	of the attenuation layer beneath the single and double composite liner designs.		metre. This is because the double composite liner has two leachate collection systems, so it requires less attenuation layer to be fully protective of the environment than the single composite liner, which only has one leachate collection system.	
7	Provide more information or the rationale for the differences in thickness of HDPE (plastic) liner for the primary and secondary liners in the generic double composite liner system.	DF	<p>Section 4.5 (b) of <i>Ontario's Landfill Standards</i> outlines the requirements of the generic double composite liner design.</p> <p>Section 4.5.1(5).4 outlines the required service life of the primary HDPE geomembrane liner (150 years) and the secondary HDPE geomembrane liner (350 years).</p> <p>To summarize, the secondary liner must have a longer service life than the primary liner, which is why it is thicker. Note that the geomembrane liners are used in addition to clayey soil primary and secondary liners and associated leachate collection and attenuations layers, which comprise the full double composite generic liner system.</p>	Completed
8	Actual thickness and length of life for the semi-permeable cap in Niagara	DF	The landfill cap/cover requirement as set out in section 4.5 (b) of <i>Ontario's Landfill Standards</i> requires a landfill final cover to have an infiltration rate greater than or equal to 15 cm per year. Section 6.11.1 sets out the requirement of a minimum of 60 cm of cover material and a minimum of 15 cm of topsoil able to sustain plant growth.	Completed
9	Provide information on if landfill temperature has any impact landfill performance.	WEG	The temperature within a landfill and its effect on the geomembrane layer of the landfill liner is considered in <i>Ontario's Landfill Standards</i> . Schedule 3 – Service Life – Geomembrane Liners, Section 3 outlines the specifications that the geomembrane liners must meet.	Completed

Items from Meeting 18 – written responses

Business Arising		Responsi-bility	Response	Status
1	Walker to send most recent up-to-date list of all the technical review team, including the Karst Expert and the government review team. (Requested at the meeting and deferred to Walker by Andrew, MOECC)	BO	Provided in hard copy at CLC Meeting 19 (July 27, 2016)	Completed
2	Walker at next CLC Meeting to provide an update on what response to how other technical experts can attend future relevant CLC Meetings. For example: MTO Representative during Haul Routes. Walker to also address the request to attend other meetings as an observer such as the JMCC and Peer-Review Technical Meetings	DF	Walker received this request, dated June 21, 2016 from D. Clark, and is taking it into consideration as we determine the format of the CLC Technical Work Plan meetings, We are interested in further exploring interest in a CLC member attending JMCC, Peer Review Team, and other technical meetings, and would like to discuss further.	In Progress
3	Walker to provide a more detailed timeline to the CLC Members for next meeting on the engagement not only with the CLC but also with the public.	BO	3-Month Timeline provided in the CLC Meeting 19 Materials	Completed
4	Carry Over from ToR phase #10. Walker work with Carmeuse to find the information and pass to CLC before the next meeting in July.	DF	The area within Carmeuse’s Beachville property, known as the Southwest Pit, is where the primary quarry operations are occurring. Within this area, the bottom limit of the ARA licence is 228 metres above sea level (masl). The quarry floor at the current quarry rock face is approximately 231 masl which is lower extent of commercially viable chemical stone.	Completed

			<p>In other words, at the current quarry face the rock below 231 masl does not meet the specifications for chemical stone and therefore does not have commercial value as chemical stone. The chemical stone formation dips to south.</p> <p>It should be noted that in areas north of the current quarry face and within the Southwest Pit, overburden is being placed and quarrying has been completed.</p>	
5	Walker to get back to the group on when they will be able to comment on the Alternate Haul Route as part of the contingency plan.	JT	Alternate Haul routes will be identified as part of the contingency plan in the Design and Operations Report. The CLC will be able to comment on the alternate haul routes during the circulation of the Draft EA Report.	Completed

Items from Meeting 17:

Business Arising		Responsibility	Status
1	Check boundary of Carmeuse landholdings in Zorra with Carmeuse, make any necessary changes and provide map to the CLC.	BO	Completed
2	Provide responses to specific questions as identified during the meeting.	Andrew Evers	Completed
3	Provide written responses to written questions from the CLC.	Andrew Evers	Completed
4	Provide current list of government review team to CLC.	BO	Completed
5	Q: When will the local community be able to provide input on air monitoring locations?	BO	Answer: During consultation on the revised work plans
6	Make sure documents on the new website are posted in the same way (ie. same number of parts per document) as they were previously.	BO	Completed
7	Provide MTO with community and public concerns relating to traffic and contingency planning	DF	In progress Walker will provide this information to the MTO.

Carry-Over Items from Meetings during ToR Phase:

Business Arising		Responsibility	Status
1	Revisit the Mayor of Ingersoll regarding municipal green initiatives.	DF	In Progress DF to discuss with Mayor of Ingersoll.
2	Clarify question – is there a mental health study being done?	DF	In Progress The question will be referred to the Economic expert for consideration during the EA
3	Evaluate the connection between HHRA and Economic Impact assessment in criteria table regarding potential economic impacts on area health system. (Show the link on the EA Criteria Table)	DF	In Progress This comment will be referred to the Economic expert for consideration during the EA.
4	Determine if there will be a truck wash. If so, identify if there will be a liner under the truck wash.	DF	In Progress This comment will be referred to the landfill design team for consideration during the EA.
5	Combinations of quarry and landfill monitoring and the margin of error – create data analysis from the South Landfill comparing the predictions with the actual data.	DF	In Progress This comment will be referred to each expert for inclusion in the background data collection task during the EA.
6	Intrinsic to review their landfill-specific human health risk assessments literature and its performance evaluation of what has been predicted and what the results are to identify any trends and gaps.	DF	In Progress Will be included when the work plans are finalized.
7	Provide information on Richmond Landfill. Intrinsic will see what information is available from work they may have done.	JT	In Progress Intrinsic to follow up regarding public HHRA information.
8	Look at establishing sensitive receptors that will include industrial and businesses such as Carmeuse, Blue-con and Federal White.	DF	In Progress This comment will be referred to the HHRA expert for consideration during the EA.

Business Arising		Responsibility	Status
9	Provide a report on health trends based on information available from local, provincial and federal sources that pertains to this region as soon as possible, and be made available for the human health risk assessment and to the CLC.	DF	In Progress This comment will be referred to the HHRA expert for inclusion in the background data collection task during the EA.
10	Determine how much licensed capacity remains under the quarry floor	DF	Completed
11	If the CLC is aware of local natural/environmental events, provide information to Walker who will then pass it along to Golder Associates.	CLC	Ongoing
12	Contact the Agricultural agencies and let them know the CLC Members would like to attend the meeting when they meet with the technical expert.	DF	In Progress

CLC Meeting 21

Other documents sent as materials, but not included as pages in this Appendix (to cut down on duplication, paper waste and/or very large digital files):

- 1) Transcript: http://www.walkerea.com/uploads/745/Doc_636131605403849925.pdf

Please contact us at info@walkerea.com or toll-free at 1-855-392-5537 if you require assistance accessing this document online or in hard copy.

Southwestern Landfill CLC #22

Meeting Summary

Date: October 26, 2016
Time: 6:00 p.m. - 8:45 p.m.
Location: 160 Carnegie Street, Ingersoll (Lower Meeting Room)

Meeting Overview

The purpose of the CLC Meeting 22 was to obtain CLC Member input on the clarity, traceability and logic used by Walker in determining the Preferred Alternatives for each of the five key landfill components. The components include landfill footprint, landfill design, haul routes, leachate management and landfill gas management. The landfill design component and haul route component had been subject to a comparative evaluation since there was more than one feasible option following the application of screening criteria.

This consultation with the CLC now concludes the Evaluation of Alternatives Methods & Identification of the Preferred Alternatives phase of the Southwestern Landfill EA.

Presentation and Key CLC Input on Consultation Paper – Identification of Preferred Alternatives (Agenda item # 3)

On Landfill Footprint

- Walker reviewed the Preferred Alternative for the Landfill Footprint **Option 3: Active Quarry & Lime Plant** and presented key inputs received from the public and where they were taken into consideration.
- The CLC restated that the inclusion of Option 1: Greenfield/Future Quarry Lands would have been their preferred option. Walker reiterated that this option was screened out because their analysis has shown that the Official Plan changes that would be needed are unlikely to be approved since they are inconsistent with the Provincial Policy Statement (PPS).

On Landfill Design

- Walker presented the Landfill Design Option 1: Deep Design as the Preferred Alternative for the proposed landfill with advantages such as lower risk of dust, better containment control, lower visual impacts and lower risk of property value impacts as compared with Option 2: Conventional Design. The comparison between the two options were detailed in the Comparative Evaluation.

Southwestern Landfill CLC #22

Meeting Summary

- The landfill design component had two alternatives: 1) Deep Design and 2) Conventional Design that passed the screening criteria and therefore required a comparative evaluation in order to select the preferred alternative.
- The CLC brought forward additional questions about the Comparative Evaluation process for the deep and conventional design including the requirements to look at public health and safety regarding the groundwater.
- Since Walker will be using the double generic composite liner, which was designed and approved by the Ministry of the Environment and Climate Change, Walker representatives stated that there is no difference between the two options in regard to protection for groundwater, since both use the same liner.

On Haul Routes

- Walker presented an overview of the Comparative Evaluation for the screened haul route options. When comparing the six options, **Haul Route (Option 3) County Rd 6 to Private Road with entrance on the Northwest Corner**, demonstrated more advantages than other alternatives.
- Key advantages include the shortest haul route on public roads, fewest residents, farms, public institutions, businesses, and recreational uses, the fewest turns, and the fewest intersection crossings.
- Some CLC Members indicated that they were pleased their input was considered and that the Preferred Haul Route did not go down Beachville Road.
- A CLC Member questioned why a previously recommended Haul Route indicator was not included. The indicators were: length of the bus route on each alternative, number of buses, and number of bus stops. Walker committed to including this information into the final draft of the Comparative Evaluation for Haul Route options.

On Leachate Management

- Walker presented additional detail on the preferred **Leachate Management (option 3) On-Site Leachate Treatment**.
- Walker stated that the key advantages of on-site treatment are that the facility could be built with technology designed specifically to treat leachate, that there would be no impact on the municipal wastewater treatment infrastructure and that the treated water could be used on-site for other activities like dust control.

Southwestern Landfill CLC #22

Meeting Summary

- The CLC reviewed with Walker a schematic diagram from the Green Lane Leachate Treatment Facility as an example of on-site treatment.

On Leachate Management

- Finally, Walker discussed with the CLC the combined **Landfill Gas Management (Option 2) Flaring and (Option 3) Gas Utilization** as the Preferred Alternative.

Public Engagement Activities (agenda item #5):

- Walker reported that in October they hosted a Public Workshop on October 13, 2016 on the Five of the Key Landfill Components. There were 39 participants.
- The feedback was positive on the format, but there were issues with the distance between tables (noise) and the total duration of the workshop.
- There was also a Bus Tour to the South Landfill in Niagara with 3 participants. Walker told the CLC that they are available for future bus tours on request and will be sending out potential dates for the requested CLC Bus Tour of the Carmeuse property.
- Walker hosted a First Nation Workshop on November 2 and will provide a summary at the CLC Meeting 23.
- Walker advised that on November 16 they will host a Public Workshop on the Preferred Alternative with a similar format to the October workshop but shorter and new table layout.

Closing Remarks - Adjournment – 8:45 p.m.

The next CLC meeting will be held on Wednesday November 23, 2016. The purpose of this meeting will be to review and discuss the Facility Characteristics of the proposed landfill.

Prepared by Katrina Kroeze, CLC documenter.

Approved by Laurie Bruce, CLC Facilitator.

If you have any questions about this summary, please call 416-992-9669 or email communitylaisoninfo@gmail.com

If you have questions for Walker, please call 1-855-392-5537 or email info@walkerea.com.

Becky Oehler

From: Becky Oehler
Sent: Friday, October 14, 2016 8:15 PM
To: Info@walkerea.com
Subject: October 26, 2016 CLC Materials
Attachments: 01 - Agenda - CLC Meeting 22 - Oct 26 2016.pdf; CLC Meeting 21 Summary.pdf

Good evening CLC and Alternates,

Please find attached the Agenda for the October 26, 2016 CLC meeting, as well as the draft meeting summary for the September 28th meeting. If you have any feedback on the meeting summary, please let me know by October 31st. After that the summary will be finalized and posted on the walkerea.com website.

I apologize that the rest of the materials are not attached. With the public event this week, we were unable to finish the materials in time, but we will be sending them out as soon as possible on Monday.

On Monday, I will be sending out:

- 1) Consultation Paper (booklet) on Preferred Alternatives
- 2) Business Arising report with written responses

For those who receive CLC materials by mail, we will work to have them delivered as soon as possible.

Warm regards,
Becky Oehler

Becky Oehler, M.Sc.
Community Engagement Manager- Southwestern Landfill

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Becky Oehler

From: Becky Oehler
Sent: Monday, October 17, 2016 3:53 PM
To: Info@walkerea.com
Subject: CLC Materials for Meeting 22 - October 26, 2016
Attachments: CLC Meeting 21 Transcript.pdf; 01 - Agenda - CLC Meeting 22 - Oct 26 2016.pdf; 02 - Preferred Alternatives CLC Consultation Paper.pdf; 03 - Business Arising Report - Meeting 22.pdf; 03a - South Landfill EA - Haul Route Alternatives Evaluation Text.pdf; CLC Meeting 21 Summary.pdf

Good afternoon CLC and Alternates,

In follow up to my email on Friday, please find attached the materials for CLC meeting 22 on Wednesday, October 26, 2016 at 6 pm.

- 1) Agenda (previous agenda had an error on the date)
- 2) Preferred Alternatives CLC Consultation Paper
- 3) Business Arising Report with additional document: South Landfill EA – Haul Route Alternatives Evaluation Text (accompanies Haul Route Comparative Evaluation table handed out at Meeting 18)
- 4) CLC Meeting 21 (September 28, 2016) Summary
- 5) CLC Meeting 21 Transcript

Thanks for your patience, I apologize for getting these materials out later than usual. Please let me know if you have any questions or comments prior to the meeting.

Warm Regards,
Becky

Becky Oehler, M.Sc.
Community Engagement Manager- Southwestern Landfill

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CLC Meeting 22 - Agenda

Southwestern Landfill Environmental Assessment

Date: Wednesday, October 26, 2016

Time: 6:00 p.m. – 9:00 p.m.
(Dinner will be available at 5:30 pm)

Location: 160 Carnegie Street, Ingersoll (Lower Meeting Room)

Meeting Materials:

- Consultation Paper: Preferred Alternatives
- Meeting 21 Business Arising Report
- Presentation: Public Workshop Summary & Inputs

	Description	Lead	Duration	End Time
1	Welcome	Facilitator	5 min	6:05
2	Objectives and Review of Agenda	Facilitator	15 min	6:20
3	Preferred Alternatives Review & Discussion <i>Document: Preferred Alternatives Consultation Paper</i>	WEG	100 min	8:00
4	Summary of Waste Diversion Report	WEG	20 min	8:20
Public Consultation Activities				
5	<i>Public Workshop Summary, CLC Experience and Upcoming Public Event</i>	WEG	20 min	8:40
6	CLC Update & Correspondence	ALL	15 min	8:55
7	Next Meeting Agenda and Action Items	ALL	5 min	9:00
8	CLC Discussion with EA Advisor	CLC/AG	1 hour	10:00



Southwestern Landfill Environmental Assessment

CLC Consultation Paper Identification of the Preferred Alternatives

This document was prepared for use at the October 26, 2016
Community Liaison Committee meeting.

Walker Environmental will report back to you on how your input
was considered.

What is the purpose of this consultation paper?

The purpose of this consultation paper is to provide the required information for constructive dialogue and meaningful input about the Preferred Alternatives and the process/rationale used to select them. It is written specifically as a consultation tool for the October 26, 2016 CLC meeting to facilitate dialogue and input; it is not the final document.

In addition to the review and input from the CLC, there will also be a technical review of this information by the Peer Review Team that reports to the Joint Municipal Coordinating Committee (JMCC). The Ministry of the Environment and Climate Change (MOECC) also reviews this information and rationale as part of its overall review of the EA.

How will you know your input was considered?

Over the course of the three previous CLC meetings, Walker has been recording and incorporating input from the CLC. In this document, there is feedback on:

- What input was received and considered
- How input affected the comparative evaluation and the preferred outcomes, and/or how it will be carried forward into later stages of the EA.

Note: The words “options” and “alternatives” are used interchangeably throughout this document. The technical term is “Alternative Methods”, which are different ways of carrying out an aspect of the landfill, such as different haul routes.

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Introduction

Where in the EA process are we?

We are currently at the end of the Evaluation of Alternative Methods & Identification of Preferred Alternatives phase of the Southwestern Landfill Environmental Assessment (EA). This is when a long list of alternatives (landfill footprint, landfill design, haul route, leachate management, landfill gas management) is identified and four screening criteria are applied. The four screening criteria are:

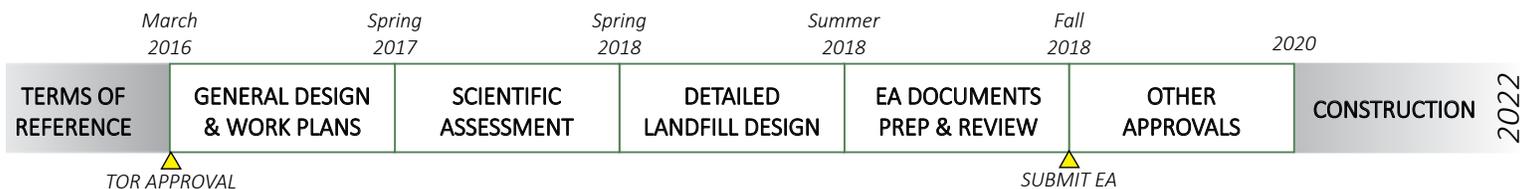
1. Must be consistent with the stated purpose of the Environmental Assessment.
2. Must be reasonably capable of approval pursuant to the statutes of Ontario and Canada.
3. Must be technically feasible and proven technology.
4. Must be commercially viable.

If a short list exists after the screening, the shortlisted alternatives undergo further comparative evaluation to determine a Preferred Alternative. The Preferred Alternative(s) are then subject to further detailed technical and scientific study through the remainder of the EA.

A detailed description of the Evaluation of Alternative Methods & Identification of Preferred Alternatives phase is located in Section 7.2 and 8.1 of the Approved Amended Terms of Reference.

In this consultation paper, we will discuss the Preferred Alternatives as well as the process and rationale used to select them.

The chosen Preferred Alternatives will be integrated into the proposed design of the Southwestern Landfill proposal, called “Facility Characteristics”. The Facility Characteristics will then be integrated into the draft Technical Work Plans that lay out the technical studies to be carried out. The technical studies on the Preferred Alternatives will assess in detail potential impacts of the proposed landfill.



Summary of the Five Key Landfill Components

If there is more than one Alternative Method (Option) in the short list, then they are compared to each other in a comparative evaluation to determine the Preferred Alternative.

Project Components	“Long List” of Possible Alternatives (Options)	“Short List” of Possible Alternatives
1. Landfill Footprint 	<ol style="list-style-type: none"> 1. Greenfield/Future Quarry Lands 2. East Quarry 3. Active Quarry & Lime Plant 4. Former Southwest Quarry & Stone Plant 5. East Hydrator Plant 	<ol style="list-style-type: none"> 3. Active Quarry & Lime Plant
2. Landfill Design 	<ol style="list-style-type: none"> 1. Deep 2. Conventional 3. Above Ground 	<ol style="list-style-type: none"> 1. Deep 2. Conventional
3. Haul Routes 	<ol style="list-style-type: none"> 1. Routes 1 - 6 (by road) 2. Route 7 (by rail) 	<ol style="list-style-type: none"> Route 2 - 6
4. Leachate Management 	<ol style="list-style-type: none"> 1. Pipe to Municipal WWTP 2. Haul to Municipal WWTP 3. On-site Treatment Plant 4. On-site Evaporation 	<ol style="list-style-type: none"> 3. On-site Treatment
5. Landfill Gas Management 	<ol style="list-style-type: none"> 1. Passive Venting 2. Flaring 3. Gas Utilization 	<ol style="list-style-type: none"> Combination: Flaring & Gas Utilization

Component 1: Landfill Footprint

Summary of Landfill Footprint Screening

Only one option (active quarry and lime plant) for the landfill footprint passed all four screening criteria. Other footprint options were screened out due to several constraints including:

- Section 27(3) of the Environmental Protection Act prohibits landfills in several types areas where water exists.
- Lands designated in the Oxford County Official Plan as a high-purity calcium stone resource are protected from “sterilization” (unable to access) under the Provincial Policy Statement (PPS). Although it is possible under the PPS to change the land designation, Walker does not see a strong case for the change, making an approval unlikely.
- In some areas of the Carmeuse property, there is infrastructure that cannot be moved to access the area for landfilling. Reasons include:
 - Carmeuse does not plan to relocate infrastructure (disruptive to operations)
 - Infrastructure relocation is cost prohibitive
- The minimum area required for the landfill waste fill area and minimum buffer lands is 53 hectares (131 acres). After ruling out constraints, only one option had sufficient area for the landfill.

Public Input

At this point, the Landfill Footprint is outlined as the total area available in the “Active Quarry & Lime Plant” area. The landfill footprint will be further studied and refined prior to the finalization of the Technical Work Plans. The input Walker has received from the CLC and other stakeholders will continue to be taken into consideration as the EA process progresses.

Key Input Received	Considerations
Maximize distance from residents, town centres, and the Thames River.	Footprint considerations include moving the southern boundary of the site as far north as possible, away from Beachville Road and the Thames River, to maximize the buffer area.
Map outlining the footprint options was difficult to understand.	Walker amended the map to include key constraints and the minimum area required for the landfill.
Reassess Greenfield/Future Quarry Lands designated as mineral resource (Option 1) for landfill development.	Option 1 was reassessed and additional rationale has been included and discussed with the CLC.

Landfill Footprint 3 - Preferred Alternative



Record Your Thoughts:

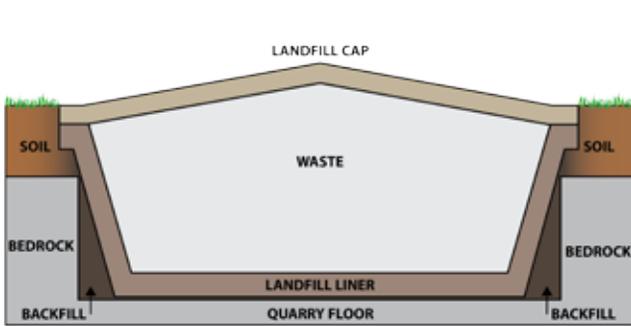
1. Do you have any questions about the rationale used to identify the preferred landfill footprint?
2. What are your thoughts on the preferred landfill footprint?

Component 2: Landfill Design

Summary of Landfill Design Screening

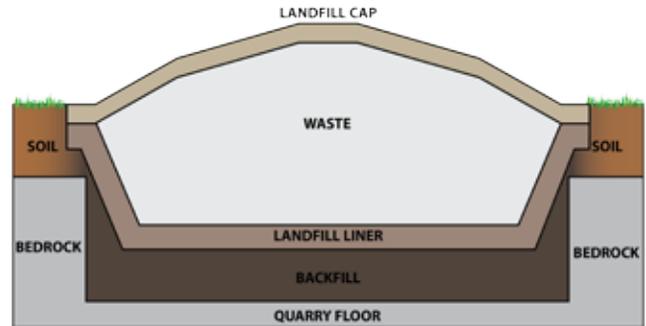
Landfill Liner: The chosen landfill liner for the design is the generic double composite liner, designed and approved by the MOECC.

Landfill Design Configuration: The two potentially feasible alternatives, Conventional and Deep, are short-listed for the landfill design configuration at the proposed landfill site. These two options are compared to each other (comparative evaluation, p.10-11) to identify the Preferred Landfill Design (most advantages/least disadvantages). The Above Ground option was screened out because the landfill footprint is not large enough to accommodate the required slopes.



Deep

- Most of the waste is below ground surface.
- The landfill is designed to have minimum slope above ground.



Conventional

- Waste is both above and below ground surface.
- The landfill liner sits above the quarry floor with additional backfill underneath.

Public Input

Walker has received input on landfill design from the CLC and other stakeholders that was taken into consideration in selecting the Preferred Alternative and will continue to be taken into consideration as the EA process progresses.

Key Input Received	Considerations
Minimize impacts: odour, visual, birds, dust, garbage flying off-site.	Design considerations include maximizing construction and operations occurring below ground level, which reduces the potential for these impacts (one of the main benefits of the deep design).
Protect all water, including groundwater and the Thames River from contamination.	The landfill liner is designed to be fully protective of the environment. Later in the EA, there will be opportunity to discuss monitoring and contingency planning.
Maximize distance from residents.	Design considerations include maximizing the buffer space between the landfill and Beachville Road.
Concerns regarding impacts of adjacent blasting on liner integrity.	Potential impacts to the landfill liner and other infrastructure will be studied as part of the Impact Assessment. Walker has over 30 years of experience landfilling adjacent to active quarry operations.

Comparative Evaluation

To compare the two short-listed alternatives for the landfill design configuration, the full list of 41 EA Criteria was reviewed (July 27, 2016 CLC meeting) and those relevant to the comparison between the two alternative designs were applied in the comparative evaluation.

The criteria, indicators, information collected, and rationale are provided in the table on pages 10-11: Comparative Evaluation for Short List of Landfill Design Alternative Methods (Options).

Preferred Alternative

In the Comparative Evaluation, the Deep Design demonstrated the most advantages and least disadvantages, primarily related to maximizing construction and operations occurring below ground level.

Key Advantages of Deep Design:

- Lower height reduces the exposure and duration of landfill construction and operations above ground surface. This has advantages, including:
 - Lower risk of excessive fine particulate emissions (fine dust), reducing potential health impacts.
 - Better containment and control of particulate (dust), odour, noise, and blowing litter, reducing potential nuisance impacts.
 - Lower visual impact to the closest neighbours and the surrounding community.
 - Lower risk of negative property value impacts as a result of the above.
- Deep design has shallower final cover slopes (less of a hill than other designs), which allows for more options for after-use planning, including rehabilitation to agricultural use.



Record Your Thoughts:

1. Do you have any questions about the rationale used to identify the preferred landfill for the comparative evaluation of the landfill design?
2. What advantages or disadvantages do you see for the preferred option chosen?

Comparative Evaluation for Short List of Landfill Design Alternative Methods (Options)

Criteria		Indicator(s)	Deep Design Alternative	Conventional Design Alternative
Public Health & Safety				
3	Effects due to fine particulate.	<ul style="list-style-type: none"> Peak working elevation of the landfill 	<ul style="list-style-type: none"> Peak working elevation approximately 15 m or less above surrounding ground surface. 	<ul style="list-style-type: none"> Peak working elevation greater than 20 m above surrounding ground surface.
Preferred Alternative - Public Health & Safety			The lower height of the deep alternative will result in reduced potential for wind exposure and lower risk of fine particulate emissions.	
Social and Cultural				
10	Disruption to use and enjoyment of residential properties.	<ul style="list-style-type: none"> Peak working elevation of the landfill 	<ul style="list-style-type: none"> Peak working elevation approximately 15 m or less above surrounding ground surface. 	<ul style="list-style-type: none"> Peak working elevation greater than 20 m above surrounding ground surface.
11	Disruption to use and enjoyment of public facilities and institutions.	<ul style="list-style-type: none"> Peak working elevation of the landfill 	<ul style="list-style-type: none"> Peak working elevation approximately 15 m or less above surrounding ground surrounding surface. 	<ul style="list-style-type: none"> Peak working elevation greater than 20 m above surrounding ground surface.
13	Visual impact of the waste disposal facility.	<ul style="list-style-type: none"> Peak working elevation of the landfill 	<ul style="list-style-type: none"> Peak working elevation approximately 15 m or less above surrounding ground surface. 	<ul style="list-style-type: none"> Peak working elevation greater than 20 m above surrounding ground surface.
Preferred Alternative - Social & Cultural			The lower height of the deep alternative will result in reduced potential for operational nuisances experienced at surrounding residential properties, public facilities and institutions.	
Economics				
23	Property value impacts.	<ul style="list-style-type: none"> Peak working elevation of the landfill 	<ul style="list-style-type: none"> Peak working elevation approximately 15 m or less above surrounding ground surface. 	<ul style="list-style-type: none"> Peak working elevation greater than 20 m above surrounding ground surface.
Preferred Alternative - Economics			The lower height of the deep alternative will result in reduced potential for operational nuisances experienced at surrounding properties and lower risk of property value loss.	
Natural Environment & Resources				
37	Displacement of agricultural land.	<ul style="list-style-type: none"> Amount of the final landfill cover that would be at maximum slope (4:1)* 	<ul style="list-style-type: none"> None of the final landfill cover would be at maximum slope (4:1). 	<ul style="list-style-type: none"> Perimeter of the final landfill cover would be at maximum slope (4:1).
Preferred Alternative - Natural Environment & Resources			The lower final cover slopes of the deep alternative will allow an opportunity for agricultural rehabilitation of the entire landfill.	
Preferred Alternative - Overall			The deep design is preferred in all four groups and overall. Its lower height and slopes will minimize visibility and exposure, thereby reducing potential off-site effects and allowing more opportunity for agricultural rehabilitation.	

Legend

Advantage	Disadvantage
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* According to the Canada Land Inventory, maximum cover slopes of 4:1 (25%) under O. Reg 232/98 are Class 7T (no capability for common field crops), while minimum cover slopes of 20:1 (5%) can be improved to Class 2T (only moderate limitations for common field crops). (source: OMAFRA).

Component 3: Haul Route & Site Entrance

Summary of Haul Route & Site Entrance Screening

In the screening stage, five haul routes were identified as potentially feasible (short list). Routes 2 through 6, have been carried forward for further evaluation. These routes start at Exit 222 on Highway 401 to County Road 6 and end at the Northwest corner of the Landfill Footprint, These five options are compared to each other (comparative evaluation, p.14-17) to identify the Preferred Haul Route (most advantages/ least disadvantages).

Public Input

Walker received input on the long list of potential haul routes that was taken into consideration in selecting the Preferred Alternative. Input received and future input will continue to be considered as the EA progresses.

Key Input Received	Considerations
Preference for the shortest route using public roads (Route 3).	Length of route on public roads was taken into consideration and was an advantage of Route 3 (Preferred Alternative).
Beachville Rd. is not appropriate for a haul route due to the number of residences and official bike route designation.	Number of residences was taken into consideration, and is a significant disadvantage identified for Routes 4, 5 and 6.
Corner at Beachville Rd. and Pemberton St. is challenging for truck traffic.	Number of truck turns was taken into consideration, and was a disadvantage identified for Routes 4, 5 and 6 (only routes with Beachville/Pemberton turn).
Highway 401 Exit 222 (westbound) to County Road 6 is challenging and could pose safety risks due to the service station off-ramp.	The exit from Highway 401 to County Road 6 will be considered as part of the EA. Walker will consult with the Ministry of Transportation (MTO) regarding Highway 401 and Exit 222.
Incline at the 4-way stop at County Road 6 and Beachville Rd. could present issues, including risk to public safety.	The intersection will be studied by experts as part of the Impact Assessment, including considerations of public health and safety.
Recommendations for additional criteria and indicators for the comparative evaluation.	Addition of following indicators: <ul style="list-style-type: none"> • Number and type of railroad crossings • Length of new road construction required (in regard to potential for archaeological resource displacement/ disruption) • Number of playgrounds along haul route

Comparative Evaluation

To compare the short-listed alternatives for the haul route, the full list of 41 EA Criteria was reviewed (August 24, 2016 CLC meeting) and those relevant to the comparison between each haul route alternative were applied in the comparative evaluation.

The criteria, indicators, information collected, and rationale are provided in the table on pages 14-17: Comparative Evaluation for Short List of Haul Route Alternative Methods (Options).

Preferred Alternative - Route 3

In the comparative evaluation, Route 3 demonstrated the most advantages and least disadvantages, and is selected as the Preferred Alternative.



Route 3 - North on County Road 6, turn West onto Private Road into Site. The site entrance is located at the Northwest corner and exact location for the entrance will be further refined.

Key Advantages of Route 3:

- Shortest haul route on public roads
- Fewest residences, farms, public institutions, recreational uses, and businesses along the route
- Passes the fewest farm field entrances
- Fewest turns, intersection crossings
- Designated for heavy truck traffic
- It avoids truck traffic along the Beachville Road bicycle route



Record Your Thoughts:

1. Do you have any questions about the rationale used to identify the preferred haul route?
2. What are your thoughts on the preferred haul route?

Comparative Evaluation for Short List of Haul Route Alternative Methods

			ROUTES TRAVELING DOWN BEACHVILLE ROAD				
Criteria	Indicator(s)	Haul Route #2	Haul Route #3	Haul Route #4	Haul Route #5	Haul Route #6	
Public Health & Safety							
3	Effects due to fine particulate.	<ul style="list-style-type: none"> Number of residences along route 	<ul style="list-style-type: none"> 0 residences along County Road 6 One residence on Road 66 	<ul style="list-style-type: none"> 0 residences along County Road 6 	<ul style="list-style-type: none"> 91 adjacent residences along Beachville Road 21 adjacent residences along Pemberton Street 	<ul style="list-style-type: none"> 91 adjacent residences along Beachville Road 21 adjacent residences along Pemberton Street 	<ul style="list-style-type: none"> 91 adjacent residences along Beachville Road 21 adjacent residences along Pemberton Street
7	Potential for traffic collisions.	<ul style="list-style-type: none"> Length of route on public roads Number of intersection crossings Number of truck turnings Number and type of railroad crossings 	<ul style="list-style-type: none"> Approximately 6.7 km of haul route on public roads One intersection crossing and two turns One signaled level rail crossing 	<ul style="list-style-type: none"> Approximately 4.4 km of haul route on public roads One intersection crossing One turn One signaled level rail crossing 	<ul style="list-style-type: none"> Approximately 9.7km of haul route on public roads One intersection crossing Five turns Two signaled level rail crossing 	<ul style="list-style-type: none"> Approximately 9.7 km of haul route on public roads One intersection crossing Three turns Two signaled level rail crossings 	<ul style="list-style-type: none"> Approximately 11.2 km of haul route on public roads Two intersection crossing Five turns Two signaled level rail crossings
Preferred Alternative - Public Health & Safety			Haul Route #3 alternative is the shortest on public roads and has fewest adjacent residences.				
Social and Cultural							
10	Disruption to use and enjoyment of residential properties.	<ul style="list-style-type: none"> Number of residences along route Number of intersection crossings Number of truck turnings 	<ul style="list-style-type: none"> 0 residences along County Road 6 One residence on Road 66 One intersection crossing Two turns 	<ul style="list-style-type: none"> 0 residences along County Road 6 One intersection crossing One turn 	<ul style="list-style-type: none"> 91 adjacent residences along Beachville Road 21 adjacent residences along Pemberton Street One intersection crossing Five turns 	<ul style="list-style-type: none"> 91 adjacent residences along Beachville Road 21 adjacent residences along Pemberton Street One intersection crossing Three turns 	<ul style="list-style-type: none"> 91 adjacent residences along Beachville Road 21 adjacent residences along Pemberton Street Two intersection crossing Five turns
11	Disruption to use and enjoyment of public facilities and institutions.	<ul style="list-style-type: none"> Number of community facilities and institutions along route Number of intersection crossings Number of truck turnings Location and length of bus routes along haul route 	<ul style="list-style-type: none"> None One intersection crossing Two turns 	<ul style="list-style-type: none"> None One intersection crossing Two turns 	<ul style="list-style-type: none"> Two institutions (Hi Way Pentecostal Church & Ingersoll Rural Cemetery) One intersection crossing Five turns 	<ul style="list-style-type: none"> One institution (Hi Way Pentecostal Church) One intersection crossing Three turns 	<ul style="list-style-type: none"> One institution (Hi Way Pentecostal Church) Two intersection crossing Five turns
12	Disruption to local traffic networks.	<ul style="list-style-type: none"> Number of stops and turning movements associated with route 	<ul style="list-style-type: none"> Two turns Existing 4-way stop Existing 2-way stop Road construction required 	<ul style="list-style-type: none"> One turn Existing 4-way stop 	<ul style="list-style-type: none"> Five turns Existing 4-way stop 4 existing 2-way stops Road construction required 	<ul style="list-style-type: none"> Three turns Existing 4-way stop 4 existing 2-way stops Road construction required 	<ul style="list-style-type: none"> Five turns Existing 4-way stop 4 existing 2-way stops Road construction required
17	Displacement/destruction of archaeological resources.	<ul style="list-style-type: none"> Length new or widening of both public and private roads 	<ul style="list-style-type: none"> Approximately 3 km 	<ul style="list-style-type: none"> Approximately 2 km 	<ul style="list-style-type: none"> Approximately 3 km 	<ul style="list-style-type: none"> Approximately 3 km 	<ul style="list-style-type: none"> Approximately 4.5 km
19	Effects on other public services.	<ul style="list-style-type: none"> Length of each route on local road system (i.e.; other than Provincial, County, or private roads) 	<ul style="list-style-type: none"> 1.5 km 	<ul style="list-style-type: none"> 0 km 	<ul style="list-style-type: none"> 6.9 km 	<ul style="list-style-type: none"> 7 km 	<ul style="list-style-type: none"> 8.5 km
20	Changes to community character/cohesion.	<ul style="list-style-type: none"> Number of residences along route 	<ul style="list-style-type: none"> 0 residences One residence on Road 66 	<ul style="list-style-type: none"> 0 residences 	<ul style="list-style-type: none"> 112 residences 	<ul style="list-style-type: none"> 112 residences 	<ul style="list-style-type: none"> 112 residences
21	Compatibility with municipal land use designations and official plans.	<ul style="list-style-type: none"> Provincial and municipal road designations for heavy truck traffic Existing provincial and municipal land use designations for closed or unopened sections of road allowances 	<ul style="list-style-type: none"> Road reconstruction required to meet standards for heavy truck traffic 1.5 km on local roads 	<ul style="list-style-type: none"> Currently compatible with heavy truck traffic. 0 km on local roads 	<ul style="list-style-type: none"> Road reconstruction required to meet standards for heavy truck traffic 6.9 km on local roads 	<ul style="list-style-type: none"> Road reconstruction required to meet standards for heavy truck traffic 7.0 km on local roads 	<ul style="list-style-type: none"> Road reconstruction required to meet standards for heavy truck traffic 8.5 km on local roads
Preferred Alternative - Social & Cultural			Haul Route #3 alternative is designated for heavy truck traffic and has the fewest truck turns, intersection crossings, residences and institutions.				

			ROUTES TRAVELING DOWN BEACHVILLE ROAD				
Criteria		Indicator(s)	Haul Route #2	Haul Route #3	Haul Route #4	Haul Route #5	Haul Route #6
Economics							
22	Displacement/disruption of businesses or farms.	<ul style="list-style-type: none"> Number and types of businesses and farms along route 	<ul style="list-style-type: none"> One large heavy industry (Carmeuse operations) Two farms 	<ul style="list-style-type: none"> One large heavy industry (Carmeuse operations) 	<ul style="list-style-type: none"> 5 businesses (Welding shop, mechanics shop, hydraulics shop, transport company) 6 farms 	<ul style="list-style-type: none"> 5 businesses (Welding shop, mechanics shop, hydraulics shop, transport company) 6 farms 	<ul style="list-style-type: none"> 5 businesses (Welding shop, mechanics shop, hydraulics shop, transport company) 9 farms
23	Property value impacts.	<ul style="list-style-type: none"> Number of properties adjacent to route Number and types of businesses and farms along route 	<ul style="list-style-type: none"> 0 residences on County Rd 6 1 residence on Road 66 Two farms One large heavy industry (Carmeuse operations) 	<ul style="list-style-type: none"> 0 residences One large heavy industry (Carmeuse operations) 	<ul style="list-style-type: none"> 112 residences 6 farms One institution 5 businesses 	<ul style="list-style-type: none"> 112 residences 6 farms One institution 5 businesses 	<ul style="list-style-type: none"> 112 residences 9 farms One institution 5 businesses
28	Public costs for indirect liabilities.	<ul style="list-style-type: none"> Length of each route on local road system (i.e. other than Provincial, County, or private roads) 	<ul style="list-style-type: none"> 1.5 km 	<ul style="list-style-type: none"> 0 km 	<ul style="list-style-type: none"> 6.9 km 	<ul style="list-style-type: none"> 7 km 	<ul style="list-style-type: none"> 8.5 km
30	Effect on the cost of service to customers.	<ul style="list-style-type: none"> Relative cost of road reconstruction/upgrade for heavy truck traffic 	<ul style="list-style-type: none"> Road reconstruction required to meet standards for heavy truck traffic 	<ul style="list-style-type: none"> No significant reconstruction or upgrading required. 	<ul style="list-style-type: none"> Road reconstruction required to meet standards for heavy truck traffic 	<ul style="list-style-type: none"> Road reconstruction required to meet standards for heavy truck traffic 	<ul style="list-style-type: none"> Road reconstruction required to meet standards for heavy truck traffic
Preferred Alternative - Economics				Haul Route #3 alternative does not require any significant public road reconstruction or upgrading, and the least potential to affect adjacent property values			

Natural Environment & Resources							
38	Disruption of farm operations.	<ul style="list-style-type: none"> Number of field entrances along the haul route 	<ul style="list-style-type: none"> 8 field entrances 	<ul style="list-style-type: none"> 1 field entrance 	<ul style="list-style-type: none"> 5 field entrances 	<ul style="list-style-type: none"> 4 field entrances 	<ul style="list-style-type: none"> 3 field entrances
41	Loss/disruption of recreational resources.	<ul style="list-style-type: none"> Number and proximity of recreational resources along route Number of playgrounds along route. Length of haul route coinciding with bike routes 	<ul style="list-style-type: none"> None known 	<ul style="list-style-type: none"> None known 	<ul style="list-style-type: none"> Beachville Road is a designated bicycle route 3.5 km 	<ul style="list-style-type: none"> Beachville Road is a designated bicycle route 3.5 km 	<ul style="list-style-type: none"> Beachville Road is a designated bicycle route 3.5 km
Preferred Alternative - Natural Environment & Resources				Haul Route #3 alternative has the fewest farm field entrances and no known adjacent recreational resources.			

Preferred Alternative - Overall				Haul Route # 3 alternative is preferred overall. It is the only alternative that is preferred in all four groups of criteria.			
--	--	--	--	--	--	--	--

Legend

Advantage

Disadvantage

Component 4: Leachate Management

Summary of Leachate Management Screening

Of the four options for leachate management, only one passed all four screening criteria as feasible (on-site treatment plant). The other four have been screened out due to:

- Piped to local Municipal Waste Water Treatment Plant (WWTP) and Haul to local Municipal WWTP not permitted under Oxford County By-Law.
- Hauling leachate to a WWTP outside of the County is a prohibitive high cost.
- On-Site Evaporation Plant technology not yet proven at this scale.

Public Input

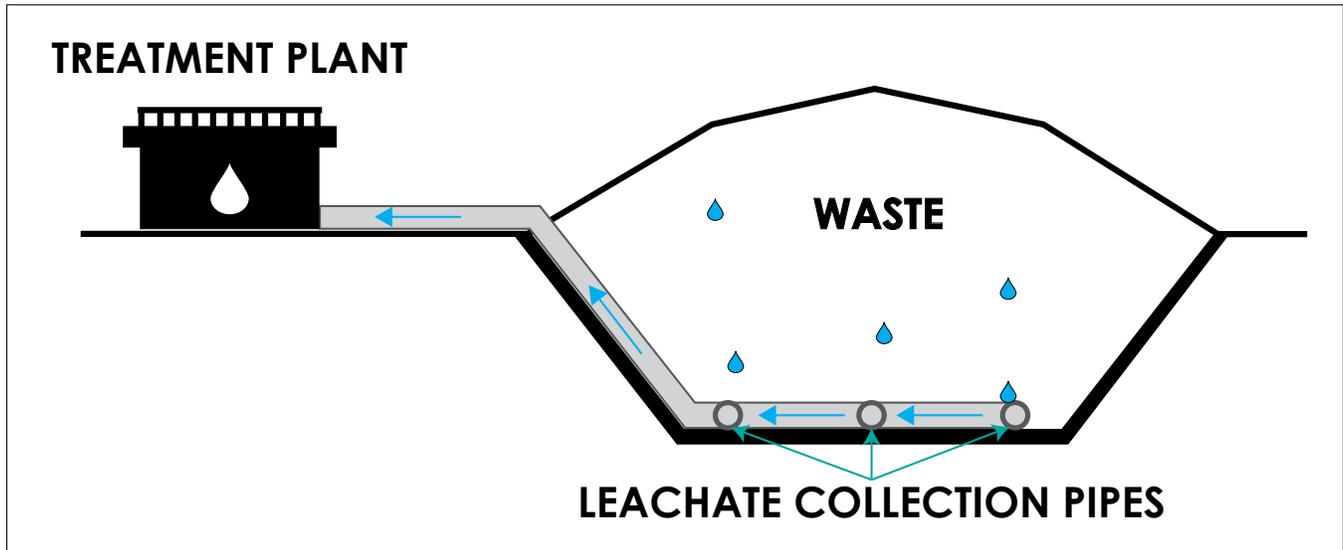
Walker received input on leachate management that will be taken into consideration as the EA process progresses. The leachate management system will be further studied and refined throughout the EA process.

Key Input Received	Considerations
Leachate holding ponds need to be fully protective of the environment.	Walker agrees and this will be a key consideration when designing any holding ponds required for the leachate management system.
Potential future issues in event Walker abandons site.	As part of post-EA approvals (Environmental Compliance Approval), Financial Assurance is required by the Ministry of Environment and Climate Change (MOECC). This is money set aside for the MOECC to use in the event Walker is unable to care for the site as required.

Preferred Alternative

On-site treatment is selected as the Preferred Alternative for leachate management. Some of the benefits of an on-site treatment plant include:

- The facility could be built with technology designed specifically to treat leachate.
- No impact to capacity of municipal wastewater treatment infrastructure.
- Once treated, the water could be used for on-site activities like dust control.



Concept diagram of leachate being removed from landfill and sent for treatment.



Examples of on-site wastewater treatment infrastructure.



Record Your Thoughts:

1. Do you have any questions about the rationale used to identify the preferred leachate management method?
2. What are your thoughts on the preferred leachate management method?

Component 5: Landfill Gas Management

Summary of Landfill Gas Screening

Out of the three options for landfill gas management, two options were carried forward for further study as Preferred Alternatives – flaring and gas utilization (using landfill gas for renewable energy) and one alternative – passive venting was screened out.

Passive Venting was screened out because it is not permitted under Ontario Regulation 232/98.

Public Input

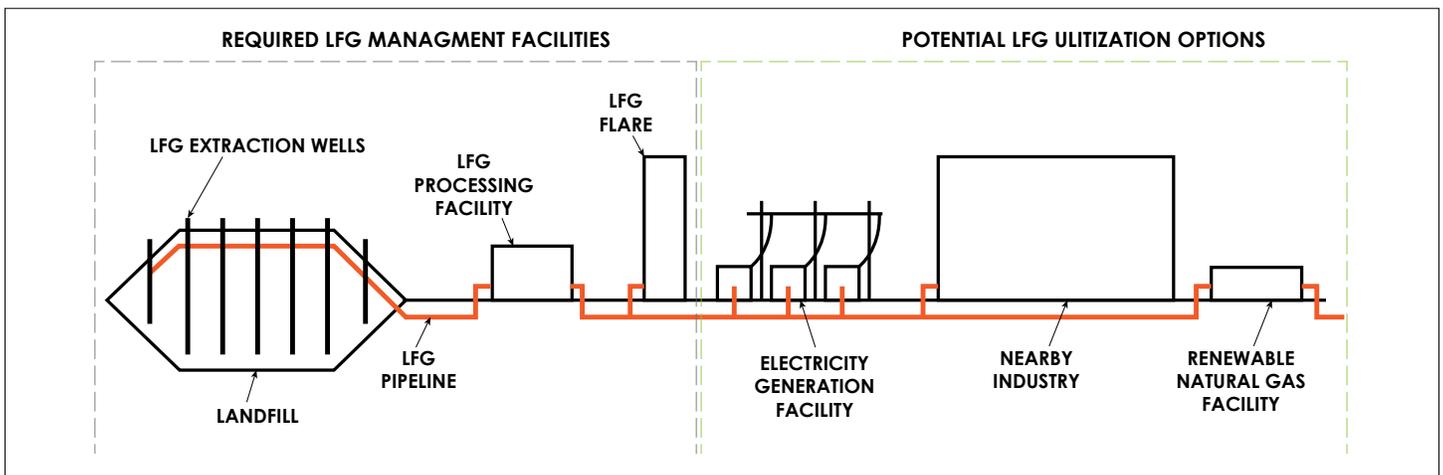
Walker received input on landfill gas management that will be taken into consideration as the EA process progresses. The landfill gas management system will be further studied and refined throughout the EA process.

Key Input Received	Considerations
Safety of burning landfill gas (particularly methane component) and risk for fire or explosion.	One of the purposes of managing landfill gas and burning it in a controlled environment is to minimize the risk for fire or explosion. Fires and explosions resulting from landfill gas are very uncommon, particularly in modern landfills that collect and manage gas. This will be taken into consideration as the landfill gas management infrastructure is designed, including meeting or exceeding all safety and building requirements.
Risk of odour from landfill gas management.	One purpose of managing landfill gas is to prevent odours. This will be taken into consideration as the landfill gas management system and procedures are developed. For example, in Niagara there is a full-time technician who “tunes” each landfill gas well every week for maximum performance and odour control.

Preferred Alternative

Flaring and Gas Utilization is the combined preferred alternative for the following reasons:

- Despite the beneficial aspects of gas utilization, a flaring system would be required to safely manage gas that is not used (i.e. early/late years, low demand periods, maintenance, etc.)
- Landfill gas production would not reach commercially viable quantities for utilization until at least five years into the landfill operations (approximately 2028). A flaring system would be required until then.
- Utilizing the landfill gas as a renewable energy source would help Ontario reduce its GHG emissions. Different ways of utilizing the landfill gas exist and further studies will determine how and when a utilization project could be implemented.



Concept diagram of landfill gas being extracted from landfill and managed.



Walker South Landfill - Landfill Gas Flares



Walker South Landfill - Landfill Gas utilization infrastructure.



Record Your Thoughts:

1. Do you have any questions about the rationale used to identify the preferred landfill gas management methods?
2. What are your thoughts on the preferred landfill gas management methods?

Summary & Next Steps

Summary of Preferred Alternatives

The Preferred Alternatives for all five landfill components will continue to be refined in consultation with the CLC and other stakeholders throughout the Environmental Assessment process.

A summary of the Preferred Alternatives is provided below.

Component	Preferred Alternative
Landfill Footprint	Unconstrained portion of the active quarry area. Quarrying and landfilling would co-exist on the site during landfill construction and beginning of landfilling operations.
Landfill Design	A Deep Design configuration using the Generic Double Composite Liner system designed and approved by the Ministry of Environment and Climate Change.
Haul Route/Site Entrance	Truck haulage on Route 3 - from Exit 222 on Highway 401, north on County Road 6, then west onto a private road on Carmeuse property that would be constructed. Site entrance in the northwest portion of the landfill footprint.
Leachate Treatment	An on-site leachate treatment plant.
Landfill Gas Management	Enclosed flaring, with the potential for future development of gas utilization when there is sufficient gas production and in respect of regulations and energy market conditions at that time.



Record Your Thoughts:

1. Do you have any closing thoughts on how the Preferred Alternatives were selected?

Next Steps

The chosen Preferred Alternatives will be integrated into the proposed design of the Southwestern Landfill, called “Facility Characteristics”. This proposed design will then be integrated into the draft Technical Work Plans that describe the studies to be carried out (Impact Assessment). The studies will assess potential impacts of the proposed landfill. More information about next steps can be found in Section 8.2 of the Approved Amended Terms of Reference.

Items from Meeting 21

Business Arising		Responsibility	Response	Status
1	More information on the full cycle of leachate generation, treatment, including post-closure and the amount of infiltration through the semi-permeable cap.	WEG	<p>Leachate generation rates are modelled using climate data and landfill design data. Walker has several decades of operating experience at its South and East landfills from which to further support modelling of leachate generation.</p> <p><i>“For an engineered site with leachate collection, an increased rate of infiltration to promote waste stabilization would normally be desirable to reduce long term maintenance and monitoring requirements, and to reduce the contaminating life span of the site. The generic designs ... in fact specify a minimum infiltration rate for this reason -- to help ensure the service life of the engineered facilities exceeds the contaminating life span.”</i> (Landfill Standards, Section 6.11). The minimum infiltration required rate for the Generic Double Composite Liner design is 0.15 metres per year (LFS, Section 4.5).</p>	Complete
2	Design requirements for leachate pre-treatment holding ponds, particularly how they are lined.	WEG	<p>An engineering design for a leachate treatment facility, including any leachate holding ponds, has to be prepared by the proponent (in this case, Walker and its engineering consultants) and submitted to the MOECC for review and approval before it can be built or operated. Section 4.1 of the Landfill Standards lists all of the engineering details that have to be prepared and included in the application, including: <i>“detailed plans, specifications and descriptions of any leachate collection, treatment and disposal system necessary to control leachate, including construction and quality assurance and quality control procedures for the system components and system installation”</i> (O. Reg. 232/98, S.6.(2)(c)(viii). Engineering experts at the MOECC review these plans to ensure that, among other things, they will protect groundwater, surface water and the environment (LFS, Section 4.1).</p>	Complete

Business Arising		Responsibility	Response	Status
3	Examples of where on-site leachate treatment is used in Ontario with images if possible.	WEG	<p>The Lafleche Moose Creek Landfill near Ottawa Ontario has an on-site leachate treatment plant. A description can be found at http://leic.com/installations-facilities/waste-water-treatment/.</p> <p>Following is a link to an article about on-site leachate treatment that includes a description and photos of the Green Lane Landfill plant: https://esemag.com/biosolids/lessons-learned-successful-applications-biological-landfill-leachate-treatment/.</p> <p>Please see attached flow diagram of the Green Lane leachate treatment facility (LTF).</p>	Complete
4	A list of typical parameters/characteristics that the treated leachate water would be tested for.	WEG	<p>The standards for discharging treated water into a receiving waterbody are dependent on the location and characteristics of the waterbody, and are determined on a case-by-case basis by the associated government agency (i.e., MOECC, usually in consultation with local Conservation Authorities). In general, though, it is based on the Provincial Water Quality Objectives/Standards (PWQO). Section 3.5.1 of the PWQO details the procedures that are used by the government to set the effluent requirements for any given project.</p> <p>As a “typical” example, the Ingersoll Wastewater Treatment Plant treats leachate from the Salford Landfill. The most recent annual report for the facility lists the monitoring parameters and results: http://www.oxfordcounty.ca/Portals/15/Documents/Wastewater/AnnualWastewaterTreatmentPlantReports.pdf</p>	Complete
5	Frequency of leachate testing in Niagara.	WEG	<p>Leachate discharged to the municipal sewer system from the Walker Environmental South Landfill in Niagara Falls is tested four times per year. If tests reveal any exceedances or anomalies, testing is repeated and the frequency is increased if required.</p>	Complete

Business Arising		Responsibility	Response	Status
6	Provide access to South Landfill Annual Monitoring Report.	WEG	The Annual Report for Walker Environmental's South Landfill (Niagara Falls) is available for review at the Walker Environmental office in Ingersoll.	Complete
7	Clarification regarding what is included in the Record of Consultation, particularly regarding email correspondence. Should be consistent with Privacy section of walkerea.com.	WEG		In Progress
8	To help understand the Comparative Analysis Table for Haul Route Alternatives for the South Landfill that was provided to the CLC at CLC Mtg.#18 June 22 as an example of the Comparative Analysis process, provide a copy of the South Landfill Final EA Report, Haul Route section.	WEG	Attached is a copy of Section 5.4 - Evaluation of Haul Routes & Site Entrances from Walker Environmental's Approved South Landfill EA.	Complete
9	Amount of pressure required for landfill gas use in lime kiln.	WEG		In Progress

Items from Meeting 20

Business Arising		Responsibility	Response	Status
1	List of additional Criteria and Indicators included in Comparative Evaluation	WEG	WEG has updated the draft list of Comparative Evaluation criteria and indicators for the Haul Route comparative evaluation based on input from the CLC, public and other interested parties. It is attached as reference.	Complete
2	Update on engaging MTO or other resources for the Haul Route comparative evaluation	WEG	MTO will not be engaged during the comparative analysis; however, MTO has been identified as part of the Government Review Team (GRT) and will be consulted on the finalization of the technical Work Plans.	Complete
3	Provide additional information on Rail Haul as a haul route option and why it was screened out.	WEG	Additional information will be provided in the Alternative Methods Paper which will be issued for public comment in November. This paper remains in draft form until the submission of the Final EA Report.	In Progress
4	Explanation on how the Environmental Assessment (EA) Process works for private sector entities in the Province of Ontario	WEG	Included as a designated poster at the September Public Event and further public events.	Complete

Items from Meeting 19

Business Arising		Responsibility	Response	Status
1	Provide the definition of a Lake from the Adam's Mine Act.	Pat Almost	<p>Please see separate document containing email from Pat Almost regarding lakes with respect to permitting requirements for a Permit to Take Water.</p> <p>Aspects of the Adam's Mine Lake Act were incorporated into Section 27 of the <i>Environmental Protection Act</i> (EPA).</p> <p>A definition of "lake" from the EPA (subsection 3.1 and 3.2) is summarized as a body of water at least one hectare in size that</p>	Complete

			results from human activities and directly influences or is directly influenced by ground water.	
2	Clarify approximately how much space is required for the landfill footprint, with and without buffer lands (not including ancillary facilities).	WEG	Approximately 80 hectares (200 acres) are estimated to be required for the landfill, buffer lands, and ancillary facilities. It should be noted that for the purposes of screening, areas that do not meet a minimum size of 53 hectares were initially screened out as not technically feasible as they would be too small to accommodate even the minimum area needed for landfill and buffer. However, 80 hectares is a much more realistic estimate.	Complete
3	Clarify what liners are being used at major Landfills in Ontario.	Pat Almost & WEG	<p>South Landfill (Walker Environmental) uses a generic double composite liner. With inward groundwater gradient design. The older East Landfill (Walker Environmental) uses a clay liner with inward groundwater gradient design.</p> <p>To the best of Walker’s knowledge, other landfills use:</p> <ul style="list-style-type: none"> • West Carleton Environmental Centre (Waste Management), which was recently approved, has a generic double composite liner • Proposed Capital Region Resource Recovery Centre (Taggart Miller), which is still in EA process, is proposing a generic double composite liner • Green Lane Landfill (City of Toronto) uses a clay soil liner with leachate collection system in hydraulic trap design • Ridge Landfill (Progressive Waste) uses an engineered clay liner on the sidewalls and natural clay liner on the base (ie. site-specific design) • Twin Creeks/Warwick Landfill (Waste Management) uses the generic single composite liner design • Stony Creek Landfill (Terrapure) uses a site-specific hydraulic trap design that is similar to a generic double composite liner design. <p>It should be noted that the <i>Ontario Landfill Standards</i> were adopted in 1998 and some sites noted above were approved prior to this date.</p>	Complete

4	Confirm the Monitoring Schedule of the South Landfill in Niagara.	DF	<p>Please see separate document with detailed information.</p> <p>In general, groundwater is monitored for quality and quantity (level). Requirements are different for each of the landfills, including the South Landfill (currently operating) as well as the East and West landfills (closed), but many of the same wells are used since the landfills are near each other.</p>	Complete
5	Provide a link to the Landfill Standards Document where the information on average elevations and thickness of waste as it relates to liner requirements.	DF	<p><i>Ontario's Landfill Standards</i> Document: https://www.ontario.ca/document/landfill-standards-guideline-regulatory-and-approval-requirements-new-or-expanding-landfilling-sites</p> <p>Information about generic liner design options starts on page 26 (section 4.5).</p> <p>Table 5 in the <i>Landfill Standards</i> lists the maximum waste loadings for each of the Generic Design Options, expressed in cubic meters per hectare (m³/ha). These can be converted into an average thickness in meters by dividing by 10,000 (ie. by converting hectares to m²).</p> <p>The maximum waste loadings are related to the amount of waste and leachate, not the weight of the waste.</p>	Complete
6	Provide more information on the rationale for the differences in thickness of the attenuation layer beneath the single and double composite liner designs.	DF	<p>The single composite liner design requires three metres of attenuation layer while the double composite liner requires 1 metre. This is because the double composite liner has two leachate collection systems, so it requires less attenuation layer to be fully protective of the environment than the single composite liner, which only has one leachate collection system.</p>	Complete
7	Provide more information or the rationale for the differences in thickness of HDPE (plastic) liner for the primary and secondary liners in the generic double composite liner system.	DF	<p>Section 4.5 (b) of <i>Ontario's Landfill Standards</i> outlines the requirements of the generic double composite liner design.</p> <p>Section 4.5.1(5).4 outlines the required service life of the primary HDPE geomembrane liner (150 years) and the secondary HDPE geomembrane liner (350 years).</p>	Complete

			To summarize, the secondary liner must have a longer service life than the primary liner, which is why it is thicker. Note that the geomembrane liners are used in addition to clayey soil primary and secondary liners and associated leachate collection and attenuations layers, which comprise the full double composite generic liner system.	
8	Actual thickness and length of life for the semi-permeable cap in Niagara	DF	The landfill cap/cover requirement as set out in section 4.5 (b) of <i>Ontario's Landfill Standards</i> requires a landfill final cover to have an infiltration rate greater than or equal to 15 cm per year. Section 6.11.1 sets out the requirement of a minimum of 60 cm of cover material and a minimum of 15 cm of topsoil able to sustain plant growth.	Complete
9	Provide information on if landfill temperature has any impact landfill performance.	WEG	The temperature within a landfill and its effect on the geomembrane layer of the landfill liner is considered in <i>Ontario's Landfill Standards</i> . Schedule 3 – Service Life – Geomembrane Liners, Section 3 outlines the specifications that the geomembrane liners must meet.	Complete

Items from Meeting 18 – written responses

Business Arising		Responsi-bility	Response	Status
1	Walker to send most recent up-to-date list of all the technical review team, including the Karst Expert and the government review team. (Requested at the meeting and deferred to Walker by Andrew, MOECC)	BO	Provided in hard copy at CLC Meeting 19 (July 27, 2016)	Complete

2	Walker at next CLC Meeting to provide an update on what response to how other technical experts can attend future relevant CLC Meetings. For example: MTO Representative during Haul Routes. Walker to also address the request to attend other meetings as an observer such as the JMCC and Peer-Review Technical Meetings	DF	Walker received this request, dated June 21, 2016 from D. Clark, and is taking it into consideration as we determine the format of the CLC Technical Work Plan meetings, We are interested in further exploring interest in a CLC member attending JMCC, Peer Review Team, and other technical meetings, and would like to discuss further.	In Progress
3	Walker to provide a more detailed timeline to the CLC Members for next meeting on the engagement not only with the CLC but also with the public.	BO	3-Month Timeline provided in the CLC Meeting 19 Materials	Complete
4	Carry Over from ToR phase #10. Walker work with Carmeuse to find the information and pass to CLC before the next meeting in July.	DF	<p>The area within Carmeuse's Beachville property, known as the Southwest Pit, is where the primary quarry operations are occurring. Within this area, the bottom limit of the ARA licence is 228 metres above sea level (masl). The quarry floor at the current quarry rock face is approximately 231 masl which is lower extent of commercially viable chemical stone.</p> <p>In other words, at the current quarry face the rock below 231 masl does not meet the specifications for chemical stone and therefore does not have commercial value as chemical stone. The chemical stone formation dips to south.</p> <p>It should be noted that in areas north of the current quarry face and within the Southwest Pit, overburden is being placed and quarrying has been Complete.</p>	Complete
5	Walker to get back to the group on when they will be able to comment on the Alternate Haul Route as part of the contingency plan.	JT	Alternate Haul routes will be identified as part of the contingency plan in the Design and Operations Report. The CLC will be able to comment on the alternate haul routes during the circulation of the Draft EA Report.	Complete

Items from Meeting 17:

Business Arising		Responsibility	Status
1	Check boundary of Carmeuse landholdings in Zorra with Carmeuse, make any necessary changes and provide map to the CLC.	BO	Complete
2	Provide responses to specific questions as identified during the meeting.	Andrew Evers	Complete
3	Provide written responses to written questions from the CLC.	Andrew Evers	Complete
4	Provide current list of government review team to CLC.	BO	Complete
5	Q: When will the local community be able to provide input on air monitoring locations?	BO	Answer: During consultation on the revised work plans
6	Make sure documents on the new website are posted in the same way (ie. same number of parts per document) as they were previously.	BO	Complete
7	Provide MTO with community and public concerns relating to traffic and contingency planning	DF	In progress Walker will provide this information to the MTO.

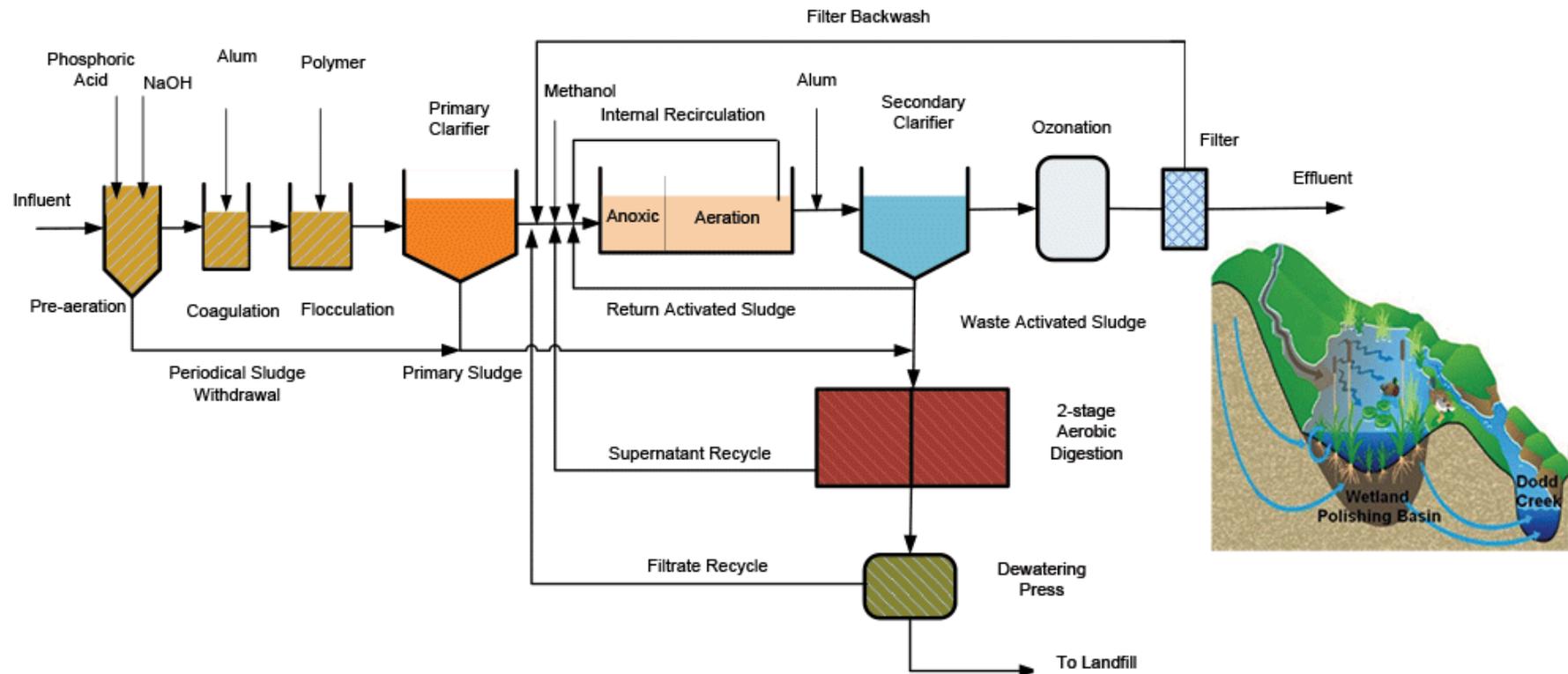
Carry-Over Items from Meetings during ToR Phase:

Business Arising		Responsibility	Status
1	Revisit the Mayor of Ingersoll regarding municipal green initiatives.	DF	In Progress - DF to discuss with Mayor of Ingersoll.
2	Clarify question – is there a mental health study being done?	DF	In Progress - The question will be referred to the Economic expert for consideration during the EA
3	Evaluate the connection between HHRA and Economic Impact assessment in criteria table regarding potential economic impacts on area health system. (Show the link on the EA Criteria Table)	DF	In Progress - This comment will be referred to the Economic expert for consideration during the EA.
4	Determine if there will be a truck wash. If so, identify if there will be a liner under the truck wash.	DF	In Progress - This comment will be referred to the landfill design team for consideration during the EA.

Business Arising		Responsibility	Status
5	Combinations of quarry and landfill monitoring and the margin of error – create data analysis from the South Landfill comparing the predictions with the actual data.	DF	In Progress - This comment will be referred to each expert for inclusion in the background data collection task during the EA.
6	Intrinsic to review their landfill-specific human health risk assessments literature and its performance evaluation of what has been predicted and what the results are to identify any trends and gaps.	DF	In Progress - Will be included when the work plans are finalized.
7	Provide information on Richmond Landfill. Intrinsic will see what information is available from work they may have done.	JT	In Progress - Intrinsic to follow up regarding public HHRA information.
8	Look at establishing sensitive receptors that will include industrial and businesses such as Carmeuse, Blue-con and Federal White.	DF	In Progress - This comment will be referred to the HHRA expert for consideration during the EA.
9	Provide a report on health trends based on information available from local, provincial and federal sources that pertains to this region as soon as possible, and be made available for the human health risk assessment and to the CLC.	DF	In Progress - This comment will be referred to the HHRA expert for inclusion in the background data collection task during the EA.
10	Determine how much licensed capacity remains under the quarry floor	DF	Complete
11	If the CLC is aware of local natural/environmental events, provide information to Walker who will then pass it along to Golder Associates.	CLC	Ongoing
12	Contact the Agricultural agencies and let them know the CLC Members would like to attend the meeting when they meet with the technical expert.	DF	In Progress

Further Information for Item 3 from Meeting 22:

Schematic flow diagram of the Green Lane leachate treatment facility from <https://esemag.com/biosolids/lessons-learned-successful-applications-biological-landfill-leachate-treatment/>



CLC Meeting 22

Other documents sent as materials, but not included as pages in this Appendix (to cut down on duplication, paper waste and/or very large digital files):

- 1) Transcript: http://www.walkerea.com/uploads/748/Doc_636166335142830982.pdf

Please contact us at info@walkerea.com or toll-free at 1-855-392-5537 if you require assistance accessing this document online or in hard copy.

Southwestern Landfill CLC #23

Meeting Summary

Date: November 23, 2016
Time: 6:00 p.m. – 9:30 p.m.
Location: 160 Carnegie Street, Ingersoll (Lower Meeting Room)

MEETING OVERVIEW

The purpose of the CLC Meeting 23 was to present and discuss the Facility Characteristics, Climate Change Assumptions, and Planning Assumptions for the proposed Southwestern Landfill. These three reports, drafted by Walker Environmental, will be provided to the technical experts completing the updated work plans. This information will also be important for the technical studies, which will begin in Spring of 2017. In addition, there was a discussion reflecting on the format of the CLC Meetings in 2016 and on the CLC Meeting schedule for 2017.

MEETING DETAILS

Agenda Item 3 – Discussion on Walker’s Presentation on Facility Characteristics, Climate Change Assumptions, and Planning Assumptions

Facility Characteristics

- Walker presented the preliminary Facility Characteristics, describing key design and operational information for the proposed landfill including some preliminary mitigation measures for environmental impact management. These measures meet the Ontario Landfill Standards and are used to finalize the technical work plans.
- Examples of facility characteristics presented include: an average of 15 metres of backfill beneath the liner, a minimum 30-metres buffer area around the waste deposit area, and the approximate average waste depth of 33 metres.
- A CLC Member raised concerns related to the location, size and characteristics of the stormwater management ponds proposed for location in in the southwest corner of the footprint. It was explained by Walker that this system is separate from the Leachate Management System and would be used only for water not in contact with leachate.
- Some CLC Members believe the community’s primary concern are with the protection of ground and surface water. They are concerned that with the Deep Design, the waste will be sitting in the water table. They indicated that they have these concerns despite the use of the landfill liner.

Southwestern Landfill CLC #23

Meeting Summary

- Walker indicated that the deep design of the landfill would reduce potential visual and odour impacts. Some of the CLC members stated that for the community, water is much more important than other impacts such as visual and odour impacts.

Climate Change Assumptions

- Walker presented the Ministry of Natural Resources and Forestry [Guideline document¹](#) that outlines that Climate Change considerations and assumptions that all technical studies will incorporate into the final work plans.
- Walker committed to examining two aspects of climate change: the impact of a changing climate on the proposed landfill and the contribution of the proposed landfill to climate change.
- Many CLC Members sought clarification about what is included in the assumptions. For example, they were interested to not only increased precipitation but also increased severity of storms. Walker responded and confirmed that the report addresses both assumptions.
- One CLC Member would like to see how and where Climate Change Assumptions will be incorporated in the final work plans.

Planning Assumptions

- Walker presented the planning assumptions regarding the forecasted land use in the area in the absence of the proposed landfill. There are two key aspects to the land use that was presented: the future aggregate operations in the surrounding area and the anticipated population growth and associated residential land use needs.
- A CLC Member questioned the relevance of this information. Walker used the example of traffic to explain that by forecasting aggregate production, it is possible to anticipate if there will be an increase or decrease in the amount of trucks on the road compared to today. Landfill technical experts will then incorporate this into their studies.
- A CLC Member brought forward a correction on the assumption that Beachville will not need municipal services. Walker confirmed that they will be revising their planning assumptions to incorporate the Beachville announcement to study the provision for sanitary sewers in Spring 2017.

¹ http://www.climateontario.ca/MNR_Publications/CCRR-44.pdf

Southwestern Landfill CLC #23

Meeting Summary

Agenda Item 5 – Discussion on Public Engagement Activities

- Walker reported that in November they hosted a Public Workshop on the Five Preferred Alternatives for the proposed landfill. There were 33 participants and overall positive feedback on the format and length of the workshop.
- Some CLC members mentioned that they, and potentially other members of the community, still mistrust the consultation authenticity particularly how the public inputs will be incorporated.
- A CLC Member suggested that in addition to the Workshop Summary that a summary table be published with the inputs the public provided with a response on how the inputs were considered. Walker agreed with the idea.
- Walker hosted a full-day Workshop on November 2 with seven First Nation communities from across Southern Ontario. They discussed preferred alternatives with similar documentation to the workshops held at Colombo Club. Walker indicated that the dialogue was positive and that the First Nations were interested in the work of the CLC. The next First Nations workshop is scheduled for March 2017.

Agenda Item 7 - Discussion on the 2017 CLC Meeting Plan

- For 2017, Walker proposed to have three CLC meetings on the updated technical work plans from January to March followed by bi-monthly CLC Meetings.
- The CLC indicated interest in bringing some of the technical experts to CLC Meetings to present their updated work plans, especially on the topics that are of most interest to the CLC.
- Walker suggested that CLC Members provide Walker with emails listing the top technical work plans for which they would like to have the responsible technical expert participate in future CLC meetings.

CLOSING REMARKS - ADJOURNMENT

The next CLC meeting will be held on Wednesday January 25, 2017. The purpose of this meeting will be to review the Facility Characteristics report and the updated work plans for Cultural, Heritage, and Traffic.

Prepared by Katrina Kroeze, CLC Documenter.

Approved by Laurie Bruce, CLC Facilitator.

If you have any questions about this summary, please call 416-992-9669 or email communitylaisoninfo@gmail.com

If you have questions for Walker, please call 1-855-392-5537 or email info@walkerea.com.

November 11, 2016

Good afternoon CLC and Alternates,

Please find enclosed the materials for the upcoming CLC meeting on **Wednesday, November 23, 2016** at 6:00 pm (dinner will be available at 5:30 pm).

- 1) Agenda
- 2) Presentation: Facility Characteristics, Planning & Climate Change Assumptions
- 3) Business Arising Report
- 4) October 26 CLC meeting Draft Summary – *please provide any comments by November 30, when it will be posted on walkerea.com*

The November edition of the Community Exchange Newsletter is also attached.

There are several things I'd like to note:

- **Transcript:** The transcript from the October 26 CLC meeting is not yet complete. It will be sent to you upon completion.
- **MOECC Observer:** Emilia Kuisma, Issues Project Director, will be joining us at the new primary observer from the MOECC London District Office (replacing Pat Almost).
- **Carmeuse Site Tour:** Please let us know which dates you are available by emailing info@walkerea.com or by calling Tanya at 1-855-392-5537. The dates are Saturday, January 21, 2017 or Saturday, January 28, 2017.
- **December 7 Meeting:** As a thank-you for the time you have dedicated to being a member or alternate of the CLC, you are invited to attend an Open Agenda CLC Thank-You Meeting on December 7, 2016 at 6 pm at the Walker Environmental Office in Ingersoll. There will be a meal and opportunity for everyone to speak informally and discuss topics of interest to you. Due to the informal nature, this meeting will not be recorded or transcribed.
- **November 16 Public Workshop:** There is a public workshop on the Preferred Alternatives scheduled for November 16, 2016 at the Colombo Club. The material (available online) is similar to what was covered at the October 23, 2016 CLC meeting. If you are planning on attending, please register online at SWLFPublicWorkshop.eventbrite.ca, or by email (info@walkerea.com) or by phone 1-855-392-5537.

Looking forward to seeing you at the Public Workshop or the CLC meeting.

Warm regards,

Becky Oehler
Community Engagement Manager
905-680-3675
boehler@walkerind.com



CLC Meeting 23 - Agenda

Southwestern Landfill Environmental Assessment

Date: Wednesday, November 23, 2016

Time: 6:00 pm – 9:00 pm
(Dinner will be available at 5:30 pm)

Location: 160 Carnegie Street, Ingersoll (Lower Meeting Room)

Meeting Materials:

- Presentation: Facility Characteristics, Planning & Climate Change Assumptions
- Nov 16 Public Workshop Summary (handout at meeting)
- Meeting 22 Business Arising Report

	Description	Lead	Duration	End Time
1	Welcome	Facilitator	5 min	6:05
2	Objectives and Review of Agenda	Facilitator	10 min	6:15
	Presentation & Discussion			
3	<i>Topics: Facility Characteristics, Planning & Climate Change Assumptions</i>	WEG	60 min	7:15
4	Waste Diversion Report Summary	WEG	15 min	7:30
	Public Consultation Activities			
5	<i>Public Workshop Summary</i>	WEG	15 min	7:45
6	CLC Update & Correspondence	ALL	15 min	8:00
7	2017 Meeting Plan and Action Items	ALL	60 min	9:00
8	CLC Discussion with EA Advisor	CLC/AG	1 hour	10:00



CLC Meeting 23 – November 23, 2016

FACILITY CHARACTERISTICS, CLIMATE CHANGE & PLANNING ASSUMPTIONS

Agenda



Southwestern Landfill EA

1. Preliminary Facility Characteristics
2. Climate Change Assumptions
3. Preliminary Planning Assumptions

This information will be used to finalize the Technical Work Plans.

What is the Purpose of Facility Characteristics?

- To provide key facility characteristics that are used to develop and finalize the Technical Work Plans.
- The Impact Assessment (Technical Studies) is a study of the proposed landfill design using the finalized Technical Work Plans.
- Follows the Landfill Standards

What does Facility Characteristics include?

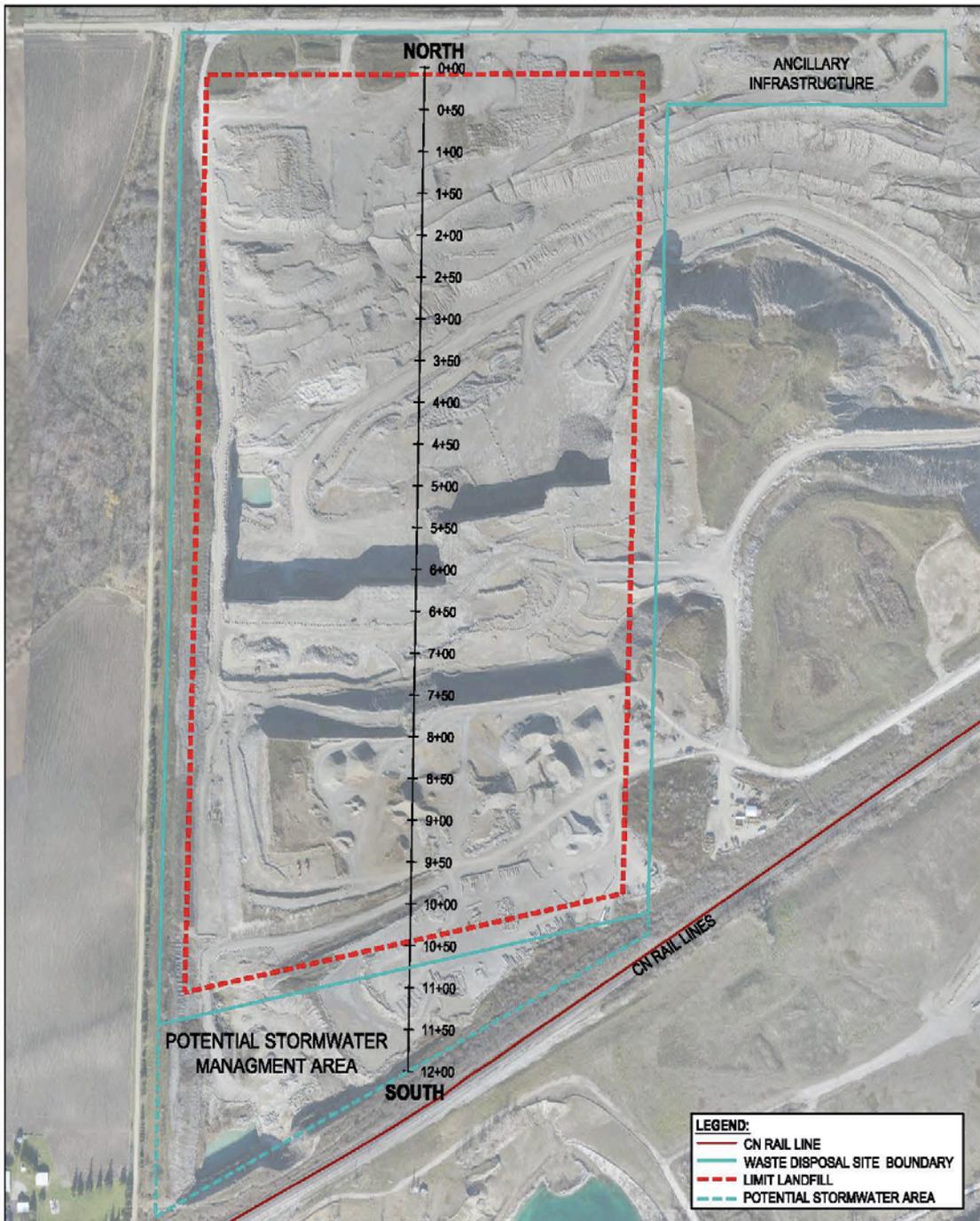
Preliminary Facility Characteristics



Southwestern Landfill EA

Estimated values (see figures)

Waste Disposal Site Area	67 hectares (165 acres)
Fill Area	53.3 hectares (132 acres)
Approx. Average Waste Depth	33 metres
Estimated minimum backfill depth	5.-7.5 metres
Estimated minimum backfill depth	5.0-7.5 metres
Estimated maximum backfill depth	22 metres
Estimated average backfill depth	15 metres



**SOUTHWESTERN LANDFILL ENVIRONMENTAL ASSESSMENT
PRELIMINARY LANDFILL FOOTPRINT
PLAN VIEW**

LANDFILL DESIGN NOTES:	
FILL AREA	53.3 hectares
WASTE DISPOSAL SITE BOUNDARY	67 hectares
APPROXIMATE WASTE CAPACITY	17 400 000 m ³

- LEGEND:**
- CN RAIL LINE
 - WASTE DISPOSAL SITE BOUNDARY
 - - - LIMIT LANDFILL
 - - - POTENTIAL STORMWATER AREA

DISCLAIMER:

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Preliminary Facility Characteristics



Southwestern Landfill EA

Buffer Area (30 metre minimum) could be used for:

- Monitoring
- Maintenance
- Environmental Controls
- Truck access and traffic (site entrance)
- Equipment parking and maintenance
- Berms (visual impact mitigation)
- Other operations/infrastructure

Preliminary Facility Characteristics

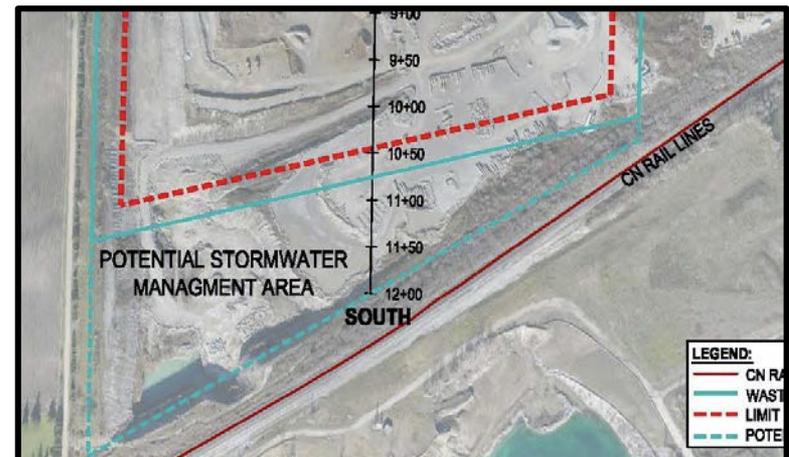
Ancillary Infrastructure

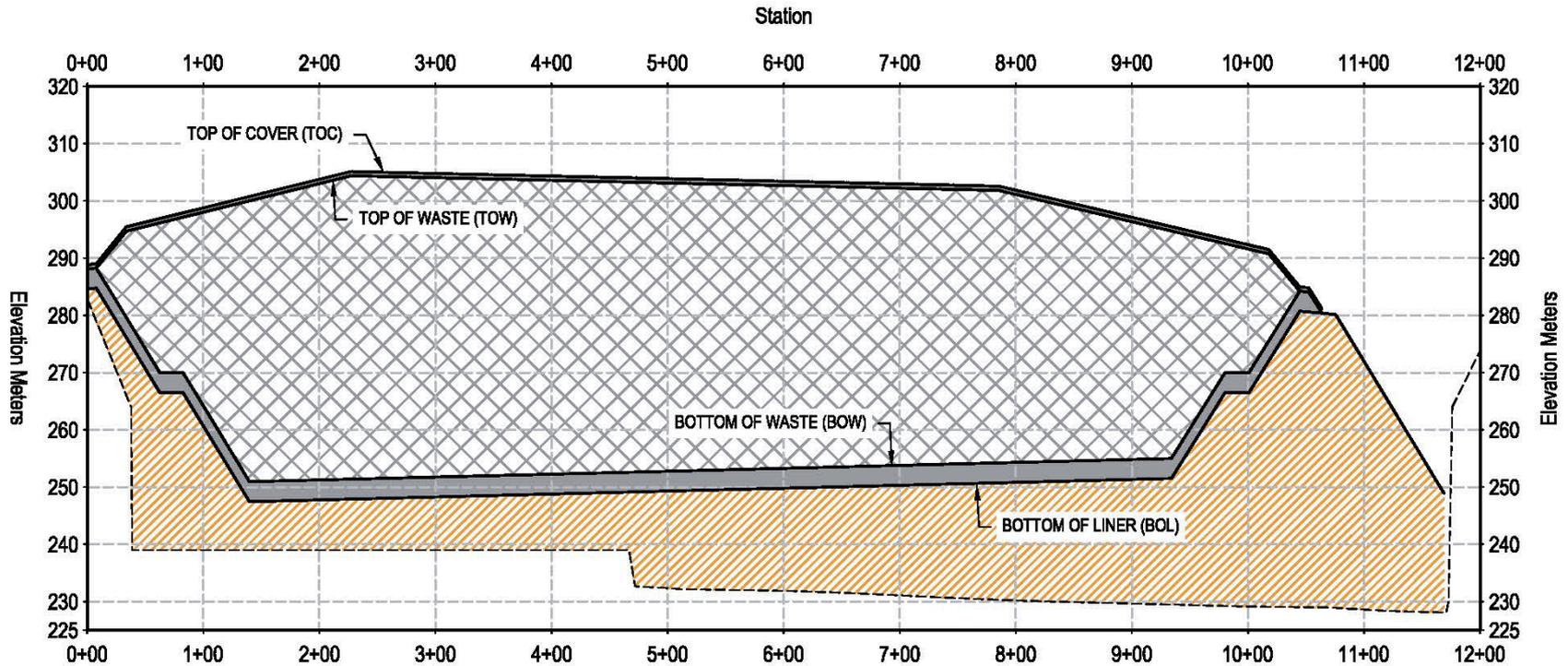
- Offices & Parking lots
- Storm water management
- Leachate holding pond(s)
- Leachate treatment plant
- Landfill gas flares
- Landfill gas utilization
- Equipment parking & maintenance shops
- Etc.

Northeast Corner



Southwest Corner





North - South Section View

LANDFILL DESIGN NOTES:

APPROX. AVERAGE WASTE DEPTH	33 m
MAX TOC ELEVATION	306 m
MAX. TOW ELEVATION	305 m
MIN. BOL ELEVATION	247 m
ESTIMATED MIN. BACKFILL DEPTH	5.0 - 7.5 m
ESTIMATED MAX. BACKFILL DEPTH	22.0 m
AVERAGE BACKFILL DEPTH	15.0 m

DISCLAIMER:

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**SOUTHWESTERN LANDFILL ENVIRONMENTAL ASSESSMENT
PRELIMINARY LANDFILL FOOTPRINT
NORTH-SOUTH SECTION VIEW**

LEGEND:

- ESTIMATED QUARRY GRADES
- PRELIMINARY LANDFILL GRADES
- █ BACK FILL MATERIAL

Preliminary Facility Characteristics



Southwestern Landfill EA

Key Consideration of Stakeholder Input:

- Southern boundary pulled northward, away from the Thames River and Beachville Road.
- Additional backfill beneath the landfill liner is preferred (while maintaining deep design)
 - Minimum 5 metres, average 15 metres, maximum 22 metres
- Deep design minimizes the potential for impacts from odour, visual, birds, dust, garbage flying off-site

Climate Change Assumptions



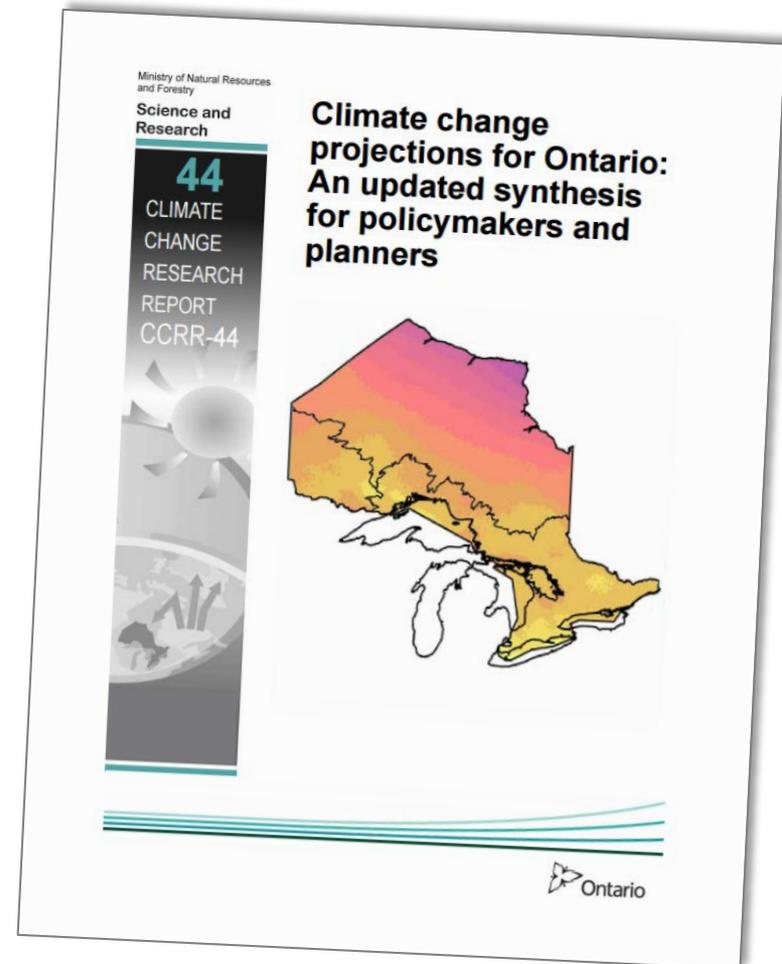
Southwestern Landfill EA

- Committed to examining two aspects of Climate Change:
 - Impact of changing climate on the proposed landfill.
 - The contribution of the proposed landfill to climate change.
- The Technical Studies need to work with the same set of assumptions about climate change.

Climate Change Assumptions

“Climate change projections for Ontario: An updated synthesis for policymakers and planners”

- *Ministry of Natural Resources (2015)*



Climate Change Assumptions



Southwestern Landfill EA

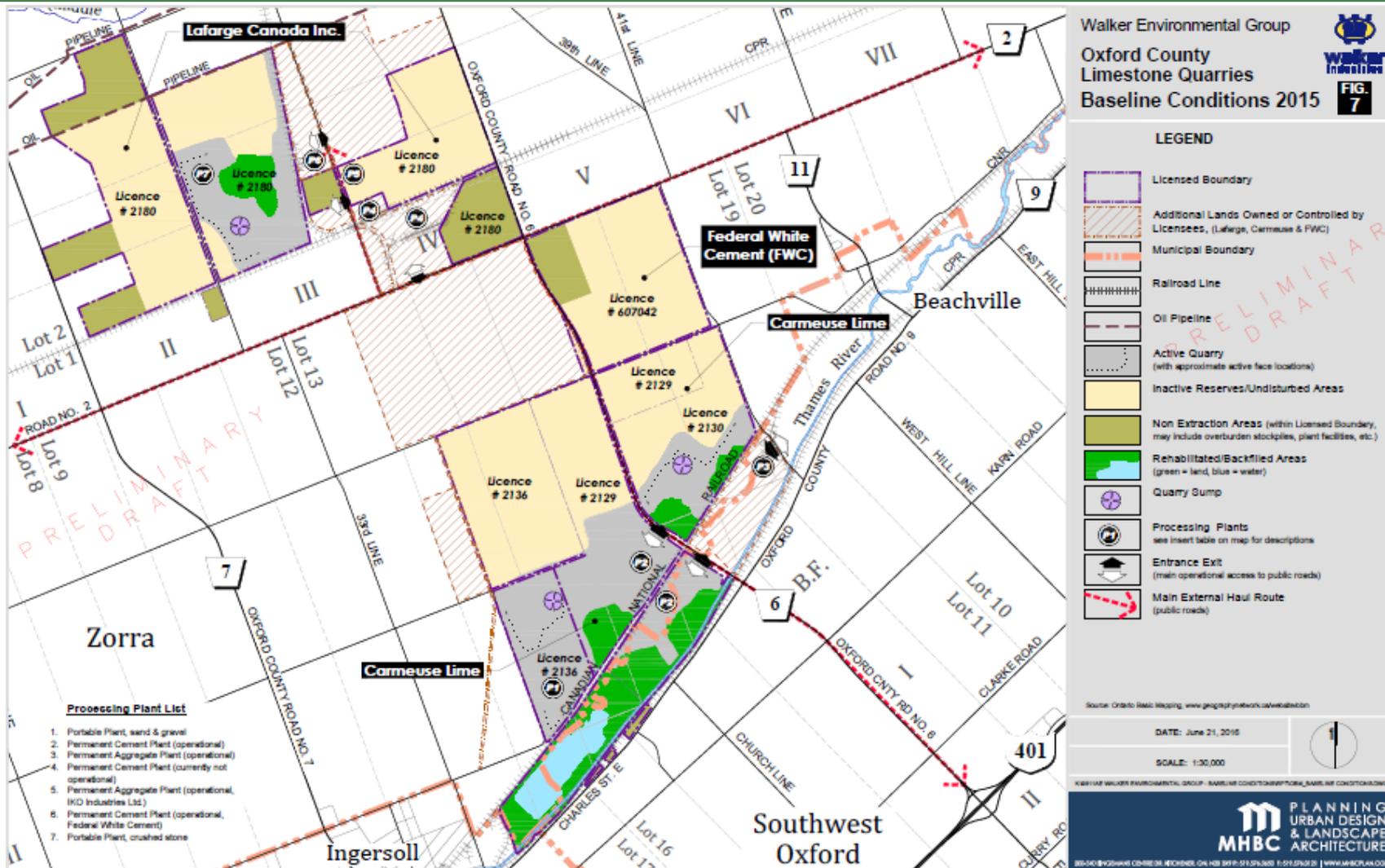
Key Considerations for Great Lakes Basin area:

- Higher annual, summer, and winter temperatures
- Less precipitation in summer
- More precipitation in winter

Report includes assumptions and data the technical experts will use to finalize the Technical Work Plans.

Preliminary Planning Assumptions

Southwestern Landfill EA



Preliminary Planning Assumptions

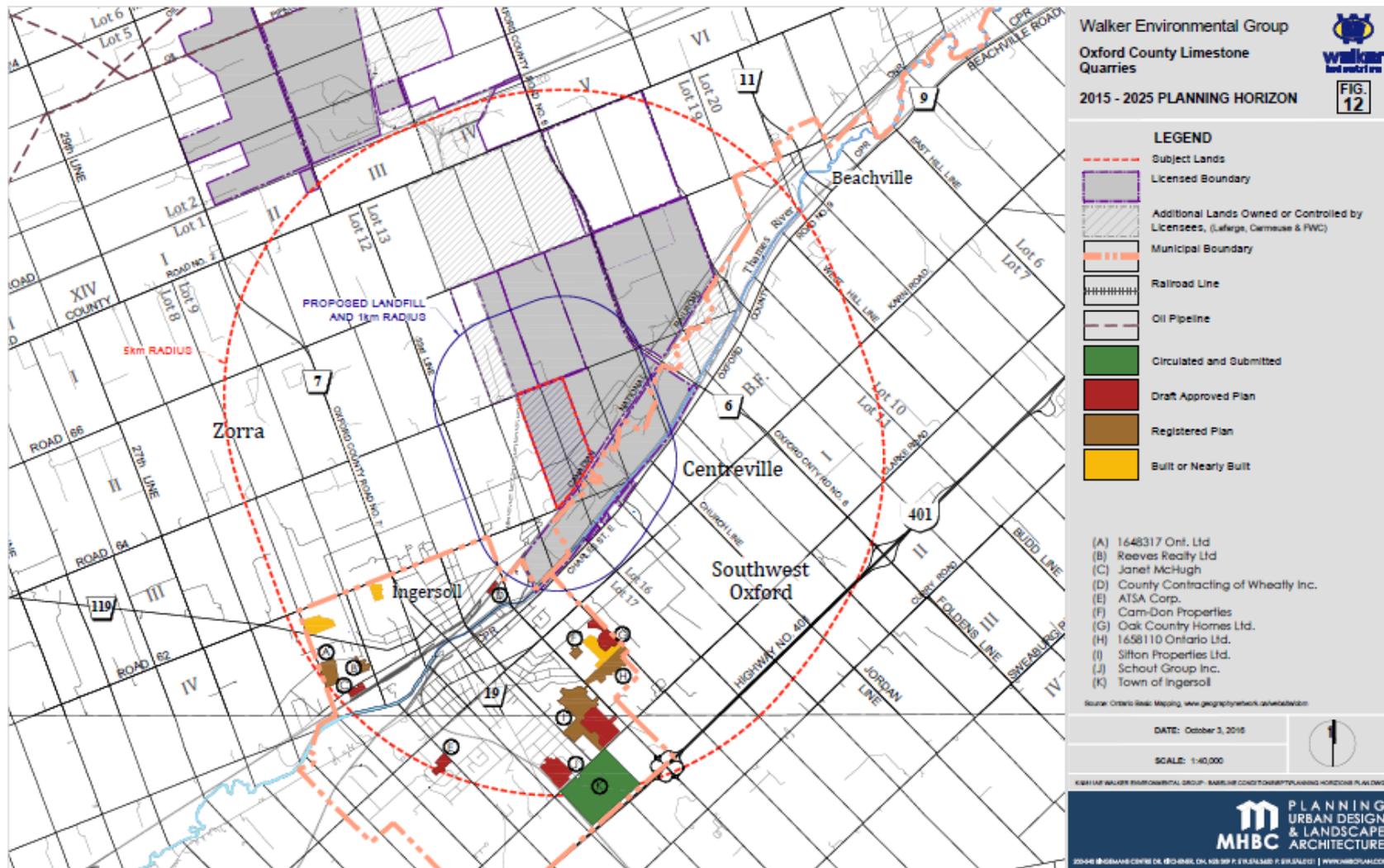


Southwestern Landfill EA

- Federal White Cement (FWC) licensed quarry remains unopened/inactive.
- FWC plant will continue operating at current production levels.
- Lafarge quarry maintains current production levels within “center block”. Cement plant remains inactive.
- Carmeuse quarry maintains current production west of County Road 6. Lime production continues. Quarry east of County Road 6 remains inactive.

Preliminary Planning Assumptions

Southwestern Landfill EA



Preliminary Planning Assumptions



Southwestern Landfill EA

- County to experience modest population growth in urban centres.
- There will be no need to designate additional land to accommodate residential demand.
- Total employment is forecast to increase.
- County-wide surplus of employment land, however, there will be shortfalls in Woodstock and Ingersoll.
- Existing designated Future Urban Growth (FUG) areas are intended for future employment uses.
- Development will occur predominantly in the south east area of Ingersoll. No development is proposed in the 1km Study Area or surrounding agricultural and aggregate resource areas.
- No plans to provide municipal services to the Village of Beachville. Beachville and Centerville will only experience limited growth through infilling.

Traffic (example)

Updated Technical Work Plan Summary



Southwestern Landfill Environmental Assessment

Study Area

Description of study area

Map of study area



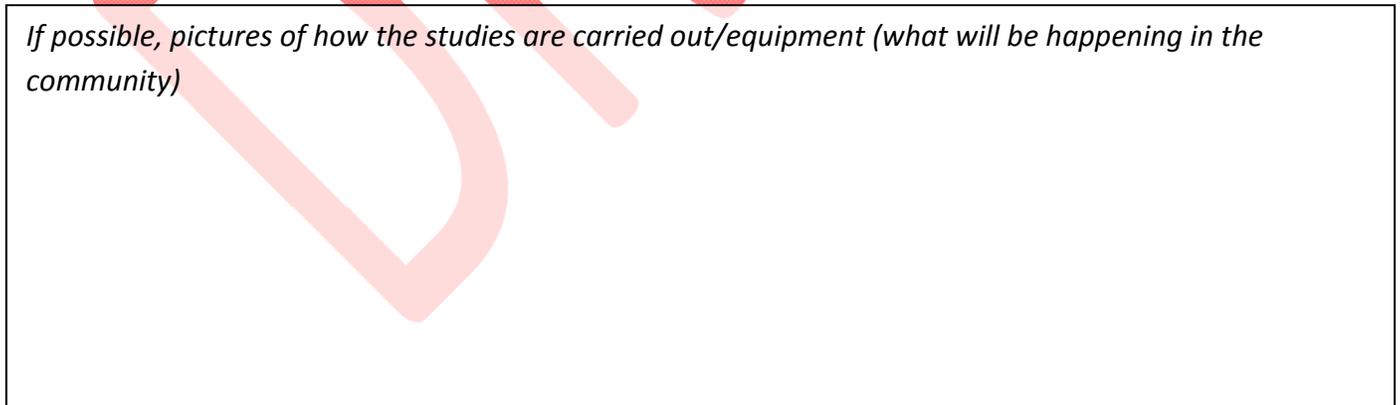
Methodology

Summary of technical study methodology – how the study will be carried out (monitoring/sampling/modelling/counting/etc). Will include information about frequency if applicable (ie. quarterly sampling)

Key Assumptions: climate change, planning, other assumptions specific to study

Key Guidance Documents/Standards: guidance documents or standards that are used for the technical study

If possible, pictures of how the studies are carried out/equipment (what will be happening in the community)



Community Input for Technical Experts Consideration

Input from community, other stakeholders, and First Nations that has been identified as important for the community to be relayed to the technical experts for their consideration during the studies. For example, particular species that have been brought up as species of interest/concern.

Key Updates to Technical Work Plans

Key changes between the Draft Technical Work Plans (from the Terms of Reference) and the Updated Technical Work Plans (updated draft; not yet finalized).

Technical Experts & Reviewers

This section will identify the company carrying out the technical study, as well as who will review the Updated Technical Work Plan and results of the study. This includes reviewers from the Joint Municipal Coordinating Committee (JMCC) Peer Review Team, and government agency reviewers.

The complete Updated Technical Work Plan for Traffic is available for review and comment. It is available online at www.walkerea.com or by contacting us at 1-855-392-5537 or info@walkerea.com. The Technical Work Plans will be finalized by XX date, if you are interested in submitting comments, please do so before then.

Public Workshop Feedback Summary

Number of Attendees: 33

Number of Feedback Forms: 17

Two Sessions

	Question	Response
1.	Was the information presented by Walker clear?	<ul style="list-style-type: none">• Majority agreed
2.	Were your questions answered to your satisfaction?	<ul style="list-style-type: none">• Majority were satisfied with the responses
3.	Was your input properly listened to and documented?	<ul style="list-style-type: none">• Majority felt that they were listened to and that their input was properly documented
4.	Event Feedback Venue, Location, Time, Overall	<ul style="list-style-type: none">• Overall satisfied with the time (3pm – 8pm)• Many satisfied with the Colombo Club
5.	How did you find out about the workshop?	<ul style="list-style-type: none">• Majority received an invitation to participate at the event• Some found out through social media or the local newspaper

Comments:

- Interested in having Walker host future events in Ingersoll
- Benefitted from the workshop format rather than open house
- Raised concern on feeling of one-sided discussion

This feedback compiled by the Facilitation Team for the CLC Meeting on November 23, 2016

For questions and comments, please email communitylaisoninfo@gmail.com

Items from Meeting 22

	Business Arising	Responsibility	Response	Status
1	<p>Include the length of bus routes, number of buses, and number of stops as an indicator for the Haul Route Comparative Evaluation. Request for expanded rationale for not including frequency and severity of collisions as indicators.</p>	WEG	<p>Bus routes and stops:</p> <ul style="list-style-type: none"> - Walker contacted My Big Yellow Bus, which is the company that provides transportation services to the local school boards, to obtain information about bus routes and stops. In both cases, there is a policy that prohibits the release of this information. It was suggested that Walker consider all local roads as potential bus routes and each residence as a potential bus stop. - In respect of this policy and recommendations, Walker will consider all local roads as potential bus routes and all residences as potential bus stops. Therefore, school bus safety is represented in Criterion #7 <i>Potential for traffic collisions</i> by the following indicators: <ul style="list-style-type: none"> • Length of route on public roads (already included) • Number of residences (already included) <p>Frequency and severity of collisions:</p> <ul style="list-style-type: none"> - Collision frequency and severity information will be interpreted and studied by traffic experts as part of the Impact Assessment. - Walker agrees that the potential for collisions on the selected landfill haul route is important, and has taken this potential into account by comparing potential haul routes using the criterion: "7. Potential for traffic collisions." In the Comparative Evaluation, this criterion is evaluated using indicators that speak to the potential for collisions: <ul style="list-style-type: none"> • Length of route on public roads • Number of intersection crossings • Number of truck turnings • Number and type of railroad crossings 	Complete
2	<p>Follow up with MOECC London District Office with regard to observer participation at CLC Meetings.</p>	WEG	<p>Walker has confirmed that Emilia Kuisma, the new Issues Project Director at the MOECC London District Office (replacement for Pat Almost), will be the primary observer from the MOECC London District Office at Community Liaison Committee meetings moving forward.</p>	Complete

3	Find out what year the MOECC established the Generic Double Composite Liner design.	WEG	The Generic Double Composite Liner design was established in 1998 with the Landfill Standards and <i>Ontario Regulation 232/98</i> .	Complete
4	Investigate agricultural uses for landfill gas management.	WEG		Ongoing
5	Question: How is Walker satisfying the requirements in section 8.1 of the Approved Amended Terms of Reference, specifically the language of “net effects”.	WEG	<p>As set out in the MOECC’s guidelines, “<i>net effects</i>” are the potential effects that could remain even after mitigation measures are applied. Section 8.1 of the Approved Amended Terms of Reference requires us to “<i>Describe the net effects on the environment for each alternative relative to the other short list alternatives, taking onto account reasonable mitigation methods</i>”. So, in our comparative evaluation, we first compared and described the net effects of our alternatives assuming the normal or typical types of mitigation that would be used by Walker, or in the industry. For example, when comparing the above-ground and conventional designs, we started by assuming that both would have typical mitigation systems in place such as dust controls, gas collection systems, litter fencing and collection, bird and pest controls, etc. Therefore, the relative effects we described in comparing these two alternatives were indeed “net effects”.</p> <p>Section 8.1 then requires us to “<i>Prepare a commentary on whether any further mitigation measures incorporated into the design and operations would significantly alter the net effects</i>”. To address this, the comparative evaluations were re-examined to determine whether there was any additional or special type of mitigation that could be added that would change our conclusion about the preferred alternative. To continue the same example regarding the two design options, we reasoned that even if the mitigation measures were intensified on the conventional design (e.g., higher litter fencing, more dust watering, etc.) there would always be a somewhat greater potential for impacts when operating further above ground, especially considering the same additional mitigation could be applied to the deep design. So the deep design would still be preferred.</p>	Complete

Items from Meeting 21

	Business Arising	Responsibility	Response	Status
1	More information on the full cycle of leachate generation, treatment, including post-closure and the amount of infiltration through the semi-permeable cap.	WEG	<p>Leachate generation rates are modelled using climate data and landfill design data. Walker has several decades of operating experience at its South and East landfills from which to further support modelling of leachate generation.</p> <p>“For an engineered site with leachate collection, an increased rate of infiltration to promote waste stabilization would normally be desirable to reduce long term maintenance and monitoring requirements, and to reduce the contaminating life span of the site. The generic designs ... in fact specify a minimum infiltration rate for this reason -- to help ensure the service life of the engineered facilities exceeds the contaminating life span.” (Landfill Standards, Section 6.11). The minimum infiltration required rate for the Generic Double Composite Liner design is 0.15 metres per year (LFS, Section 4.5).</p>	Complete
2	Design requirements for leachate pre-treatment holding ponds, particularly how they are lined.	WEG	<p>An engineering design for a leachate treatment facility, including any leachate holding ponds, has to be prepared by the proponent (in this case, Walker and its engineering consultants) and submitted to the MOECC for review and approval before it can be built or operated. Section 4.1 of the Landfill Standards lists all of the engineering details that have to be prepared and included in the application, including: “detailed plans, specifications and descriptions of any leachate collection, treatment and disposal system necessary to control leachate, including construction and quality assurance and quality control procedures for the system components and system installation” (O. Reg. 232/98, S.6.(2)(c)(viii). Engineering experts at the MOECC review these plans to ensure that, among other things, they will protect groundwater, surface water and the environment (LFS, Section 4.1).</p>	Complete
3	Examples of where on-site leachate treatment is used in Ontario with images if possible.	WEG	<p>The Lafleche Moose Creek Landfill near Ottawa Ontario has an on-site leachate treatment plant. A description and some photographs can be found at http://leic.com/installations-facilities/waste-water-treatment/.</p> <p>Following is a link to an article about on-site leachate treatment that includes a description and photos of the Green Lane Landfill plant: https://esemag.com/biosolids/lessons-learned-successful-applications-biological-landfill-leachate-treatment/.</p> <p>Please see attached flow diagram of the Green Lane leachate treatment facility (LTF).</p>	Complete

4	A list of typical parameters/characteristics that the treated leachate water would be tested for.	WEG	<p>The standards for discharging treated water into a receiving stream are dependent on the location and characteristics of the stream, and are determined on a case-by-case basis by the associated government agency (i.e., MOECC, usually in consultation with local Conservation Authorities). In general, though, it is based on the Provincial Water Quality Objectives/Standards (PWQO). Section 3.5.1 of the PWQO details the procedures that are used by the government to set the effluent requirements for any given project.</p> <p>As a “typical” example, the Ingersoll Wastewater Treatment Plant treats leachate from the Salford Landfill. The most recent annual report for the facility lists the monitoring parameters and results: http://www.oxfordcounty.ca/Portals/15/Documents/Wastewater/AnnualWastewaterTreatmentPlantReports.pdf</p>	Complete
5	Frequency of leachate testing in Niagara.	WEG	Leachate going to the municipal sewer system from the Walker Environmental South Landfill in Niagara Falls is tested four times per year. If tests reveal any exceedances or anomalies, testing is repeated and the frequency is increased if required.	Complete
6	Provide access to South Landfill Annual Leachate Monitoring Report.	WEG	The Annual Report for the South Landfill (Niagara Falls) is available for review at the Walker Environmental office in Ingersoll.	Complete
7	Clarification regarding what is included in the Record of Consultation, particularly regarding email correspondence. Should be consistent with Privacy section of walkerea.com.	WEG		In Progress
8	Link to South Landfill Consultation Paper re: Haul Route Alternative Methods.	WEG	Attached is a copy of Section 5.4 – Evaluation of Haul Routes & Site Entrances from Walker Environmental’s Approved South Landfill EA.	Complete
9	Amount of pressure required on landfill gas for use in lime kiln.	WEG		In Progress

Becky Oehler

From: Becky Oehler
Sent: Monday, November 28, 2016 1:59 PM
To: Info@walkerea.com
Subject: CLC Meeting Follow-Up & Events
Attachments: Walker Technical Team List_Nov 28, 2016.pdf; ARA License Maps.pdf

Good afternoon CLC Members and Alternates,

I'm emailing you today with a few follow-up items from the November 23 CLC meeting, as well as information about upcoming events. Since there are quite a few items, they are listed below for ease of reading.

Please let me know if you have any questions.

Warm Regards,
Becky Oehler

EVENTS

- 1) **December 7, 2016:** CLC members and Alternates are invited to attend a CLC open agenda meeting at 6 pm at the Walker Environmental Office (160 Carnegie Street, Ingersoll). A turkey dinner will be served and there will be no set agenda.
 - **Please let us know if you will be attending (and dietary restrictions):**
 - Call: 1-855-392-5537 (toll free)
 - Email: info@walkerea.com
- 2) **Carmeuse Site Tour:** Please let us know if you would like to attend a tour of the Carmeuse property.
 - Please identify the date(s) you're available: Saturday January 21 and/or Saturday January 28.
 - Online: <http://doodle.com/poll/s5bnfzxm8a2u6wda>
 - By phone: 1-855-293-5537 (toll free)
 - By email: info@walkerea.com
- 3) **January CLC Meeting:** The next CLC meeting is scheduled for Wednesday, January 25, 2016 at 6 pm

Nov. 23 Meeting Follow-Up

- 4) **Technical Studies:** During the upcoming CLC meetings that will review the updates to the Technical Work Plans, Walker is willing to make technical experts available at the meeting for the work plans that the CLC is most interested in. We have received input from 3 CLC members so far that has identified top priority for: Ground water/Surface water, Human Health, Cumulative Effects, Social, Economic Noise/Air, Traffic.
 - Attached is a list of technical studies/experts.
 - Link to more information about Draft Technical Work Plans (Terms of Reference version) on our website: <http://www.walkerea.com/en/learn-more-about/Technical-Work-Plans.asp>
 - Please provide your input on the experts you would like to have at a CLC meeting (top 6) – email us info@walkerea.com or call 1-855-392-5537 (toll free)

- 5) **October 26 Meeting Transcript:** Due to miscommunication with the transcription company, there has been a delay in providing this transcript. It is almost complete and will be send out by Friday, December 2.
- 6) **Climate Change Report Link:** As requested at the November 23 CLC meeting, link to climate change report by the Ministry of Natural Resources and Forestry that will be used for climate change assumptions by the experts carrying out the Technical Studies: http://www.climateontario.ca/MNR_Publications/CCRR-44.pdf (link also included in meeting presentation)
- 7) **Aggregates Resources Act License Maps:** As requested, Don MacLeod has provided two maps about the Aggregates Resources Act (ARA) Licenses on the Carmeuse Property (attached).

This list is current as of November 28, 2016 the date it was provided to the Community Liaison Committee (CLC) as information. If you are viewing a PDF on a computer, [please click here](#) to see videos explaining each work plan, as well as links to the draft Technical Work Plans (ToR version).

ENVIRONMENTAL ASSESSMENT TECHNICAL TEAM		
STUDY	CONTACT	COMPANY
Agriculture	Jerry Hagarty	Conna Consulting Inc.
Air/Noise/Vibration	Brad Bergeron	RWDI Air Inc.
Archeological	Marilyn Cornies	AMICK Consultants
Cultural/Heritage	Dan Currie	MHBC Planning
Ecology	Brian Henshaw & Jo-Anne Lane	Beacon Environmental
Economics	Andy Keir	Keir Corp
Groundwater	Keith G Lesarge	Golder Associates Ltd
HHRA	Glenn Ferguson	Intrinsik
Karst	Dr. Stephen R.H. Worthington	Worthington Groundwater <i>(To be subcontracted by Golder Associates)</i>
Land Use Planning (forecast)	James Parkin	MHBC Planning
Social Impact	Tomasz Wlodarczyk	SLR Consulting
Surface Water	Kevin M. Mackenzie	Golder Associates Ltd
Traffic	Tyrone Gan	HDR Corporation
Visual Impact	Dave Barrett	MHBC Planning



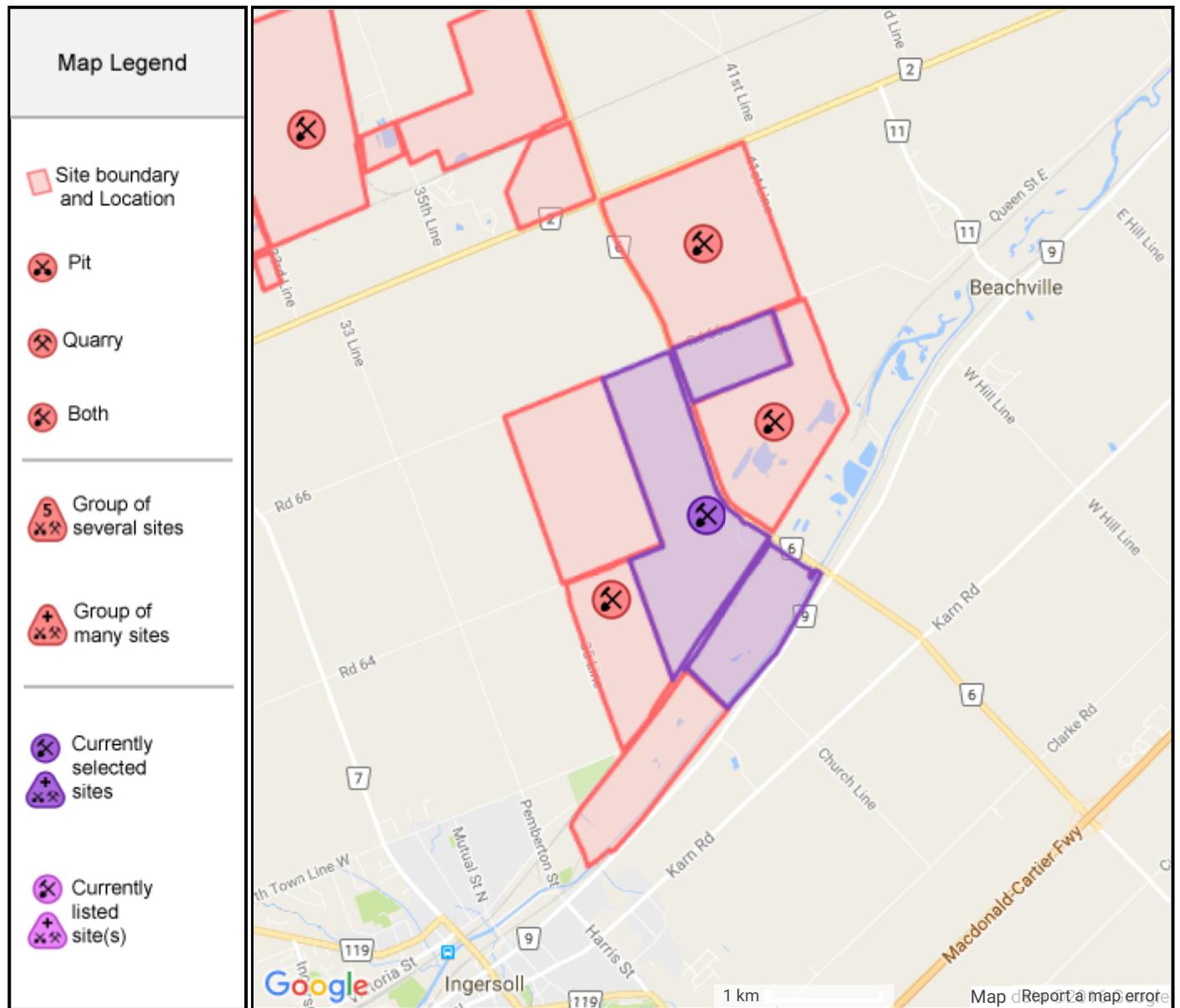
Search Criteria

Geographic Location: Cluster selected. Centre of map is: -80.86053°N,43.073887°W

Approval Type: Class A Licence-or-Class B Licence-or-Aggregate Permit-or-Wayside Permit-or-MTO Permit

Operation Type: Pit-or-Quarry

Search Results (1)



Site ID 2129	Client Name CARMEUSE LIME (CANADA) LIMITED	Approval Type Class A Licence	Operation Type Both (Pit and Quarry)
	Location Name WEST PLANT AND HAYES PROPERTY	Max. Annual Tonnage 3000000	Licensed Area (ha) 274.18



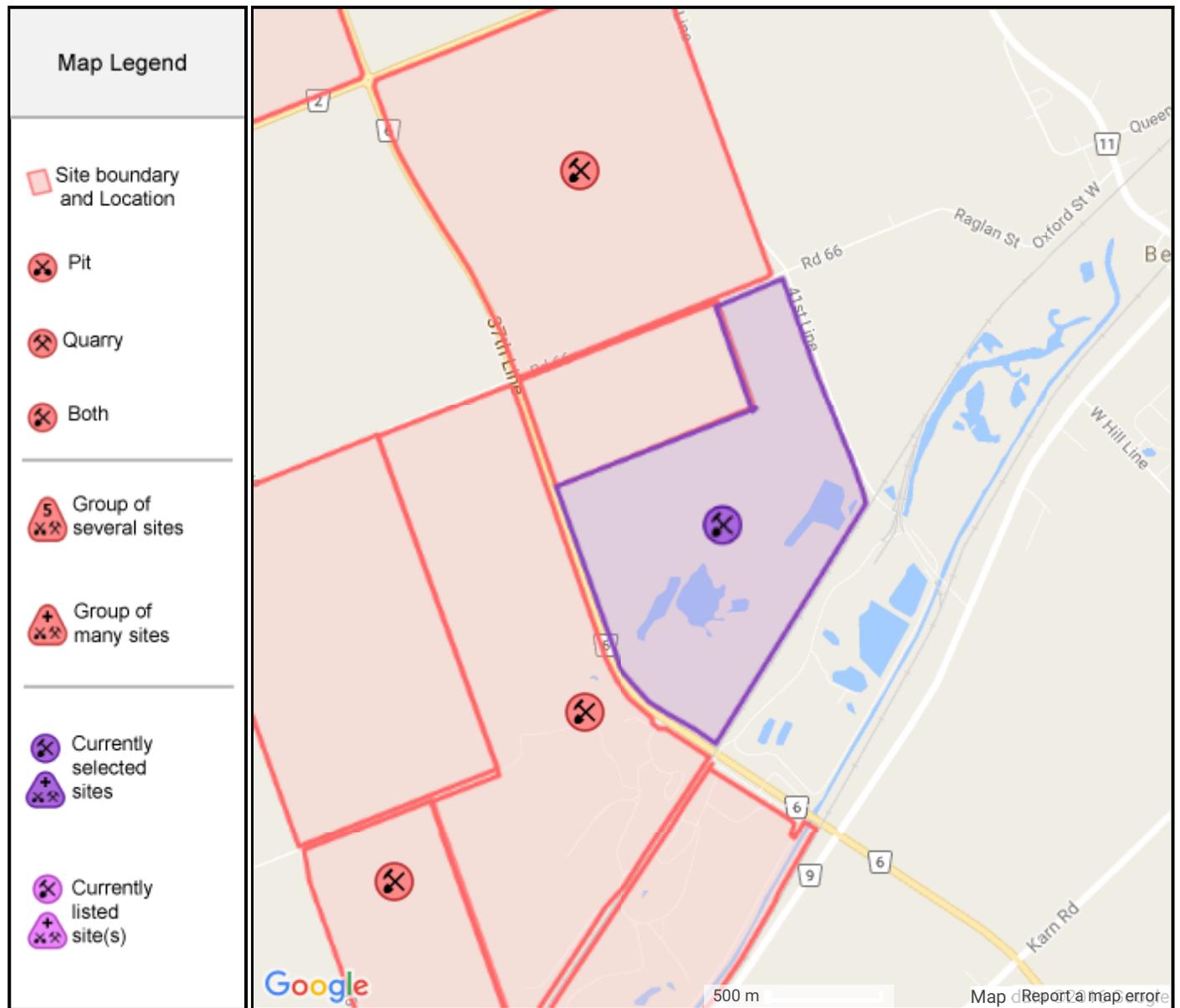
Search Criteria

Geographic Location: Cluster selected. Centre of map is: -80.854675°N,43.081056°W

Approval Type: Class A Licence-or-Class B Licence-or-Aggregate Permit-or-Wayside Permit-or-MTO Permit

Operation Type: Pit-or-Quarry

Search Results (1)



Site ID 2130	Client Name CARMEUSE LIME (CANADA) LIMITED	Approval Type Class A Licence	Operation Type Both (Pit and Quarry)
	Location Name DOMTAR PROPERTY	Max. Annual Tonnage 2267500	Licensed Area (ha) 126.32

CLC Meeting 23

Other documents sent as materials, but not included as pages in this Appendix (to cut down on duplication, paper waste and/or very large digital files):

- 1) Transcript: http://www.walkerea.com/uploads/751/Doc_636204358453327435.pdf

Please contact us at info@walkerea.com or toll-free at 1-855-392-5537 if you require assistance accessing this document online or in hard copy.

Southwestern Landfill CLC #24

Meeting Summary

Date: January 25, 2017
Time: 6:00 p.m. – 9:30 p.m.
Location: 160 Carnegie Street, Ingersoll (Lower Meeting Room)

MEETING OVERVIEW

The purpose of the CLC Meeting 24 was to present and discuss three updated technical work plans. The three work plans under review were the traffic work plan, the visual impacts work plan and the cumulative effects work plan. In addition, the traffic consultant was in attendance to answer questions and listen to the input from CLC Members.

The updates to the technical work plans include details from the facility characteristics, preferred alternatives, and stakeholder input. The updated technical work plans are needed prior to beginning the technical studies, which will begin in the Spring of 2017.

MEETING DETAILS

Agenda Item 3 – Discussion on Walker’s update on Facility Characteristics

Facility Characteristics

- Walker indicated that the Facility Characteristics Document has been posted online and has been distributed to all CLC Members.
- Walker recognized that there were still outstanding questions regarding Facility Characteristics but that since the focus of the meeting was on the updated technical work plans, that Walker would respond and post answers to questions with the CLC Meeting 24 Materials.

Agenda Item 4 – Discussion on Walker’s Presentation on Updates Technical Work Plans

Traffic

- Walker presented the [Summary of the Updated Draft Traffic Work Plan](#) which includes key assumptions, updates from the original draft, and the methodology for completing the traffic study.
- CLC Members provided insights to traffic patterns that directly impact the preferred haul route including:
 - Employee shift changes at major employers;
 - Recreational and seasonal uses of County Rd 6 by farmers with large farming equipment;
 - Highway 401 Road Closures;

Southwestern Landfill CLC #24

Meeting Summary

- Importance of inclusion of all school bus routes to be evaluated; and
- Incidents (spills, flat tires, etc.).
- Finally, CLC Members were interested in knowing the outcome of the traffic consultants meeting with the Ministry of Transportation (MTO) regarding the proximity of the service center to the off-ramp at Exit #222.
- Walker indicated that they would provide an update to the CLC once the meeting with the MTO takes place.

Visual Impacts

- Walker presented the [Summary of the Updated Visual Impacts Work Plan](#) which includes key assumptions, updates from the original draft and the methodology for completing the visual impacts study.
- CLC Members asked questions on how the visual impacts consultant will determine the appropriate viewpoints to conduct the studies and create visual renderings.
- A CLC Member raised concern that there is a wide range of subjectivity when dealing with visual impacts and wanted to understand more how the consultant ensure fair representation of the concerns of the community.
- Walker indicated that the consultants use industry best practice to minimize subjectivity and as part of the technical studies will likely include nearest neighbours' viewpoints to evaluate the potential visual impacts.
- A CLC Member requested the inclusion of the landfill map from the Approved Terms of Reference which includes the outline to Karn Road.

Cumulative Effects

- A few CLC Members indicated that they found the cumulative effects materials challenging to understand and requested that Walker post-pone the discussion for a later CLC Meeting.
- Walker acknowledged that the material on cumulative effects was technical, that they would spend time improving the materials for better comprehension and that this discussion would be revisited at a later CLC meeting.
- Walker explained that cumulative effects will be reflected within each updated technical work plan and that the requirement to create a separate cumulative effects work plan was in response to the amendment 12 of the [Approved Terms of Reference](#).

Agenda Item 6 – CLC Correspondence

- Walker acknowledged the resignation of CLC Member for his contribution and commitment to the committee.
- Walker indicated that the October & November Workshops Summary has been posted online and available for comment.

Southwestern Landfill CLC #24

Meeting Summary

- Walker presented information regarding a First Nations workshop and public event on the finalization of the technical work plans that will take place between March and April, 2017.

Closing Remarks - Adjournment

The next CLC meeting will be held on Wednesday February 22, 2017. The purpose of this meeting will be to review the updated work plans for Cultural/Heritage, Ecology, and Groundwater/Surface Water (Consultant Available).

Prepared by Katrina Kroeze, CLC Documenter.

Approved by Laurie Bruce, CLC Facilitator.

If you have any questions about this summary, please call 416-992-9669 or email communitylaisoninfo@gmail.com

If you have questions for Walker, please call 1-855-392-5537 or email info@walkerea.com.



CLC Meeting 24 - Materials

Southwestern Landfill Environmental Assessment

January 13, 2017

Dear CLC member,

Please find enclosed the materials for the upcoming CLC meeting on **Wednesday, January 25, 2017** at 6:00 pm (dinner will be available at 5:30 pm).

In general, this meeting will focus on the work plans for Traffic, Cumulative Effects, and Visual Impact. Enclosed are the work plans and summaries of the work plans in addition to other meeting materials:

- 1) CLC Meeting 24 Agenda
- 2) Updated Draft Traffic Technical Work Plan Summary
- 3) Updated Draft Visual Impact Technical Work Plan Summary
- 4) Draft Cumulative Effects Work Plan Summary
- 5) Updated Draft Traffic Technical Work Plan (updates are identified)
- 6) Updated Draft Visual Impact Technical Work Plan (updates are identified)
- 7) Draft Cumulative Effects Work Plan
- 8) Business Arising Report
- 9) October 26 CLC meeting Draft Summary – please provide any comments by January 30, when it will be posted on walkerea.com
- 10) Transcript for CLC Meeting 23 – November 23, 2016

CLC Carmeuse Site Tour Information

The CLC tour of the Beachville Carmeuse Site is scheduled for Saturday, **January 28th, 2017**. The tour provides an opportunity to visit the proposed landfill site and surrounding area. There will be time made available to ask questions and provide feedback throughout the tour.

Date: Saturday, January 28th, 2017

Time: 9:45 am – 12:30 pm (*bus departs at 9:45 am, you may arrive earlier*)

Departure Location: 160 Carnegie Street, Ingersoll (Walker Environmental office)

RSVP: If you would like to attend, please reserve your seat by Wednesday, January 25th by emailing info@walkerea.com or by contacting Tanya at our office, 1-855-392-5537. A sign-up sheet will also be provided at the upcoming CLC Meeting on Wednesday, January 25th.

Looking forward to seeing you at the Public Workshop or the CLC meeting.

Warm regards,

Becky Oehler
Community Engagement Manager
905-680-3675, boehler@walkerind.com



CLC Meeting 24 - Agenda

Southwestern Landfill Environmental Assessment

Date: Wednesday, January 25, 2017

Time: 6:00 pm – 9:00 pm
(Dinner will be available at 5:30)

Location: 160 Carnegie Street, Ingersoll (Lower Meeting Room)

Meeting Materials:

- Updated Draft Work Plan Summaries
- Meeting 23 Business Arising Report with attachments

	Description	Lead	Duration	End Time
1	Welcome	Facilitator	5 min	6:05
2	Objectives and Review of Agenda	Facilitator	5 min	6:10
3	Facility Characteristics	WEG	15 min	6:25
4	Presentation & Discussion <i>Topics: Updated Draft Work Plan Summaries</i> 1. Traffic (expert available for Q&A) 2. Cumulative Effects (writer S. Hollingshead available for Q&A) 3. Visual Impact 10 minute break at 7:30 pm	ALL	2 hr, 15 min	8:40
3	CLC Update & Correspondence	ALL	15 min	8:55
4	Action Items & Next Meeting	ALL	5 min	9:00
5	CLC Discussion with EA Advisor	CLC/AG	1 hour	9:45

Objectives of this Document

- Provide a summary on how the upcoming traffic study will be conducted.
- Highlight the key changes that were incorporated in the technical work plan as a result of public consultation.
- Obtain final input from the CLC and community members prior to beginning the technical study, which is scheduled to occur between Spring 2017 and Spring 2018.

Technical Study Approach

There are 13 technical work plans that will be finalized by May 2017. Each work plan explains a particular study that will assess the proposed landfill. All studies must follow the same assessment approach found in Section 8.2 of the Approved Amended Terms of Reference (paraphrased here):

- Describe the **environment potentially affected**
- Carry out an **evaluation of the potential environmental effects**
- Carry out an evaluation of any additional actions that may be necessary to **prevent, change or mitigate (any negative) environmental effects**
- Prepare a description and evaluation of the **environmental advantages and disadvantages** that would remain after prevention and mitigation measures are implemented (net effects)
- Prepare monitoring, contingency, and impact management plans for net environmental effects

In this case, “**environment**” means the natural, social, and economic environment.

What is included in the Traffic Study?

Process that considers potential issues and impacts from a proposed development on existing road infrastructure, traffic modes, and road safety. Also identifies what measures will be taken to deal with anticipated transportation impacts. The study will assess:

- Existing traffic conditions
- Future background (baseline) traffic conditions without the proposed landfill
- Future traffic conditions with the landfill in operation.

Study Area

The traffic study will focus on the area along the proposed haul route (see map on page 4). The primary haul route for landfill truck traffic consists of County Road 6 between Highway 401 and the new private road leading to the landfill site entrance.

Specific Approach for the Study

- 1) Review of Background Information:** like historic traffic data (examples: traffic counts, operating speeds, collision data, road inventory, aerial mapping, road design plans, railway volumes, number of driveways along the haul routes, background studies).
- 2) Collection of Field Data:** including sampling of traffic counts and surveys representing peak periods as well as hours that coincide with the planned operating hours of the proposed landfill. Traffic counts and surveys can be collected manually or by video recording.
- 3) Data Analysis:** to determine existing traffic conditions, predict future baseline traffic conditions without the proposed landfill, and future conditions with the proposed landfill. Also, to recommend mitigation measures including monitoring, contingency plans, and triggering mechanisms.

Assumptions & Guiding Documents

Key Assumptions:

The net incremental effects of the proposed landfill comparing the current baseline conditions to the future baseline conditions with the landfill including:

- Overall land use growth within Oxford County
- Operation of Lafarge Woodstock Quarry for the next 30 years
- Operation of Federal White Cement Plant for the next 30 years
- Operation of Carmeuse Lime (Canada) Limited Beachville Quarry to 2025

Key Guidance Documents/Standards:

- Guidelines for the Preparation of Traffic Impact Studies, Ministry of Transportation of Ontario (MTO)
- Geometric Design Guide for Canadian Roads, Transportation Association of Canada
- Geometric Design Standards for Ontario Highways, MTO
- Road design criteria for the Town of Ingersoll and the County of Oxford
- Ontario Traffic Manuals, MTO
- Manual of Uniform Traffic Control Devices for Canada, Transportation Association of Canada
- Roadside Safety Manual, MTO
- Highway Safety Manual, American Association of State Highway and Transportation Officials
- Highway Capacity Manual 2010

Key Community Input

The following list summarizes key input received during the development and review of the Terms of Reference and input received to-date from community members, organizations, other interested stakeholders, and First Nations:

- Beachville Road is an official bike route. The proposed haul route crosses Beachville Road.
- Intersection (4-way stop) of County Road 6 and Beachville Road can be challenging for trucks due to the incline, particularly in winter. This is a busy intersection where additional traffic could increase safety risk.
- Highway 401 Exit 222 is challenging due to the service station off-ramp, and additional traffic could increase safety risks.
- Review existing County traffic studies on County Road 6 (specifically southbound traffic).

Key Updates to Technical Work Plan

Key changes between the Draft Technical Work Plans (from the Terms of Reference) and the Updated Technical Work Plans, based on public, government and peer review:

- A meeting with the MTO to convey and discuss public concerns regarding Highway 401 operations between the County Road 6 interchange and the rest stop to the east of the interchange.
- The horizon year for the traffic assessment will be based on an opening day for landfilling in year 2023. Based on traffic impact study guidelines from MTO, the horizon years will include 2023, 2028, and 2033.
- The proposed waste receiving hours are Monday to Friday 7:00 am to 5:00 pm and Saturday 7:00 am to 1:00 pm. The traffic analysis will focus on the peak season of the year, a representative week day and Saturday based on expected site operations, and AM and PM peak hours within the above receiving hours.
- The traffic forecasts for the landfill will be based on approximately 163 inbound trucks per day of various sizes during the operation of the landfill. The vast majority of these inbound trucks will travel on the primary haul route along Highway 401 and north onto County Road 6.

Technical Experts & Reviewers

HDR will be carrying out the traffic study. Technical reviewers of the Updated Draft Traffic Technical Work Plan and study results will include:

- Joint Municipal Coordinating Committee (JMCC) Peer Review Team
- Government Review Team
- Other peer reviews as agreed to by Walker

The Updated Draft Traffic Technical Work Plan is now available for comment by government reviewers, the Joint Municipal Coordinating Committee Peer Review Team, and other interested parties.

DOCUMENT ACCESS: Online at www.walkerea.com or by contacting us at 1-855-392-5537 or info@walkerea.com.

SUBMIT COMMENTS: By mail/in-person: Walker Environmental, 160 Carnegie St. Ingersoll, ON, N5C 4A8

By email: info@walkeea.com

Cumulative Effects

Draft Work Plan Summary

Southwestern Landfill Environmental Assessment

Definition: Cumulative effects are changes to the environment that are caused by an action in combination with other past, present and future human actions.

The Southwestern Landfill proposal was designed to fully integrate cumulative effects. This means that cumulative effects are embedded into the overall Environmental Assessment (EA) methodology and within each of the 12 technical studies.

How will Cumulative Effects be Studied?

Cumulative effects will be studied in two ways:

1. Multi-Source Assessment: Evaluates how the same type of effect (i.e., noise) can combine from different sources (now and into the future)

- **Noise Example:** from landfill activities, from traffic, quarries, construction, and regular day-to-day activities.
- Also, we will predict how noise may change in the future - it might increase or decrease depending on known or on predicted local activities. This will also be taken into account.

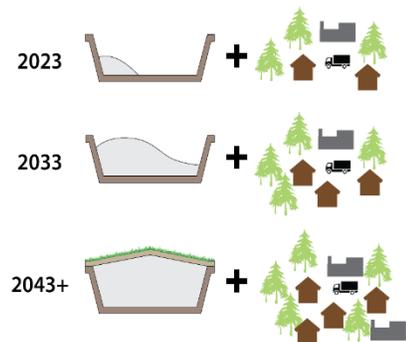


2. Multi-Stressor Assessment: Evaluates multiple types of effects (noise, dust, etc.) on the same receptor (i.e., residence)

- Key “receptor points” like a neighbourhood or public space, to examine how different types of effects add up at the same location.
- Effects at a key receptor point evaluated and predicted into the future through the landfill lifespan.

For example, combining the anticipated degree of noise, dust, traffic, visibility, etc. at a property near the project site and assess whether that could result in a significant effect.

Cumulative effects can result from the overlapping of effects from several different sources, which can change in the future.



Assumptions & Guiding Documents

Cumulative Effects

Draft Work Plan Summary



Southwestern Landfill Environmental Assessment

Key Assumptions:

- Physical facility characteristics as provided by Walker, including, but not limited to: entrance, proposed buildings, operational phasing, site grading and closure plans.
- Land use forecast (including aggregate operations) prepared by MHBC.

Key Guidance Documents/Standards:

- Cumulative Effects Assessment is not currently an explicit legal requirement of Ontario's EA process, but guidance provided by the federal government regarding cumulative effects assessment under the former *Canadian Environmental Assessment Act (CEAA)*.

Key Community Input

In discussion with representatives from local municipalities, community members and First Nations, there has been interest in ensuring cumulative effects, both from multiple sources and multiple types, are considered as part of the Environmental Assessment.

Technical Experts & Reviewers

The Draft Cumulative Effects Work Plan will be reviewed by the following technical reviewers.

- Joint Municipal Coordinating Committee (JMCC) Peer Review Team
- Government Review Team (GRT)
- Other peer reviews as agreed to by Walker

DOCUMENT ACCESS: Online at www.walkerea.com or by contacting us at 1-855-392-5537 or info@walkerea.com.

SUBMIT COMMENTS: By mail/in-person: Walker Environmental, 160 Carnegie St. Ingersoll, ON, N5C 4A8

By email: info@walkeea.com

Visual Impact

Updated Draft Technical Work Plan Summary

Southwestern Landfill Environmental Assessment



Objectives of this Document

- Provide a summary on how the upcoming Visual Impacts study will be conducted.
- Highlight the key changes that were incorporated in the technical work plan as a result of public consultation.
- Obtain final input from the CLC and community members prior to beginning the technical study, which is scheduled to occur between Spring 2017 and Spring 2018.

Technical Study Approach

There are 13 technical work plans that will be finalized by May 2017. Each work plan explains a particular study that will assess the proposed landfill. All studies must follow the same assessment approach found in Section 8.2 of the Approved Amended Terms of Reference (paraphrased here):

- Describe the **environment potentially affected**
- Carry out an **evaluation of the potential environmental effects**
- Carry out an evaluation of any additional actions that may be necessary to **prevent, change or mitigate (any negative) environmental effects**
- Prepare a description and evaluation of the **environmental advantages and disadvantages** that would remain after prevention and mitigation measures are implemented (net effects)
- Prepare **monitoring, contingency, and impact management plans** for net environmental effects

In this case, **“environment”** means the natural, social, and economic environment.

What is included in the Visual Impact Study?

Definition: A visual impact is a change in the appearance of the landscape as a result of development which can be positive (improvement) or negative (detraction).

The Visual Impact Study will simulate the visual effects of the proposed landfill including construction, operations, and post-closure on the surrounding scenic landscapes. The visual impact assessment will:

- Document and describe the existing conditions (i.e. the view of the site).
- Compare the proposed facility to existing visual conditions and to anticipated conditions over the duration of the project.
- Identify representative viewpoints (viewer locations) where the site and proposed landfill might be visible and assess the anticipated change and degree of impact over the duration of the project.
- Where required, propose mitigation measures in order to reduce visibility and visual impacts of the proposal.

Study Area

The study area for this assessment is on-site and within the site vicinity, as well as along the haul route. Visual impacts may also occur along haul routes where road widening or intersection improvements may be required. There are also visual effects of additional traffic on the road which will be acknowledged.

Specific Approach for the Study

- 1) **Background Information:** including land use planning and forecasting documents from the municipality.
- 2) **Collection of Field Data:** will include site visit(s) to document and describe the existing conditions (view of the site), maps, and aerial photography to compare the proposed facility to existing visual conditions and to anticipated conditions over the duration of the project.
- 3) **Data Analysis:** will identify representative viewpoints where the landfill might be visible and assess the anticipated change and degree of impact over the duration of the project. Viewpoints may include residences and public areas such as the cemetery and pedestrian trails. Findings and proposed mitigation measures to reduce visual impacts will be compiled into a report.

Assumptions & Guiding Documents

Key Assumptions:

- Physical facility characteristics as provided by Walker, including but not limited to: entrance, proposed buildings, operational phasing, site grading and closure plans.
- Land use forecast (including aggregate operations) prepared by MHBC.

Key Guidance Documents/Standards:

The following guidance documents and standards will be used for the visual impact assessment:

- Methodology developed by MHBC and others through previous experience related to visual impact assessment related to similar facilities.
- Aggregate Resources Act
- County of Oxford Official Plan

Key Community Input

The following list summarizes key input received during the development and review of the Terms of Reference and input received to-date from community members, organizations, other interested stakeholders, and First Nations:

- Concern for visual impact to nearby neighbours from the landfill site and operations.
- Concern for visual impact of trucks along the haul route.

Key Updates to Technical Work Plan

Key changes between the Draft Technical Work Plans (from the Terms of Reference) and the Updated Technical Work Plans, based on public, government and peer review:

- Revisions to Introduction to reflect activities that have occurred since original Terms of Reference were developed.
- Addition of a section describing key assumptions related to Facility Characteristics, Land Use Forecast and Climate Change (Section 6).
- Clarifications in response to comments received during the Terms of Reference development. These primarily included revisions to the methodology to clarify the approach.

Technical Experts & Reviewers

MHBC landscape architecture and land use planning staff will carry out the Visual Impacts technical study. Technical reviewers of the Updated Draft Visual Impacts Technical Work Plan and study results will include:

- Joint Municipal Coordinating Committee (JMCC) Peer Review Team
- Government Review Team
- Other peer reviews as agreed to by Walker

DOCUMENT ACCESS: Online at www.walkerea.com or by contacting us at 1-855-392-5537 or info@walkerea.com.

SUBMIT COMMENTS: By mail/in-person: Walker Environmental, 160 Carnegie St. Ingersoll, ON, N5C 4A8

By email: info@walkerea.com

Items from Meeting 23

Business Arising		Responsibility	Response	Status
1	Provide the CLC with a comparison map with of the South Landfill Footprint cross-section and the proposed Southwestern Landfill Footprint cross-section	WEG	Walker provided this figure at CLC Meeting #24 on January 25, 2016. (See page 2)	Complete
2	Provide the CLC with a copy of the Aggregates Resources Map Licence for Carmeuse Property	CAO Zorra	Sent by Becky on November 28, 2016.	Complete
3	Request that the technical consultants use track changes in updating their draft work plans.	WEG	Walker has communicated this request to the technical consultants.	In Progress
4	Re-send the list of the technical studies with the name of the consultant the name of the company.	WEG	Sent by Becky on November 28, 2016.	Complete
5	Send link to the MRNF Report on Climate Change to CLC	WEG	Sent by Becky on November 28, 2016.	Complete
6	Revise the Business Arising # 5 Response from Meeting 22 into clearer language <i>(Question: How is Walker satisfying the requirements in section 8.1 of the Approved Amended Terms of Reference, specifically the language of "net effects"?)</i>	WEG	Walker to expend on this conversation at CLC Meeting #24 on January 25, 2016 and provide follow-up written clarification if required.	In Progress
7	Create a web page with a summary table of key inputs and how they were addressed (similar to tables in workshop consultation papers).	WEG		In Progress

COMPARISON OF SOUTH LANDFILL & PROPOSED SOUTHWESTERN LANDFILL CROSS SECTIONS

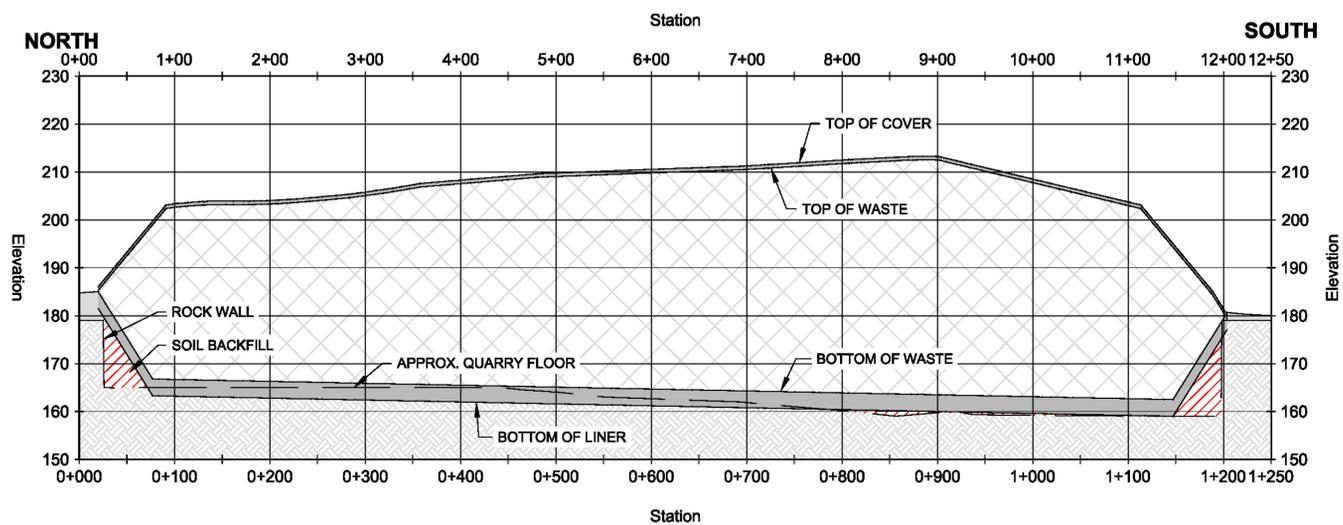
WALKER ENVIRONMENTAL SOUTH LANDFILL - NIAGARA FALL, ON



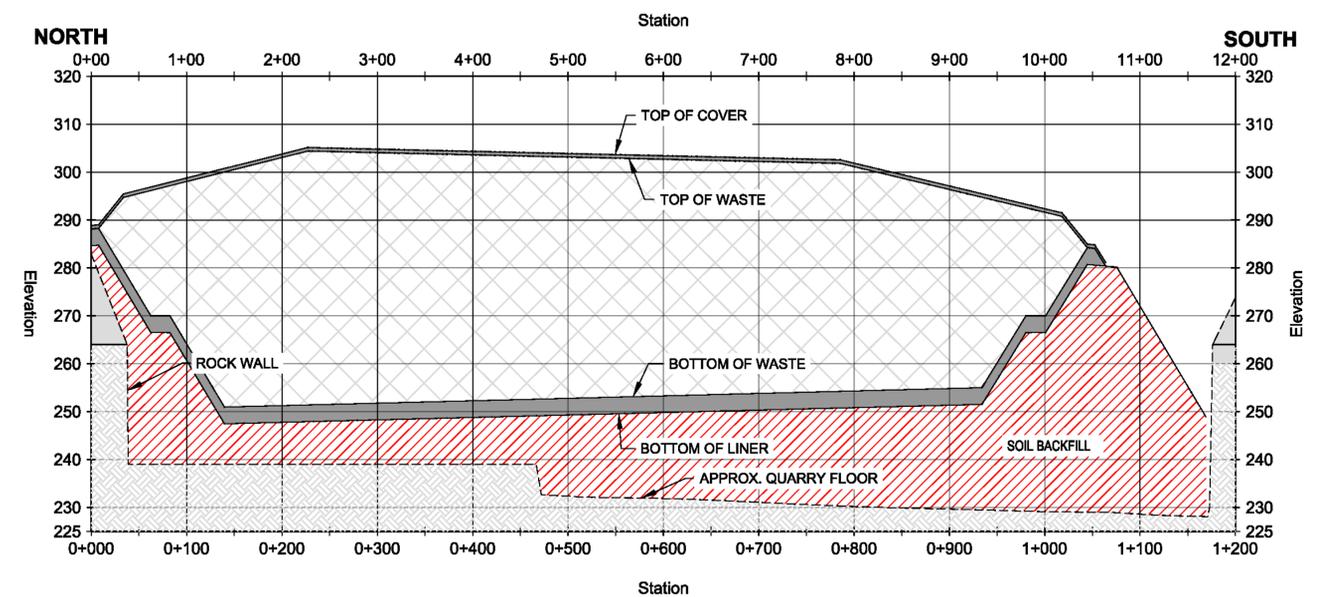
WALKER ENVIRONMENTAL PROPOSED SOUTHWESTERN LANDFILL - TOWNSHIP OF ZORRA, ON



South Landfill - North to South Cross Section



Southwestern Landfill - North to South Cross Section



PREPARED FOR SWLF EA COMMUNITY LIAISON COMMITTEE

DISCLAIMER
THIS DRAWING WAS CREATED FOR ILLUSTRATIVE PURPOSE ONLY AND TO PROVIDE A REFERENCE FOR APPROXIMATE SIZE OF THE PROPOSED SOUTHWESTERN LANDFILL. ALL LOCATION AND DIMENSIONS SUBJECT TO CHANGE.

Carry Over Items from CLC Meetings in 2016 (Meetings 16-22)

Business Arising		Responsibility	Response	Status
1	Investigate agricultural uses for landfill gas management.	WEG		On-going
2	Clarification regarding what is included in the Record of Consultation, particularly regarding email correspondence. Should be consistent with Privacy section of walkerea.com.	WEG		In Progress
3	Amount of pressure required on landfill gas for use in lime kiln.	WEG		In Progress
4	Provide additional information on Rail Haul as a haul route option and why it was screened out.	WEG	Additional information is provided in the Alternative Methods Paper which was issued January 3, 2017. This paper remains in draft form until the submission of the Final EA Report.	Complete
5	Walker at next CLC Meeting to provide an update on what response to how other technical experts can attend future relevant CLC Meetings. For example: MTO Representative during Haul Routes. Walker to also address the request to attend other meetings as an observer such as the JMCC and Peer-Review Technical Meetings	DF	Walker received this request, dated June 21, 2016 from D. Clark, and is taking it into consideration as we determine the format of the CLC Technical Work Plan meetings, We are interested in further exploring interest in a CLC member attending JMCC, Peer Review Team, and other technical meetings, and would like to discuss further.	In Progress
6	Provide MTO with community and public concerns relating to traffic and contingency planning	DF	In progress Walker will provide this information to the MTO.	In Progress

CLC Correspondence

Correspondence between members of the Community Liaison Committee and Walker Environmental occurs between meetings, and that correspondence is reported to the CLC during the next meeting so that all members have the same information.

Enclosed are materials related to CLC correspondence between CLC meetings 23 and 24.

Questions on Facilities Characteristics document

Responses prepared by Walker Environmental in green below on Jan. 23, 2017.

Page 2 Site development stages

- Stage 1 will begin in the northwestern corner of the site and progress in a southerly direction. The capacity of Stage 1 is approximately 4,350,000 m³ and will last about 5 years at maximum filling rates.
- Stage 2 is in the northeastern corner of the site and progress in a southerly direction. The capacity of Stage 2 is approximately 4,350,000 m³ and will last about 5 years at maximum filling rates.
- Stage 3 is in the southwestertern portion of the site. It will begin at the southern limit of Stage 1 and progress in a southerly direction. The capacity of Stage 3 is approximately 4,350,000 m³ and will last about 5 years at maximum filling rates.
- Stage 4 is in the southeastern portion of the site. It will begin at the southern limit of Stage 2 and progress in a southerly direction. The capacity of Stage 4 is approximately 4,350,000 m³ and will last about 5 years at maximum filling rates.

Question: The amount of 4,350,000m³ over 5 years works out to 870,000m³ per year. The proposal is for 850,000 m³ per year. Given the explanation from Andrew Evers that *“If the daily cover material is considered waste (e.g. contaminated soil) then it should be included in the annual limit of 850,000 tonnes”* can you please explain the discrepancy between the two figures?

Walker Response

The Facility Characteristics Assumptions are provided to the technical consultants as a set of assumptions for use to develop the work plans and conduct the technical studies. All values are approximate, as noted, and describe in conceptual terms the design and operating assumptions for the proposed undertaking. The proposed total site volume is 17.4 cubic metres. It is further noted that the assumptions are subject to ongoing refinement as specified in the Facility Characteristics Assumptions.

Page 3 Haul Route & Site Entrance

Secondary haul routes for any local deliveries will follow the most appropriate County roads.

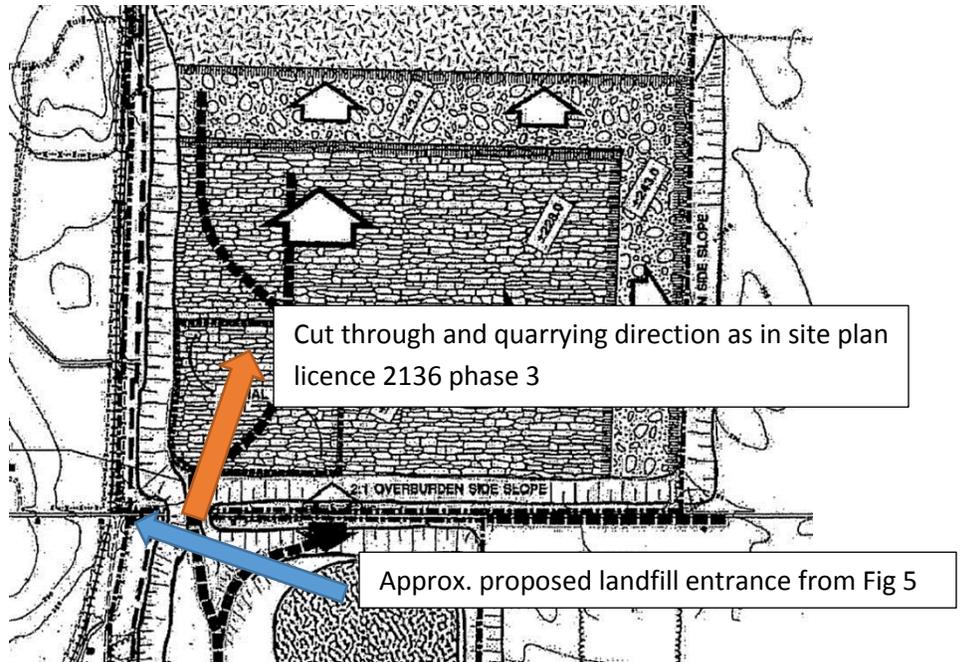
Question: Will these haul routes be identified and enforced?

Walker Response

Secondary haul routes are not required to be identified during this EA as any local road, which permits truck traffic, could be used for local deliveries. Walker does not have jurisdiction nor authority to enforce traffic on public roads.

The site entrance will be located in the northwestern corner of the site (Figure 5).

Question: PPS 2.5.2.4 *“Mineral aggregate operations shall be protected from development and activities that would preclude or hinder their expansion.”* The Northwest corner that is selected as a practical site for the entrance would preclude the expansion according to the site plan for licence 2136 phase 3. The most recent site plan dated April 2015 indicates that the initial cut for phase 3 would go through the northwest wall and the quarrying would begin in a south to north direction. How do you explain this conflict? Given that a site plan amendment is required for changing direction of quarrying, how can Walker begin studies based on the preferred location of internal roads and site entrance?



Walker Response

Based on current quarry operations, which include the placement of overburden to existing grade in the northwest corner of the existing quarry (Phase 2) and the existing initial quarry cut into Phase 3, Walker does not see any conflict with its proposed landfill entrance at this time. The figure you have provided above is obtained from the Carmeuse Site Plans - Operational Plan 3 of 5 which includes the following note *“The site consists of three main phases. The sequence of phases is generally south to north. The areas and sequences shown on this plan are schematic and intended to show the general direction and phasing of operations on the site.”*

Page 3 Buildings, Structures and Supporting Infrastructure

Question: Will ancillary installations require a Building Permit and Inspection from Zorra Township and or any Approvals from Oxford County?

Walker Response

It is likely that some structures required as supporting infrastructure will require a building permit and/or other permits through the local municipality (e.g. weigh scalehouse, landfill gas control building).

The primary internal access road will be constructed and originates at the landfill site entrance and will be located to provide access to the weigh scales located in the northwestern corner of the site (Figure 6).

Question: The statement above includes “weigh scales”, plural, how many scales would be included in the operation?

Walker Response

It is assumed at this time that two scale decks would be sufficient and placed in a similar arrangement used at our South Landfill.

Page 4 Quarry Floor

During the construction of the landfill, storm water and groundwater seepage on the undeveloped portions of the existing quarry floor (i.e., where no liner construction or waste placement activities have yet occurred) will be segregated from the active landfill areas using berms, ditches and sumps. This water will be managed through the existing approved quarry groundwater control system.

Question: How is the amount of seepage from landfill vs quarrying activities determined? “Any operation (including landfills) that requires the removal of more than 50,000 l/d of groundwater requires a Permit to Take Water.” (J Lyng January 2013 from email 8.2) How will individual responsibility be resolved?

Walker Response

For clarity, it is not expected that seepage from the landfill would occur as you note above. This section of the FC provides assumptions for how naturally occurring groundwater and stormwater will be managed on the undeveloped areas around the landfill. For the purposes of finalizing the work plans and conducting the technical studies, it assumed that the existing groundwater management/dewatering system used by the quarry operator will be used. Walker will obtain appropriate approvals in accordance with applicable regulations (e.g. O. Reg 378/04).

Page 4 Perimeter Areas and Final Cover

Storm water in the perimeter areas of the landfill, including the buffer areas, will be directed via perimeter ditching to the storm water management area (Figure 7) for sediment removal and monitoring, followed by discharge to the Thames River.

Question: Figure 7 indicates that Walker will be using the same path as Carmeuse re: path to Thames River. How will the two be differentiated?

Walker Response

Walker is not proposing to share any approved water management infrastructure with Carmeuse at this time. Figure 7 of the Facility Characteristics Assumptions illustrates the initial concepts of stormwater management for the proposed facility. These assumptions are used to develop the work plans and conduct the technical studies. As noted, the assumptions provided in the document are subject to further refinement during the course of the EA and should not be considered final at this time.

Page 5 Final Cover

Materials used for final cover will be sourced onsite.

Question: Will enough materials be found on-site or from Carmeuse quarrying? If not, and given that the potential rehab is agriculture, (Potential end uses assumed for the purposes of the environmental assessment studies include passive green space and agriculture Page 13), what is the procedure for screening any outside materials being brought in?

Walker Response

Given the existing quarry operation on Carmeuse owned property, Walker is confident that there is a sufficient amount of soil available that is suitable for final cover. If any soil is required to be imported, it must meet the requirements of the *Landfill Standards*.

Page 6 Leachate Management

The leachate generation rate is estimated at approximately 124,000 m³/yr., or an average of about 340 m³/day, at full build-out, based on leachate production estimates prepared for Walker Environmental's similarly sized South Landfill

Question: From the footnote, this information was taken from the Proposed Walker South Landfill Design and Operations Report before the landfill was built. Given that the landfill has been in operation for years, why was actual operational data not used?

Walker Response

As noted in the Facility Characteristics Assumptions, leachate production peaks once the landfill is fully built-out (i.e. all cells have been constructed). The South Landfill has not yet been fully built-out, therefore actual peak leachate production rates are not yet available.

Page 7 Leachate Treatment

Onsite uses for treated water (e.g., road watering for dust control) will be considered to minimize the need for using existing groundwater and surface water resources

Question: Are there different standards for treated water to be used as dust control vs. standards for discharge into a waterbody ie. Thames River?

Walker Response

At this time, we do not believe there are different standards. This aspect is not assessed during the EA however it would be assessed later under separate approvals (e.g. EPA).

Page 7 Gas Quantities

The peak landfill gas generation rate is estimated at up to about 20,000 m³/hour, based on Walker Environmental's similarly-sized South Landfill

Question: From the footnote, this information was taken from the Proposed Walker South Landfill Design and Operations Report before the landfill was built. Given that the landfill has been in operation for years, why was actual operational data not used?

Walker Response

As noted in the Facility Characteristics Assumptions, the landfill gas production is expected to peak a few years after the landfill is closed. The South Landfill has not yet been fully built-out and closed, therefore actual landfill gas production rates are not yet available.

Page 10 Waste Disposal Rate

Up to 850,000 tonnes per year of solid, non-hazardous waste plus daily and intermediate cover soils. Daily and intermediated cover soil requirements are expected to be up to 250,000 tonnes per year.

Question: Please clarify the discrepancy between this statement and one provided from MOECC by Andrew Evers; *"If the daily cover material is considered waste (e.g. contaminated soil) then it should be included in the annual limit of 850,000 tonnes. Unless the daily cover material is natural clean soil from on-site excavation, then it is not counted into the annual waste limit. The waste reviewer will ensure that Walker has met the requirements of Ontario Regulation 232/98 Landfill Sites when reviewing the EA documentation"* and the Landfill Standards which states that total volume includes the volume of any daily or intermediate cover.

Walker Response

As stated in the Approved Amended ToR, *“the proposed waste quantities to be examined in the environmental assessment are up to 850,000 tonnes per year of solid, non-hazardous waste generated in Ontario, with an additional requirement for daily cover material”*. As noted in the Facility Characteristics document, *“the estimated requirements for daily and intermediate cover are to be up to 250,000 tonnes per year. Daily and intermediate cover materials will be selected from applicable waste materials approved for receipt at the landfill”*. Therefore, the total combined annual waste disposal receipt being examined in this EA is 1,100,000 tonnes per year which is consistent with the Approved Amended ToR.

Page 11 Traffic Volumes

Question: The estimated traffic volumes of 178 per day are considerably higher than the previously stated 100 per day. Is this now the number that studies will be based on?

Walker Response

During the development of the ToR, an estimate was provided of approximately 100 inbound truck trips per day that would be required to import waste materials. As the EA progresses, additional detail on the proposed undertaking is developed. For the respective studies (e.g. traffic), we have provided a refined estimate of all traffic associated with facility which includes employees, miscellaneous deliveries, etc. The waste component of the truck traffic is estimated at 151 inbound trips as noted in Sec. 3.3 of the Facility Characteristics Assumptions.

Page 11 Hours of Operations

Daily site preparation and closure activities may occur for up to one hour before and two hours after these times.

Question: Will there be a cut off time for trucks being received in the event of road delays, truck breakdowns etc?

Walker Response

The waste receiving hours are set out in the site approvals, specifically the Environmental Compliance Approval (ECA). The ECA will regulate when waste trucks can enter the site regardless of road conditions, truck breakdowns, etc. Therefore, if the approved waste receiving hours end at 5 pm on weekdays, trucks importing waste will not be permitted entry onto the site after 5 pm.

Page 12 Daily & Intermediate Cover

Suitable solid, non-hazardous wastes (e.g. wood chips, soil, sand, fill materials) will be segregated from the incoming waste streams for use as daily cover, otherwise suitable soil obtained from the adjacent quarry operations will be used. Alternative daily cover may also be used.

Question: Given that acceptable fill materials could contain contaminated non-hazardous soils, will these soils be stored on top of an area that has a full liner system for protection of the underlying soil?

Walker Response

If the material is deemed a waste pursuant to O. Reg. 347 and meets the requirement of cover soil, it can be stockpiled within the approved waste fill area where landfill liner has been constructed and approved for waste receipt. Waste cannot be stockpiled outside of the waste fill area or in areas where the landfill liner has not yet been constructed and approved for waste receipt.

Page 13 Personnel Requirements

Various subcontracted personnel as required for construction, operation, daily / intermediate cover supply and application, closure, and maintenance activities.

Question: Are the vehicles required to transport these personnel included in the estimate of traffic?

Walker Response

Yes.

From: Darren Fry

Sent: Tuesday, January 17, 2017 2:57 PM

Cc: Becky Oehler <BOehler@walkerind.com>

Subject: RE: To be corrected/clarified or defined in Facilities Characteristics Assumptions Document

Hi and thanks for your questions pertaining to annual waste receipt limitations, approved total site volume and the use of daily and intermediate cover. I'm happy to address your questions and clarify a few things.

To address question #1 - I would first like to illustrate the difference between the total site volume and the annual waste receipt limitations as they are different.

The total site volume would be the total volume approved for waste disposal. In the case of the proposed SWLF, it is approximately 17.4 million cubic metres.

Many landfills in Ontario, although some do not, have annual waste receipt limitations. This is the total amount, typically measured by weight and in metric tonnes, of waste that can be received in a calendar year. In the case of the SWLF, the proposed annual waste receipt limitation to be studied in this EA is 850,000 tonnes/yr plus up to 250,000 tonnes/year of soils/materials suitable for daily and intermediate cover if they are sourced from the incoming waste stream. Therefore, the total combined annual waste receipt being proposed is 1,100,000 tonnes/yr.

Any material placed within the approved landfill is counted against the approved total site volume since it is effectively filling up airspace/volume. Therefore, any waste and daily or intermediate cover regardless of its designation as a waste or clean soil, will be counted against the approved total site volume as it will take air space/volume.

In the case of using clean soils (i.e. not classified as a waste) for daily or intermediate cover, our Facility Characteristics describe these materials as not required to be applied against the annual waste receipt limitations since they are not a waste and in fact landfill infrastructure (i.e. daily cover) required under the *Landfill Standards* and O. Reg. 232/98. However, the use of clean soils as daily or intermediate cover would in fact count against the approved total site volume as it would take up airspace/volume. This is consistent with the *Landfill Standards* and response you were provided from A. Evers of the MOECC.

I trust this clarifies your question.

To address question #2 – the Facility Characteristics are a initial assumptions used to guide the technical consultants in developing the final work plans and conducting the technical studies. The assumptions in the Facility Characteristics relating to annual waste receipt and total site volume are consistent with Sec. 5.2 of the Approved Amended ToR which states “the proposed waste quantities to be examined in the environmental assessment process are up to 850,000 tonnes per year of solid, non-hazardous waste generated in Ontario, *with an additional requirement* for daily cover material. The *estimated* total waste volume *is about* 17 million cubic metres over a planning horizon of approximately 20 years”, my emphasis added. I should note in Sec. 5.2 of the ToR – Preliminary Description of the Undertaking the following statement “*the following description of the proposed undertaking is preliminary and will be refined, as necessary, as the EA planning process proceeds. The EA will include a detailed description of the undertaking.*”

If approved, the total site volume (e.g. 17.4 million cubic metres is being proposed) would govern the total volume of waste that is permitted to be received at the site over the lifespan of the facility. The facility would not be permitted to receive 22 million cubic metres of waste as you note in your question.

There may be years when the site does not operate at its full annual waste receipt limit (i.e. initial and final years of operation). I trust this answers your question.

To address question #3 – although we do not see any need to make any material changes to the Facility Characteristics at this time, based on your input we will clarify the maximum amount of waste that is proposed to be received at the facility over the course of year. For greater clarity, we will add the following statement to the first bullet in Sec. 3.2.3 “Therefore, the total combined waste receipt may be up to 1,100,000 cubic metres per year.”

If you have any additional questions related to the above, I’m happy to discuss them with you.

Regards,
Darren

Sent: Thursday, January 05, 2017 4:39 PM

Subject: To be corrected/clarified or defined in Facilities Characteristics Assumptions Document

I am including Andrew Evers in this email the representative of the MOECC who provided information on this issue in answer to questions raised by the CLC.

In the Facilities Characteristics Assumptions Document for the Southwestern Landfill Proposal there is a statement that is not consistent with the Landfill Standards and information provided by Andrew Evers, that **MUST** be corrected.

Section 3.2.3 Waste Disposal Rate

Up to 850,000 tonnes per year of solid, non-hazardous waste plus daily and intermediate cover soils. Daily and intermediate cover soil requirements are expected to be up to 250,000 tonnes per year. (Page 10)

Andrew Evers information:

*“If the daily cover material is considered waste (e.g. contaminated soil) then it should be included in the annual limit of 850,000 tonnes. **Unless the daily cover material is natural clean soil from on-site excavation, then it is not counted into the annual waste limit.** The waste reviewer will ensure that Walker has met the requirements of Ontario Regulation 232/98 Landfill Sites when reviewing the EA documentation”. http://www.walkerea.com/uploads/699/Doc_636027233641674536.pdf*

1. According to the clarification provided by MOECC rep. Andrew Evers, anything that is **NOT** used from onsite (applicable waste materials approved for receipt at the landfill; clean soil from onsite excavations) **MUST** be included in the annual limit. How does Walker justify the statement, “**Alternative daily and intermediate cover materials that are not considered a waste, will/can be sourced from various Ontario suppliers and would not be included in annual capacity limitations** set out by the site approvals”?

2. Walker’s statement that the landfill would include 850,000 tonnes per year **AND** an expected 250,000 tonnes per year for cover would be 1.1 Million tonnes per year or 22 Million over 20 years. Yet Walker’s proposed 20 year capacity is approximately 17.4 million m³. (page 1 section 1.14 Capacity) These figures do not adhere to the Landfill Standards which states that total volume includes the volume of any daily or intermediate cover. This must to be corrected.

3. Will WEG make the needed corrections and repost/redistribute the corrected documents immediately to avoid misinforming and misleading all of the stakeholders?

Thank you

CLC Meeting 24

Other documents sent as materials, but not included as pages in this Appendix (to cut down on duplication, paper waste and/or very large digital files):

- 1) Updated Draft Technical Work Plan (red-line version):
 - a. Traffic: http://www.walkerea.com/uploads/610/Doc_636199851091194699.pdf
 - b. Visual Impact: http://www.walkerea.com/uploads/611/Doc_636199852789598474.pdf
- 2) Cumulative Effects Draft Technical Work Plan: This version is no longer available, as the CLC noted the way it was written was confusing. In response, the work plan was updated – see CLC meeting #27
- 3) Transcript: http://www.walkerea.com/uploads/1004/Doc_636234424861422306.pdf

Please contact us at info@walkerea.com or toll-free at 1-855-392-5537 if you require assistance accessing these documents online or in hard copy.

Southwestern Landfill CLC #25

Meeting Summary

Date: February 22, 2017
Time: 6:00 p.m. – 9:30 p.m.
Location: 160 Carnegie Street, Ingersoll (Lower Meeting Room)

MEETING OVERVIEW

The purpose of the CLC Meeting 25 was to present and discuss three updated technical work plans; groundwater & surface water, ecology and cultural heritage & heritage landscapes. More specifically, the meeting was an opportunity for CLC members to get clarification on how the studies will be carried out, and to provide feedback, recognizing their local perspective.

The technical work plans will be used to guide the technical studies, which are scheduled to start in the Spring of 2017. The updates to the technical work plans include changes due to input from First Nations, technical reviewers, and community input. In addition, additional detail has been added to reflect the information in the Facility Characteristics Assumptions document and official planning information, as well as climate change projections. The work plans will be peer reviewed by the Joint Municipal Coordinating Committee's Peer Review Team and the government technical review team.

MEETING DETAILS

Agenda # 3 – Discussion on Walker's Presentation of Updated Technical Work Plans

Groundwater & Surface Water

- Walker began the presentation on groundwater and surface water by emphasizing that water protection is a top priority for the community, CLC members and Walker. Walker indicated that recognizing this priority, they are committed to holding a public event specifically on water later in 2017.
- Walker then presented the [Summary of the Updated Draft Groundwater & Surface Water Work Plan](#) which includes key assumptions, updates from the original draft, and the methodology for completing the study.
- The CLC discussed the following key updates from updated technical work plan:
 - Continual monitoring of groundwater and surface water during the study
 - Flood events that reflect a magnitude of a storm that would occur on average once in 250-years will be considered in the affects assessment
 - An assessment of the existing flow regime in the Thames River and local tributaries will be completed using existing flow information and measurements collected during the field program
 - An assessment of the quantity and quality of any seepage of ground or surface water into the quarry and the potential for seepage from the Thames River will be studied.
- The groundwater and surface water consultants attended and participated at the CLC meeting to answer questions and listen to the input from CLC Members.
- CLC Members asked clarifications to Walker on:

Southwestern Landfill CLC #25

Meeting Summary

- Whether the Site Plan changes that Carmeuse is applying for would have any impact on the validity of Walker's current Environmental Assessment (EA) submission process; Walker responded that no, Carmeuse's changes have no effect on the current EA process or submission
- How landfill gas and leachate treatment collection systems are separated in the landfill design and operation;
Walker responded that the facilities are designed to separate the leachate collection system from the landfill gas collection system in the landfill
- CLC Members asked the consultants for more precision on:
 - How groundwater flow direction and speed is measured; the consultants explained that Darcy's Law of hydraulic conductivity is used by triangulating measurements from three or more boreholes
 - Additional details on the specific methodology for sampling, testing, and monitoring of groundwater and surface water during the study period
 - The frequency of groundwater monitoring
 - Rationale for not including the haul route as part of the study area
 - How Climate Change assumptions will be incorporated into the modeling
 - How the dewatering of the quarry area used for the proposed landfill would impact the inflow and outflow of water
- A CLC Member raised the concern of groundwater protection for the community and requested that the consultants consider modifying language in the criteria table under rationale to specifically reference the potential impacts to human health, as a result of the potential impacts to groundwater quality.

Ecology

- Walker presented the [Summary of the Updated Ecology Work Plan](#) which includes key assumptions, updates from the original draft and the methodology for completing the ecology study.
- CLC Members wanted to know more about the methodology to assess effects of the project on species at risk. Walker committed to getting back to the CLC with more details on the methodology.
- CLC Members provided insights on:
 - Local crow bird migration patterns
 - Local sightings of soft shell turtles, muscles, and other species at risk
 - Hospital helicopter pathway between Woodstock and London as it relates to the impact of birds
 - The old railway line that is located within the proposed property boundaries as it relates to the potential for soil contamination.

Southwestern Landfill CLC #25

Meeting Summary

- A CLC Member wanted to know why the study area for ecology does not include the same distance from the *Haul Route* as the Air Quality Technical Study. Walker indicated that they would relay the inquiry to the ecology consultant.
- A CLC Member asked if the ecologist would be studying the flooded quarry on-site. Walker confirmed that the flooded quarry is included within the study area.

Cultural Heritage and Heritage Landscapes

- Walker presented the Summary of the [Updated Cultural Heritage and Heritage Landscapes Work Plan](#) which includes key assumptions, updates from the original draft and the methodology for completing the cultural study.
- Walker informed the CLC that they would add the Thames River, as a Canadian Heritage River, to the key input received from the community in the Summary of the Updated Cultural Heritage and Heritage Landscapes Work Plan.

Agenda #4 – CLC Correspondence

- A CLC Member asked about employment requirements at the on-site Waste Water Treatment Plant (WWTP). Walker responded by confirming that the WWTP will be required to hire an operator with the appropriate technical designation and they will update the Facility Characteristics Assumptions document with information about treatment plant employees.
- Walker presented information regarding the upcoming First Nations workshop in March and the public event at Colombo Club in April on the finalization of the technical work plans.
- Walker indicated that the Joint Municipal Coordinating Committee's Peer Review Team (PRT) is in the process of reviewing the Evaluation of the Alternatives Document and the PRT and Government reviewers are scheduled to be consulted to provide input on the Updated Technical Work Plans prior to the end of April.
- CLC Members who attended the recent Carmeuse Property Tour with Walker provided the group with comments and feedback on their experience.

Closing Remarks - Adjournment

The next CLC meeting will be held on Wednesday March 22, 2017. The purpose of this meeting will be to review the updated work plans for Agriculture, Archaeology (was postponed to April 26, 2017), Economics, and Social (Consultant Available).

Prepared by Katrina Kroeze, CLC Documenter.

Approved by Laurie Bruce, CLC Facilitator.

If you have any questions about this summary, please call 416-992-9669 or email communitylaisoninfo@gmail.com

If you have questions for Walker, please call 1-855-392-5537 or email info@walkerea.com.



CLC Meeting 25 - Materials

Southwestern Landfill Environmental Assessment

February 13, 2017

Dear CLC members,

Please find enclosed the materials for the upcoming CLC meeting on **Wednesday, February 22, 2017** at 6:00 pm (dinner will be available at 5:30 pm).

In general, this meeting will focus on the work plans for Groundwater/Surface Water, Ecology, and Cultural Heritage. Enclosed are the work plans and summaries of the work plans in addition to other meeting materials:

- 1) CLC Meeting 24 Agenda
- 2) Business Arising Report
- 3) Updated Draft Groundwater & Surface Water Technical Work Plan Summary
- 4) Updated Draft Groundwater & Surface Water Technical Work Plan (updates are identified)
- 5) Updated Draft Cultural Heritage Technical Work Plan Summary
- 6) Updated Draft Cultural Heritage Technical Work Plan (updates are identified)
- 7) Draft Ecology Work Plan Summary
- 8) Updated Draft Ecology Technical Work Plan (updates are identified)
- 9) October 26 CLC meeting Draft Summary – please provide any comments by February 28, when it will be posted on walkerea.com

The transcript for CLC meeting 24 (January 25, 2017) is not yet available. It will be distributed as soon as possible.

Looking forward to seeing you at the CLC meeting.

Warm regards,

Becky Oehler
Community Engagement Manager
905-680-3675, boehler@walkerind.com

Date: Wednesday, February 22, 2017

Time: 6:00 pm – 9:00 pm
(Dinner will be available at 5:30)

Location: 160 Carnegie Street, Ingersoll (Lower Meeting Room)

Meeting Materials:

- Draft Work Plan Summaries
- Updated Technical Work Plans
- Meeting 24 Business Arising Report

	Description	Lead	Duration	End Time
1	Welcome	Facilitator	5 min	6:05
2	Objectives and Review of Agenda	Facilitator	5 min	6:10
3	<p>Presentation & Discussion</p> <p><i>Topics: Updated Draft Work Plan Summaries</i></p> <ol style="list-style-type: none"> 1. Groundwater & Surface Water (Consultant Available) 2. Ecology 3. Cultural Heritage <p>10 minute break at 7:10 pm</p>	ALL	2 hr, 20 min	8:30
4	CLC Update & Correspondence	ALL	20 min	8:50
5	Action Items & Next Meeting Agenda	ALL	10 min	9:00
6	CLC Discussion with EA Advisor	CLC/AG	1 hour	10:00

Surface & Ground Water

Summary of Updated Technical Work Plan



Southwestern Landfill Environmental Assessment

Objectives of this Document

- Provide a summary on how the upcoming groundwater and surface water study will be conducted.
- Highlight the key changes that were incorporated in the technical work plan as a result of public consultations.
- Obtain final input from the CLC and community members prior to beginning the technical study, which is scheduled to occur between Spring 2017 and Spring 2018.

Technical Study Approach

There are 13 technical work plans that will be finalized by May 2017. Each work plan explains a particular study that will assess the proposed landfill. All studies must follow the same assessment approach found in Section 8.2 of the Approved Amended Terms of Reference (paraphrased here):

- Describe the **environment potentially affected**
- Carry out an **evaluation of the potential environmental effects**
- Carry out an evaluation of any additional actions that may be necessary to **prevent, change or mitigate (any negative) environmental effects**
- Prepare a description and evaluation of the **environmental advantages and disadvantages** that would remain after prevention and mitigation measures are implemented (net effects)
- Prepare **monitoring, contingency, and impact management plans** for net environmental effects

In this case, “**environment**” means the natural, social, and economic environment.

What is included in the Groundwater & Surface Water Study?

“Surface water” Water that collects and is visible above ground

“Ground water” Water that is below the surface, moving through rocks and soil. You may be familiar with the term “water table” which is the depth where groundwater starts below the surface.

The study will examine:

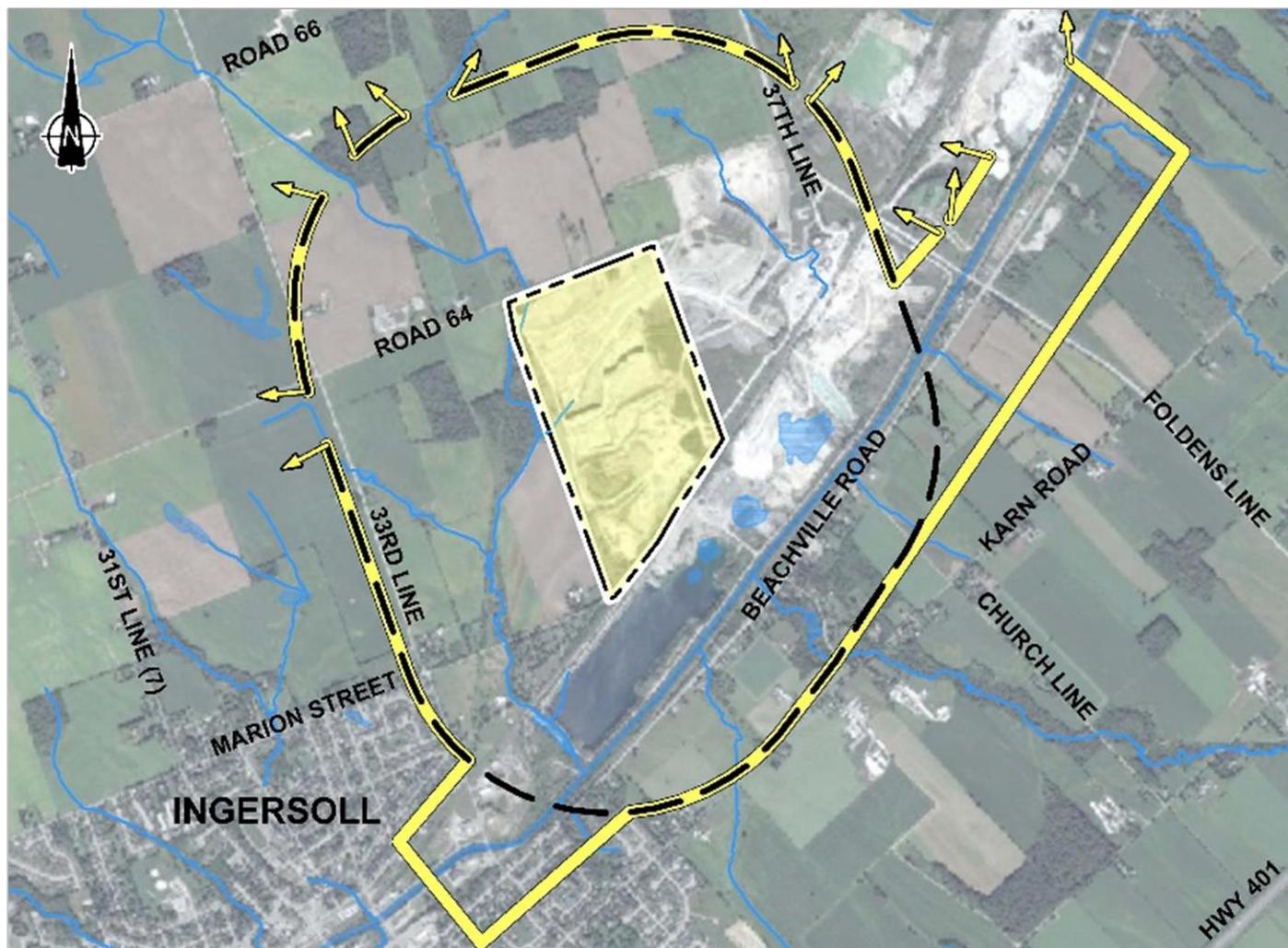
- The movement of groundwater and surface water (e.g., the rate and direction of flow).
- Water quality – samples will be tested in an accredited laboratory for a wide range of chemical compounds, reflecting the government’s standards for drinking water and aquatic life.
- Landfill gas is also included in this study because it is a fluid that moves through rock.

The groundwater & surface water technical study will address:

- The potential for groundwater or surface water contamination.
- Flood and erosion hazards.
- Whether streams would need to be re-routed.
- Whether any wells would go dry or lose capacity.
- Whether the flow to any streams would change (lower or higher).
- Whether any gas from the landfill could move off-site under the ground.

Study Area

- Existing Carmeuse Lime (Canada) Limited site
- Landfill buffer zones
- Local area where surface water discharge from the Site is currently permitted (i.e. the Thames River and local tributaries)
- Where the groundwater may potentially be drawn down to below original water levels, as a result of the proposed landfill activities



Specific Approach for the Study

1) Review of Background Information: Information and data that already exists will be considered and incorporated into the study, as appropriate. This may include geology, hydrogeology and surface water features of the site and vicinity.

2) Collection of Field Data: Components of the field investigation include:

- Continual monitoring of groundwater and surface water; reviewed quarterly.
- Completion of boreholes/monitoring wells to characterize the groundwater quality.
- Quarterly recording of water levels and temperatures.
- Quarterly groundwater sampling, to determine the seasonal variations.
- Mapping of the exposed bedrock at the site for rock characteristics, joint and bedding plane occurrence (frequency, pattern and orientation) and evidence of karst features.
- An inventory of surface water uses from municipal, conservation authority, and MOECC records, supplemented by field inspection of surface water uses at key locations.
- Characterization of surface water flow and quality.
- Collection and testing of surface water grab samples, on a seasonal basis (spring, summer, fall and winter), at locations in the Thames River and tributary streams that feed into the river.

3) Data Analysis:

- Development of a hydrogeologic model to provide a framework for evaluating potential impacts.
- Predictions of the quality and quantity of surface water discharges from the landfill and/or the leachate treatment system, as well as predicted surface water runoff, peak flows, and quality conditions associated with the landfill.
- Computer modeling will be used to predict how the landfill will interact with groundwater and surface water.
- The final report will identify any potential effects on groundwater and surface water, assuming impact prevention and mitigation measures are implemented, like the landfill liner.

Assumptions & Guiding Documents

Key Assumptions:

- Double Generic Liner with compacted engineered backfill ranging from 5m to 22m on the quarry floor.
- Leachate will be collected using primary and secondary leachate collection systems.
- The quarry at the site of the landfill will remain in a dewatered condition throughout and beyond the active life of the landfill.
- No new residential and/or employment development are proposed in the site vicinity, within a 1 km radius.
- Storm water that comes into contact with the active working areas of the landfill that do not have final cover, will be treated as potentially contaminated and will be directed into the leachate collection system.
- Landfill gas migration controls will include the extension of the liner to ground surface at the landfill perimeter, to provide a physical barrier to landfill gas migration.
- Defined climate change conditions (temperature and precipitation) are considered in the assessment.

Key Guidance Documents/Standards:

- Safe Drinking Water Act, 2002 and Ontario Water Resources Act (OWRA)
- Ontario Regulation 169/03 Ontario Drinking Water Quality Objectives
- Guideline B-7 Incorporation of the Reasonable Use Concept into MOECC Groundwater Management
- Guideline B-7-1 Determination of Contaminant Limits and Attenuation Zones
- Canadian Environmental Quality Guidelines
- Ontario Regulation 157/06: Development, Interference with Wetlands and Alterations to Shorelines and Watercourses
- Technical Guide: River and Stream System Flooding Hazard Limits – Ontario Ministry of Natural Resources
- Ontario Conservation Authorities Act
- Water Taking Regulation O. Reg 387/04

Key Community Input

The following list summarizes key input received during the development and review of the Terms of Reference and input received to-date from community members, organizations, other interested stakeholders, and First Nations:

- Maximize distance from Thames River to minimize potential impacts to water quality.
- The landfill liner must be effective in protecting all water.
- Leachate holding ponds need to be fully protective of the environment.
- Concern regarding impact of treated water on Thames River Watershed (quantity, quality, ecology).
- Request to take into consideration historical flooding in Oxford County.
- Concern regarding discharge location of treated water.

Key Updates to Technical Work Plan

Key changes between the Draft Technical Work Plans (from the Terms of Reference) and the Updated Technical Work Plans, based on public, government and peer review:

- Flood events ranging up to the 250-year return period flow will be considered in the affects assessment.
- An assessment of the existing flow regime in the Thames River and local tributaries will be completed using existing flow information and measurements collected during the field program.
- An assessment of the quantity and quality of any seepage into the quarry and the potential for seepage from the Thames River will be included.
- The assessments will specifically identify, recognize and determine any potential effects upon the Wellhead Protection Areas (WHPA) associated with the municipal drinking water wells, Highly Vulnerable Aquifers (HVA) and Significant Groundwater Recharge Areas (SGRA) identified in the source water protection studies.
- The County of Oxford will be consulted to identify any pre-existing plans for municipal well field expansion, and incorporate those into the evaluation.
- The modelling of future baseline conditions for the proposed undertaking will include specific consideration of the ongoing dewatering and rehabilitation of the quarries by Carmeuse.
- An expert in karst geology will be retained to provide input into data collection and interpretation of karst features.
- Methods for sample analysis will be of sufficient sensitivity to quantify water concentrations at the levels of the Provincial Water Quality Objectives.

Technical Experts & Reviewers

Golder Associates Ltd. will be carrying out the groundwater and surface water technical studies. Technical reviewers of the Updated Draft Groundwater and Surface Water Technical Work Plan and study will include:

- Joint Municipal Coordinating Committee (JMCC) Peer Review Team
- Government Review Team
- Other peer reviews as agreed to by Walker

The Updated Draft Groundwater & Surface Water Technical Work Plan is now available for comment by government reviewers, the Joint Municipal Coordinating Committee Peer Review Team, and other interested parties.

DOCUMENT ACCESS: Online at www.walkerea.com or by contacting us at 1-855-392-5537 or info@walkerea.com.

SUBMIT COMMENTS: By mail/in-person: Walker Environmental, 160 Carnegie St. Ingersoll, ON, N5C 4A8

By email: info@walkeea.com

Objectives of this Document

- Provide a summary on how the upcoming ecology will be conducted.
- Highlight the key changes that were incorporated in the technical work plan as a result of public consultation.
- Obtain final input from the CLC and community members prior to beginning the technical study, which is scheduled to occur between Spring 2017 and Spring 2018.

Technical Study Approach

There are 13 technical work plans that will be finalized by May 2017. Each work plan explains a particular study that will assess the proposed landfill. All studies must follow the same assessment approach found in Section 8.2 of the Approved Amended Terms of Reference (paraphrased here):

- Describe the **environment potentially affected**
- Carry out an **evaluation of the potential environmental effects**
- Carry out an evaluation of any additional actions that may be necessary to **prevent, change or mitigate (any negative) environmental effects**
- Prepare a description and evaluation of the **environmental advantages and disadvantages** that would remain after prevention and mitigation measures are implemented (net effects)
- Prepare **monitoring, contingency, and impact management plans** for net environmental effects

In this case, “**environment**” means the natural, social, and economic environment.

What is included in the Ecology Study?

Definition: The ecology study will identify how and to what extent the ecological system could be impacted by the proposed project. It includes life on land and in water. These can include but are not limited to:

- Benthic Invertebrates (organisms that live in sediment underwater)
- Fish Community, Fish Habitat
- Indicator Species (Rainbow Darter, Iowa Darter)
- Species at Risk
- Ecological Land Classifications
- Wetlands and Woodlands
- Birds and Gulls

Study Area

On-Site and in the Site Vicinity	<ul style="list-style-type: none"> • Loss or disturbance to aquatic ecosystems • Loss or disturbance to terrestrial ecosystems (within 120 m) • Disease transmission via insects or vermin • Aviation impacts due to gull interference (within 500 m)
Along the Haul Routes	<ul style="list-style-type: none"> • Loss or disturbance to aquatic ecosystems • Loss or disturbance to terrestrial ecosystems (within 50 m)
Wider Area	<ul style="list-style-type: none"> • Loss or disturbance to aquatic ecosystems • Loss or disturbance to terrestrial ecosystems (within 1 km) • Aviation impacts due to gull interference (within 20 km and 16-60 km).

Specific Approach for the Study

1) Review of Background Information: Information and data that already exists will be considered and incorporated into the study, as appropriate. This may include past ecological studies that were conducted near the study area.

2) Collection of Field Data: Aquatic and terrestrial field sampling and surveying addressing impacts related to:

- **Loss or Disturbance to Aquatic Life:** Annual (Spring or late Fall) sampling of benthic invertebrates and semi-annual (Spring and Fall) sampling of the fish community, with attention to Species at Risk, both upstream and downstream of the proposed landfill site.
- **Loss or Disturbance to Terrestrial Ecosystems:** Field data will be collected throughout the seasons, including ecological land classification and floral surveys, species at risk/rare species survey, breeding bird surveys, amphibian visual and auditory surveys, winter wildlife use observations, and landscape connectivity using aerial photography and verified with a field inspection.
- **Disease Transmission *via* Insects or Vermin:** Assessed by identifying the primary vectors (types of insects/vermin) and the likelihood of disease transmission based on the information available from the aquatic and terrestrial surveys.
- **Aviation Impacts due to Gull Interference (increased risk of bird strikes):** Assessed using the Airport Bird Risk Assessment Process.

3) Data Analysis:

- Evaluation of the potential impacts of the proposed landfill features on local ecology.
- Recommendations on mitigation measures and a proposed management and monitoring plan, as necessary.

Assumptions & Guiding Documents

Key Assumptions:

- Site operations for approximately twenty years, after which the site will be closed and vegetated.
- Leachate and storm water controls will continue to be operated post-closure.
- No significant change in the land use or zoning is anticipated in the site vicinity.
- Growth and expansion is not anticipated within the 1km Study Area. The majority of growth anticipated to occur in the 5km Study Area.

Key Guidance Documents/Standards:

- Section 35, Federal Fisheries Act
- Provincial Endangered Species Act
- Federal Species at Risk Act
- Significant Wildlife Habitat Technical Guide
- Ontario Wetland Evaluation System
- Ontario Stream Assessment Protocol (OSAP)
- Ontario Benthos Biomonitoring Network (OBBN)
- Aquatic species at risk in the Thames River watershed, Ontario. Can.
- The Thames River Watershed Synthesis Report;
- Upper Thames River Conservation Authority natural heritage data;

Key Community Input

The following list summarizes key input received during the development and review of the Terms of Reference and input received to-date from community members, organizations, other interested stakeholders, and First Nations:

- Concern for water quality, which could have an impact on the local ecology.
- Concern with the potential for disease carrying birds to impact livestock.
- Interest in having an ecological study completed on the new roads needed for the proposed landfill.

Key Updates to Technical Work Plan

Key changes between the Draft Technical Work Plans (from the Terms of Reference) and the Updated Technical Work Plans, based on public, government and peer review:

- Increased aquatic baseline study area relative to the Thames River
- Increased terrestrial baseline study area relative to bird hazards
- Updated Species at Risk considerations
- Clarification of criterion and time frame for study with the addition of post-closure
- Inclusion of a section describing key assumptions related to Facility Characteristics, Land Use Forecast and Climate Change (Section 6).

Technical Experts & Reviewers

Beacon Environmental. will be carrying out the ecology technical study. Technical reviewers of the Updated Draft Ecology Technical Work Plan and study will include:

- Joint Municipal Coordinating Committee (JMCC) Peer Review Team
- Government Review Team
- Other peer reviews as agreed to by Walker

The Updated Draft Ecology Technical Work Plan is now available for comment by government reviewers, the Joint Municipal Coordinating Committee Peer Review Team, and other interested parties.

DOCUMENT ACCESS: Online at www.walkerea.com or by contacting us at 1-855-392-5537 or info@walkerea.com.

SUBMIT COMMENTS: By mail/in-person: Walker Environmental, 160 Carnegie St. Ingersoll, ON, N5C 4A8

By email: info@walkerea.com

Objectives of this Document

- Provide a summary on how the upcoming cultural heritage and heritage landscapes study will be conducted.
- Highlight the key changes that were incorporated in the technical work plan as a result of public consultations.
- Obtain final input from the CLC and community members prior to beginning the technical study, which is scheduled to occur between Spring 2017 and Spring 2018.

Technical Study Approach

There are 13 technical work plans that will be finalized by May 2017. Each work plan explains a particular study that will assess the proposed landfill. All studies must follow the same assessment approach found in Section 8.2 of the Approved Amended Terms of Reference (paraphrased here):

- Describe the **environment potentially affected**
- Carry out an **evaluation of the potential environmental effects**
- Carry out an evaluation of any additional actions that may be necessary to **prevent, change or mitigate (any negative) environmental effects**
- Prepare a description and evaluation of the **environmental advantages and disadvantages** that would remain after prevention and mitigation measures are implemented (net effects)
- Prepare **monitoring, contingency, and impact management plans** for net environmental effects

In this case, “**environment**” means the natural, social, and economic environment.

What is included in the Cultural Heritage & Heritage Landscapes Study?

Definition: Typically, cultural heritage resources comprise three types of resource: archaeology, built heritage resources and cultural heritage landscapes. The analysis for this particular study is concerned with the part of the environment, which is defined in the *Environmental Assessment Act* to include:

- “...cultural conditions that influence the life of man or a community”
- “...any building, structure, machine or other device or thing made by man”

Example Heritage Resources: farmhouses, barns, silos, places of worship, dwellings, stores, cemeteries, and above ground ruins.

Example Cultural Heritage Landscapes: roadscares, farm complexes, agricultural lands, waterscapes, quarries and railway rights-of-way.

Any displacement/disturbances of built or cultural heritage resources and landscapes are included in the study.

Study Area

On-Site and in the Site Vicinity	The on-site area includes the proposed waste facility area with the potential to contain cultural heritage resources. The site vicinity study area comprises a 1 km catchment area radius around the proposed landfill site.
Along the Haul Routes	A 100 m area on either side of the haul route, measured from the edge of the road right-of-way.

Specific Approach for the Study

- 1) Review of Background Information:** Information and data that already exists will be considered and incorporated into the study, as appropriate. This may include past classifications, studies, and other background information from the study area.
- 2) Collection of Field Data:** Field work to create an inventory of buildings and landscape cultural value, which includes written observations, photographs, and supplemental historical research.
- 3) Data Analysis:**
 - Evaluation of new or non-designated buildings or landscapes according to the Ontario Heritage Act.
 - Analysis to determine to what extent any of these features could be affected by the landfill.
 - Recommendations on mitigation measures, including conservation and monitoring plans.

Assumptions & Guiding Documents

Key Assumptions:

- Site operational details such as total site area, waste fill area, buffer area, entrance/exit, phasing, proposed buildings
- External haul routes from the site towards Highway 401
- Potential nuisance types and preliminary mitigation
- Closure and post-closure plans;
- Land use forecast (including aggregate operations) prepared by MHBC

Key Guidance Documents/Standards:

- Ontario Heritage Act
- Ontario Ministry of Culture: Guidelines for Preparing the Cultural Heritage Resource
- Ontario Ministry of Culture. Heritage Property Evaluation
- Ontario Ministry of Culture. Heritage Resources in the Land Use Planning Process
- Ontario Ministry of Culture and Recreation. Guidelines on the Man-Made Heritage Component
- Ontario Regulation 9/06, Criteria for Determining Cultural Heritage Value or Interest
- Upper Thames River Conservation Authority natural heritage data

Key Community Input

The following list summarizes key input received during the development and review of the Terms of Reference and input received to-date from community members, organizations, other interested stakeholders, and First Nations:

- Identification of the nearby Ingersoll Rural Cemetery as a location of cultural significance

Key Updates to Technical Work Plan

Key changes between the Draft Technical Work Plans (from the Terms of Reference) and the Updated Technical Work Plans, based on public, government and peer review:

- Introduction was revised to reflect activities that have occurred since original Terms of Reference were developed
- Clarification in the title that the assessment relates to both built heritage resources and cultural heritage landscapes
- Inclusion of a section describing key assumptions related to Facility Characteristics, Land Use Forecast and Climate Change (Section 6)

Technical Experts & Reviewers

MHBC's specialized division in Cultural Heritage will be carrying out the Cultural Heritage Study. Technical reviewers of the Updated Draft Cultural Heritage Technical Work Plan and results of the study will include:

- Joint Municipal Coordinating Committee (JMCC) Peer Review Team
- Government Review Team
- Other peer reviews as agreed to by Walker

The Updated Cultural Heritage Technical Work Plan is now available for comment by government reviewers, the Joint Municipal Coordinating Committee Peer Review Team, and other interested parties.

DOCUMENT ACCESS: Online at www.walkerea.com or by contacting us at 1-855-392-5537 or info@walkerea.com.

SUBMIT COMMENTS: By mail/in-person: Walker Environmental, 160 Carnegie St. Ingersoll, ON, N5C 4A8

By email: info@walkerea.com

4. Was the presentation clear (flow and design)?

1 2 3 4 5

Comment:

5. How would you rate the quality of the information provided?

1 2 3 4 5

Comment:

Name (optional):

Items from CLC Meeting 24

Business Arising		Responsibility	Response	Status
1	Clarify in the Facility Characteristics Assumptions report the total amount of waste that is proposed to be accepted per year, including daily cover.	WEG	Walker will add the following statement to the first bullet in Section 3.2.3 of the Facility Characteristics Assumptions Report: "Therefore, the total combined waste receipt may be up to 1,100,000 cubic metres per year."	In Progress
2	Follow up with MF regarding the use of the water management system during construction. "Will anything, as a result of the construction, operation or decommissioning, of the proposed dump, end up in the large lake located in what has been labeled as alternative 4 (former Southwest quarry and stone plant)?"	Walker Environmental	At this time, Walker does not anticipate the discharge of any stormwater associated with the proposed landfill (i.e non-contact, clean precipitation) or water from the leachate treatment process to the flooded quarry south of the CN rail line). It should be noted that the quarry operator will continue to mine in the current active quarry and manage water in accordance with their compliance approvals.	Complete
3	Walker to make revisions to the Cumulative Effects Summary.	Walker Environmental	Walker will revisit the Cumulative Effects Summary with the CLC at the April 26, 2017 CLC Meeting 27.	In Progress
4	Request to let the CLC know the outcomes of the meeting between the Traffic Consultant and the Ministry of Transportation.	Walker Environmental	Walker will notify the CLC of the outcomes of the Traffic meeting with the MTO at future CLC meeting.	In Progress
5	Provide additional clarification in the Updated Traffic Technical Work Plan: <ul style="list-style-type: none"> What other disciplines will interact with the Traffic Study? The timing for conducting the traffic studies. 	Traffic Consultant	Table A-2-EA Technical Studies Interconnectivity Matrix of the approved ToR illustrates the interaction of each of the disciplines.	Complete
6	Resend correspondence with MOECC Andrew Evers from May 2016 CLC Meeting 17	Walker Environmental	Correspondence with Andrew Evers as a result of CLC Meeting 17 can be accessed at http://www.walkerea.com/uploads/699/Doc_636027233641674536.pdf (Hard copy included with Business Arising Report for CLC members who receive materials by mail.)	Completed

7	Update visual impacts work plan include the landfill map from the Approved Terms of Reference which includes the outline to Karn Rd.	Walker Environmental	Walker will edit the map to show the study area includes Karn Rd.	In Progress
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Carry Over Items from CLC Meetings in 2016 (Meetings 16-23)

Business Arising		Responsibility	Response	Status
1	Provide the CLC with a comparison map with of the South Landfill Footprint cross-section and the proposed Southwestern Landfill Footprint cross-section	Walker Environmental	Walker will provide this figure at CLC Meeting #24 on January 25, 2016.	In Progress
2	Request that the technical consultants use track changes in updating their draft work plans.	Walker Environmental	Walker has communicated this request to the technical consultants.	In Progress
3	Revise the Business Arising # 5 Response from Meeting 22 into clearer language <i>(Question: How is Walker satisfying the requirements in section 8.1 of the Approved Amended Terms of Reference, specifically the language of “net effects”?)</i>	Walker Environmental	Walker to expend on this conversation at CLC Meeting #24 on January 25, 2016 and provide follow-up written clarification if required.	In Progress
4	Create a web page with a summary table of key inputs and how they were addressed (similar to tables in workshop consultation papers).	Walker Environmental		In Progress
5	Investigate agricultural uses for landfill gas management.	Walker Environmental		On-going
6	Clarification regarding what is included in the Record of Consultation, particularly regarding email correspondence. Should be consistent with Privacy section of walkerea.com.	Walker Environmental		In Progress
7	Amount of pressure required on landfill gas for use in lime kiln.	Walker Environmental		In Progress

8	Provide additional information on Rail Haul as a haul route option and why it was screened out.	Walker Environmental	Additional information is provided in the Alternative Methods Paper which was issued January 3, 2017. This paper remains in draft form until the submission of the Final EA Report.	Complete
9	Walker at next CLC Meeting to provide an update on what response to how other technical experts can attend future relevant CLC Meetings. For example: MTO Representative during Haul Routes. Walker to also address the request to attend other meetings as an observer such as the JMCC and Peer-Review Technical Meetings	DF	Walker received this request, dated June 21, 2016 from a CLC Member, and is taking it into consideration as we determine the format of the CLC Technical Work Plan meetings, We are interested in further exploring interest in a CLC member attending JMCC, Peer Review Team, and other technical meetings, and would like to discuss further.	In Progress
10	Provide MTO with community and public concerns relating to traffic and contingency planning	DF	In progress Walker will provide this information to the MTO.	In Progress

CLC Meeting 25

Other documents sent as materials, but not included as pages in this Appendix (to cut down on duplication, paper waste and/or very large digital files):

- 1) Updated Draft Technical Work Plan (red-line version):
 - a. Groundwater/Surface Water:
http://www.walkerea.com/uploads/606/Doc_636226026353617612.pdf
 - b. Ecology: http://www.walkerea.com/uploads/605/Doc_636226030871460334.pdf
 - c. Cultural Heritage & Heritage Landscapes:
http://www.walkerea.com/uploads/604/Doc_636226033322144570.pdf

- 2) Transcript: http://www.walkerea.com/uploads/1061/Doc_636251724765365878.pdf

Please contact us at info@walkerea.com or toll-free at 1-855-392-5537 if you require assistance accessing these documents online or in hard copy.

Southwestern Landfill CLC #26

Meeting Summary

Date: March 22, 2017
Time: 6:00 p.m. – 9:30 p.m.
Location: 160 Carnegie Street, Ingersoll (Lower Meeting Room)

MEETING OVERVIEW

The purpose of CLC Meeting 26 was to present and discuss the social, agriculture and economic updated technical work plans. The archaeological work plan originally planned for discussion was postponed to the next CLC Meeting. The Social Assessment consultant attended the meeting to answer questions and listen to the input from CLC members.

MEETING DETAILS

- At the start of the meeting a CLC member expressed the opinion that there was a potential conflict of interest between the facilitator's assignment with the CLC and her part-time appointment to the Ontario Municipal Board (OMB).
- The facilitator reminded the member that she had previously advised the CLC when hired in June 2016 and at CLC Meeting 25, that she had taken steps to ensure that she would not have a conflict, which includes not taking any hearings involving Oxford County or its municipalities or hearings involving Walker Industries and Walker subsidiaries.
- The facilitator indicated, however, that if the CLC was concerned she was prepared to step down from her CLC facilitation role.
- The CLC came to a consensus (except for the member originally raising the matter) that they did not share the concern and that the facilitator does not need to step down as the facilitator for the CLC.

Agenda # 3 – Discussion on Walker's Presentation of Updated Technical Work Plans

Social Study

- Walker stated that the [Updated Social Study Work Plan](#) may be of particular interest for the CLC to provide input because it deals with the potential effects on the community and people's way of life.
- Key changes to the Updated Social Study Work Plan include additional detail in the scope of data collection, including adding group meetings, "Kitchen Table" meetings, and phone surveys.
- CLC members inquired how the social study area was determined, raising concerns that it was primarily focused to the east of the proposed landfill and did not include the entire Town of Ingersoll.
 - The Social consultant indicated that the study area is flexible and can be modified to reflect potential zones of impact based on the results from other studies, most notably the air quality study.
- There was a lengthy discussion on how and what kind of information will be collected from community members. Key concerns and inputs included:
 - CLC members wanted to know the difference between the information collected at the individual or small group meetings compared to the survey.
The consultant indicated that similar questions will be asked of all social study participants but there will be longer conversations with individuals living closest to the proposed site.

Southwestern Landfill CLC #26

Meeting Summary

- A CLC member asked about the consultant's experience in communities where a proposed project is unwanted and where it may be difficult to collect input.
The consultant responded that he has been involved in projects such as the Warwick Landfill, West Carleton Landfill, Clean Harbour in Sarnia, and the Darlington Nuclear facility. The consultant confirmed that in his experience there has always been a willingness on behalf of the community to provide input even when the project is not wanted.
- A CLC member suggested to consider collecting information at the [Canterbury Folk Festival](#).
The consultant indicated that this information is helpful in setting dates for surveying community members and tourists.
- CLC members suggested not to have Walker attend "Kitchen Table" and group meetings, indicating that individuals may be less likely to participate if Walker is present.
The consultant acknowledged the concern and mentioned that having the proponent present at in-person group and "Kitchen Table" meetings is helpful for answering questions residents may raise that are outside the scope of the social study.
- A CLC member had concerns that residents may not be willing to participate in a social survey or phone interview.
The consultant understands the concern and is confident that he will be able to speak with a representative group of individuals to evaluate the potential impacts of the landfill on the community.

Agriculture

- Walker presented the [Summary of the Updated Agriculture Work Plan](#) which includes key assumptions, updates from the original draft and the methodology for completing the agriculture study.
- CLC members suggested that the agriculture study:
 - consider a broader study area since agriculture is a major contributor to the local economy.
 - give specific attention to the Mennonite population's agriculture-based way of life.
 - analyze crop rotations and how the landfill affects each crop.
 - consider contamination from the proposed landfill on crops and the absorption rate for animals ingesting crops (food chain analysis).
 - include the chemical composition of local crops and the effects of the landfill on this composition.
- Walker indicated that they would relay these inputs to the agriculture consultant and provide responses in a CLC disposition table on the finalization of the technical work plans.
- Walker mentioned that there has been the additional Human Health Review which will evaluate potential impacts to human health including some of the concerns raised by the CLC on the agriculture work plan.

Economic Study

- Walker presented the Summary of the [Updated Economic/Financial Work Plan](#).
- CLC members suggested that the economic study:

Southwestern Landfill CLC #26

Meeting Summary

- include Downtown Ingersoll where many small businesses are located.
- provide clear information about whether or not the proposed landfill will impact the attractiveness of investing in the downtown core.
- consider that the majority of businesses in Ingersoll are owned by local residents, hence that the economic impact is more intense to the Town of Ingersoll than east of the proposed site location.
- analyze other economic effects such as a decrease in downtown shopping as a result of the potential nuisance impacts caused by the landfill.
- Walker responded by saying that they would relay this information to the economic consultants and provide responses in a CLC disposition table on the finalization of the technical work plans.
- Walker distributed a comparison map showing the distance of the South Landfill in Niagara to downtown Thorold with the proposed landfill and the Township of Ingersoll to demonstrate comparable distances and provide context for the positive and negative potential economic impacts.

Agenda #4 – CLC Correspondence

- The Town of Ingersoll stated that they will be hiring and paying for their own independent review of the Southwestern Landfill Environmental Assessment.
- Walker is collaborating by providing all necessary materials for review.
- Walker gave further details for the Public Event on Wednesday April 19, 2017 including adding advertising in the Village Voice, as recommended by the CLC.
- A CLC member suggested that the CLC have a table at the upcoming Public Event. Walker agreed and invited all CLC member able to attend to participate.
- Walker mentioned that they have extended the comment period for the Finalization of the Technical Work Plans until May 15, 2017.

Closing Remarks - Adjournment

The next CLC meeting will be held on Wednesday April 26, 2017.

Prepared by Katrina Kroeze, CLC Documenter.

Approved by Laurie Bruce, CLC Facilitator.

If you have any questions about this summary, please call 416-992-9669 or email communitylaisoninfo@gmail.com

If you have questions for Walker, please call 1-855-392-5537 or email info@walkerea.com