Table 14.1 Public Stakeholder Correspondence

Public Comment Received	How Comment was Considered
Public Input - Landfill Footprint Alternatives	
Maximize distance from residences, town centres, and the Thames River.	A preferred footprint was selected that is larger than the required waste fill area. This leaves some possibility at the design stage to increase the buffer area along the southern boundary, and maximize the separation from Beachville Road and the Thames River **(see Section 6.3)**.
Concern regarding potential impacts on groundwater or surface water.	The detailed studies to be carried out during the Impact Assessment phase of the EA will include groundwater and surface water. The potential for impacts will be reported, as well as plans for mitigation, monitoring and contingency **(see Section 7.4)**.
Potential for flooding of the landfill due to the location within the natural flood plain of the Thames River. (1937 flood as example.)	Walker confirmed that the preferred footprint is located outside of the 1937 Thames River Flood (worst on record), and that further flood control systems have been implemented on the Thames since that time. Nevertheless, the potential for flooding (incorporating climate change projections) will be further evaluated as part of the detailed impact assessment and flood control measures will be incorporated into the design of the site, as required under the regulations and in consultation with the Upper Thames River Conservation Authority.
Reassess Greenfield/Future Quarry Lands designated as mineral resource (Option 1) for landfill development.	Walker reassessed its initial screening of the Greenfield/Future Quarry alternative and added further rationale and support regarding County mineral resource policies and the economic constraints, all of which was discussed with stakeholders **(see Section 6.3)**.
Public Input – Landfill Design Alternatives	
Minimize impacts: odour, visual, birds, dust, litter blowing off-site.	Minimizing construction and operations occurring above ground level, which reduces the potential for these impacts, was reflected in the indicators, and assessed as one of the main advantages of the deep design alternative **(see Section 6.4**).
Effectiveness of the landfill liner to protect all water, including groundwater and the Thames River from contamination.	In its assessment of design alternatives, Walker selected the MECP generic double composite landfill liner to provide full protection of the environment **(see Section 7.2.1)**.
Maximize distance from residents.	Walker selected a preferred design alternative where the required waste fill area is substantially smaller than the available footprint area. This leaves some further possibility at the design stage to increase the buffer area along the southern boundary, and maximize the separation from residences along Beachville Road **(see Section 6.4)**.

Public Comment Received	How Comment was Considered
Concerns regarding impacts of adjacent blasting on landfill liner integrity.	Potential impacts to the landfill liner and other infrastructure will be studied as part of the Impact Assessment. Walker communicated that it has over 30 years of experience of designing, constructing and operating landfills adjacent to active quarry operations **(see Section 7.2)**.
Concern regarding potential impacts resulting from building a landfill within fractured limestone with the potential for karst features.	The potential for impacts related to fractured bedrock will be studied as part of the Impact Assessment. As a response to community input, Walker has retained a karst expert to determine if karst conditions exist. Results will be reported, as well as plans for preventing and mitigating potential impacts **(see Section 7.3.6)**.
Concern regarding lack of experience by Walker and throughout Canada in landfilling in a quarry as deep as the proposed location.	Walker carefully considered this issue but did not judge it to be a disadvantage of the deep design alternative in the comparative evaluation. The landfill design and construction techniques used for landfilling at Walker's quarries in Niagara Region can be readily adapted to this site despite the deeper depth. The construction methods for either the deep or conventional designs in a quarry are essentially the same **(see Section 6.4)**.
Public Input – Leachate Treatment Ponds	
Leachate holding ponds need to be fully protective of the environment.	Walker agreed and this will be a key consideration when designing any holding ponds required for the leachate management system **(see Section 7.2)**.
Potential future issues in event Walker abandons site.	As part of post-EA approvals (Environmental Compliance Approval), Financial Assurance is required by MECP. This is money set aside for the MECP to use in the event Walker can not care for the site as required **(see Section 8.2.5)**.
Leachate holding ponds should be designed to deter birds from landing and other animals from approaching. (Protection of birds/animals and protection of humans/livestock from disease carried by birds.)	Walker agreed and this will be a consideration when designing holding ponds required for the leachate management system.
Concern regarding impact of treated water on Thames River Watershed (quantity, quality, ecology).	In establishing the feasibility of the on-site leachate treatment alternative, Walker confirmed that the treatment technologies currently available can achieve the most stringent discharge requirements that would be necessary. The specific treatment design and discharge requirements will be determined through the detailed assessment phase of the EA **(see Section 7.4)**.
Risk of odour from leachate, particularly holding ponds	Walker acknowledged that leachate ponds are a potential odour source if not properly managed. This will be taken into consideration as the leachate management infrastructure and procedures are developed during the EA **(see Section 7.4.6)**.

Public Comment Received	How Comment was Considered
Public Input – Landfill Gas Management Alternatives	
Concern regarding safety of burning landfill gas (particularly methane component) and risk for fire or explosion.	In assessing the feasibility of the alternative methods, Walker ensured that the available technologies could be equipped with safety systems to prevent fire or explosion. It is noted in the text that the enclosed gas flares are equipped with automated monitoring and fail-safe systems.
Risk of odour from landfill gas management.	Walker communicated that one of the main purposes 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.
Public Input – Haul Route Alternatives	
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) **(see Section 6.8)**.
Beachville Rd. is not appropriate for a haul route due to the number of residents and official bike route designation.	Number of residents was used as a key indicator for several criteria. Walker also added bicycle routes as an indicator in the comparative evaluation following initial public consultation. Both of these factors were judged key disadvantages for Routes 4, 5 and 6 along Beachville Road **(see Table C-3, Appendix C)**.
Corner at Beachville Rd. and Pemberton St. is challenging for truck traffic.	Number of truck turns was applied as an indicator in the comparative evaluation, and was a disadvantage identified for Routes 4, 5 and 6 which include the Beachville/Pemberton turn **(see Table C-3, Appendix C)**.
Highway 401 Exit 222 (westbound) to County Road 6 is challenging and could post safety risks due to the service station off-ramp.	The exit from highway 401 to County Road 6 is considered in the EA. Walker's traffic experts consulted with the Ministry of Transportation (MTO) regarding Highway 401 and Exit 222 **(see Appendix F-9: Traffic Assessment Report (Draft))**.
Intersection at 4-way stop at County Road 6 and Beachville Rd. could present issues, including risk to public safety.	Travel through this intersection is common to all of the alternatives considered in this comparative evaluation. However, it was studied by experts as part of the detailed Impact Assessment, including a traffic safety evaluation **(see Appendix F-9: Traffic Assessment Report (Draft))**.
Recommendations for additional criteria and indicators for the comparative evaluation.	As a result of initial public consultation, Walker added the following additional indicators to the comparative evaluation: • Number and type of railroad crossings

Public Comment Received	How Comment was Considered
	• Length of new road construction required (in regard to potential for archaeological resource displacement/disruption) • Number of playgrounds along haul route **(see Table C-3, Appendix C)**.
Public Input – Updated Technical Work Plans	
A key point to take into consideration is that the geological configuration of the Thames Valley influences all potential outputs related to the dump. This would include the geophysical configuration of the valley which influences groundwater flow. Taking into consideration that the valley will influence the dispersion of outputs, the radius of study areas does not conform with actual dispersion. Therefore, the study areas are arbitrary delineations of the area that will truly be impacted.	The hydrogeological assessment considered the local groundwater flow system in the context of the regional groundwater flow system **(see Appendix F-10: Groundwater Assessment (Draft))**. As it relates to contaminant transport, the MECP double generic liner system is designed to be fully protective of groundwater for the full contaminating lifespan of the landfill and, therefore, the focus of the assessment is to establish contingency measures that cover any unexpected leachate escape within the site boundaries without any need for an off-site contaminant attenuation zone **(see Section 8.2)**.
The study area of the economic impact is 2km from the landfill. Why just 2 km? Hasn't real estate in Ingersoll be under performing since the announcement of the landfill?	There are three different study areas for the economic study, defined in Section 4 of the economic work plan. The Site Vicinity is defined as extending 2 km from the proposed landfill. In addition, the Site Vicinity has been extended as a result of comments to include the community of Beachville toward the western boundary of Woodstock, as well as the Town of Ingersoll. The economic study includes a Property Value Impact Analysis **(see Appendix F-8: Economic Assessment (Draft))**.
Also, if the valley focuses outputs into channels some areas will be impacted more significantly than others that are closer to the landfill.	See previous response **(see Appendix F-10: Groundwater Assessment (Draft))**.
The study area of the Groundwater does not delineate the area to be studied for groundwater flow.	The proposed groundwater study area is described in **Appendix F-10: Groundwater Assessment (Draft)**.
No landfill stops all leaks indefinitely. Ground water flow needs to be studied because of the possibility of potential liner failure and because the eventual failure after the dump has been closed will occur.	**See Appendix F-10: Groundwater Assessment (Draft)**.
The Valley focuses outputs into channels some areas will be impacted more significantly than others that are closer to the landfill.	**See Appendix F-10: Groundwater Assessment (Draft).**

Public Comment Received	How Comment was Considered
How do you determine what is the appropriate delineation for a study area is? Why are they the areas that Walker creates?	Study areas are defined for each study by the expert technical consultant. Study areas are provided within each work plan, and, depending on the study, may have been defined using standards/guidelines, best practices, professional judgement, etc. **See all Appendix F Reports**
In one instance the area was vaguely defined, "The study area of ecological systems is designated as the "surrounding area".	Section 4 of the work plan provides details on the study areas for each criterion, as well as the rationale for the selection of these study areas. **See Appendix F-7: Ecology Assessment (Draft).**
We realize that it isn't a legislated requirement to undergo a public comment period on the updated technical work plans; regardless, Walker has chosen to do so. The Code of Practice Consultation states that *"Any documentation prepared for review by the public should avoid technical jargon in order to facilitate understanding and promote useful and informed feedback".* This was echoed by the Project Officer in the May 2016 CLC Meeting Transcript: *"We do require Walker to disseminate or distribute information in a way that is comprehensive and understandable for the public and that's something that we look for when they document their consultation process".* Although the work plans presented are reflective of the expectations of industry reviews; for those not proficient it is unclear what is to be assessed, why it will be assessed, or how it will be assessed. We note that a "plain language" version was presented for each work plan. However, there are still voids in information and incidences of vagueness that prevent substantive feedback from the public. Being that the members of ICOD are not accomplished in the various technical disciplines, we have chosen to focus our comments on how these plans should have been presented to demonstrate that Walker had serious intention of receiving meaningful and informed feedback from the public.	Walker sought means to consult with the public regarding the work plans, through the development of various communication pieces intended to describe the essence of the proposed studies, and indicating that they would be expertly peer reviewed. To convey this information and solicit questions and input, plain-language summaries were prepared for each work plan, work plans were featured in four Community Exchange newsletters, and a public event was held on April 19, 2017, which included poster boards and a take-home booklet containing plain-language information. In addition, Walker representatives were available to answer any questions about the work plans (**See Appendix I-1 and Appendix I-6)**.
All work plans refer to **Appendix B** as "*comments related to this work plan, along with Walker's responses and references to where any associated revisions have been incorporated into this updated draft…"* Appendix B is incomplete. Contained in ICOD's review of the Final TOR, pages 121-136 are comments specific to the work plans. The Code of Consultation lists the benefits of integrating the results of consultation into the technical work as:	ICOD's comments during the ToR phase of the EA were carefully considered in the updating of the work plans. Responses to ICOD's comments, as with others from the general public, were summarized by theme in the ToR and can be found at: http://www.walkerea.com/uploads/636/Doc_635941532932399289.pdf

Public Comment Received	How Comment was Considered
Reassures participants that their input is valued and has influenced the analysis and choices made by the proponent. As there is no recording and disposition of ICOD comments on the work plans it feels like that input not valued.	
The map depicting the site location does not accurately illustrate the Carmeuse Landholdings. It should be noted that ICOD first raised this concern in their comments on the TOR and this was not corrected in the amended TOR. Nonetheless, a corrected map has been available on the Walker website since March 25, 2016.	Noted. Inconsistencies in the maps are addressed in the final versions.
The accuracy of this map is even more significant since Walker has published an updated version of the Facilities Characteristics which proposes a leachate management area in a parcel of land that is an unlicensed, aggregate resource not indicated as part of Carmeuse Landholdings on the map. An additional concern is that the updated facilities characteristics report was not made available until April 10, 2017. This was after the work plans, now being presented for comment, were updated. This new location will significantly change sections in the ecological (Patterson Drain), water (boreholes and test wells) and archaeology (undisturbed land) studies. Not having these changes included prevents feedback at this time.	The revisions to the facility characteristics assumptions do not fundamentally change the scope and methodology of the technical studies, which will be updated to reflect any revised assumptions prior to finalization. All of the EA studies are adaptive to changes in the facility characteristics, which will continue to evolve through the course of the EA (e.g., revisions to the proposed design or operations can be expected in order to adopt further mitigation). Inconsistencies in the maps are addressed in the final versions.
The **environmental criteria** chart should include specific issues raised during consultation that fall into these criteria (example: Concerns of Contaminated groundwater may impact the Thames River or Dust from the site may contaminate the river; EA Criteria: Loss/Disturbance of surface water resources). This would enable full understanding and traceability to those reviewing. There is a growing frustration in the community regarding the proponent not listening or that things are not being studied. Without this correlation, it was difficult to distinguish what issues were incorporated and how they would be assessed.	The EA criteria listed in the work plans are those approved in the ToR. The studies related to those criteria in each work plan further describes the scope of the issues being considered. Furthermore, there is a table in each work plan specifically relating each EA criterion to significant issues heard during public consultation – for example, in Section 3 of the Groundwater & Surface Water work plan there is reference to public concerns raised about groundwater and surface water contamination and which of the EA Criteria are related to these concerns.
There are instances (example ecology; water; air) where the **indicators and measures** consist solely of a list of standards and guides or is exclusively technical jargon. This does little to communicate what they will be looking at or how things will be assessed. More details are required on the rationale	We appreciate that some of the indicators are technical in nature, and may be expressed in some work plans as a reference to a standard, regulation or guideline, but this is sometimes necessary. In some cases the application of these standards, regulations or guidelines are complex and do not lend themselves to a simple sentence or paragraph that would adequately stand as the indicator (and would certainly invite fair criticism

Public Comment Received	How Comment was Considered
of the indicators and what they are to be compared against in order to facilitate comments.	from peer review experts that these need to be applied in their full context). In those cases, naming the standard, regulations or guideline conveys that all of the processes within that document will be applied, as required.
Work plans include the statement: "This study is also designed to provide key input/data to other environmental criteria that will be addressed through studies conducted by other experts". **The interaction between the experts is uncertain.** This requires more explanation of what information the experts will be seeking; what data will be significant to other studies; and how information from other disciplines will be incorporated.	The Southwestern Landfill EA process was undertaken as a fully integrated assessment **(See Section 5)**.
The traffic work plan does not include an assessment specifically on the EDR but rather included the subject as background data: "From MTO, information will be obtained on Emergency Detour Routes including the frequency of closures of Highway 401 as background information to the study". However the Health, Air and Social work plans all reference the EDR as part of their work plans. This contradiction is significantly perplexing to those reviewing.	It is correct that there are some inconsistent references to emergency detour routes in several of the work plans. These are revised in the final work plans.
Work plans should include not only a descriptive written version of the **study areas**, but should include a map denoting those areas: on-site and vicinity, along haul route and wider area.	The study areas are depicted on maps when it is reasonable and practical, but at the very least all of the work plans describe their study areas. In some cases the study areas can vary between different criteria within a single study, or may be specific points rather than areas, so some discretion is used by each of the consultants in how their study areas are best depicted. **See all Reports in Appendix F1.**
The same can be said for **potential receptors, monitoring, and sampling sites**. It is at a serious detriment to meaningful community feedback to not have a visual of where these sites may be located. The potential receptors included in the work plans are not specific enough to ascertain clearly what is being proposed. Unanswered questions include: will there be one receptor for each point; what intervals will receptors be located on haul route; how will businesses or commercial/industrial areas, including farms or agricultural areas be determined (each location, nearest?); will each facility or institution be a receptor location, if not how will these be determined? It was expected that monitoring locations would be provided in these work plans. Project Officer in the May 2016 CLC Meeting Transcript: "*Walker, as part of their drafting the technical work plans, would*	Receptor locations will be developed collaboratively among our experts as the EA progresses. They have already held some preliminary conferences to discuss possible common receptor points and they will continue to work together to refine these as they collect more data and carry out their analyses throughout the EA studies. For instance, they will certainly re-visit this issue once they have carried out some initial field inventories. Monitoring locations have been proposed for some of the studies (e.g., groundwater, surface water, ecology) whereas others such as air quality propose to first conduct a critical review of historical monitoring data as part of the EA to determine the need for, and locations of, any further monitoring.

Public Comment Received	How Comment was Considered
propose the location of the monitors…" From CLC transcript June 2016 *Number five, there was a question, when will the local community be able to provide input on air monitoring locations? …And the answer is during consultation on the revised work plans because that's where the monitoring locations will be laid out in draft.*	
Included in the Ecology work plan submitted with the TOR was a map of potential sampling sites. This map was removed from the updated work plan. It is impossible to comment and provide input if the information is not presented.	This map was inadvertently omitted from the updated draft work plan, but was included and reviewed in earlier versions. The map is included in final version of the work plan.
It is also disturbing that the work plans presented by professionals in disciplines that are tantamount to accuracy and thoroughness are plagued with instances of mistakes including but not limited to: missing appendix (air work plan refers to Appendix C, not included in document); mislabelled maps (ecology work plan refers to figure 1 as sampling sites, Fig 1 in doc is site location); incorrect information (social and economic work plans both refer to Aggregate licence 2120 in land use section, there is no licence 2120 in the Carmeuse Landholdings and health refers to approval of work plan when none is required in EA); and instances where it is obvious that the work plans were not reviewed and proof read after updating based on identified alternatives (health work plan "this work plan may be amended or adjusted prior to the initiation of the assessment in order to properly accommodate the preferred alternatives that arise from that review"). This lack of attention to detail not only serves to confuse those reviewing but substantially corrodes confidence that Walker can "*design, build, operate and close a landfill at this site in a safe and environmentally responsible manner*".	Noted. Errors and inconsistencies have been corrected in the final versions of the work plans.
In evaluating and assessing the proponent's application for approval under the Environmental Assessment Act, the Minister will consider if the *"proponent provide for interested persons to participate in a reasonable and meaningful way."* The above concerns illustrate that Walker did not seriously consider the participation of the public in presenting these work plans and subsequently significantly restricted any meaningful and substantive feedback.	Walker disagrees. Input from members of the public has been and will continue to be heard and communicated within our team, including our technical consultants who will be carrying out the various studies. We believe that throughout this process to date we have provided extensive public opportunities to participate in the development of the technical work plans, during both the ToR phase and the EA phase. Furthermore, Walker has funded a professional peer review of the work plans through the County of Oxford on behalf of the citizens of the County to ensure that the work plans receive knowledgeable technical input.

Table 14.2 Community Liaison Committee (CLC) Correspondence

Date	CLC Comment Received	How it was Considered
CLC Meeting 16 April 6, 2016	Requested attendance from the MECP Project Officer at CLC meetings and provided a list of questions to be answered.	Walker sent request to MECP project officer. Project officer answered CLC questions by email.
CLC Meeting 16 April 6, 2016	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.	Walker produced and sent the CLC the map of the proposed landfill boundaries.
CLC Meeting 16 April 6, 2016	During consultation, "find resolution" of any outstanding technical issues and commitments.	Walker indicated that this includes Walker, Peer Review Team and MECP technical experts, as well as the public. 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.
CLC Meeting 17 May 25, 2016	How will Walker determine the Air Monitoring Locations?	Walker will propose the monitoring locations. There is no requirement for the MECP to place co-monitors although that option will be made available by Walker where possible, as required by the Minister's Amendments. The MECP will determine if and when to co-locate monitors. The MECP has guidelines for identifying locations for air monitors.
CLC Meeting 17 May 25, 2016	Will you be adding recycling and composting operations to the EA?	Recycling and composting falls outside of the scope for this EA. However, the Ministers Amendment requires Walker to demonstrate tangible support for diversion activities.
CLC Meeting 17 May 25, 2016	Will Walker create a Climate Change Work Plan?	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 18 June 22, 2016	How will cumulative effects be considered?	Cumulative effects mean the overlapping effects of past, present, and foreseeable future including: • The impact of climate change (climate effects) on the landfill (more severe and frequent storms). • The contribution of this project on to climate change is part of the provincial EA process. Walker will be looking at how greenhouse

Date	CLC Comment Received	How it was Considered
		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).
CLC Meeting 18 June 22, 2016	Concern that the content being presented to the public is too technical and needs to be more user-friendly with a limit on the amount of information provided to avoid overwhelming people.	Walker will consider this in the production of future communications and public consultation materials.
CLC Meeting 18 June 22, 2016	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.
CLC Meeting 18 June 22, 2016	Provide a 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.
CLC Meeting 19 July 27, 2016	**Input on the Landfill Footprint Alternatives**	
	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. 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.	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.
	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 rational on all five footprint options to CLC Members.
CLC Meeting 19 July 27, 2016	**Input on the 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, Conservation, and Parks (MECP),

Date	CLC Comment Received	How it was Considered
		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 **(see Section 7.2)**.
	Some Members would like to know more about what liners other landfills in Ontario are using.	Walker and the representative from the MECP provided 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.	Walker noted the importance of groundwater protection and input on landfill design for consideration **(see Section 6.4)**.
	Additional questions related to water quality monitoring and reporting requirements were asked to Walker and to the MECP.	Walker and the MECP 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 **(see Section 8.1)**.
CLC Meeting 20 August 24, 2016	**Input on the Haul Route Alternatives**	
	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.	Walker noted the concern and indicated that this would be evaluated as part of the Comparative Evaluation **(see Section 6.7)**.
	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.
	From the long list of haul routes presented, many CLC Members agreed that traveling on Beachville Road was of concern.	Walker was 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 **(see Section 6.7)**.
	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.	Walker noted this preference **(see Section 6.7)**.

Date	CLC Comment Received	How it was Considered
	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.	Walker incorporated these additional criteria and indicators where appropriate **(see Appendix C, Table C-3)**.
CLC Meeting 21 Sept 28, 2016	**Input on the Leachate Treatment Management Alternatives**	
	Water quality is a primary concern for how leachate will be managed.	Walker noted this concern.
	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, Conservation, and Parks (MECP). The amount of Financial Assurance a proponent such as Walker must pay to the fund is calculated by the MECP. This money can only be accessed by the MECP if the proponent is unable to pay for reparations **(see Section 8.2.5)**.
CLC Meeting 21 Sept 28, 2016	**Input on the Landfill Gas Management Alternatives**	
	The primary concern from CLC Members was around the safe management and operation of landfill gas including flaring.	Walker noted the concern and indicated that Walker has experience in operating safe management and operation of landfill gas at the South Landfill in Niagara which is similar to the SWLF.
CLC Meeting 22 October 26, 2016	**Input on the Preferred Landfill Footprint**	
	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) **(see Section 6.3)**.
CLC Meeting 22	**Feedback on the Preferred Landfill Design**	

Date	CLC Comment Received	How it was Considered
October 26, 2016	CLC raised additional questions about the liner and how it would change the Comparative Evaluation process of the deep design vs. the conventional design from a public health and safety and groundwater protection perspective.	Walker representatives stated that there is no difference between the two options in regard to protection for groundwater, since both use the same liner **(see Section 6.4)**.
CLC Meeting 22 October 26, 2016	**Feedback on the Preferred Haul Route**	
	Some CLC Members indicated that they were pleased their input was considered and that the Preferred Haul Route did not go down Beachville Road.	The key advantages of the preferred haul route 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 **(see Section 6.7)**.
	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 included this information into the final draft of the Comparative Evaluation for Haul Route options **(see Appendix C, Table C-3)**.
CLC Meeting 23 November 23, 2016	**Input on Facility Characteristics**	
	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 more than other impacts such as visual and odour. 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.	Walker indicated that the deep design of the landfill would reduce potential visual and odour impacts while still protecting the groundwater from the use of the double-generic liner.
	Many CLC Members sought clarification about what is included in the Climate Change 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 **(see Section 7.2.5).**
	A CLC Member questioned the relevance of the planning assumptions 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.

Date	CLC Comment Received	How it was Considered
	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.
CLC Meeting 27 April 26, 2017	Update Surrounding Area Map included in the Facility Characteristics Memo with correct Carmeuse property boundaries.	Walker updated map and re-posted on www.walkerea.com.
CLC Meeting 27 April 26, 2017	Does the change in the location of the ancillary facilities to the North-West Corner of the property, affect the approved ToR and/ or require an amendment with the OP/PPS as it is a designated resource?	No, it does not affect the approved ToR or PPS. The facility would have a temporary lifespan during the years of leachate treatment. The facility can also be moved in the future if/as the need arises and would not sterilize the unlicensed mineral resource.
CLC Meeting 27 April 26, 2017	Has the Upper Thames River Conservation Authority (UTRCA) been notified or consulted on with the change of the discharge location? There was a past project in the area that raised concerns about the potential for impacts on aquatic animals.	Yes, UTRCA has been and will continue to be consulted. Species will be studied in the ecology study. The consultant will work with the UTRCA for background information on species at risk.
CLC Meeting 28 May 24, 2017	If the Facility Characteristics Assumptions (FCA) are a "live document" how is it possible to develop and finalize the work plans?	The FCA is a live document, but it is not constantly changing. It was developed with the completion of the alternative methods assessment, as well as some other technical work (i.e., location of the leachate treatment plant). The next time there would be changes, and likely additional detail as well, is after the studies are complete and we review and incorporate any mitigation recommendations.
CLC Meeting 28 May 24, 2017	As a result in the change in the location of the treatment facility, is there anything that will go into the lake?	At this time, Walker does not propose any treated water from the leachate treatment plant or storm water to go into the flooded quarry.
CLC Meeting 28 May 24, 2017	It is confusing to see the flow of water towards the North from the landfill quarry floor. Is that not opposite to the natural flow of groundwater north to south? Why would you build the floor towards the opposite direction?	The leachate collection and management system is completely separate from surrounding groundwater. The proposed landfill is designed to slope to the north so that the leachate flows toward the leachate treatment plant, requiring less pumping. Also, from an engineering standpoint it is

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		easier to direct leachate back to the north as the new cells are being built to the south (i.e., away from the construction area. See Appendix F-
CLC Meeting 28 May 24, 2017	Does the new location of the treatment facility impact traffic on Township Road 64?	It's not likely that the treatment facility would impact traffic on Township Road 64 because leachate would be piped to the facility, not trucked. The only vehicles that would be going to the treatment plant would be employees working there and occasionally a vehicle for someone servicing the facility, and they can still use the new haul route from County Road 6.
CLC Meeting 28 May 24, 2017	How will the leachate leaving the landfill cross Patterson Drain to reach the treatment plant? Will it go over, under?	That will be addressed later during the more detailed engineering design phase.
CLC Meeting 28 May 24, 2017	Is the liner for the leachate treatment pond provincially approved?	Yes, the design will be approved as part of the Environmental Compliance Approval (ECA) for the site under the *Environmental Protection Act* before it's constructed.
CLC Meeting 28 May 24, 2017	Would like to see contingency plans in the event of climate change and other naturally occurring disasters for the Waste Water Treatment Plant (WWTP).	Walker will be developing contingency and emergency response plans for the landfill (including the WWTP) as part of the application for an Environmental Compliance Approval (ECA) under the *Environmental Protection Act*. In addition, climate change protections have been incorporated in this EA.
Updated Draft Agriculture Work Plan		
CLC Meeting 26 March 22, 2017	Concern for contamination and other impacts from the proposed landfill on crops, as well as animals ingesting crops and absorbing the contamination.	The potential for contamination in crops and livestock was studied as part of the Agriculture Assessment **(see Appendix F-1:Agriculture Assessment)**.
CLC Meeting 26 March 22, 2017	The study area needs to be broadened since it is such a major contributor to the economy.	Recommendation noted. These aspects are to be addressed in the EA as part of the economic assessment (i.e., farms as businesses); see that work plan for details and study areas **(see Appendix F-1: Agriculture Assessment)**.
CLC Meeting 26 March 22, 2017	Would like to see how an analysis on the chemical composition of soybeans and other specialty crops will change with the landfill.	Provided that the EA studies demonstrate that there is no significant off-site transport of contaminants from the landfill through the soil, water or

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		air, Walker will not analyze the chemical composition of specialty crops in the surrounding area. There were studies completed on the chemical composition of crops planted on Walker's East Landfill in Niagara by the University of Guelph. This information was provided to the consultant for review.
CLC Meeting 26 March 22, 2017	There is a large Mennonite community in the area; they should be considered.	Noted. Information provided to consultant for inclusion in Background Information review **(see Appendix F-1: Agriculture Assessment)**.
CLC Meeting 26 March 22, 2017	Concern about disruptions to farming. Example: Additional vehicles making it difficult for farm vehicles to cross roads, or making it more dangerous for farm vehicles to be on the road.	Noted. Farm vehicles will be considered in the Traffic Assessment **(see Appendix F-1: Agriculture Assessment)**.
CLC Meeting 26 March 22, 2017	Interest in knowing if crop rotations will be considered in the study.	The types of crops grown near the proposed site will be taken into consideration. The consultant will be speaking to nearby farmers about the types of farming they perform, including crop types and rotation **(see Appendix F-1: Agriculture Assessment)**.
Updated Air Quality Work Plan		
CLC Meeting 27 April 26, 2017	The wording of the 5km study area sounds like it is a maximum.	The 5 km study area is the proposed maximum extent, but as noted in the work plan it can be expanded if the analysis indicates that significant effects could extend further **(see Appendix F-2: Air Quality Assessment)**.
CLC Meeting 27 April 26, 2017	Air quality along the haul route, however there is construction anticipated (not related to landfill activities), how will air from the EDR be studied?	The EDRs are not being studied *per se*, (except where they happen to coincide with Walker's haul route). However, the contingency/emergency response plans in the Design & Operations Report will set out alternate haul routes and/or procedures to be used in the event of road closures.
CLC Meeting 27 April 26, 2017	When will the receptor locations be chosen?	Common receptor locations will be used to identify where there's the potential for overlap of impacts, like for the social study. Background information collection and some modelling will need to be carried out before selecting the receptor locations **(see Appendix F-2: Air Quality Assessment)**.
CLC Meeting 27 April 26, 2017	Who determines if the amount of monitoring is adequate?	The Government Review Team will evaluate the proposed monitoring programs for the site to ensure they are adequate before the site is

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		approved. Then, they will also review annual monitoring reports each year and adjust the approved monitoring requirements if necessary.
CLC Meeting 27 April 26, 2017	Wording of the Section 5.3 for odour criteria is leaving the impression that RWDI is dismissing odour unit 1.	This statement has been removed. There was no intent to only assess levels from the 3 to 5 range but only a comment discussing annoyance versus detection.
CLC Meeting 27 April 26, 2017	Will the new location of the leachate treatment pond be included?	Yes **(see Appendix F-5: Archaeology Assessment)**.
Updated Draft Cultural Heritage & Heritage Landscapes Work Plan		
CLC Meeting 25 February 22, 2017	Note that the Thames River is a Canadian Heritage River.	Noted. Information provided to consultant for inclusion in Background Information review **(see Appendix F-4: Cultural Heritage Assessment)**.
Updated Draft Ecology Work Plan		
CLC Meeting 25 February 22, 2017	Would like to see the ecology study area to reflect the same area as the Air Quality and if not, a better explanation to how the study area was chosen.	Recommendation noted. The study area is designed to be conservative (broader than impacts are likely to occur), based on experience and best practices of the ecology consultant. In addition, the study area is flexible to accommodate changes if required due to results from other studies **(see Appendix F-7: Ecology Assessment)**.
CLC Meeting 25 February 22, 2017	Pg. 3 refers to Figure 1 twice – missing details to reflect the true study area which includes the 20 km of aviation pathway.	In this instance, it was practical to describe the 20 km aviation pathway rather than providing it in a map form.
CLC Meeting 25 February 22, 2017	Pg. 8 does not include the ORANG Helicopter between Woodstock and London which travels directly on top of the dump and bird hazard zone.	Noted. Information provided to consultant for inclusion in Background Information review **(see Appendix F-7: Ecology Assessment)**.
CLC Meeting 25 February 22, 2017	Soft Shell Turtles have been seen within the area.	Noted. Information provided to consultant for inclusion in Background Information review **(see Appendix F-7: Ecology Assessment)**.
CLC Meeting 25 February 22, 2017	The area between Woodstock and Salford is a crow migration route.	Noted. Information provided to consultant for inclusion in Background Information review **(see Appendix F-7: Ecology Assessment)**.
CLC Meeting 25 February 22, 2017	The new proposed private road is around an old railway line.	Noted. Information provided to consultant for inclusion in Background Information review **(see Appendix F-7: Ecology Assessment)**.
CLC Meeting 25 February 22, 2017	Will the flooded quarry be studied?	Yes, as part of the on-site area of the ecology study, the flooded quarry will be included **(see Appendix F-7: Ecology Assessment)**.

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CLC Meeting 25 February 22, 2017	Is it possible to have further details on how species at risk specifically will be studied?	Yes, we will work with the consultant to provide the CLC with more information on species at risk. Ecology consultant attended May 24, 2017 CLC meeting to answer questions.
CLC Meeting 28 May 24, 2017	Would like to have more information on how species at risk will be studied.	One of the first steps for the ecology study will be to meet with the Ministry of Natural Resources and Forestry to review and confirm the list of species anticipated in the area. The Endangered Species Act is the legislation that will guide the ecology consultants in their studies and identification of adequate protection or avoidance measures **(see Appendix F-7: Ecology Assessment)**.
CLC Meeting 28 May 24, 2017	Would like to see an increase in the study area.	Once you get past ½ km it is not likely that there will be any species that will interact with the project. We know that from best practice and years of experience since impacts from landfill typically do not exceed 300 or 400m. Going 500m is the extra protections. Beyond that, if anything is identified, we will adjust and modify to the study area appropriately **(see Appendix F-7: Ecology Assessment)**.
CLC Meeting 28 May 24, 2017	Will the quarry lake be studied for ecology?	Yes **(see Appendix F-7: Ecology Assessment)**.
Updated Draft Economic Work Plan		
CLC Meeting 26 March 22, 2017	Economic study fails to show the Ingersoll Downtown Business Area.	Noted. The study has been amended to include Ingersoll in the "Site Vicinity" **(see Appendix F-8: Economic Assessment)**.
CLC Meeting 26 March 22, 2017	Would like the study to reveal whether or not the proposed landfill will impact attracting new business to the downtown core	Agreed, and it will. Note that EA Criteria #26 and 27 specifically address this issue **(see Appendix F-8: Economic Assessment)**.
CLC Meeting 26 March 22, 2017	Majority of businesses in the downtown core are owned by local residents living within the Town of Ingersoll.	Noted. Information provided to consultant for inclusion in Background Information review **(see Appendix F-8: Economic Assessment)**..
Updated Groundwater and Surface Water Work Plan		
CLC Meeting 25 February 22, 2017	Request to consider changing the language of the Environmental Criteria from public concern to health impact in the Technical Work Plan.	The term "public health concern" is used in the rationale for the EA criteria, not in the criteria itself.

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		The language of "concern" is consistent with other similar studies. It reflects the fact that in provincial standards water quality impairment is not necessarily just health-related, but can also be related to aesthetic quality.
CLC Meeting 25 February 22, 2017	Request to change language "impacts" to "contamination" on pg. 8.	The potential for contamination is included in the definition of "impacts".
CLC Meeting 25 February 22, 2017	Request to include changes to storm severity within the text of the groundwater/surface water plan since it will be part of the study.	Storm severity will be included in the data compilation and collection discussed throughout the report, and there is specific reference to assessing "peak flows" and design storms (i.e., storm severity) in Section 9.0 of the work plan. Furthermore, Section 7.3 of the work plan also commits to accounting for the effects of climate change in the assessment.
CLC Meeting 25 February 22, 2017	Does Landfill Gas and Leachate ever mix?	Yes, there is an interaction within the landfill, however, there are two separate collection systems for leachate and landfill gas. Once they are extracted from the landfill they are not mixed.
CLC Meeting 25 February 22, 2017	Why are ditches and culverts along the haul route not included within the study?	It very unlikely and extremely difficult to attribute any impact specifically from the landfill traffic to surface water along the haul route. Other trucks such as salt trucks in the winter would have a much higher impact than the trucks from the landfill. From experience, it is not common (best practice) to specifically study the ditches along the haul route. Any impacts from the landfill on the groundwater or surface water will be captured within studying the tributaries that eventually discharge to the Thames River.
CLC Meeting 25 February 22, 2017	How do you localize Climate Change impacts?	We will be working with the Upper Thames River Conservation Authority (UTRCA) regarding any modeling that they have and we will even refine and share our results back with the UTRCA for them to incorporate within their resource library.
CLC Meeting 25 February 22, 2017	On pg 15 background data includes "flood regulation mapping" of the Thames River. Cemetery Creek (Patterson-Robbins Drain) is not listed. How will you incorporate flood zones of the Creek?	We will work with the UTRCA to review information about Cemetery Creek (Patterson-Robbins Drain).
CLC Meeting 25 February 22, 2017	What happens if Karst is found?	If found, it would have to be assessed, included and accommodated in the design and construction of the proposed landfill.

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Updated Human Health Risk Assessment Work Plan		
CLC Meeting 27 April 26, 2017	Health and safety of the community is the top community priority.	Health and safety is also the top priority for Walker. Walker would only move forward with the landfill if it can be built and operated in a way that's safe for the community, the natural environment, and our employees.
CLC Meeting 27 April 26, 2017	When will health determinants be finalized?	The health determinants have already been established based on input from the local Medical Officer of Health and are listed in Table 11-1 of the work plan.
CLC Meeting 27 April 26, 2017	How will the impact to animals and humans (food chain) be included?	The primary exposure routes for agriculture will be aerial deposit and inhalation. The HHRA study reviewed, modeled, and evaluated the maximum cumulative predicted levels of contaminant ingestion by animals and humans **(see Appendix F-15: Human Health Risk Assessment & Supplementary Health Review)**.
CLC Meeting 27 April 26, 2017	Difference between the Human Impact Assessment (HIA) and the Human Health Risk Assessment (HHRA) and if he thought the HHRA is suitable for this project.	HHRA is used to predict risks from exposures that will be studied in the EA. For the purpose of this project, the HHRA with the Supplementary Health Review provides a robust understanding of the potential impacts to human health **(see Appendix F-15: Human Health Risk Assessment & Supplementary Health Review)**.
Updated Noise/Vibration Work Plan		
CLC Meeting 27 April 26, 2017	The MECP guidelines for noise seems like it would be difficult for Walker to meet. How will Walker be able to achieve acceptable level of noise, especially with the additive noise from Carmeuse?	Walker will be required to stay within the guidelines of 55 decibels during the day and 45 decibels at night. Walker currently meets noise limits at their similar landfill in Niagara Falls, also beside an operating quarry **(see Appendix F-13: Noise/Vibration Assessment)**.
CLC Meeting 27 April 26, 2017	What happens if noise is exceeded?	Potential mitigation/noise reduction efforts can include enclosed equipment, low frequency backup alarms, amended operating hours, and a no tailgate slamming policy. Community members would be able to contact Walker through a community response line if they found the site to be excessively noisy. It is possible that in an extreme scenario Walker would shut down operations until a noise-causing disruption is fixed. **See Appendix F-13: Noise/Vibration Assessment.**

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Updated Draft Social Work Plan		
CLC Meeting 26 March 22, 2017	Pg. 5 of Technical Work Plan: Change Highway 6 to County Rd 6	Noted. Correction made to change Highway 6 to County Rd 6.
CLC Meeting 26 March 22, 2017	Section 6.2.1 Aggregate Operations – edit Carmeuse License #2120 to #2129	Noted. License number has been corrected.
CLC Meeting 26 March 22, 2017	Remove EDR in EA criteria table on pg. 8	Noted. EDR criteria has been removed.
CLC Meeting 26 March 22, 2017	Inputs from the January CLC meeting on the original draft work plans don't seem to be reflected within this updated work plan. For example: including impact to health care workers and the site area having changed.	Noted. Some of the input from the CLC has been reflected directly in the work plan, while some aspects are implicit in the work plan and have been noted by the consultant. With regards to health care workers, interviews will be undertaken with a representative of Oxford County Public Health and Alexandra Hospital to identify potential effects. Potential effects would be assessed as part of the criterion "Disruption to Use and Enjoyment of Public Facilities and Institutions. Work plan has been amended to specifically identify groups identified by the CLC including Oxford County Public Health and Alexandra Hospital, nearest registered day care facilities to the site/haul route, and local snowmobile club.
CLC Meeting 26 March 22, 2017	Consider expanding Study Area towards Ingersoll or to be the same as Air Study.	Noted. Site Vicinity Study Area has been modified to include the entire Town of Ingersoll.
CLC Meeting 26 March 22, 2017	Consider the Canterbury Folk Festival as an opportunity to come out and survey.	Noted. The organizers of the Canterbury Folk Festival will be interviewed and opportunities to conduct a survey at the Festival in 2018 will be explored. Work plan has been amended to include the Canterbury Folk Festival opportunity
CLC Meeting 26 March 22, 2017	Concern for Walker's participation/involvement in the "kitchen table" and group meetings. Sentiment that it will be difficult to get honest input when Walker is present.	Although there are advantages of having the company, in this case Walker, present at these meetings to respond to any questions outside of the scope of the social study, WEG representatives will excuse themselves from the kitchen table discussions unless specifically invited to stay by the

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		participants. Work plan has been amended to reflect change in kitchen table meeting protocol.
CLC Meeting 26 March 22, 2017	What happens if you don't get a representative sample to participate in the social survey?	For the telephone survey, there is a threshold/confidence level that is needed, so sampling would continue until that is attained.
Updated Traffic Work Plan		
CLC Meeting 24 January 25, 2017	Interest in knowing the outcomes/results of the meeting with the Ministry of Transportation (MTO).	Walker will provide an update to the CLC following the meeting with the MTO. Update provided to CLC at May 24, 2017 meeting.
CLC Meeting 24 January 25, 2017	Relay concerns to the traffic consultant and MTO of the proximity of the 401 off-ramp at Exit 222 and the Service Centre interchange to the East.	Walker has relayed this information to the traffic consultant and the MTO.
CLC Meeting 24 January 25, 2017	Data collection should also incorporate shift changes of major community employers including Carmeuse and CAMI. It should also be noted that the first 2 weeks in July CAMI shuts down for summer holidays.	Noted. Information provided to consultant for inclusion in Background Information review.
CLC Meeting 24 January 25, 2017	During the summer months, usage of Highway 6 by recreational vehicles (RV) increases.	Noted. Information provided to consultant for inclusion in Background Information review.
CLC Meeting 24 January 25, 2017	During the winter, there is an increase in traffic from snowmobiles in the study area.	Noted. Information provided to consultant for inclusion in Background Information review.
CLC Meeting 24 January 25, 2017	Re-routing of 401 accidents often causes an increase in the use of Highway 6 and other municipal roads near the proposed site.	Noted. Information provided to consultant for inclusion in Background Information review.
CLC Meeting 24 January 25, 2017	Interest in knowing further details on types of vehicles that will be included in the study, specifically if agriculture vehicles will be included?	Yes, all kinds of vehicles including buses, farming equipment, and emergency vehicles using the haul route will be included in the study.
CLC Meeting 24 January 25, 2017	Interest in knowing who is responsible for additional road wear and tear.	Walker has chosen a haul route (CR#6) that is designated, designed and maintained by the County for the purposes of truck traffic. Provided that the road remains within its design range with the addition of the landfill traffic then the County will continue to be responsible for its normal maintenance **(see Appendix F-9: Traffic Assessment)**.
Updated Draft Visual Landscape Work Plan		

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CLC Meeting 24 January 25, 2017	Update the map in the Technical Work Plan to include Karn Rd. Use the original map used in the ToR.	Karn Road appears in the maps in the work plan (they are aerial photos).
CLC Meeting 24 January 25, 2017	Consider a location along Karn Rd because of its elevation as a viewpoint receptor location.	Noted; to be considered by the consultant during viewpoint selection. Karn Road is specifically mentioned as an area with a view of the site in section 4 of the final work plan (Study Areas) **(see Appendix F-6: Visual/Landscape Assessment)**.
CLC Meeting 24 January 25, 2017	The east side of the landfill footprint is highly exposed/open and would have a high visual impact.	Noted; to be considered by the consultant during viewpoint selection **(see Appendix F-6: Visual/Landscape Assessment)**.
CLC Meeting 24 January 25, 2017	Recommendation to work with the UTRCA to determine local/native plants to be planted as berm/mitigation measures.	Noted.
CLC Meeting 24 January 25, 2017	Does the computer modeling of the visual impacts include the various stages of the landfill development?	Yes, the landfill will be evaluated at various stages of development and any corresponding mitigation measures will also be included within the final report **(see Appendix F-14: Social Assessment)**.
Updated Draft Cumulative Effects Work Plan		
CLC Meeting 24 January 25, 2017	Found Cumulative Effects Work Plan and Summary confusing and difficult to follow the inter-connectedness of the 12 work plans to address cumulative effects. Requested revisiting Cumulative Effects as the last work plans. Change the language to be easily understood by the community (ex: temporal = boundaries).	Agreed. Document was revised. Cumulative Effects Work Plan was revised and reviewed at the May 24, 2017 CLC meeting **(see Appendix G: Cumulative Effects Assessment)**.
CLC Meeting 24 January 25, 2017	If a provincial standard is released before the end of the studies/proposal, will Walker be required to meet these standards?	Should anything change, we will discuss those changes with the MECP and how they would impact our ongoing evaluation.
CLC Meeting 24 January 25, 2017	Are the cumulative effects embedded within each study?	Yes, the SWLF EA is fully integrated. The cumulative effects are evaluated on a criterion-by-criterion basis as set out in Table A-1 of the ToR. Therefore, the criteria assigned to each study will also be assessed within those studies for any cumulative effects.
Written Questions after May 24, 2017 CLC Meeting	In assessing, is a worst-case scenario employed?	"Worst case" scenarios are dealt with through contingency and emergency response plans required for our *Environmental Protection Act* application, and will be documented in our Design & Operations report. Those will cover a wide range of "worst cases" like power failures, road closures,

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		equipment failure, liner leakage, spills, etc., etc. You don't ever expect or plan for these events to happen, but you have to prepare for them just in case. The EA is based on normal or typical operating conditions, so that you are characterizing the environmental advantages and disadvantages of the proposed undertaking in the way that it is expected to operate day-to-day and year-to-year. However, in carrying out their assessments, the experts will generally choose conservative assumptions or scenarios, or examine a range, and there are also additional factors of safety imbedded in most of the standards that they apply to their work **(see Appendix G: Cumulative Effects Assessment)**.
Written Questions after May 24, 2017 CLC Meeting	Who takes the lead in the multi-stressor assessment?	The experts (consultants) take the lead in the assessment on a criterion-by-criterion basis. The experts have been assigned those criteria in the EA Criteria Table (Table A-1 in the ToR). Our EA criteria were designed as cumulative effects criteria right from the beginning, so the multi-stressor assessment is not a different set of criteria (or a separate study). Multi-stressors could come up in many of our EA criteria as we work through the analyses, but the obvious ones are EA Criteria #9, 10, 15, 16, 20, 22, 23, 34, 35, 36, 38, and 41. If you look at those criteria and their definitions in Table A-1 you can see how the effects being assessed in each case are cumulative effects that can arise from a combination of different stressors.
Written Questions after May 24, 2017 CLC Meeting	What role will the various discipline experts play in this assessment?	The lead expert for each EA criterion (Table A-1 in the ToR) will be responsible to work with the other disciplines to obtain the information and input necessary to assess that particular criterion. Table A-2 in the ToR illustrated some of the key inter-connections we expect, but it's not limited to these and it can evolve as the data collection and analyses progress.
Written Questions after May 24, 2017 CLC Meeting	Will the rationale for criteria with respect to multi stressors be presented to ensure that all scenarios are covered? How will various combinations of stressors be defined and identified?	As mentioned above, the EA criteria, definitions and rationale were already presented in Table A-1 in the ToR; they include the multi-stressor criteria. The results of those assessments will be documented criterion-by-criterion in each of the technical reports prepared by the experts, and then consolidated and summarized in the EA report.

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Written Questions after May 24, 2017 CLC Meeting	In multi-source assessment, there are obvious indicators based on standards and regulations but what indicators are used for multi-stressors? Are there relevant data sources to refer to? Given the subjectivity of the stress/disturbance, what thresholds will be used?	The experts (consultants) who have been assigned each criterion have laid out their indicators and data sources in their respective work plans. As you've correctly observed, many of the indicators for the multi-stressor criteria are qualitative (subjective) rather than quantitative given that it's impossible to add "apples to oranges" (i.e., how do you quantitatively add the effects of dust, noise, traffic and so on?). So, instead, the idea is to first identify where there is a potential for multi-stressor effects, and then characterize their significance so mitigation and impact management can be applied wherever necessary and possible. The social assessment work plan contains some good examples, since it will deal with many of the multi-stressor criteria.
Written Questions after May 24, 2017 CLC Meeting	How will common receptor points be determined for multi-stressors?	Collaboratively among our experts (consultants).
CLC Meeting 30 Nov 22, 2017	CLC member proposed that there be a short question and answer agenda item at the beginning of each meeting.	CLC came to a consensus that there should be 10 minutes set aside at the beginning of each meeting in the Agenda moving forward.
CLC Meeting 30 Nov 22, 2017	CLC member would like to have a list of names with the initials that are used in the transcript.	Walker provided this list to CLC members in advance moving forward.
CLC Meeting 31 Feb 21, 2018	Air Quality - Concern regarding Air Quality monitoring location at the Bell Building due to the presence of close vegetation.	There are requirements for siting and maintenance of air quality monitoring locations, outlined in the MECP's Operations Manual for Air Quality Monitoring in Ontario, which includes considerations like distance from obstructions like trees and buildings, distance from roadways, height, power availability, landowner permission and security. Walker's monitoring stations are in compliance with the Operations Manual.
CLC Meeting 31 Feb 21, 2018	CLC members provided input about birds of prey in the area, including Bald Eagles (nesting at Pittock Lake) and Peregrine Falcons nesting on/near the Carmeuse property.	Walker provided this information to the ecology consultant for consideration during the study.
CLC Meeting 31 Feb 21, 2018	Members noted they will be looking for summaries, since the reports will be very technical. Summaries should focus on what the results mean to them. Recommendation that the summary report includes the	Walker took this input into account as they prepare to consult with the CLC on the results of the technical studies.

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	steps taken, a list of assumptions, the effects without mitigation, the mitigation measures, and net effects (with mitigation).	
CLC Meeting 31 Feb 21, 2018	A member expressed that many of the questions they hear from community members are about things from the Terms of Reference. A member recommended addressing the most common questions (traffic, odour, water, need, etc.) A member recommended that Walker post information at local places like the grocery store, LCBO, etc.	Walker took these recommendations into account as they continue to consult and engage with the local community throughout the EA process **(see Section 10)**.
CLC Meeting 32 May 23, 2018	There was consensus that it would be best to discuss the results and what they mean rather than explaining the methodology of the study again. However, it will be important to note where there were changes in methodology from the final work plan.	Walker took recommendation into consideration in preparation of the consultation on the draft EA report.
CLC Meeting 32 May 23, 2018	Ecology - Recommendation to ask nearby farmers if they use helicopters or planes to spray their fields, since they could be impacted by more birds in the area (bird strikes).	Walker discussed with ecology consultant.
CLC Meeting 33 August 22, 2018	Location of Air Monitors - CLC discussed the monitoring equipment located at the Bell building. The CLC feels this particular station may not meet ministry criteria. CLC questioned how the locations of the Ministry's monitors were decided. Concern was also raised by CLC that the monitors may be affected by burn barrels on neighbouring properties.	The MECP recently visited the station and determined it meets the criteria. MECP to provide link to Operations Manual for Air Quality Monitoring in Ontario.
CLC Meeting 33 August 22, 2018	Security Question for Air Quality Monitors - CLC raised questions about site security (i.e., visible power cords that could be cut and unlocked gates). Associated discussions about lost samples and the acceptable number of lost samples.	MECP provided information on the data completeness for each monitor station for the last two years in the Beachville area.
CLC Meeting 33 August 22, 2018	Quality of Air Monitoring - CLC members concerned whether there are enough monitors.	The MECP considers Walker's proposal to monitor at three locations acceptable for characterizing ambient air quality in the study area.
CLC Meeting 33 August 22, 2018	Wind direction and sample collection - CLC members had questions regarding the prevailing wind direction in Beachville. CLC members note their experience with wind direction and the potential influence of local topography.	The wind is predominantly coming from the southwest and south-southwest, based on data collected at the MECP's weather stations. MECP looked into topography of the area-Beachville and its potential effects on wind direction.

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CLC Meeting 33 August 22, 2018	Comparison of Air Monitoring Data - The MECP was asked how the MECP and Walker's air monitoring data will be compared?	The MECP provided Walker with a full set of data from 2016 and 2017. This data set along with current monitoring data was assessed by RWDI, and is part of the Environmental Assessment **(see Appendix F-2: Air Quality Assessment)**.
CLC Meeting 33 August 22, 2018	Background Air Quality Data - The CLC asked If monitoring shows that there is a high level of a certain particulate, does that mean the project will not go through.	The CLC Advisor responded that this will not necessarily be the case. If there is already an exceedance of a certain particulate on ambient air quality, it may suggest a project will not make a significant difference on overall air quality.
CLC Meeting 34 Nov 28, 2019	Much of the information discussed during the presentations is preliminary: some studies, such as the air quality monitoring, is not complete. Members would like to see more of a background going into the draft than what is available during this meeting.	WEG recognizes that there will be additional information. WEG will notify the CLC of notable additional information.
CLC Meeting 34 Nov 28, 2019	A list of background sources for ecology were listed during presentation (i.e Christmas Bird Count). Some of the sources listed did not provide information.	Walker followed up with Beacon Environmental on what sources provided information on the slides, and CLC to confirm if Ingersoll Naturalist Club sent Beacon Environmental local data.
CLC Meeting 34 Nov 28, 2019	If landfill impacts are modelled, based on existing conditions, how will climate change be taken into account? Are higher winds taken into account as part of the study?	Climate change was considered during the impact study. In addition, Walker develops climate change plans for each of its sites. This helps the company plan and manage changing climate conditions (i.e. the South Landfill in Niagara did a climate adaption exercise to account for changes to climate change). RWDI considered windy days in their assessment, and Walker will develop a contingency plan for high winds. (Note: Walker currently has a plan like this for South Landfill in Niagara). **See Appendix F-2: Air Quality Assessment.**
CLC Meeting 34 Nov 28, 2019	Ecology Inputs	
	- Trumpet Swans and snow owls have been seen in the area	Beacon confirmed that snowy owls and trumpet swans are included in the background information provided by the public **(see Appendix F7: Ecology Assessment)**.
	- Woodland voles have been seen at the Centreville Conservation Area	Woodland voles are very hard to identify, and are often confused with other types of voles. Beacon requests that CLC members provide

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		information (times of year/precise locations) about Woodland vole sightings.
	- Peregrine Falcons are well documents in the area	Beacon is aware of the peregrine falcons in the area.
CLC Meeting 34 Nov 28, 2019	There are burn barrels agains the fence of the Bell Building (45 gallon drums, rusty) in the yards of homes that back onto the fence.	Walker asked RWDI if they have any concerns about the Bell Building station.
CLC Meeting 34 Nov 28, 2019	Air Quality - Potential sources for hydrogen sulphide:at Federal WHite, people wear respirators on-site due to SO2 and there are warning signs. Sulphur is in fertilizer spread on local agricultural farms.	RWDI looked into these and any other potential sources of hydrogen sulphide **(see Appendix F-2: Air Quality Assessment)**.
CLC Meeting 35 March 27, 2019	Walker to consider new discussion tools for the topic of "inward gradient" and other groundwater scenarios and include a discussion at a future meeting.	Walker to follow up at a future meeting.
CLC Meeting 35 March 27, 2019	CLC member noted very small shoulder on the hill near the County Rd 6/Beachville Rd intersection. Concern about lack of safe place should a truck break down or need to pull over at the bottom of this hill.	Walker provided input to traffic consultant for consideration.
CLC Meeting 35 March 27, 2019	CLC members concerned about the lack of data collected regarding the use of engine breaks at the intersection Rd. 6 northbound, as well as the lack of data collected regarding the frequency of train movements.	Walker followed up with traffic consultant for more information on what was included in the study.
CLC Meeting 35 March 27, 2019	CLC members expressed concern about planning for 401 road closures.	Walker included a list of potential traffic contingency measures in the EA. These contingency plans will be considered during post-EA approvals.
CLC Meeting 35 March 27, 2019	MECP air monitor station at the Bell building used to be in a different location. Important to review the data to see if there was a significant change in results when the station location changed, and how this may affect the Air Study.	Walker provided details with Air Quality consultant.
Written Questions by Email		
Throughout this process, we have provided Walker with a great deal of information and voiced concerns based on our unique perspective as residents, labourers, agriculturalists,		Input from CLC members has been and will continue to be heard and communicated within our team, including our technical consultants who

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	business people and outdoor enthusiasts in this community. In the fourth edition of the Community Exchange WEG indicates, "The input and local knowledge people have shared with us has been invaluable to help us understand local issues". Appendix B does not identify CLC comments on the work plans from meetings, tech workshop, bus trip, comments on TOR or other consultation nor does it indicate how it has been incorporated. As there is no recording and disposition of CLC comments on the work plans it feels like that input is being ignored. The Code of Consultation lists the benefits of integrating the results of consultation into the technical work as: Reassures participants that their input is valued and has influenced the analysis and choices made by the proponent (Page 49). In comments on the TOR, the CLC provided specific concerns and issues on air, ground/surface water, transportation, economy, geology, cultural & heritage, agriculture and ecology that are unique to our community. Walker's response, in the disposition table was, "Many of the comments of the CLC will be very important as we move forward and will be provided to our team of technical experts to inform the next Iteration of their work plans and their subsequent Impact assessments." Yet there is no traceable indication of this occurring. Appendix B should include all related input received during consultation both past and ongoing throughout consultation on work plans to ensure traceability on how comments and concerns are being addressed.	will be carrying out the various studies. We believe that throughout this process to date we have provided extensive opportunities for the CLC members to participate in the development of the technical work plans. It is important to recognize that technical work plans are prepared by experts in their respective fields to convey how they will carry out their scientific assessments for this proposal. Nevertheless, Walker sought other means to consult with the public solicit questions and input including plain-language summaries were prepared for each work plan, work plans were featured in 4 Community Exchange newsletters, and a public event was held on April 19, 2017, which included poster boards and a take-home booklet containing plain-language information. Furthermore, Walker made technical experts available at five CLC meetings to answer questions about the updated technical work plans that were identified by the CLC to be of the most interest (air quality, ecology, groundwater/surface water, human health risk assessment (HHRA) traffic, social). As noted above, questions and comments posed by CLC members were answered verbally at the various meetings and workshops with the technical experts and their input was considered and incorporated, where appropriate, in the updated draft work plans.
		It has since become clear from subsequent CLC meetings that the way comments were recorded and considered at meetings has not provided enough reassurance that the input was being considered. As a result, Walker has since changed its method of recording specific input given at meetings. These comments and Walker responses are provided in a separate comment disposition table, which can be found on our project website at www.walkerea.com.
	All work plans include the statement "Appendix A contains a complete list and detailed descriptions of the approved environmental assessment criteria that are to be used in this EA" Criteria and indicators can change during an EA to reflect new information or changes to assumptions. The inclusion of the word "approved" implies these are fixed in nature. This statement must be revised to reflect the flexibility for new circumstances included in the	The EA Criteria contained in Appendix A to each work plan are those approved by the Minister in the ToR, so it is correct for us to say that these are the approved criteria.

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	TOR. All work plans state, “This study is also designed to provide key input/data to other environmental criteria that will be addressed through studies conducted by other experts”. It is entirely insufficient to include a vague indication that "other studies will provide key input to criteria” Given there is disconnect between the experts in their study plans (example: the social assessment states. “Results from the traffic assessment will be used to assess the potential effects along the Emergency Detour Routes (EDRs)” while the traffic studies do not include any assessment of EDRs), it is not clear how various experts will interact, there is insufficient information on how this will be addressed and cross tabulated. Work plans need to include more specific details on how input/data and results from other studies will be integrated between the experts. Indicators from other disciplines need to be included to ensure traceability. Work plans contain the following statement: From that list, the following are the primary environmental assessment criteria that are to be addressed in the assessment, along with examples of related issues heard by Walker during public consultation about the proposal. Members of the community are being encouraged to comment on the work plans. In many cases, the criteria and indicators are too vague and generic for members of the community to ensure their concern has been captured. At the CLC Meeting #5 we were assured that a traceable correlation between community issues and criteria would be developed, “We have to clearly communicate how the issues and concerns that we have heard from the community have come up into the EA Criteria.” Since input from the community is valuable to background data collection and determining sampling sights/receptors; and, in order to ensure replicability and traceability, work plans must include a flow chart depicting concerns received and their associated criteria.	We also note that a number of Walker’s responses to comments from CLC members on the ToR contained in the Record of Consultation relate to the proposed EA criteria, so we believe that the concerns and responses are sufficiently traceable. Nevertheless, Section 11 of the ToR does make allowance for some degree of flexibility in the EA should the need arise, at Walker’s discretion, although Walker would be required to explain in the EA the rationale for invoking such flexibility. As for the concern that there is insufficient detail in the work plans regarding the specific interactions between the technical consultants, we note that this EA process has been designed as a fully integrated assessment, unlike many others where the studies occupy independent “silos” with their own individual criteria, necessitating some manner of “after-the-fact” cross referencing and cumulative effects assessment. Rather, our approach starts with EA criteria that themselves can span across several study disciplines and require our experts to work collaboratively. Table A-2 in the approved ToR, and sections in each of the work plans, was our attempt to illustrate the main areas of collaboration, but it is also clear these are not limiting and that other areas of collaboration may emerge as the data collection and analysis proceed and, therefore, the assessment needs to be flexible and adaptive. For this reason, it is not practical at this point to try to present a more detailed and prescriptive description of all of the conceivable interconnections between the various technical studies before any data collection or analysis takes place.
	On numerous occasions the CLC has asked to extend study areas to reflect not only community concerns and observations but to be consistent with areas designated by other experts. Example: Air work plan states On-Site and in the Site Vicinity study area 5 kilometres from the proposed landfill. This is based on the maximum extent of air quality effects that can be anticipated. WEG Community Exchange June 2013 states, “The ecosystem is affected when the dust and other debris settles onto the land and water. These constituents are taken up by the plants and animals that live in the aquatic and terrestrial ecosystems” and yet various disciplines that would be affected by air quality effects contradict that by including a more limited study area:	It is correct that the study areas in the various work plans are not all the same, which is intentional. As is clear in the ToR, these initial study areas are estimates based on each of our experts’ experience and professional judgement as it relates to their own field of study, but our EA allows flexibility for further study area adjustments to be made as the data are collected and the analyses carried out (within each study and across the studies). In most cases our consultants advise that the initial study areas are somewhat conservative (i.e.; larger) to avoid needing to expand them later. However, it is not necessary that all of the initial study areas coincide,

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	Ecology work plan includes On-Site and in the Site Vicinity as Loss or disturbance to terrestrial ecosystems (within 120 m). Social work plan: The "Site Vicinity" will include all properties within or bisected by a two (2) kilometre radius line from the proposed landfill's "On-Site" study area boundary. This is the area within which there is a greatest potential for nuisance effects such as dust, odour and noise. It is problematic that all disciplines that are potentially affected by air quality (noise, dust, odour, vibrations), are not more reflective of the proposed impact study areas from the air work plans. All study areas must be adjusted to include changes made to Facilities Characteristics V2, specifically the change to the leachate treatment area. Work Plans include the statement, "These study areas are not intended to be fixed. Flexibility is needed to expand or contract study areas, depending on the study findings". We have serious concerns that at no point the minimum area of the study is defined in specific terms. Include criteria utilized to determine the need to expand or contract study areas must be included in the work plans.	even where the criteria cross disciplines. To follow the example of air quality, experts have chosen a 5 km initial study area based on their experience and judgement that the particulate dispersion from the landfill will be likely contained within that area. However, the ecological expert has judged that the significant effects of particulate on the terrestrial ecosystem is not likely to exist beyond 120 m (even though some level of particulate could extend further, and perhaps be of significance relative to other criteria or receptors in the EA). In both cases, further adjustments to those study areas could be made based on the data and analyses to ensure that the effects are fully characterized. We agree with the CLC members regarding updating the study areas to match the recent revisions in the facility characteristics assumptions, and this will be done in the final work plans. However, the CLC should also be aware that the EA is an iterative process and that the facility characteristics will likely continue to evolve (as they should, in response to the findings of the studies and the need to incorporate further mitigation). So while the work plans will be "finalized" and their study methodologies will be generally be followed, Walker will not be revising or updating them further as the EA progresses – they are "plans". Rather, each technical report prepared for the EA documents the actual methodology and assumptions used in the respective studies, as is normally the case in scientific reports **(see all reports in Appendix F)**.
	While we understand that Walker has stated that alternative routes/EDR will be studied as a part of the contingency plan, there is much confusion and inconsistencies between the work plans. The Health, Air and Social work plans all reference the EDR as part of their work plans (see below). This is confusing to those reviewing and misleading as to what is included in the impact studies. • Health work plan: The along the haul route area for this will be limited to 500 metres on both sides of the proposed haul routes and dominant emergency detour routes as provided by the traffic consultant, and will apply only to the criteria related to vehicle emissions and retrained roadway dust. • Air work plan: The along the haul route area for this will be limited to 500 metres on both sides of the proposed haul routes and dominant emergency detour routes as	It is correct that there are some inconsistent references to emergency detour routes in several of the work plans. Walker will ensure that these are revised in the final work plans. The EA is designed to assess the effects of the normal, day-to-day operation of the proposed landfill (although not necessarily just the "average" conditions, but also the range of effects that could result from normal operations, where appropriate). The EA will not include an assessment of emergency or upset conditions – it is not appropriate in an EA to characterize and weigh the advantages and disadvantages to the environment on conditions that are not planned or expected to occur, may never occur, or could occur at some unknown time and frequency. Instead, contingency plans for unexpected or upset conditions are required to be submitted to the Ministry as part of an

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	provided by the traffic consultant, and will apply only to the criteria related to fine particulate (landfill gas emissions are not created along the haul routes). • Social: Note: Results from other discipline analyses will be used to determine the magnitude of change in nuisance effects. Results from the traffic assessment will be used to assess the potential effects along the Emergency Detour Routes (EDRs). Given the discrepancy between the various work plans with regard to alternative routes/EDR, clarification on what is being studied must be consistent through ALL work plans. That being said, Walker has committed to studying the alternative routes/EDR as a contingency, "Alternative routes (if the Hwy 401 is closed) would be considered part of the contingency plan, which would be created during the Environmental Assessment (EA)" (CLC Meeting # 7), the use of current EDR has huge community impacts submitted as input on numerous occasions. To ensure this concern is being addressed, include: • At what point will alternative transport routes around the community be identified? • Will the CLC have an opportunity to comment on those routes and their effects to the community?	application for an Environmental Compliance Approval (ECA) for a landfill under the Environmental Protection Act. If the EA is approved, Walker will prepare a Design & Operations Report (D&O) in support of the ECA application based on the facility characteristics that emerge from the EA. Included in the D&O will be a description of the proposed contingency plans that will address emergency detour routes (along with other possible emergency or upset conditions). This document will be made available for public review and comment **(see Section 8.2 and Section 11)**.
	All maps illustrating site location must be revised to reflect the actual Carmeuse Landholdings. The accuracy of the maps depicting the Carmeuse Landholdings was first disputed in comments on the TOR and was not corrected in the amended TOR. Nevertheless, a corrected map has been available on the Walker website since March 25, 2016, long before these work plans were updated. This map should have been incorporated into the updated work plans. To allow for a visual perspective of the areas involved: • All work plans must include a map clearly depicting the proposed study areas including radius for on-site and site vicinity, haul routes and wider area. • Maps depicting haul routes must illustrate the entire proposed haul route from exit 222 of 401 AND any proposed roads from County Rd 6 in to the site as presented in the facilities Characteristics Report. • Maps must indicate the changes made in Facilities Characteristics Report V2, specifically the change to leachate treatment area which is outside of the original footprint.	Walker understands and agrees that there are some inconsistencies in the maps which we will address in the final versions. This includes the revised footprint location for the leachate treatment facility, which was changed after all of the initial work plan updates were drafted. The study areas are depicted on maps when it is reasonable and practical, but at the very least all of the work plans describe their study areas. In some cases the study areas can vary between different criteria within a single study, or may be specific points rather than areas, so some discretion is used by each of the consultants in how their study areas are best depicted. **See all reports in Appendix F.**

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	Generally, there is a short-coming in the level of detail presented in indicators and measures. It is unclear what is to be assessed, why it will be assessed, how it will be assessed and what information will be used to establish if there is an anticipated environmental effect • Must include definitions and rationale for all indicators • Clearly articulate any standards that will be used to measure the effects against. How will criteria be compared and weighted The Code of Practice Consultation states that "Any documentation prepared for review by the public should avoid technical jargon in order to facilitate understanding and promote useful and informed feedback". There are examples (cited in section 2) where the indicators consist solely of technical jargon or a list of guidance documents. By including ONLY technical information as indicators it excludes any meaningful feedback from the public. This is a clear contradiction of the collaborative and participatory approach to consultation intended in the Code.	We appreciate that some of the indicators are technical in nature, and may be expressed in some work plans as a reference to a standard, regulation or guideline, but this is sometimes necessary. In some cases the application of these standards, regulations or guidelines are complex and do not lend themselves to a simple sentence or paragraph that would adequately stand as the indicator (and would certainly invite fair criticism from peer review experts that these need to be applied in their full context). In those cases, naming the standard, regulations or guideline conveys that all of the processes within that document will be applied, as required. Our suggestion here is that CLC members and public should rely on the government and peer review experts to confirm that Walker's consultants are applying the appropriate indicators in these instances.
	"In order to address cumulative effects, …this study will compare the potential effects of the proposed landfill, at its different stages of development, to the forecast baseline conditions at that same period of time … In order to guide the forecasting of future baseline conditions, Walker has provided a set of working assumptions regarding future land uses (including community growth, other industrial activities such as quarrying, etc.) at the site, in the surrounding area and in the broader community" It should be noted that these updated work plans were based on preliminary assumptions. The planning assumptions were presented in power point form to CLC in November 2016. The information was cursory at best; http://www.walkerea.com/uploads/751/Doc_636155852661450550.pdf The actual Land Use Planning Forecast Draft Report; was not made available until May 1, 2017, (posted without notification) two weeks before the comment period deadline. Although work plans refer to an Oct 2016 version; the CLC was never provided a copy of the earlier version nor was it posted to the Walker website. Consequentially, this omission is a significant hindrance to the CLC in reviewing and commenting on the plans. This work plan should have been presented in full to the CLC and the public before any consultation of updated work plans took place in order to enable and elicit meaningful comments from the community. Land Use Planning Forecast Draft Report Section 4.0 EXISTING CONDITIONS contains: • No preliminary description of cultural heritage resources; • No preliminary description of ecological features	As noted, each of our study experts was provided with an advance (preliminary) set of land use assumptions sufficient to initiate the preparation of their works plans. A summary of these assumptions were provided to the CLC in a November 2016 presentation for information. Each study expert was instructed to include in their work plan a summary of the key assumptions they were drawing from that information. With that description, each work plan could be reviewed as a stand-alone document and there is nothing else in the draft Land Use Planning Forecast that affects the study methods presented in the updated work plans. Nevertheless, as the CLC members note, a copy was subsequently posted for information and reference purposes. It is a set of assumptions fed into the work plans, not a work plan itself, therefore it was not intended for review. As the CLC members note, Walker is continuing to gather additional details on these assumptions, particularly as it relates to the surrounding quarry operations, and these will be incorporated into the studies and documented in the EA reports. However, these details are not expected to have any significant effects on the methodologies set out in the work plans **(see all reports in Appendix F)**.

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	These should be included in this report and reflected in applicable work plans. The Land Use Planning Forecast Draft Report (May 1, 2017), does not contain information on quarry operations – Section 5.2 to be finalized following meetings with producers; however, there are items in the land use forecast (as seen in traffic work plan) that are currently under review or have proposed changes. Some of these changes, if enacted, may have a significant impact on some studies. (Example: the proposed new entrance/exit to Carmeuse licence #2130 on the east side of County Road 6 could have a significant impact on the traffic assessment) All work plans must include a flexibility statement to incorporate any changes or new information on future baseline conditions.	
	"The following table summarizes the mean climate change (temperature and precipitation) assumptions to be considered during this study, where relevant" There are many reports on the changes in climate: • "Historical data indicates that the province is experiencing shifts in seasons, with shorter winters, earlier springs, and more intense precipitation events due to climate change" (Ministry of the Environment and Climate Change, 2015). • "The additional heat in the atmosphere will likely increase variability in precipitation and wind patterns. For example, as more heat is trapped in the lower atmosphere by additional greenhouse gases, the frequency and size of extreme weather events such as ice storms, heavy rains, droughts, and wind storms are expected to increase" (A Practitioner's Guide to Climate Change- Ontario Centre for Climate Impacts and Adaptation Resources) Climate change assumptions should not be limited to temperature and precipitation. It should include trends in increased frequency and severity of extreme weather events over the past 20 years (snow, rain, wind, drought, ice storms etc.). These trends would all have a significant impact on the community and must be considered in the impact assumptions. Where applicable work plans need to not only include effects of climate change on project but also effects of the project on climate change All work plans include Climate Change assumptions but not how they will be used in data analysis; explanations of how climate change will be considered during data analysis, mitigation measures etc. should be included in work plans.	We acknowledge that there is more background information available on climate change than listed in the updated draft work plans. The temperature and precipitation data represent a common set of base assumptions for use in all of the studies, along with a reference to the Ministry of Natural Resources and Forestry (MNRF) document that will be used for any other data or assumptions required to consider climate change effects in this EA. A reference to the MNRF document is provided rather than a complete listing of all of the information contained in that report and other related provincial guidance documents. Amendment #14 to the Approved Amended Terms of Reference requires Walker to address climate change – both how the project will contribute to greenhouse gas emissions as well as how climate change will affect the project. This was something that Walker had already committed to do in its EA and had previously met with MECP staff who were then preparing guidance documents regarding how climate change should be considered within EAs (subsequently published as Consideration of Climate Change in Environmental Assessment in Ontario, August, 2016) to ensure that our approach and methodology were suitable. Walker's response to the Minister's amendments, dated May 11, 2016, Item #14 details our approach to the climate change assessment. In terms of the work plans, climate change is one of a number of considerations to be included in the baseline forecasts for each of the studies, so there is no specific or separate study methodology.

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	Throughout the work plans, the experts have repeatedly referred to input/community features/issues provided by the CLC. This is vague and generic and punitive to those of us who take our role seriously. We see it as both our right and responsibility to "Identify local issues and areas of concern and how they may be affected" as stated in the Code. It should be noted that, in presenting their work plans, many experts have referenced information gleaned from the CLC bus tour. The bus tour took place in September 2012; months before the CLC met with the experts to explain their work process and what type of input would be significant. The lack of specific references or a comprehensive list of input received leaves us at a quandary as to what contributions have been captured and precludes the opportunity to supplement with additional information that may otherwise be overlooked as the work plans are finalized. Where data received from CLC is indicated, this input needs to be documented to include actual data to ensure traceability and to solicit any addition input. Include comprehensive list of features identified.	We are appreciative of the information that the CLC and other interested members of the public have provided regarding important features in their communities. Our technical consultants have taken notes of these during the various face-to-face meetings and tours with the CLC, and Walker has also recorded and shared information with our consultants from other events and inputs, and will continue to do so throughout the EA. It is not the purpose of the work plans to compile and report all of the background data for the studies; in fact, that is generally the first step in actually carrying out the work. Data about the existing features were gathered, incorporating information previously supplied by the CLC and public, which are reflected in the study reports. **See all reports in Appendix F.**
	Work plans that indicate a four seasons or seasonal study must include some definition of "season" • When do seasons begin and end • Is there an incident or observation that triggers the beginning/end of a season Will seasonal information be collected during a complete season be split up doing a partial study one year and completing in the next.	Seasons are generally winter, spring, summer and fall. For the most part it is not important to have specific dates for these seasons and they can vary a little for each study. Where there is seasonality in a study, the important aspect is that the data and analysis reflect and characterize the different environmental conditions that might occur in these seasons. The "triggers" or "incidents" that our experts are looking for in each season also depend on the nature of the study. For instance, the surface water expert will be looking to collect data on the spring "freshet" – the day(s) in the spring when the majority of the snow melt occurs and causes higher flow in the streams. Its date varies a bit from year-to-year. Generally the seasonal data will be collected in the same year, rather than split up between two different years, (except for winter data, which always spans two calendar years of course) but that can be evaluated on a case-by-case basis if and as necessary.
	June 2016 meeting: "Number five, there was a question, when will the local community be able to provide input on air monitoring locations? And the answer is during consultation on the revised work plans because that's where the monitoring locations will be laid out in draft" Monitoring locations should be included in draft plan in order to elicit input on the proposed locations From various work plans: ¬ "It is also expected that through ongoing dialogue and engagement with community stakeholders that additional information will be	As is explicitly evident in Sections 7.2 and 7.3.1 of the RWDI work plan, this site is unique in that there is a considerable record of historical air monitoring data available from previous studies in the area. Many members of the public have insisted that these data be taken into account in the EA, but also that they should be used with caution. Therefore, RWDI have structured their work plan around an initial, critical review of these

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	brought forward for consideration" ¬ "Secondary data review will involve the collection and review of reports, mapping and other information available from a variety of publicly available sources, including: members of the CLC, the municipalities in the study areas…" Where future input is proposed from CLC and members of the community, consultation methods for receiving this input must be indicated. • How will these consultations take place • At what point during the process will these happen • How will information be recorded and presented We have reviewed other work plans for similar proposals. The information presented in the Ground Water work plan is grossly incomplete compared to what others have done. By comparison the proposed work plan done for the Taggart Miller proposal (also done by Golder Associates); included details and specifics to boreholes including: location, rationale, depth, drilling technique etc. Proposed borehole and monitoring well locations were not initially included in Walker's updated work plans for consultation but rather were added as an addenda on April 10, 2017. This signifies that the updated work plans were done in a precipitous manner to meet the imposed deadline of Walker. It should also be noted that this addenda was not published until AFTER the CLC had an opportunity to consult with the experts. This was a detriment to the CLC in ensuring that our concerns are being captured. We are extremely concerned that there are sufficient boreholes and studies undertaken to answer questions: Groundwater connectivity between municipal and private wells and the site ¬ Are there wells that could be potentially affected by drawdown or contamination Without being able to discuss this directly with the experts, the CLC is still not confident that our concerns are being acknowledged and addressed. Work plans should have been presented in full to the CLC and the public before any consultation of updated work plans took place to enable and elicit meaningful comments from the community.	historical data as a basis for determining whether further monitoring is required and, if so, where. For this reason, it is not appropriate at this stage to include specific monitoring locations, although the work plan does describe the general types and areas of coverage that will be required for the analyses (e.g., upwind, downwind, etc.). If CLC members or other members of the public are consulted further regarding any future monitoring locations or other information, then their input will be identified appropriately in the EA reports. We disagree with the characterization that the Groundwater and Surface Water work plan drafted by Golder is "grossly incomplete". The fact that the additional technical details were issued as an addendum did not, in our opinion, detract from our early consultation with the CLC on the general methodology and scope of the work (see the response to Item #1, above). Furthermore, the technical details were issued to the government and municipal peer review experts. The concerns itemized by the CLC members regarding the potential for private or municipal well drawdown or contamination as a result of the landfill proposal were acknowledged by Walker early in this process and are directly reflected in the EA criteria that were approved in the ToR. Golder identified these criteria in Section 3.0 of their work plan as objectives in their study, and identify in the same section that they are directly related to concerns heard from the public (including the CLC). Based on these objectives, we are confident that Golder has structured their work plan to adequately address these fundamental questions. Receptor locations will be developed collaboratively among our experts as the EA progresses. They have already held some preliminary conferences to discuss possible common receptor points and they will continue to work together to refine these as they collect more data and carry out their analyses throughout the EA studies. For instance, they will certainly re-visit this issue once they have carried out some initial field inventories. There will be a discussion with the CLC regarding receptor locations, as requested by the CLC and indicated at CLC meetings.
	The Code references the Ministry's Statement of Values in which it states, "The proponent is expected to articulate the level of uncertainty associated with data and conclusions". On	The level of uncertainty associated with the data or analyses is included in the study reports, where it is relevant and appropriate. **See reports in Appendix F**.

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	numerous occasions, we have also expressed our concerns regarding the accuracy of technical experts' reports specifically: • Issues of uncertainty and limitations in the methods of data collection and data analysis, and how their methods compare to a pure scientific approach. • When models are used to predict future conditions, the degree to which their model is representative of the actual conditions. • Whether or not their models are calibrated, and against what data; the age of this data, and to what degree the data is extensive or representative. To address these concerns, we ask that all technical experts commit in their work plans to commenting on the accuracy of their models and methodology.	

Table 14.3 Indigenous Communities Correspondence

Peer Review Comment	How Comment was Considered
Alternative Methods Interim Report (January 2, 2017)	
Concern with the location of the landfill in a quarry and the potential impacts to groundwater.	The Carmeuse quarry is below the natural water table, which is artificially depressed through dewatering to permit dry quarry operations. Given that the quarry still has hundreds of years of reserves, we expect that Carmeuse's dewatering will continue to maintain lowered groundwater levels in this area throughout the operational life of the landfill and beyond. (If not, Walker may need to augment the dewatering during the operational period to facilitate landfill construction, an issue that will be further addressed during the EA studies). Regardless, we can assume that at some time during the landfill post-closure period the water table will recover and the base of the landfill will be below the water table, with either the deep or conventional designs. However, there is no requirement in O. Reg. 232/98 or the Landfill Standards that the generic liner system must be placed above the water table. In fact, from a hydraulic standpoint, a high water table will only improve the function of the liner system since it will result in an inward hydraulic gradient across the liner, rather than outward. We should also note that the minimum 1 m attenuation layer required for the generic double liner system will extend across the base and up the side-slopes of the landfill to ground surface, so there will be a minimum of 1 m of physical separation from the "aquifer"1 in all places. In fact, as the design concept has evolved, the attenuation layer below the liner in the base of the quarry will actually be in the range of 5 m to 22 m thick, averaging 15 m thick (Facility Characteristics Assumptions, Rev. 2). We agree with your concluding statement that further information is required to verify that this option is feasible; both the groundwater assessment and the design & operations report prepared during the EA will further confirm the suitability of the design **(see Appendix F-10: Groundwater Assessment)**.
Concern for management of Stormwater Management.	We agree that stormwater management is an issue that must be addressed, and will be during the EA and in conjunction with the design and operations plan for the landfill in accordance with O. Reg. 232/98. The reason that there is little focus on stormwater management in the Alternative Methods report is that adequate storm water management is required, and could be provided, for all of the design

Peer Review Comment	How Comment was Considered
	concepts, so it is not a distinguishing factor in selecting among the alternatives (see Appendix B, Table B-1, Criterion #5). **See Section 7.4.**
There are a number of assumptions made in the Alternative Methods Report.	We acknowledge that this report (Alternative Methods – Interim Report) is missing some context because it is only one component of the overall EA, a "work-in-progress" piece for early consultation purposes. It will eventually be incorporated within the full context of the draft EA for your further review. Please note that in Section 4.1.1 of the report, definitions are provided for the landfill footprint and the waste fill area. The 53 ha referenced in Section 4.1.1 of the report is identified as the minimum landfill footprint (i.e., including the buffer area), while the 44 ha referenced in Section 5.1.2 of the report is identified as the minimum waste fill area (i.e., without the buffer area). We also acknowledge that at this early stage in the EA, many of the assumptions such as dimensions, leachate generation rates, etc. are fairly general or conceptual, but adequate for the purposes of comparing and contrasting alternatives. We agree that more detail is required, and will be provided as the design develops further throughout the EA process. **See Section 7.2**
Better Screening Rationale is needed throughout the document.	We will attempt to elaborate on the rationale for some of these decisions when we incorporate this work into the draft EA. Based on the work to-date and the feedback received through consultation, though, we are confident that the best alternatives have been selected in each case, although we are also aware that if our further, detailed assessment of these preferred alternatives during the EA should determine that they are not safe or protective of the environment, we do have the option to "circle back" in the EA process and re-examine the alternatives in light of any new information. **See Section 6.3**

Peer Review Comment	How Comment was Considered
Walker should not pre-determine the end use of the landfill at this stage of the EA.	We agree that the end use should not be pre-determined in this EA, and our intent at the moment is to design the landfill in such a way that there could be a variety of end use options available when the landfill nears closure (see Facility Characteristics Assumptions, Rev. 2, Section 4). Agricultural rehabilitation is highlighted several times in the Alternative Methods report since it is sensitive to slopes, so its potential success would vary between the different design configurations. However, it could be clearer in the report that it is not the only possible end use; this can be addressed in context in the draft EA. **See Section 7.2**
Updated Draft Technical Work Plans ***Neegan Burnside on behalf of Walpole Island First Nations (June 28, 2017)***	
Ecology	
Section 2 (a) states the objective of the project is as follows: "Describe the environment potentially affected by the proposed undertaking, including both the existing environment as well as the environment that would otherwise be likely to exist in the future without the proposed undertaking". We found this sentence a bit confusing and suggest that it should be clearer.	Noted. The sentence is meant to convey a comparison to the "do nothing" alternative. A more complete description of the overall EA methodology for this assessment is contained in Section 8.2 of the approved ToR, which is also referenced in the work plan. **See Section 7.3**
On Table 3: the *Primary EA Criteria and Associated Duration*, wildlife effects are not considered for the terrestrial environment beyond "vermin". Is there not potential for noise and traffic and other factors to affect wildlife species and communities both directly (road mortality) and indirectly?	Yes. Wildlife is a key component of EA Criterion #35 "Loss/disturbance of terrestrial ecosystems". (Although Table 3 mentions vegetation as an example for this criterion, the definition for this criterion and the associated studies are also inclusive of wildlife). **See Appendix F-7: Ecology Assessment**
On Table 5: *Range and Relevance of Potential Change for Terrestrial and Aquatic Ecology* it should be indicated what area of Provincially Significant Wetland loss is "potentially meaningful" or that any loss of PSW is "potentially meaningful"	Loss of any PSW is potentially meaningful.
On Table 5: *Range and Relevance of Potential Change for Terrestrial and Aquatic Ecology*, it is indicated that significant area loss of woodland "area" will be determined by planning authority. This should be revised.	Any woodlands identified as significant within the study area will be added for effects. Significant woodlands are determined by the Planning Authority. Language has been clarified.
Section 7.1 should indicated the Indigenous groups will be consulted for natural heritage Information	Agreed. Added text indicates that information gathered from consultation with Indigenous peoples will be utilized.
Air Quality	

Peer Review Comment	How Comment was Considered
Responses to our previous comments on this work plan were provided and are acceptable.	Noted.
Section 5.2 gives an impression that the landfill gas collection system is the only stationary source at the site. If this is the case, it should be clearly indicated in the work plan.	With the evaluation of the all stationary source of emissions will be evaluated. In the event that additional stationary sources are proposed additional source would be included in the landfill emissions
Typographical/formatting errors: a) Current work plan refers to Figure 1: Proposed Southwestern Landfill, which is not included in the document. Figure 1 should be added to the work plan. b) Criterion of 690 µg/m3 in Table 6.2.1.1 applies to 1-Hour SO2 only. This table should be fixed to match Table 6.2.2.2.	Noted. Figure 1 was inadvertently omitted from the updated draft. SO2 criterion is noted and is corrected Figure 1 will be added to the final version of the work plan. Table 6.2.1.1 is updated
Economic	
We have no issues with the work plan at this time.	Noted.
Groundwater & Surface Water	
We reviewed the Southwestern Landfill Proposal Environmental Assessment: Groundwater/Surface Water Assessment - Work Plan; dated February 8, 2017. We noted that there had been additions to the Work Plan since the last version (May 15, 2013). We have no concerns with the new material. However, we note the following: 1. The manner in which some of these comments were addressed was to indicate future work would be carried out. How can we be assured that this work will be undertaken if it is left out of the latest version of the response table? 2. For tracking and traceability purposes, it is important that all comments be tracked. Even if a proponent disagrees with a comment it does not mean it should be dropped from the official record. All of the Neegan Burnside 2013 comments should be included in the latest version of the Work Plan. As we view this as a critical element in our review, we have included the 2014 comment response table with our disposition.	In the cases where Walker's response during the ToR indicated that future work would be carried out (i.e. Update would be seen in the work plan in the next version during the EA), those comments were carried forward into Appendix B of each updated draft work plan to be addressed. All of the updated draft work plans are and will continue to be available on the project website at www.walkerea.com

Peer Review Comment	How Comment was Considered
Note to reader: The following summarizes additional or new comments; the reviewers indicated satisfaction with the balance of the previous responses.	
Section 3.0 Loss/displacement of surface water resources. The definition refers to "direct removal or diversion". Will it include degradation or change of function?	Yes. The groundwater/surface water assessment will evaluate "Effects on stream base flow quantity/quality" (EA Criterion #34). Then, this and other relevant information will be supplied to the ecologists to evaluate the related EA Criterion #36 "Loss/disturbance of aquatic ecosystems", (see the Ecology work plan for further details). **See Appendix F Reports.**
Section 5.0 lists the Associated Study Areas for each EA Criteria. We note that the work plan refers to "original water levels" as the baseline while the response refers to "existing". To avoid confusion, we suggest consistency in wording.	Agreed.
Section 7.2, Field Data Collection. The preferred alternatives have now been selected and we suggest that the proponent should be able to provide a map showing the sampling locations.	Agreed. This map was provided as a supplementary memo to the updated work plan, along with more detailed descriptions of the proposed hydrogeological field work (Technical Memorandum, Golder Associates, April 6, 2017, found at: http://www.walkerea.com/uploads/1136/Doc_636274395553078602.pdf. Neegan Burnside was supplied with a copy of the technical memorandum along with any further updates.
The work plan has been revised to mention karst studies, and joint and bedding mapping (pg. 15). Neegan Burnside would like an opportunity to review additional study scope details when those are developed.	Noted. This information was provided in a supplementary memo to the updated work plan, along with more detailed descriptions of the proposed hydrogeological field work (Technical Memorandum, Golder Associates, April 6, 2017, found at: http://www.walkerea.com/uploads/1136/Doc_636274395553078602.pdf Neegan Burnside was supplied with a copy of the technical memorandum along with any further updates.
Social	
Section 7.2.8 identifies limits for discussions with Indigenous communities (e.g. up to a maximum of 5 interviews with First Nation communities). It should be made clear that this refers to socio-economic research and does not pertain to actual consultation-related meetings and discussions. There should be no pre-determined limit on the amount of consultation that will be undertaken. Consultation should be carried out until concerns are resolved.	Noted and agreed that consultation is a separate activity from the social assessment, as per the approved ToR. Please contact Walker with any outstanding concerns. **See Appendix F-14: Social Assessment.**

Peer Review Comment	How Comment was Considered
Noise & Vibration	
Responses to our previous comments on this work plan were provided and are acceptable.	Noted.
Typographical/formatting errors: a) Current work plan refers to Figure 1: Proposed Southwestern Landfill, which was not included in the document.	Noted. Figure 1 was inadvertently omitted from the updated draft.
Cumulative Effects	
We have concerns regarding the plan to include cumulative effects in each individual report rather than in a separate Cumulative Effects Assessment Report.	This EA is designed such that cumulative effects are evaluated on an integrated criterion-by-criterion basis, not as a separate study or analysis. Therefore, the cumulative effects will be assessed in each individual study (for the criteria assigned to that study), and then rolled up and consolidated in the main EA report. The main EA report will include an overall summary/consolidation of the cumulative effects and any related mitigation measures **(see Section 5.6)**.

Table 14.4 Comments and Responses from Government Agencies

Government Agency Comment	How Comment was Considered
Ministry of the Environment, Conservation, and Parks (MECP) – Updated Draft Technical Work Plans ***Air Quality Assessment***	
Provided comments on additional environmental assessment criteria and indicators to be added to the work plan including dust criteria, haul route traffic criteria, landfill gas criteria and odour criteria.	Noted and included.
Background Data Collection: A full assessment of the off-site concentrations is required.	The results are provided for an entire grid of receptors within the study area. The report highlights specific local receptors that are of interest to the other disciplines as well as air quality. **See Appendix F-2: Air Quality Assessment.**
7.2 Field Data Collection/ Computer Modelling VOCs and dust, should be considered, through an ambient monitoring program, to determine the existing baseline. The ministry recommends additional monitoring, to be completed around the site, in consultation with MECP.	Noted and updated. For the dust monitoring, as discussed with the MECP, RWDI used MECP stations as well as include additional particulate parameters at these stations for a 1 year period. **See Appendix F-2: Air Quality Assessment.**
7.3.1 Ambient Dust Monitoring: Ministry recommends additional monitoring around the site. The proponent should consult with MECP regarding the additional monitoring plan prior to the plan execution.	For the dust monitoring, as discussed with the MECP, RWDI used MECP stations as well as include additional particulate parameters at these stations for a 1 year period. **See Appendix F-2: Air Quality Assessment.**
7.3.2 Dust Dispersion Modelling: should comply with all the requirements found within O. Reg. 419/05 for air dispersion modelling.	Noted.

Government Agency Comment	How Comment was Considered
7.4.2 Ambient Air Quality Monitoring The proponent should clearly identify the number and locations of monitors, the type of monitors to be used, and quality assurance and quality control procedures for the proposed sampling program, as the integrity and true representation of the air samples and the resulting data quality would be affected by the design of the monitoring system. The monitoring locations should detect maximum potential constituent levels under various wind regimes. Total reduced sulfur (TRS) samples should be collected at the same locations as the VOC samples.	Noted and included. **See Appendix F-2: Air Quality Assessment.**
Landfill Gas Dispersion Modeling MECP recommends to estimate the landfill gas generation rate consisting of emission rates of the target list of VOCs MECP recently published a Technical Bulletin: modelling open flares under O.Reg. 419/05. This technical bulletin will assist modellers by providing the appropriate approach for modelling open flares using approved air dispersion models (e.g. AERMOD or SCREEN3) under O.Reg. 419/05. In the last paragraph of page 25, the proponent suggests that "…concentrations will be illustrated using contours on provided base maps depending on the applicable standards and guidelines for comparison for contaminants 50% or greater of their applicable air quality limit." The proponent needs to provide the rationale for this suggestion.	1) Noted and included for updated Target List. 2) There is no proposed use of open or candlestick flares for this site. 3) As discussed, there is no MECP guidance for this trigger for providing base maps. In our meeting, we agreed that this was acceptable provided that additional maps would be available if requested. **See Appendix F-2: Air Quality Assessment.**
Odour Modelling should comply with all the requirements found within O.Reg. 419/05 for air dispersion modelling.	Noted. **See Appendix F-2: Air Quality Assessment.**
7.6 Haul Route Traffic Assessment and 7.6.1 Haul Route Traffic Dispersion Modeling MECP recommends adding VOCs, Toluene, Formaldehyde, and Benzene to the list of contaminants to be assessed and modelled.	Noted and included. **See Appendix F-9: Traffic Assessment.**
MECP Southwest Region - Updated Draft Technical Work Plans ***Air Quality Assessment***	

Government Agency Comment	How Comment was Considered
Ensure that particulate monitoring for all three size fractions (TSP, PM10, and PM2.5) will continue during the course of the survey year regardless of any MECP changes.	Walker monitored all three fractions of particulate over the course of the survey year.
With the exception of the editorial corrections outlined in the section below, I am satisfied with the proposed assessment criteria.	Thank you.
Please be aware of the following: The Canadian Council of Ministers of the Environment (CCME) has released updated standards for SO2 and NO2 that come into effect in 2020 and 2025; The MECP released an updated *Operations Manual for Air Quality Monitoring in Ontario* (January 9, 2018).	The provision to include the recently released CCME standards is provided in the work plan. To address the recent MECP released of an updated *Operations Manual for Air Quality Monitoring in Ontario* (January 9, 2018), we have added (as amended) to include any other changes that may occur during the project. (updated throughout the work plan) Updates throughout the work plan to address updates to standards, criteria, and/or guidelines.
Page 18, Table 7.3.1.1 – Suggest entitling the table "MECP Stations and Current Monitoring Program". The parameter list for Station 17006/17506 should specify metals (in PM10), and metals should be removed from the parameter list for stations 17017, 17026, and 17027.	Agreed. Updated table.
Page 18 and Page 20 – Note that metals in PM10 are currently monitored at station 17006/17056. Pages 18-20 – Confirm that particulate monitoring for all three size fractions (TSP, PM10, and PM2.5) will continue during the course of the survey year, even if the MECP changes or removes its particulate monitoring instruments at stations 17006/17506 and 17026.	Agreed. Updated as requested.
Update Reference for National Air Pollution Surveillance (NAPS) to Environment and Climate Change Canada, Change title of document	Agreed. Updated throughout the work plan.
Confirm that sample analyses will be conducted at an accredited laboratory.	We confirm the use of an accredited laboratory. Updated throughout the work plan.
Confirm that one evacuated canister will be used for both the VOC and sulphur analyses. In addition, confirm that the type of canister used for sampling is appropriate for analysis of sulphur compounds, and the approximate timeframe between sample collection and laboratory analysis.	We confirm this process as described. Updated.
Specify the timeframe in which quarterly reports on the ambient monitoring program results will be provided to the MECP (for example, within 30 days of receiving the laboratory results for the full quarter).	Quarterly reports will be issued within 45 days from the end of each quarter as outlined in the MECP's Operations Manual (as amended). Updated to include this information.

Government Agency Comment	How Comment was Considered
Updated Draft Technical Work Plans – Ecology & Groundwater/Surface Water **Surface Water Specialist, Southwestern Region, MECP (April 25, 2017)**	
The work plan should clearly state a commitment to Minister's Amendment #5: Undertake benthic community monitoring that will use quantitative (fixed-area) and qualitative sampling and species-level taxonomic resolution. The data so collected shall be analysed using a suite of multi-metric indices or multivariate statistical analysis of sufficient sensitivity and precision to reach conclusions about impacts or potential impacts to water quality. A meeting to discuss details of the benthic monitoring methods should be held after this commitment is confirmed.	Agreed. Walker had previously committed to this monitoring process but the description was inadvertently left out of the updated work plan. A follow-up memo dated May 29, 2017 was subsequently forwarded by Beacon Environmental to the MECP to provide the necessary details. A meeting was convened following review of the memo by the MECP and the corresponding revisions have been incorporated into the final work plans.
Section 8.6. Where a provincial water quality objective does not exist, MECP's regional office will recommend a suitable surrogate for the proponent to use.	Noted. Golder met with MECP to review technical details and any surrogate water quality objectives that are required. Update have been made.
Page 18. Dissolved oxygen is included as a standard water quality variable. In the summer time, stream dissolved oxygen concentrations can show wide diurnal variations with minimum values occurring at dawn. The minimum values are the most important ones to monitor for an effects assessment.	Noted. Daily sampling times have been adjusted accordingly.
The surface water work plan appears to be on the right track and should provide an acceptable characterization of baseline conditions pending the detailed plans to be developed.	Noted. Golder met with MECP to review technical details.
MECP - Updated Draft Technical Work Plans – ***Groundwater/Surface Water***	
In section 7.2 "Land Use Forecast" The Work Plan must consider how the adjacent large-scale dewatering activity impacts the current conditions at the site, to the extent that this is relative to the development and operation of a landfill. The plan must also consider the extent to which conditions around the landfill may change in the event that dewatering ceases to occur. Does the assumption that dewatering will occur indefinitely have any influence on the design of the Work Plan? More importantly, would a termination of dewatering somehow invalidate the findings of any technical studies that are to be completed?	Based on input provided by Carmeuse, we are forecasting that quarry dewatering will continue far into the future (given that there are hundreds of years of limestone reserves), so the hydrogeological assessment is based on the expected progression of quarry dewatering. Regardless, Walker will ensure that the dewatered state is maintained throughout the operational period of the landfill, because a dewatered state is required for landfill construction, which occurs each year over the lifespan of the landfill (constructed in cells). We considered the potential implications in conjunction with the development of contingency plans as part of the site design. We note that the MECP double composite liner system is designed to fully protect groundwater resources

Government Agency Comment	How Comment was Considered
In short, the technical study should be able to evaluate whether or not a termination of dewatering would change the way that ground water resources would be protected from the waste. Further to the above, there are a number of high capacity wells in use at the quarry property. There is no certainty that these wells will continue to be used indefinitely. Assessment should investigate whether a termination of pumping at these wells will have any effect on local ground water conditions, to the extent that this is relevant to landfill development.	regardless of the surrounding hydraulic head conditions (i.e., water table), so we would not expect that the liner performance will be at all sensitive to quarry dewatering. **See Appendix F-10: Groundwater Assessment.**
Clarify assumption that there will be no new residential or commercial development within 1 km of the site.	The land use assumptions are from the approved Official Plan for Oxford County. We are forecasting future land uses based on the approved land use documents that are presently available. Regardless, the application of the Reasonable Use Policy means that all off-site groundwater must be protected.
Section 7.3 provides more information for how effects of climate change will be 'considered' during the preparation of the EA.	The mean climate change assumptions (with respect to temperature and precipitation) presented in Section 7.3 of the work plan will be incorporated, as appropriate, into the assessment. With respect to groundwater modelling, the primary variable affected by climate change will be infiltration/recharge. In order to assess potential climate change effects in a monthly transient model, it is anticipated that present day recharge rates will be pro-rated in accordance with the monthly surplus gain or loss that may be expected with the seasonal precipitation / temperature changes provided in the work plan.
Section 8.2 provide more information about the door-to-door well survey that will be completed.	The initial assessment included a questionnaire which requested permission to access wells facilities for future monitoring which would be undertaken as considered necessary to supplement the study data set. **See Appendix F-10: Groundwater Assessment.**
The study should include a preliminary evaluation of the mitigation measures that could be implemented in the unlikely event of an unforeseen impact to ground water resources.	Feasible contingency methods/plans are required as per O. Reg. 232/98. Therefore, the Design and Operations plan will set out the proposed method(s) for contingency leachate control in the unlikely event of a leachate escape, and, where appropriate, the hydrogeologic assessment evaluates the feasibility of these contingency measures as part of the modelling exercise. **See Appendix F-10: Groundwater Assessment**.

Government Agency Comment	How Comment was Considered
Provide more information about the assessment of the overburden including hydrogeology of both native overburden and imported fill (to the extent that it is reasonable to do so for the latter) should also be characterized.	Agreed; the study considers both the overburden and bedrock systems. Since the backfill beneath the liner (i.e., on the quarry floor and walls) is engineered, its properties are established through geotechnical lab and field testing prior to (as well as during and after) placement and the data is incorporated into the hydrogeological assessment. (The geotechnical testing is done in accordance with the requirements of O. Reg. 232/98, and so is not fully detailed in the hydrogeological work plan.) **See Appendix F-10: Groundwater Assessment**.
The number of monitoring locations proposed is lower than what is typically in place at a landfill facility of this size. It is my assumption that additional wells would be used to demonstrate compliance at the property boundary, once the site becomes operational.	The work plan was designed to appropriately characterize baseline conditions in terms of ground water flow for the purpose of the EA. An appropriate monitoring network to demonstrate compliance is recommended as part of this assessment and will be incorporated into the Environmental Compliance Approval (ECA) for the site. **See Appendix F-10: Groundwater Assessment.**
Additional monitoring locations and investigations may be determined to be necessary depending on the findings of the initial studies. As discussed, the Ministry may require additional investigation as site study progresses.	Noted.
Section 8.2 Field Data Collection: This information should be used to provide a specific assessment of whether any changes to the delineated Wellhead Protection Areas (WHPAs), Significant Groundwater Recharge Areas (SGRAs) or Highly Vulnerable Aquifers (HVAs) are expected due to any changes in flow rate/direction or level of the water table and to evaluate potential impacts on nearby groundwater receptors (i.e. private and municipal water supplies).	Agreed; the data collection listed in Section 8.2 of the work plan is designed to support the assessment of any effects on WHPAs, SGRAs or HVAs as indicated in Section 9.0. Furthermore, there are also specific EA criteria related to the quality and quantity of well supplies to be addressed in the assessment. **See Appendix F-10 Groundwater Assessment.**
Requests that the scientific reports resulting from the groundwater and surface water investigations identify whether the landfill or other site construction/operation activities are likely to result in the creation of transport pathways to either groundwater or surface water sources.	Confirmed. The predictive modelling specified in Section 9.0 of the work plan is designed to identify and evaluate any contaminant transport pathways from the landfill to off-site receptors.
Provide any data collected with regards to groundwater or surface water to the Upper Thames River Conservation Authority.	Confirmed. This was a specific commitment made by Walker in Item #3, *Additional Commitments to the Approved Amended Terms of Reference*, May 10, 2016.
Updated Draft Technical Work Plans – Health Assessment Sara Tavakoli & Michael Kilemade, Human Toxicology & Air Standards Section, Southwestern Region, MECP (April 20, 2017)	
Recommend the use of the MECP receptor exposure parameters.	Agreed.
Evaluate additional worker/recreational receptors such as those at a golf course and other parks within or near the Study Area.	As discussed in the HHRA work plan: "Intrinsik will consult with other EA disciplines to gain further information as to the activities and types of individual receptors

Government Agency Comment	How Comment was Considered
	located within the Study Area (i.e., a 5 km radius) prior to finalizing the exposure scenarios to be evaluated." Relevant recreational and worker receptors have given consideration when identifying potential scenarios to evaluate in the HHRA. **See Appendix F-15: Human Health Risk Assessment.**
It is not clear how the HHRA will address the impacts of landfill gases (e.g. methane/vinyl chloride) on human health during the different phases of the project.	The air quality assessment provides data on the production and emission of landfill gases during different phases of the landfill operation and during the post-closure period, so that the HHRA can reflect these same periods and ensure that the peak emission period is assessed. **See Appendix F-15: Human Health Risk Assessment.**
HHRA should address the continuous re-entrainment of contaminants from the landfill to the Study Area.	The HHRA is based on Air Quality data obtained from RWDI. **See Appendix F-15: Human Health Risk Assessment.**
The HHRA should address the potential impacts of leachate on human health during the different phases of the project. This would include the potential of leaching of landfill COPCs into groundwater and the associated impact on other potential exposure pathways (e.g. vapour intrusion and surface water exposures).	The selection of specific exposure groundwater and surface water pathways for consideration in the HHRA will be conducted in collaboration with the Groundwater/Surface Water Assessment conducted by Golder. The groundwater and surface water assessments provided data on any emissions through these pathways so that they can be reflected in the HHRA assessment. **See Appendix F-15: Human Health Risk Assessment.**
Recommended that if an AAQC is based on chronic health effects, that its annual value be compared against an annual POI concentration. If acute effects from exposure to 1hr POI concentrations are to be evaluated, they should be compared against inhalation TRVs based on acute effects and not 1hr or 24hr AAQCS.	Agreed.
Updated Draft Technical Work Plans – Noise Assessment Thomas Shevlin, P. Eng., Senior Noise Engineer, MECP (April 13, 2017)	

Government Agency Comment	How Comment was Considered
Section 5.5 "Cumulative Effect Assessment" a. Stating "3 to 5 dB" as in the current draft effectively raises the threshold to 5 dB. This represents a significant increase beyond the level previously accepted by this office. The cumulative assessment is beyond the approval requirements of MECP, but the increase in the threshold should be re-examined as it might be of interest to other parties. b. It is noted that in addition to the noise mitigation recommended here for an increase in the cumulative sound level, there will also be requirements for noise mitigation which will arise if necessary in the MECP approval process to achieve compliance with the separate MECP limits for landfilling noise and for stationary source noise. c. Section 5.5 contains several typographical errors	2a: This has been adjusted back to 3dB as provided in the original draft. 2b: This is noted and is considered for any future MECP approvals process applications 2c: Typographical errors have been addressed.
UTRCA ***Updated Draft Ecological & Groundwater/Surface Water Assessment Work Plans*** Upper Thames River Conservation Authority (May 23, 2017)	
Ecological	
Please update Figure 1 (showing aquatic system types) to include the system types. Add a figure indicating system type and the aquatic sampling locations to know where sampling will take place.	Noted. The figure showing the stream classifications and sampling locations was inadvertently omitted from the updated draft but was contained in the preliminary draft for review and comment.
Suggest that the work plan be revised to include water temperature studies.	The sampling protocols have been revised and now include temperature. HOBOs may also be installed.
Groundwater/Surface Water	
Protection of the Thames river from leachate discharge is of key importance and would fall under MECP review and requirements for leachate treatment, monitoring, parameters and min/max criteria.	Noted. Walker obtained input on the work plan from the Southwestern District MECP.
The groundwater work plans were reviewed and found to be comprehensive, we have no further comments.	Noted.
Updated Draft Technical Work Plans – Traffic **MTO (July 6, 2017)**	

Government Agency Comment	How Comment was Considered
It should be verified if trip generation will be estimated using the maximum volume of waste allowed in a day.	The number of trucks and vehicles estimated and provided in the Work Plan represents the estimated average volume of waste allowed in a day. However, peaking factors are considered in the analysis. The results of the traffic assessment informs the daily waste limit. **See Appendix F-9: Traffic Assessment.**
In terms of traffic operations, concerns are: Operation of the weaving section between the Hwy 401 – Foldens Line E-N/S reamp and the rest area east of the interchange. Possible need for a southbound left turn lane on the south ramp terminal of Hwy 401 – Foldens Line.	The study includes an assessment using the GDSOH and HCM methods for analyzing this weaving section. The study considers left turn lane warrants to determine if a southbound left turn is recommended. **See Appendix F-9: Traffic Assessment.**
Updated Draft Technical Work Plans – Cultural Heritage & Heritage Landscapes, Archaeology Dan Minkin, Heritage Planner, Ministry of Tourism, Culture and Sport (July 12, 2017)	
I have no concerns, so long as the relevant technical studies, is appropriately timed so as to allow for the resulting information to be used in evaluating alternatives before their confirmation.	Noted. The studies were appropriately timed.
Updated Draft Technical Work Plans – Ecology **Claire Paller, MSc, District Planner, Ministry of Natural Resources and Forestry Aylmer District (August 11, 2017)**	
MNRF agrees with UTRCA's comment that impacts to water temperature should be addressed, particularly given the presence of aquatic Species at Risk (SAR) in the Thames River.	Beacon gathered water temp data. Effects on water temp modelled as part of the groundwater/surface water assessment. No additional changes required. **See Appendix F-7: Ecology Assessment.**
MNRF recommends carrying out a minimum of three surveys for Bobolink and Eastern Meadowlark during the breeding window to assess breeding activity.	Noted. Three surveys were completed to see if suitable habitat for these species. Text added to WP.
MNRF recommends that potential impacts to wildlife, particularly amphibians and reptiles be considered in the environmental assessment.	Noted. This was included in the assessment of effects as it is part of the proposed undertaking. No changes required to WP. **See Appendix F-7: Ecology Assessment.**
OXFORD COUNTY ***Updated Draft Technical Work Plans – Human Health Risk Assessment*** Dr. Douglas A. Neal, M.D., B.Sc., C.C.F.P., Acting Medical Officer of Health, County of Oxford (September 20, 2017)	

Government Agency Comment	How Comment was Considered
What evidence proves the effectiveness of the liner system to contain hazardous material?	When this liner was designed under the direction of the MECP, leachate characteristics from sampling at a wide variety of non-hazardous waste landfills were used to ensure that it would be effective in containing this type of leachate. We also note that the leachate characteristics used by the Ministry in the liner design probably did reflect the disposal of some amount of co-mingled hazardous waste, since their leachate data stretched back to a period when household hazardous waste programs were not in place. Nowadays with significantly improved hazardous waste removal programs enacted, and with the enhanced waste acceptance procedures that Walker uses at its landfill sites, this liner system will be more than adequate.
ii. How durable is the liner over a long period of time?	The generic double composite liner is designed to be fully protective of the environment throughout the contaminating lifespan of the landfill (the years in which contact between landfill leachate and groundwater would negatively impact groundwater). Schedules 1 and 2 of the Ontario Landfill Standards Guideline cite that the primary and secondary liners may be assumed to have a service life of 100 and 1000 years, respectively.
iii. What is the safety record for this system?	The generic double composite liner system was designed by the Ministry of Environment, Conservation, and Parks in 1998 and there has not been any recorded failures of this liner system. Walker has constructed and operated this liner system at the South Landfill in Niagara Falls and it has operated as expected with no issues to date.
iv. What provisions mitigate against potential failure?	Despite the fact that the Ministry's generic double composite liner system is designed to be fully protective of groundwater throughout the entire contaminating lifespan of the landfill, O. Reg. 232/98 nevertheless requires that performance of the liner be monitored and that there are additional contingency plans in place should an unexpected failure and leakage ever occur during this period. Walker will be establishing a comprehensive performance monitoring and contingency plan in its submission to the Ministry for an Environmental Compliance Approval for the landfill.

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v. Given that this is a very porous rock formation with both surface and deep water in the area, possible contamination from a landfill is a genuine fear. A significant population derives their water from this area and the community has heightened knowledge about water issues.	Walker recognizes that the primary water source for potable water in the area is groundwater, as well as the importance of protecting that water source. The proposed generic double composite liner system is designed to be fully protective of the environment in a variety of hydrogeological settings. From the Ontario Landfill Standards Guideline: *"To ensure the generic designs can be used within a broad range of hydrogeologic settings, the designs have been developed such that the Reasonable Use limits for groundwater protection will be met without reliance on contaminant attenuation in the landfill buffer area."*
vi. The community treatment facilities do not have the necessary resources for leachate disposal. What provisions for leachate disposal are being considered for this necessity?	Walker has proposed to build a treatment facility specifically designed to treat leachate from this landfill, and will not be relying on the County waste water treatment facilities.
vii. We are concerned about air quality and gases produced by the landfill. This is a community with heightened awareness of air quality issues. The Ministry of Environment, Conservation, and Parks has not been able to reassure this community. How will this be addressed?	Walker is carrying out an air quality study that will add to the data already collected by the MECP about the current air quality of the area. The study models the emissions from the landfill facility, as well as the cumulative emissions from the landfill and other sources (e.g., Carmeuse operations). **See Appendix F-2: Air Quality Assessment.**
viii. A major issue is the socio-psychological effects of imposing a landfill on a community that clearly does not want it and will derive little benefit from it. It must be considered that if problems occur, this community suffers the consequences.	Agreed. The social assessment evaluated the potential social/cultural effects of the proposed landfill, and these were be further reviewed by the health expert to determine whether there is a potential for any significant related socio-psychological health effects. Information was drawn from the Social Assessment report and supplemented with scientific literature. Table 11-1 in the HHRA and SHR Work Plan has been updated to reflect this addition. **See Appendix F-15: Human Health Risk Assessment.**
i. Cumulative Effects Assessment (CEA) was conducted in discipline-specific silos without sufficient interdisciplinary analysis and findings	The HHRA incorporates the findings from multiple streams to conduct the health evaluation for the CEA, specifically not in discipline-specific silos. There has also been considerable communication between disciplines both at the work plan development stages, and as the actual analysis moves forward.
ii. Impacts on air, noise, water and traffic are particularly relevant to human health and should be addressed in the CEA, and those findings should be included in the Supplementary Health Review Work Plan (with consideration also to disease transmission via insects or vermin; potential for traffic collisions; effects on other public services.)	The SHR evaluated the findings of the other disciplines to address the specific health questions raised by the MOH and other key stakeholders as part of the scoping stage of the Study. **See Appendix F-15: Human Health Risk Assessment and Supplemental Health Review.**

Government Agency Comment	How Comment was Considered
The Chemicals of Potential Concern (COPC) anticipated to be included in the HHRA should be provided in the Work Plan, or at a minimum, details of the COPC selection process from the other disciplines should be provided. The selection of concentrations of each COPC (exposure levels) should be discussed in the Work Plan, which could comprise a brief summary of the proposed approach/methodology from the Air Quality Assessment and Groundwater/Surface Water Assessment and how trigger values from the other disciplines will be incorporated into the HHRA.	Information on the methodology used in the Air Quality and Groundwater/Surface Water Assessments to produce an initial COPC candidate list was summarized in the HHRA to provide the necessary transparency on how the final COPC list was developed. **See Appendix F-15: Human Health Risk Assessment and Supplemental Health Review.**
JMCC PRT **Alternative Methods Interim Report (January 2, 2017)**	
Request for additional Detail Regarding Consultation Activities	This interim report was not intended to provide a complete account of the consultation activities that were carried out in association with the "alternative methods" assessment. The "alternative methods" assessment was presented and discussed at Community Liaison Committee meetings, public workshops, meetings with community members and First Nations during its development. The tables in various chapters of the interim report titled "Summary of Public Input" are meant to highlight some of the key issues heard, and how they were considered in the assessment. They are not intended to represent the full scope of the consultation program or to document all of the input we received. The full consultation activities are presented in **Section 10** and **Appendix I**.
Clarification on the screening of Landfill Footprint Alternative 1: Greenfield/Future Quarry Lands	Walker was asked by public stakeholders to further support the rationale for screening out this footprint, and we believe that the expanded rationale in the interim report is sound. With regard to the provincial policies, it would be most appropriate to direct questions regarding the aggregate policies in the County of Oxford Official Plan to County planning staff. Walker identified a second reason why Landfill Footprint Alternative 1 is not feasible. As explained in the report, it would not be commercially viable for Walker to occupy and sterilize a significant portion of Carmeuse's licenced or planned future aggregate reserves at this site, at the cost of finding, purchasing and licencing replacement reserves elsewhere and moving their associated production facilities and infrastructure to this new location. **See Section 6.3.**
Site-Specific vs Generic Liner Design	We agree that this aspect of the report could benefit from some further elaboration. Briefly, all liner systems, site-specific or "generic", must meet the same requirements for groundwater protection set out in Section 10 of O. Reg. 232/98.
Screening & Evaluation Criteria	The screening step eliminates alternatives that are determined not to be fundamentally feasible at the outset, without the need to carry out additional evaluation or study. Similarly, in the comparative evaluation, hydrogeology is not a distinguishing factor in the choice of designs, since all liner designs are equally required to meet the groundwater protection standards of O. Reg. 232/98. Therefore, in choosing between the deep and

Government Agency Comment	How Comment was Considered
	conventional design concepts for this site, it is more important to focus on other criteria where there would be significant differences, as set out in the evaluation tables and summarized in Section 5.4 of the interim report.
Technical Review by All Peer Review Experts	A recurring theme in the review is the need for a full review of this interim report by the full slate of technical experts on the peer review team, and/or that the comparative evaluation is somehow "rudimentary" and should be expanded with more technical analysis (which would then justify a full technical peer review). Respectfully, we continue to disagree. The evaluation faithfully follows the process set out in the ToR. This EA was intentionally designed so that the screening and comparative evaluation of the "alternative methods" could be carried out, to the extent possible, at a general or planning-level of detail, in keeping with the Ministry's guidance that "the level of detail at which alternatives are evaluated will normally increase as the proponent proceeds through the planning process". Notwithstanding, the detailed assessment of the proposed landfill carried out as part of the EA, where all of the 41 EA criteria are studied in-depth has been completed by our technical experts. **See Appendix F Reports.**
Pre-Consultation with the Peer Review Team	The reviewer correctly notes that Minister's Amendment #8 to the ToR requires early consultation with the MECP and other parties on the comparative evaluation methodology before the preferred alternatives were chosen. Walker completed these obligations, holding a meeting with MECP in this regard, as well as a meeting on June 30, 2016 with Chris Haussmann, PRT Project Manager and David Walmsley, EA Planner– the agenda for this meeting lists discussion of both the alternative methods evaluation and the cumulative effects methodology. Walker confirmed this discussion in a subsequent memo (Darren Fry to Chris Haussmann; July 14, 2016).

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Further Examination of Diversion	The reviewer is also correct that Minister's Amendment #9 to the ToR requires Walker to prepare a further review of diversion opportunities. Walker sought further clarity on the scope of this requirement from the Ministry at the time of the ToR approval. In our subsequent letter to the Ministry dated May 11, 2016, we confirmed our understanding that this further review of diversion opportunities would be carried out in conjunction with the development of the facility characteristics (currently underway), and not as an "alternative method" in the EA. Our MECP EA Project Officer (A. Evers) also met with our Community Liaison Committee to address questions and clarify certain aspects of the Minister's Amendments. On the subject of Amendment #9 he provided the following response (in part): *The amendment does not require Walker to assess alternatives such as recycling or composting facilities as it is not a requirement for assessment under the Environmental Assessment Act. Ontario Regulation 101/07 (Waste Regulation) outlines the Environmental Assessment requirements for waste management projects, which includes landfills (related to size) and thermal treatment sites.* *Facilities such as recycling and composting facilities undergo a separate approvals process under the Environmental Protection Act, which is why the ministry cannot require Walker to assess these facilities under the Environmental Assessment Act. This approval is referred to an Environmental Compliance Approval. Once Walker has prepared an application for the Environmental Compliance Approval, it is posted on the Environmental Bill of Rights (Environmental Registry) for review and comment by the public.* *The draft Waste Strategy released in November 2015 for comment recognizes the need for landfills while the province reaches its goals for waste diversion. The purpose of this amendment is for Walker to look at approaches that it can implement, while it determines separate ancillary facilities for diversion, to complement the initiatives of the draft Waste Strategy and Waste Free Ontario Act. These approaches may include, but are not limited to financial incentives to its customers for source separating before transporting waste to the proposed facility, workshops on diversion, providing bins for separation, forming partnerships with diversion facilities, etc.*
Updated Draft Agricultural Assessment Work Plan **JMCC Peer Review - DBH Soil Services Inc. (April 20, 2017)**	
The Agriculture Assessment Work Plan provides appropriate description, data collection and assessment procedures for the agricultural component, and has provided clarification within the document and attached tables to address the comments/concerns that were received from the PRT.	Noted.
Section 7.1 – Background Data Collection; third bullet point on the page. The request to include a reference to the Updated Soil Survey for Oxford County has been addressed appropriately.	Noted.
The new Minimum Distance Separation Guidelines (Ministry of Agriculture, Food and Rural Affairs Publication 853) to be implemented March 1, 2017 indicate that MDS setbacks are no longer required for landfills. This makes our previous comment regarding MDS irrelevant.	Noted.

Government Agency Comment	How Comment was Considered	
Section 8 – Data Analysis; second bullet point on the page. The request that the proposed indicators for agricultural characterization (displacement of agricultural land and disruption of farm operations) include a reference to Specialty Crops has been addressed with the addition of the wording: "and suitability for specialty crop production".		Noted.
Appendix A: Environmental Assessment Criteria, Table A1 provides sufficient detail as to the overlap in input data and findings exchange between the respective disciplines (linkages to other assessment reports).		Noted.
Updated Draft Air Quality Assessment Work Plan JMCC Peer Review – Vooren Air Quality Management Services Inc. (April 19, 2017)		
S2; p2; S6.2 The assessment and analysis of at "the environment that would otherwise be likely to exist in the future without the proposed undertaking" is not specifically addressed in the work plan. No methodology is provided in the work plan.	The Work Plan provides a reference to the overall assessment methodology for this EA contained in Section 8.2 of the approved ToR. All of the studies followed that methodology, which consists of assessing the current and future baseline conditions, in comparison and combination with the potential effects of the landfill in the same periods of time. **See Section 5.**	
Work Plan & S7.2, p.19. It is still not clear how the Carmeuse operations and their multiple operators will be handled with respect to: • Carmeuse property as a receptor for the landfill • How the two operations will co-manage emissions and dust plans • Review of Carmeuse emissions summary and dispersion modeling report (ESDM) • How non-permitted emissions will be included in the impact assessment • Joint impacts in the air shed be managed in the future • Editorial comments with recommended edits	Provided clarification on each of the questions raised around Carmeuse operations and the proposed undertaking and updated the work plan with proposed edits.	
S2, p.2, Bullet e. The work plan states that the TOR requires the proponent to "prepare monitoring, contingency and impact management plans to remedy the environmental effects of the proposed undertaking". The work plan (Section 9 page 30) indicates "if warranted" these plans will be developed. The work plan must reflect that appropriate plans and monitoring will be developed.	Walker expressed its commitment to these elements of the EA in Section 9 of the ToR.	

Government Agency Comment	How Comment was Considered
S3, p.4 Criteria Table. The work plan shows landfill gas impacts listed under 'use and enjoyment of residential properties'. Landfill gas from the site could also impact nearby businesses and farm use. We recognize the list was not intended to be complete, but these areas need to be specifically considered.	Agreed, and other potentially sensitive uses may be identified through field inventory as the studies proceed. Note that EA Criteria #22 in the ToR specifically and separately includes the potential for air quality effects on businesses and farms.
S4, p.6, 2nd para. The haul route impacts only talk about particulate emissions. Other emissions such as NO2 and odour must also be considered.	Odours from trucks will need to be managed through a Best Management Plan. This section has been updated.
S4; p.7 Bullet 9. There is no approach or method in the work plan proposed to identify "future development". There is no discussion on how this will be determined or whether there will be a differentiation between sensitive and non-sensitive uses.	These land use assumptions are drawn directly from the County's Official Plan
S5.1, p.8, para 1. There are now annual criteria as well for PM2.5. The criteria are identified in Table 6.1.1.1 but are not mentioned in the listed averaging times in the text.	Noted. Updated – S.5.1 has been updated as suggested.
S5.3; p.14, 1st para. The MECP technical bulletins support a statistical assessment of the 99.5 percentile for odour assessment. We suggest this should be specifically stated in the work.	Updated - s.5.3 has been update to specifically state the 99.5 percentile for odour.
S5.3; p.14, 1st para. The work plan states, that "through our experience with other landfills….range of 3 to 5 OU". The work plan should state that further support and information for these levels will be provided in the EA.	This statement was removed.
S6.1, p15, The description for internal haul roads should clarify which roads will be paved and unpaved.	These assumptions are stated in the EA. **See Section 7.2.**
S6.1; p.15, The work plan needs to be updated to reflect potential odour and emissions from effluent management and treatment.	Section 6.1 lists the facility characteristics assumptions that are relevant to the air quality assessment. Included in that list is specific reference to the leachate management and leachate treatment system as well as a basic description of the design and layout of these systems.
S6.3; p.7. The work plan does not indicate how of potential changes to temperature and precipitation will be considered. Further detail is required in the work plan to indicate how these factors will be incorporated and considered in the EA.	Section 6.3 is meant to identify the assumptions that are being adopted for this assessment. **See Appendix F-2: Air Quality Assessment.**
Inconsistencies with the references and discussions on meteorological data for modelling (ex. regional, site specific). For an EA level study, a site specific meteorological data set must be used.	Updated – references to meteorological has been updated throughout the report to note the site specific meteorological data to be used for this project.

Government Agency Comment	How Comment was Considered
The site specific data set should be provided by MECP.	Agreed and was requested by the MECP.
Deposition and plume depletion of particulates and metals will need to be considered both in the air quality assessment and in the human health risk assessment. As such, an extended meteorological data set, including precipitation is required.	S.7.1 is updated to reflect this comment.
For this project, it is crucial to delineate the difference between baseline and background. RWDI is proposing to include the Carmeuse sources as part of the dispersion modelling. To determine cumulative impacts, they will need to develop a background without Carmeuse. The current baseline monitoring should be compared against the modelling that will be set up for the Carmeuse site. It will be important to be able to confirm the model against current baseline conditions in order to model the impact of the landfill i.e. the change from current conditions.	Noted, a comparison to current baseline monitoring to modelling set-up for the Carmeuse site was completed. S7.1 includes a discussion regarding this item.
The decisions and use of the existing data is critical to the air quality assessment. The assessment of the existing data and use of the date in the impact assessment needs to be undertaken prior to the full impact assessment and involve all stakeholders.	Meetings were planned with the MECP and the PRT prior to finalizing the Work Plans, as required. The results of the assessment are fully documented in the draft and final EA reports for MECP and PRT review and comment. **See Appendix F-2: Air Quality Assessment.**
Recommend an interim baseline report that reviews the baseline data, its acceptability, and provides the development of the background and baseline levels to be used in the final air quality assessment.	The baseline assessment is documented in the draft and final EA reports for MECP and PRT review and comment. **See Appendix F-2: Air Quality Assessment.**
WEG must develop a baseline VOC monitoring program. Though reviewing EA baseline monitoring is not a current requirement of the MECP ambient monitoring guidance, the monitoring plan should be provided to MECP and stakeholders for review and acceptance.	The baseline assessment is documented in the draft and final EA reports for MECP and PRT review and comment. **See Appendix F-2: Air Quality Assessment.**
The work plan states that “dust assessment will be made through an ambient monitoring program of existing (baseline) conditions”. This statement contradicts Section 7.1, 7.2 and the 2nd paragraph on page 20 of the workplan which state that the existing data will be reviewed and further data collected only if required.	A new section is added to the Work Plan to discuss the dust monitoring plan that has been discussion with the MECP.

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Provide clarification for the specific number of receptors (10) to be considered. The specific receptors should not be limited, but depend upon identified key receptors for all disciplines and for any potential impacts.	The proposed number of receptors is based on RWDI's experience with other similar assessments, consultation with Walker's consulting team, and an initial examination of the site setting.
Recommend appropriate silt and dust loading samples be taken for roads currently impacted by Carmeuse operations.	Agreed, Work Plan has been updated to include silt loading and dust loading from roads on the Carmeuse site.
The work plan must commit to assessing deposition and plume depletion in the air quality impact study.	S.7.3.1 should remain the same as approval from the MECP is still required on the parameters used for deposition and plume depletion for the AERMOD modelling.
Confirm that no metals or other contaminated "waste soils" will be accepted at the site.	"Waste soils" are those soils which are found to be non-hazardous under the requirements of Ontario Regulation 347/90 (meet Schedule 4 criteria).
The work plan needs to clarify which alternate uses listed in Section 6.1 will be modelled and assessed or if landfill gas flaring will be the only case fully assessed.	The proposal is to model flaring as the minimum and most conservative assumption, and given that the flaring system will likely remain in partial use or as a back-up to any other landfill gas utilization system that would be implemented in the future.
Recommend an interim report/discussion that identifies the odour source emissions data and what will be used in the final report.	Updated work plan to include the provision for interim report/discussion for the odour emission data.
The list of sources considered for odour emission is not complete. Leachate collection is considered, but leachate treatment can also produce odours. Treatment odours need to be addressed in the work plan.	Updated to include leachate treatment odours as part of the evaluation.
Mobile6 has been replaced with a new version called "MOVES" for modelling traffic emissions. MOVES should be used to develop emission data for haul route traffic.	Agreed .S.7.6.1 provides the alternative to be used such as "MOVES"
The work plan needs to provide a detailed approach to the litter assessment.	Blowing litter section is updated to include the provision for a Best Management Plan for litter to be created.
Update References in the work plan.	Noted. S10 is updated.
Appendix A -Criteria. Appendix A was not included in the work plan. Criteria unchanged since 2013. Clearly define interconnections between other studies to ensure to ensure appropriate information is shared and assessed.	Note that the EA criteria are not changed from August 2013 because these are the criteria approved by the Minister in the ToR. It is not practical or useful at this point to try to present a more detailed and prescriptive description of all of the conceivable interconnections between the various technical studies before any data collection or analysis takes place.
Criteria 2. Should also apply to "haul routes" or Criteria 3 needs to be expanded to include all air emissions.	Agreed. Updated.

Government Agency Comment	How Comment was Considered
Updated Draft Archaeology Assessment Work Plan **JMCC Peer Review – AMEC Foster Wheeler (March 21, 2017)**	
Although several specific aspects of the proposed testing strategies should be clarified and expanded upon, the proposed work plan meets the current minimum Provincial standards for consultant archaeologists in Ontario. Given the location of the study area within the Thames River watershed–an area of generally high archaeological potential and concern for local Indigenous peoples–it would be prudent to exceed minimum Provincial Standards in two respects: by engaging with appropriate First Nations as early as the Stage 1 assessment; and by preparing an Archaeological Risk Management Plan	Noted. Walker is engaged separately with First Nations. We will also consider the development of a risk management plan for this undertaking in conjunction with other contingency and emergency response procedures, as part of the design and operations plans for the site.
Add that any Stage 3 and provisional 4 assessments that are recommended by the Stage 1 and 2 assessment should be completed prior to construction.	Agreed.
Clarified that the Stage 1 assessment will include a thorough investigation of all registered, unregistered and anecdotal archaeological resources within the 1-km buffer.	Walker has already provided preliminary design concepts and layout assumptions to AMICK for this purpose, as referenced in Section 6.1 of the work plan.
Recommended Stage 3 site specific testing and Stage 4 mitigation by means of either avoidance and protection or comprehensive salvage excavation must be completed prior to any landscape alteration.	Noted. Although as mentioned above the construction disturbance in a landfill can occur progressively through the operational period, not all at the outset.
The Stage 1 property inspection should not be conducted on the same day(s) as the Stage 2 field testing. Acquiring first-hand knowledge of current field conditions through the Stage 1 visual inspection will ensure that the proposed Stage 2 assessment strategies are both appropriate and practicable.	Agreed.
Recommend including the measures that will be employed if an artifact is encountered	Agreed. Section 7.2 has been updated with additional language for clarity.
Recommend adding a Section for follow-up activities, namely an Archaeological Risk Management Plan	Walker will consider recommendations for a risk management plan for this undertaking in conjunction with other contingency and emergency response procedures, as part of the design and operations plans for the site to be approved under the *Environmental Protection Act*.
Updated Draft Cultural Heritage Assessment Work Plan JMCC Peer Review – AMEC Foster Wheeler (March 21, 2017)	

Government Agency Comment	How Comment was Considered
Comment	**How Comment was Considered**
Additional potential emergency/detour haulage routes should be added in case of closure of the primary route.	Feasible emergency/detour routes will be established in conjunction with the design and operations plan for the site, approved under the *Environmental Protection Act*. However, the environmental assessment described in this work plan is based on the "normal" or planned operations, not on upset conditions that may not occur or could occur on some irregular and unknown frequency.
"Gulls" should be replaced by "scavengers."	Gulls are only referenced here as a typical nuisance since they are most commonly associated with landfill sites, but the nuisances examined were not limited to these examples and, the ecology study provides input on the potential for other scavenging birds or vermin (see also EA Criteria #6). **See Appendix F-7 Ecology Assessment.**
Other potential heritage resources such as industrial buildings, schools and other institutions should be added.	Agreed, the statement is not limiting and can cover these and any other potentially significant heritage resources.
Draft Cumulative Effects Assessment Work Plan JMCC Peer Review – Hardy Stevenson & Associates/Morrison Hershfield (May 3, 2017)	
S. 4.0 Page 4 and Appendix A Methodology – Evaluation of the Proposed Undertaking: There is potential for the analysis to be inconsistent if the assumptions and analysis among different experts are inconsistent.	A consistent framework for the EA methodology, and criteria, study areas, and study durations, as approved by the Minister in the ToR, has been consistently applied across all of the study disciplines and reflected in each of their work plans. **See Appendix F Reports.**
S. 4.0 Page 4 and Appendix A Methodology – Evaluation of the Proposed Undertaking, Page A-2, Page 6, Para 2, Appendix A Section 3. Greater clarity is required on whether a multi-expert, interdisciplinary analysis will occur. The proposed cross functional approach in Table A-2 should be enhanced by adding this additional step to better ensure multi-disciplinary analysis.	The discipline experts are not simply tasked with evaluating cumulative effects within their specific study, but rather to lead an assessment of the criteria that they are assigned. Table A-2 in the approved ToR, and sections in each of the work plans, is our attempt to illustrate the main areas of collaboration. It is not reasonable at this point to try to present a more detailed and prescriptive description of all of the conceivable interconnections between the various technical studies before any data collection or analysis takes place.

Government Agency Comment	How Comment was Considered
	See Section 5.
Appendix A P. A-2 The CE assessment will include selecting common reference periods or milestone dates at which environmental baseline conditions will be set and effects assessments made. These dates should be specified in this work plan.	The common reference periods and milestones was developed during the EA as the background and field data were collected and assessed.
Recommend adding 'assess the significance of net effects after describing environmental advantages and disadvantages'. Indicators of cumulative impact significance should be developed and presented.	The significance of the cumulative effects is, in this case, based around the same indicators set out in each of the technical work plans, since it is a fully integrated assessment.
Recommend making additions to Appendix B Table B-2 to B-7, EA Criteria Table including additional proposed study, study areas and durations.	This table is copied directly from the approved ToR, and it was consulted on extensively during the preparation of the ToR before being approved by the Minister. As such, we believe that it reflects a suitable scope of work for this EA.
Updated Draft Ecological Assessment Work Plan **JMCC Peer Review – EcoMetrix (Aquatic; April 19, 2017) & North-South Environmental (Terrestrial; April 24, 2017)**	
Aquatic (EcoMetrix)	
Indicate how the Work Plan has been revised in consideration of the Facility Characteristics Assumptions Report and Alternative Methods Interim Report, both dated January 3, 2017.	All of the revisions made to the draft work plan were published in a "red line" version. The Facility Characteristics Report was made available for reference, and the key assumptions adopted in the Ecological work plan are identified in Section 6.
A number of commitments made by WEG in its response to the review of the original draft Ecological Work Plan by the PRT have been resolved. No further action is required.	Noted.
Terrestrial (North-South Environmental)	

Government Agency Comment	How Comment was Considered
Revise the text on pg 5 to make it clear that the study area is 50 m either side of the Haul Routes.	Revised.
There is no mention of tasks (data collection, analyses) to identify how potential impacts of haul road traffic on wildlife will be evaluated.	The use of noise and dust parameters is specifically noted, as is connectivity in a general project-wide sense. The haul route will be examined in terms of effects as if it were part of the on-site portions of the project (i.e., direct and indirect effects).
A previous PRT comment requested rationale for determining changes that are "*Negligible*" and "*Potentially Meaningful*". The comment is not sufficiently addressed in the revised Work Plan.	Text revised to provide more clarity.
Recommend some indicators be added to provide a systems approach to the evaluation.	It is standard practice within an EA to consider effects in the manner presented in the work plan and this will ultimately lead to an assessment of effects on features that comprise the system. Attempting to tease the two apart (system from features/functions), in addition to functional connectivity, would not add value to the assessment.
For the indicator "rare communities or species", the terms "incidental" or "regularly used" habitat are not meaningful for evaluating the impact on rare vegetation communities. We recommend another means to evaluate change be found for this indicator.	This will vary by species and therefore can't be defined here. Text added to indicate any loss of rare vegetation community would be meaningful.
For the indicator "Breeding Amphibian Areas", the criterion "Loss of non-breeding habitat" is not meaningful, as by definition, there can be no "non-breeding habitat" in breeding amphibian areas. We recommend the indicator should simply be "Amphibian Habitat" and include all aspects of their habitat, as all aspects of habitat are equally important for populations to persist.	We do not agree with the premise that all amphibian habitat is equally important.
A previous PRT comment indicated that for the proposed indicator "Landscape connectivity", the species that will be considered in the assessment of landscape connectivity should be identified. This PRT comment is not addressed. The PRT comment also noted in regard to the assessment of connectivity in study area #2, along the Haul Routes, that more detail about the metrics to be used should be provided.	What species were addressed was established during existing conditions of the extensive field program. Given the nature of the study area and the haul route area we believe that developing metrics to assess the effects related to these routes is not necessary to describe likely effects in a meaningful manner.
s. 5/ pg 9-10, Table 5 Row 2 (Loss or disturbance to terrestrial eco-systems). This approach treats all ELC communities equally in terms of their importance, except for woodland and wetlands which are treated separately. We	We are not ascribing values. In terms of ecological importance, we don't think that the importance of an ELC community should be determined *a priori*. Wetlands and woodlands are treated separately as there are already guidelines or determinations

Government Agency Comment	How Comment was Considered
recommend this approach be refined to recognize differences in the value or importance of different communities with respect to the feature and its functions.	made for Significant Woodlands and Significant Wetlands that we are required to recognize. Producing a list of communities and importance factors when most or all of those communities will not occur is unnecessary.
Recommend Significant Wildlife Habitat and Bat Habitat be added as indicators.	We have avoided using indicators that have *a priori* determinations of significance. Bat habitat was addressed for species covered by the Endangered Species Act in conjunction with MNRF. **See Appendix F-7: Ecology Assessment.**
Provide details (approach, tasks, evaluation method) for addressing climate change.	The consideration of climate change is not a separate study or methodology, but rather a set of assumptions that are to be factored into the baseline assessment.
s.7/ pg 2, entire section 7. Data collection is incomplete. It should include the physical environment. This should, for example, include topography, landform and surface drainage.	Topography, landform and surface drainage are data to be collected as part of the groundwater and surface water assessments, and shared as background data to the ecological study. (See corresponding work plans.)
The section on Qualitative Surveys for Species at Risk and rare Species should include bats as possibly occurring.	Agreed. Revised Text.
Recommend that WEG be prepared to undertake surveys starting late March, but initiate them depending on the transition from winter to spring, as evidenced by the first detection of calling amphibians.	Agreed. Date changed.
There is no indication of whether or how natural heritage will be evaluated from a systems perspectives. The criteria/standards for assessing the significance of species and features should be provided.	The standards being applied are the standards applied in southern Ontario. Where this is open for debate a rationale will be provided. Text has been added in this regard.
Provide clarification for "*Manual calculations will be made …. This will include computer-assisted calculations …*"	Manual calculations and computer assisted mean assessing direct effects (e.g., removals) of habitat using GIS for example.
8.2/ pg 11, Para 2. Species and communities to be mapped is vague; it should include all communities and species of flora and fauna that are significant (G1-3, S1-3 and any local/watershed/regional criteria) (subject to sensitivity protocols). Base maps should absolutely include drainage features, not just "may include".	Agreed with the text change for drainage features. In an EA "significant" has a particular meaning and therefore we do not use that phrase until something is determined within the EA to represent a significant element of effect. The text does indicate that all features of importance will be mapped.
Updated Draft Economic/Financial Assessment Work Plan JMCC Peer Review – Watson & Associates Economists (April 20, 2017)	

Government Agency Comment	How Comment was Considered
Comment	**How Comment was Considered**
There are two criteria for business opportunities in this section and only one criterion in section 5. It is our opinion that only one criterion is needed.	Criteria #26 and #27 were made separate since they relate to direct and indirect business opportunities, although we agree that they are related and depend somewhat on the same analyses. Both will remain in the work plan since these criteria were approved in the ToR.
Add 'Canada' to the wider study area as effects on Federal taxes will be examined.	Agreed. Canada has been added.
Proposed indicators/measures for impact on businesses continues to be number of businesses affected with no reference to number of employees	Agree that employee count is an important indication of business scale. Employees have been added to the measures.
Provide clarification on the tenth bullet in the Facility Characteristic report.	Agree and provided clarification.
6. 3 Climate Change/p. 15, Entire subsection. This is the first reference to climate change in the report. There is no reference to GHG in the criteria in section 3 and no indicator in section 5. The public liabilities criterion in Section 5 deals only with municipal costs. But there is reference in Appendix A, Table A1 item 28 re public liabilities – "GHG emissions associated with the proposed landfill may create financial liabilities and offsets under Ontario's Cap and Trade Program. " If this is to be addressed in the Economic/Financial Workplan; it should be reflected in the criteria in Sections 3 and 5. GHG should be defined.	Agreed. As noted in the Appendix this aspect of the assessment is proposed to be included under Criterion #28 in the EA, which should also be reflected in Sections 3 and 5. Criterion and associated measure added to Tables in Sections 3 and 5. GHG has been defined (greenhouse gas).
Define reference to 'designated FUGs'.	Agreed. Language revised to read future urban growth areas.
Indicate what criteria would be used to decide which businesses will be surveyed face to face versus via telephone.	Businesses were inventoried within the study areas and a determination was made on how best to survey these businesses. It has generally been our practise that any business that wishes to have a face to face interview was be granted the opportunity. **See Appendix F-8: Economic/Financial Assessment.**
Analyse municipal costs in the post operation period (closure)	After further consideration, no significant municipal costs are expected to be incurred during the post-closure period. **See Appendix F-8: Economic/Financial Assessment.**
Revise language to reference impact on residential property values and non-residential properties.	Agreed. Language revised to read residential and commercial properties (including farms). **See Appendix F-8: Economic/Financial Assessment.**

Government Agency Comment	How Comment was Considered
Insufficient detail is provided for the proposed method to assess GHG emissions including the measures and indicators that will be used, the study area and the entity for which the potential impact will be experienced (e.g. the Province or property owners).	The Environment Canada GHG calculator for waste management will be used as well as the US Environmental Protection Agency's WARM model to determine facility emissions. Additionally, we will use an in-house purpose built economic model to calculate the economic impacts of the resulting GHG emissions at the provincial level. Addition of language for clarity. **See Appendix F-3: Greenhouse Gas Emissions Assessment.**
Updated Draft Groundwater/Surface Water Assessment Work Plan[1] JMCC Peer Review – ResEnv Consulting (Groundwater; April 9, 2017) & CH2MHill Canada (Surface Water; May 1, 2017)	
Groundwater (ResEnv Consulting)	
Consider contaminants that pose not only "a public health concern" but also a concern to aquatic life for the determination of the contaminating lifespan for the landfill post-closure period.	Agreed, although this criterion refers specifically to human health and safety. The groundwater study included information about contaminating lifespan from this assessment to address other criteria related to impacts on aquatic ecosystems. **See Appendix F-10: Groundwater Assessment.**
Recommended that the impact assessment consider both ongoing dewatering of the quarry, as proposed, and the deactivation of dewatering at the quarry in the event that the operating period for the quarry is less than the actual contaminating lifespan and as a contingency in the event future quarry dewatering must be modified owing to unacceptable impacts to water resources.	In this context, the "active life of the landfill" refers to the operational period. We agree that the assessment for groundwater should also extend throughout the contaminating lifespan as well, which is acknowledged as part of the study durations set out in Section 4.0 of the work plan. **See Appendix F-10: Groundwater Assessment.**
If existing information for the quarry dewatering program is inadequate for quantifying drawdown effects of the current and future quarry dewatering for consideration in calibrating the groundwater flow model to be used for completing an impact assessment and for evaluating potential mitigation/contingency measures, then suitable pumping wells and long-term pumping tests should be completed to obtain the information for model calibration.	The potential need for a pumping tests was assessed based on the suitability of background information, and other data obtained as part of the site assessment, for calibrating the groundwater flow model. **See Appendix F-10: Groundwater Assessment.**
Propose using models to evaluate proposed contingency measures that could be implemented in the event of an unacceptable landfill impact on the water resources.	Agreed. The modelling described in Section 9.0 is intended for to address the feasibility of contingency measures. **See Section 7.2.**

[1] Including Hydrogeological Technical Work Program addendum, April 6, 2017.

Government Agency Comment	How Comment was Considered
Hydrogeological Technical Work Program (ResEnv Consulting)	
Details on the work program for surface water (levels, flow rates, and quality) are required for input to the assessment of groundwater and surface water interaction.	Surface water / groundwater interactions was characterized by analyzing gradients between surface water and shallow groundwater level data. This information was used along with the results of substrate hydraulic conductivity testing to quantify groundwater and surface water interactions. Updated to include details of the piezometer data and substrate hydraulic conductivity testing that was used to assess groundwater and surface water interactions. **See Appendix F-10 and F-11 Assessment Reports.**
Indicate that existing studies will be used to establish the drawdown distance of the existing quarry dewatering, water wells affected by the quarry dewatering, and to provide input to the computer model(s) calibration.	Agreed and noted Updated.
Door-to-door reconnaissance survey should also include wells within the zone of influence of the existing quarry dewatering.	Agreed; it is presumed here that the existing water well surveys by Carmeuse did include wells within the zone of influence of the quarry.
The depth of the monitoring well for each bedrock borehole should be within the more hydraulically conductive bedrock near the proposed well depth as determined by the packer testing. This comment also applies to the Task 4 bedrock wells.	The monitoring well depths will target more hydraulically conductive bedrock zones, based on field data, including packer testing.
The shallowest well in the overburden should be a standpipe that straddles the water table. We concur that a monitoring well should also be at the base of the overburden. This deep overburden well could be an additional well or could be Well D that would screen both the basal granular material, if present, and the fractured portion of bedrock.	We do not agree that, for the purposes of this assessment, it is necessary for the shallowest well in the overburden to “straddle” the water table. It is agreed, however, that the water table in the overburden should be considered, and assessed, as appropriate, as part of the overall hydrogeological study.
If the well nest is greater than 50 m from the mini-piezometer and if there is sufficient overburden at the location of the well nest, a shallow overburden well (standpipe) should also be installed that straddles the water table.	See comment above.
Use the groundwater model to evaluate proposed contingency measures.	Agreed.
The karst expert should also provide input to the contingency measures.	Agreed, if there should prove to be significant Karst features at the site.
Indicate if a pumping well will be installed and how the location will be selected and/or if the current dewatering program will be used as a long-term pumping test for tracer testing.	The pumping test will be designed following the initial analyses of background and field data, and the details will be included in any PTTW application to the MECP for approval prior to the test.

Government Agency Comment	How Comment was Considered
Provide reporting that will include the monitoring program, trigger mechanisms, and contingency measures.	This commitment is already contained in the main work plan.
Recommended that at a minimum groundwater level and surface water level/flow monitoring will be continued beyond the one year period proposed (i.e. during reporting and report reviews).	Noted. This will be recommended to Walker at the completion of the EA monitoring period.
Surface Water (CH2MHill Canada)	
The list of objectives does not acknowledge the first objective from the referenced Section 8.2 of the Approved Amended Terms of Reference, being "Develop a set of facility characteristics describing, in conceptual terms, the design and operating assumptions for the proposed undertaking and incorporating a range of basic mitigation measures that will prevent and/or limit environmental impacts.". Consider adding the missing objective for completeness, indicating how it pertains to the Groundwater/Surface Water Assessment Work Plan.	The development of the facility characteristics are not an objective of the groundwater/surface water assessment; rather, they are developed by Walker and supplied as input to the assessment.
From review of Appendix A it appears two additional environmental criteria are missing from the table listing/summary and should be included for completeness, being "10. Disruption to use and enjoyment of residential properties" and "11. Disruption to use and enjoyment of public facilities and institutions".	The text at the bottom of the table indicates that the list is not necessarily complete and that the groundwater/surface water findings will be available to inform any of the other criteria, if and as necessary.
Suggest renaming Operational Period to "Operational & Closure Period" to reflect the inclusion of the closure period (and capping) in this description.	Noted; the definition for "Operational Period" is clear that it includes progressive construction and closure as well. "Construction, Operational & Closure Period" was felt to be too awkward.
Suggest revising the last sentence for completeness to include "inspection" and "reporting" which are additional activities also normally associated with the post-closure period.	Noted, although these are not activities that would cause any significant effects.
Indicate that contaminants are a concern to aquatic/terrestrial life in addition to the stated public health concern.	This issue is addressed separately through other criteria assigned to the ecological assessment. The ecological study will draw information about potential contamination from the gw/sw assessment to address other criteria related to impacts on aquatic ecosystems. **See Appendix F-7: Ecology Assessment.**
Suggest appending the following to the end of the first sentence: "… and will be defined by specific study criteria."	Noted; this is implied.

Government Agency Comment	How Comment was Considered
The Site Vicinity definition for effects due to contact with contaminated groundwater or surface water should also include acknowledgement (in addition to the current wording) that "The Site vicinity also includes the local area extending about 500 metres (m) in all directions" in conformity with the requirements of MECP Guideline D-4 – Land Use on or Near Dumps and O.Reg. 232/98 – Landfill Standards.	Noted; both provided some guidance to the selection of the study area but it is also based on professional experience and judgement.
The listing of proposed indicators/measures for flood and erosion control should also acknowledge the "Stormwater Management Planning and design Manual (MECP, March 2003) which provides additional guidance for flood and erosion considerations.	Noted. The MECP (2003) manual was used as a general guidance for flood and erosion considerations as well as evaluation of stormwater management alternatives. Updated to include reference.
Suggest clarifying if the height of the waste mound is 15 m above existing or future surrounding grades.	"Surrounding grade" refers to the undisturbed area around the quarry, so there is no difference.
Suggest adding "To be conservative, a layer thickness of 5 m will be used for modeling and design calculations."	Noted. This section merely lists the assumptions regarding the site design (i.e., the range and average thickness), not necessarily how these data will be used in the analysis.
Suggest adding a bullet "Any other pertinent information, as available." to ensure that all relevant information is considered for the surface water assessment during its existing information and background review	This consideration is noted above the list of back ground information to be reviewed in the verbage "... including, but not limited to:"
Suggest defining the radius distance surrounding the site for the inventory of private and public water wells.	Noted. The April 6, 2017 memo is intended to supplement, and form part of, the work plan. The April 6, 2017 memo has been integrated into the final work plan.
The surface water component of the assessment work plan should provide preliminary details of the proposed locations of surface water monitoring on a plan view figure.	Noted. The Work Plan is updated to provide details regarding the location and monitoring equipment of each surface water monitoring location. **See Appendix F-11: Surface Water Assessment.**
Benthic community monitoring methodology should be included and appropriately detailed at this time within the surface water assessment work plan.	The benthic sampling was carried out as part of the ecological (aquatic) assessment, and all of these details are contained in that work plan. **See Appendix F-7: Ecology Assessment.**
Surface water elevations should be determined at each sampling location during each sampling event, in addition to the measurement of surface water quantity (in the form of discharge rates).	Agreed. Surface water elevations was be measured manually during each flow measurement event and recorded approximately every 15 minutes, using data logging water level transducers, between sampling events at each flow gauging location. **See Appendix F-11: Surface Water Assessment.**

Government Agency Comment	How Comment was Considered
Landfill gas monitoring and alarm measures which would verify the effective operation of the mitigation controls should be included in this study.	Recommendations for mitigation and monitoring are a (final) component of the assessment as set out in Section 2.0 (Item e) of the work plan. It is not the purpose of this work plan to pre-judge whether or what types of alarms and monitoring might be required until the studies are completed. **See Section 6.4.4.**
The outline of the impact assessment for surface water should also specifically indicate: It will consider both the operational period and the post-closure period of the proposed landfill undertaking, with the latter extending for the duration of the contaminating lifespan of the landfill. It will include the effects of ongoing quarry dewatering and the cessation of quarry dewatering on adjacent and Site Vicinity surface water resources, in addition to the impacts from the proposed landfill undertaking. It will include identification and evaluation of flood plain constraints in the study area.	The duration considered in the impact assessment is established on a criterion-by-criterion basis, as detailed in Section 4.0 of the work plan and also in Appendix A. Note that the criterion dealing with potential surface water contamination does include assessment of the post-closure period and specifically references the leachate contaminating lifespan. Section 7.2 of the work plan identifies that the future quarry dewatering activities will be factored into the assessment as a component of the baseline conditions. Section 5.0 of the work plan identifies that the assessment of flood and erosion hazard will encompass the Thames River and local tributaries where surface water from the site may discharge (and, therefore, their associated flood plain constraints).
Updated Draft Human Health Risk Assessment & Supplementary Health Review Work Plan JMCC Peer Review – NovaTox Inc. (May 2, 2017)	
Comment	**How Comment was Considered**
In the interest of transparency and complete documentation, the Chemicals of Potential Concern (COPC) should ideally be included in the HHRA work plan or, at a minimum, details should be provided as to how COPC selection will be carried out.	The COPC selection process is presented in the Air Quality Assessment Work Plan, for reference, and was be included in the EA report. **See Appendix F-2: Air Quality Assessment.**
In the interest of transparency and complete documentation, the COPCs should be included in the HHRA work plan or, at a minimum, details should be provided as to how COPC selection will be carried out.	The COPC selection process is presented in the Groundwater/Surface Water Assessment Work Plan, for reference, and was be included in the EA report. **See Appendix F-10 and F-11 Assessment Reports.**
It is recommended that “along the selected corridor candidate” be replaced with “within the HHRA study area”.	Agreed. Revision made to replace “selected corridor candidate” with “within the HHRA study area”.

Government Agency Comment	How Comment was Considered
A clear order of preference should be provided for the use of the guidance documents. It is recommended that provincial policy/guidance be given priority, followed by federal policy/guidance, with additional jurisdictions considered only in the event that guidance is not provided either at the provincial or federal level.	The order of preference for the use of HHRA guidance documents is as follows: Provincial; (ii) Federal; and, (iii) International. This has been clarified in the updated version of the work plan (Section 9.0). Clarification made to indicate order of preference of guidance documents.
Reference should be made to the potential future conditions and COPCs associated with the proposed landfill. Details associated with the predictive modeling were presented in the work plans of their respective disciplines. Recommended that the HHRA work plan include a brief summary of the how the COPCs and concentrations for the Air Quality Assessment and Groundwater/Surface Water Assessment will be selected for inclusion in the HHRA. It should be made clear whether the maximum concentration generated will be used to evaluate the potential for Control/Management Measure failure, or whether trigger values from the other disciplines will be incorporated into the HHRA.	In keeping with the overall methodology approved for this assessment, the groundwater & surface water assessment forecasted future conditions as well as existing conditions. The full contaminating lifespan of the landfill leachate was considered. However, the EA was based on normal operating conditions of the site, not possible emergency or upset conditions; those were dealt with through the development of contingency/emergency response plans set out in the Design and Operations Report submitted for approval under the *Environmental Protection Act*. **See Section 5.**
In the interest of transparency and complete documentation the COPCs should be included in the HHRA work plan and details provided as to each COPCs selection.	The proposed COPCs are presented in the Air Quality Assessment Work Plan, for reference, and the final list are included and described in the EA report. The HHRA work plan has also been updated to include the list of COPCs in Air in Section 9.2.1. **See Appendix F-2: Air Quality Assessment.**
It is not clear that the statement "all chemicals where appropriate health-based regulatory air standard or toxicity value can be identified" is consistent with the previous statement referencing 28 COPCs.	The assessment developed a list of COPCs to be evaluated in the HHRA, based on data and information from the Air Quality and Groundwater/Surface water studies. The text referring to "28 chemicals" has been removed from the updated work plan (Section 9.2.1).
Suggest an additional sentence detailing that exposures to these chemicals are expressed as an amount per volume of air basis irrespective of inhalation rate, body weight, etc. is warranted for clarity.	Agreed. The following sentence has been added: "However, exposure to volatile chemicals via the inhalation pathway are assessed as an amount per volume of air basis, irrespective of inhalation rate, body weight, etc." This has been revised in the updated work plan (Section 9.3.1).
A clear order of preference should be provided for the use of the guidance documents.	The order of preference for the use of HHRA guidance documents is as follows: Provincial; (ii) Federal; and, (iii) International. This has been clarified in the updated work plan (Section 9.3.1).

Government Agency Comment	How Comment was Considered
Is the intention of this risk assessment to develop Property Specific Standards? If so, further details should be provided on how these will be calculated and how they will be used to govern Site conditions and Risk Management. If not, then this sentence should be removed.	Noted. The sentence has been removed. This has been revised in the updated work plan (Section 9.3.3).
Further reference for the Supplementary Health Review and Figure should be provided, with a minimum of a date to the document so that it can be linked to the corresponding document detailed in the reference section.	The steps of the Supplementary Health Review were identified in the comment that Walker received from the MECP as part of the ToR process and required the SHR to include additional analysis with regards to the process. As such, the steps of the process "screening, scoping, assessment, mitigation, reporting and monitoring" were developed. The figure was developed by the Intrinsik Team as a visual representation of these steps. No additional references are provided at this time.
The majority of the comments and revisions recommended for the original 2013 HHRA Work Plan were accepted and agreed upon by the Work Plan authors and Walker Environmental Group Inc. In general however the agreed to changes are not reflected in the HHRA and Supplementary Health Review Work Plan of March 2017.	Noted. The work plan now contains a list of acronyms as requested previously. However, additional detail around the Conceptual Site Model (CSM), specific receptors and exposure scenarios cannot be determined until detailed assessments have been conducted by the various other key disciplines (e.g., Air Quality, Groundwater/Surface Water, Agricultural, etc.) to provide the necessary information on chemicals of concern. **See Appendix F Assessment Reports.**
Updated Draft Noise/Vibration Work Plan **JMCC Peer Review – Coulter & Associates (May 2, 2017)**	
Government standards for landfill noise are an inappropriate criterion for assessing noise impact in a rural area. The Government standards for landfill are 10 dB higher than the zero impact value. Meeting the Government criteria does not mean zero impact.	Agreed. As indicated in this section of the work plan, the intent is to assess noise against appropriate government standards, and also to identify the residual noise levels so that they may be considered in terms of potential cumulative effects in the social impact assessment study.

Government Agency Comment	How Comment was Considered
Indicate how the noise impacts are being combined or weighted with other impacts to come up with overall ratings of social impact or nuisance impacts etc.	The intent of this table is not necessarily to indicate the study methodologies, but rather to relate a number of the key issues heard through public consultation to the EA criteria.
Clarify the interdisciplinary methodology to "collaborative fashion" of sharing data with other specialists but there is no description of how this will be accomplished.	The tables in Appendix B to the approved ToR describe the scope of the EA Criteria and the inter-connectivity of the EA studies. Further specific clarity on the multi-disciplinary analysis could be useful at this stage, it is not practical.
The EA should assess residual impacts over and above existing ambient levels. Especially in rural areas, there can be a large difference between deemed acceptable regulatory limits and actual impacts.	The landfill guideline provides daytime of 55 dBA in any hour of the day (7am to 7pm) and 45 dBA any hour of the night (7pm to 7am), for landfilling. As indicated in this section of the work plan, the intent is to assess noise against appropriate government standards, and also to identify the residual noise levels so that they may be considered in terms of potential cumulative effects in the social impact assessment study.
The referenced MECP vibration standard is out of date and no longer in common usage. This standard should be reviewed and a current alternative should be used such as the railway vibration specification (0.14 mm/second RMS).	There are no anticipated sources of vibration associated with on-site proposed operations of the landfill site. Sources of vibration emissions was reviewed in terms of potential for vibration and if determined applicable. The use of an alternative specification for vibration would need to be approved by the MECP if necessary. **See Appendix F-13 Noise/Vibration Assessment.**
Since 1980 when Ornament was created based upon noise measurements of the car and truck fleet then on the roadways, the truck maximum power train noise permitted has dropped from about 92 dBA at 15m to 83 dBA at 15m. It is recommended that the traffic modelling reflect current traffic conditions on the road rather than an out-of-date hypothetical set of calculations.	The MECP currently still requires the use of Ornament under NPC-206. Updated models would be used when approved by the MECP
The proposed sound measurement protocol is inadequate. The proposed 20 minute Leq's suggested for stationary noise sources is too short to reliably typify quarry or landfill sound. There may be some sources for which this would be acceptable but the operation of a loader or packer would need longer periods of observation (up to an hour).	These measurements will be used to verify existing conditions and allow for model verification. The measured data at off-site receptors is not intended to be used as the primary tool to determine predicted noise levels off-site. **See Appendix F-13 Noise/Vibration Assessment.**

Government Agency Comment	How Comment was Considered
The text implies that quasi-steady impulsive sources should be independently tested and then given an extra allowance of 10 dB. However, 60 dBAI for Quasi-steady sound as a guideline is not a correct interpretation of NPC 104. A Quasi-steady impulse noise, like a jack hammer, is to be penalized by adding 10 dB to the meter readings before it is added to the overall Leq.	60 dBAI value is outlined in the Landfill Guideline Document from the MECP. We acknowledge that NPC-104 applies a 10 dB penalty for quasi-steady sources.
Updated Social Assessment Work Plan **JMCC Peer Review – Hardy Stevenson & Associates (April 23, 2017)**	
Peer Review Comment	**How Comment was Considered**
Social effects need to be identified before they are assessed. It could be assumed that Objective (b) 'environmental effects evaluation' will first identify a list of potential effects. However, the study process should include a separate objective specific to 'identifying environmental effects'.	Agreed that it is reasonably inferred that the evaluation will both identify and assess potential effects. **See Appendix F-14: Social Assessment.**
The Social Assessment work plan should be expanded to assess and present the analysis of cumulative effects in relation to Valued Components (VCs).	The approach to cumulative effects in this EA is inherent in the overall methodology set out in Section 8.2 of the approved ToR and reflected in each work plan. As noted in Section 8.0 of the social assessment work plan, the cumulative effects assessment for the social assessment will consider the effects of existing and future aggregate operations and rehabilitation, and growth in the municipalities nearest the proposed landfill site. This will be done in relation to the seven main criteria outlined in Section 8.0.
This Work Plan also should include reference to the assessment of environmental advantages and disadvantages and the significance of cumulative effects.	Agreed; the assessment of environmental advantages and disadvantages are clearly identified as an objective of the social assessment in Section 2.0, item (d). As noted above, this will incorporate any cumulative effects. **See Appendix F-14: Social Assessment.**

Government Agency Comment	How Comment was Considered
3.0 Environmental Assessment Criteria, Page 3, Second table. The preamble to the Table states, "Furthermore, this study is also designed to provide key input/data to other environmental criteria that will be addressed through studies conducted by other experts." Our cumulative effects peer review comments point to additional potential effects (to be studied by other disciplines) as also having social impact implications. E.g. the "Displacement / Disruption of businesses or farms" also has significant social implications. All the work plans, including the Social work plan should present a multi-disciplinary methodology whereby all potential interactions among the various effects are identified and assessed.	Agreed. SLR will make our findings available to all experts for use in evaluating any environmental criteria that individual experts determine as necessary and these experts will also share their findings with SLR as input to the social assessment. **See Appendix F-14: Social Assessment.**
The study areas are reasonable with the understanding that they may be adjusted to reflect the scope and scale of identified effects as they become known through the assessment studies.	Agreed. Work plan revised for clarity.
For Criteria 2. Disruption to Use and Enjoyment of Residential Properties, we recommend that data be gathered on the 'sensitivity' of people and businesses in relation to noise, dust, vibration, odours, traffic, agricultural and visual effects. For example, do local haul route residents who engage in shift work require a quieter environment during the day? While possibly covered under 'enjoyment of property', we also recommend that 'vibration', 'local generation of truck traffic', 'effects of truck headlights' and 'lighting' be added as indicators of social impact. The results of analysis of other disciplines and indicators and measures should be added as presented in the Table on Page 3. Property value effects and visual impact also should be addressed as a consideration for the social impact assessment.	The social assessment work plan notes that results from the field data collection program will be used to determine potential for or likelihood of social impacts. Site Vicinity Kitchen Table Meetings and the Local Resident Questionnaire will provide participants / respondents with the opportunity to express their "sensitivity" to potential impacts of the landfill and to identify potentially vulnerable groups (e.g., elderly, children, outdoor workers). The suggested sources of potential social impacts (e.g., vibration, truck traffic /headlights and lighting) will be considered in addition to those subject to analysis by other disciplines. We agree that visual impacts could also be related to use and enjoyment of residential properties, and can be considered where relevant, since the list was not necessarily intended to be limiting. However, the relation of property value to the use and enjoyment of residential properties seems less apparent. **See Appendix F-14: Social Assessment.**
Cumulative effects indicators and measures should also be included.	As noted previously, cumulative effects assessment is integrated in this EA and does not require a separate set of indicators.

Government Agency Comment	How Comment was Considered
Leachate management measures also have potential to cause social impacts (odours, reduced downstream assimilative capacity of streams) and should be referenced in the discussion of facility characteristics. Further, there also is no indication of whether the landfill will accept biosolids, which can cause social impacts that can be quite odorous. A fuller description of the facility characteristics and materials accepted for landfilling is required to better assess social impacts. Water and Air quality should be included as Indicators/Measures of Use and Enjoyment of Property and Public Facilities.	The leachate management system and waste types are described in the Facility Characteristics Assumptions (posted for further reference) and will be included as a potential odour source in the air quality assessment (refer to the Air Quality Assessment work plan). Air quality (dust, odour) factors are specifically referenced in relation to the use and enjoyment of residential properties and public facilities (see the table in Section 5.0). Water quality is not specifically mentioned, however, since it is not reasonably expected that the landfill would affect water quality on any private properties or public facilities; however, this will be considered further during the EA should the assessment indicate otherwise. **See Appendix F-14: Social Assessment.**
The land use forecast included in the Social Impact Assessment Work Plan also needs to be included in the Cumulative Effects Work Plan as it provides a standardized set of assumptions for the impact assessment. The land use forecast should include a more complete characterization of municipal plans, future development proposals and strategic initiatives. These updates will influence the land use forecasts. A full reporting of forecasted developments and land uses should be provided as a background to all effects assessment work plans.	Agreed; the land use planning forecasts are a common set of assumptions for all of the EA studies. Draft copies are posted for information along with the work plans, and include an adequate characterization of municipal plans, future development proposals and strategic initiatives for the purpose of the EA, and final versions will also be reported in the EA. However, it is unrealistic for this EA to anticipate future updates to the Official Plan that are not already indicated in the plan or by municipal planning staff (who have been asked for their comment and input). The Cumulative Effects work plan identifies how the SWLF EA is designed to assess cumulative effects within each study and as a whole. There is no separate Cumulative Effects study, and therefore will not draw on the Facility Characteristics Assumption. **See Appendix F-12: Land Use Assessment.**
Specifics should be provided on how Traditional Knowledge and Aboriginal socio-economic data will be obtained. The noise discipline should clarify whether the rural design target is 55 dBA Leq or 45 dBA Leq as the former would provide a 10 dBA Leq residual effect for the assessment of social impact.	Section 7.2.8 of the social assessment work plan provides more details regarding how Traditional Knowledge and Indigneous socio-economic data will be obtained besides Statistics Canada data. **See Appendix F-14: Social Assessment.** See the response to the noise assessment regarding the noise limits. For the purposes of the social assessment, we look at both the change from baseline conditions as well as the absolute noise value. Typically a +5 to +10 dBA change from baseline conditions is considered to be a marginal effect, while +10dBA change is a major effect. These values will be discussed and confirmed with the noise discipline. **See Appendix F-13: Noise Assessment.**

Government Agency Comment	How Comment was Considered
More data should be gathered under the 'use' category on how people may interact with the proposed landfill.	The site neighbour interviews, kitchen table meetings and the local resident questionnaire will provide opportunities to participants/respondents to specify how they use their property. **See Appendix F-14: Social Assessment.**
We note that CE effects are not specifically addressed in this work plan, and should be.	See above, as previously discussed. As noted in Section 8.0 of the social assessment work plan, the cumulative effects assessment for the social assessment will consider the effects of existing and future aggregate operations and rehabilitation, and growth in the municipalities nearest the proposed landfill site. This will be done in relation to the seven main criteria outlined in Section 8.0. **See Appendix F-14: Social Assessment.**
Many other disciplines address effects that also will influence the Social environment. Appendix A should recognize these effects by including a 'v' in the Social Impact column, indicating that these interdisciplinary effects will be identified and assessed.	The check-marks in Appendix A only identify the lead expert for each criterion, as stated in the footnotes. The interconnectivity of the studies was set out separately in Table A-2, Appendix B to the approved ToR.
Updated Draft Traffic Assessment Work Plan **Comments Received From: JMCC Peer Review – Hatch Consulting Engineers (May 1, 2017)**	
Peer Review Comment	**How Comment was Considered**
Economics – Effects on Public Costs should be added to the tabular list of Other Environmental Criteria on Page 6.	Noted. However, it is acknowledged on p.6 that it is only a partial list and not limiting.
The effects of from the significant number of truck movements by local customers (51 out of 163 inbound trucks if just based on luggers and roll-offs and other short-haul soil imports) on local roads other than the preferred haul route and adjacent properties should be included in the traffic assessment. The Work Plan should be amended to include this analysis.	Given the proximity of the site to Highway 401, we anticipate that the majority of short-haul waste and soil import and construction materials will also use the designated haul route. Any local access to the site, expected to be limited to some of the employees in personal vehicles and possibly occasional waste deliveries from local businesses, will be incidental and spread out over a variety of routes as appropriate. **See Appendix F-9: Traffic Assessment.**
Other criteria based on the Highway Safety Manual should also be referenced; in particular, the potential increase in the number of collisions (by severity and type) due to the added site traffic should be quantified in addition to the collision rate.	The traffic assessment will predict increased severity of collisions, but only if the county has previously developed safety performance functions for their roads including County Road 6. The traffic assessment will consider available surrogate or proxy functions of similar roads to County Road 6 such as those from MTO or other sources, but they may not be suitable or we may not be able to obtain them from MTO. **See Appendix F-9: Traffic Assessment.**

Government Agency Comment	How Comment was Considered
The specific operational period of 20 years makes the landfill distinctly different from other developments that reach maximum build out and are in operation for an indefinite period of time. As such, instead of analyzing impacts 10 years post full build out, the analysis of traffic effects should consider the effects for the full 20-year operational term, to approximately 2043.	As noted in Table A1 in the work plan, the traffic criteria are proposed to be assessed during the operational period, recognizing that there will be very limited traffic to the site during the post-closure period (i.e., no waste deliveries, essentially just maintenance vehicles). We do not believe a 20 year assessment is needed as the site will generate the same amount of traffic in the opening year, 10 years, or 20 years. The only traffic component that will change is background traffic. **See Appendix F-9: Traffic Assessment.**
The traffic assessment should include an analysis to ascertain by what route local customer and personnel traffic will approach the site and how these route(s) may be affected by the addition of this site traffic.	See previous response.
The operational basis for the site traffic forecast should be clarified in the traffic Work Plan and analysis.	These traffic forecasts are average. Walker will be working with HDR to provide appropriate peaking factors as part of the EA. **See Appendix F-9: Traffic Assessment.**
The Work Plan should clarify how the forecasts of site traffic by the day and by the hour are to be determined and what level will be used for the traffic impact assessment.	As above.
Are specific measures related to climate change (e.g. vehicle emission standards) to be considered in the traffic impact assessment? If so, these should be noted in the Work Plan.	These are not likely relevant to the traffic assessment, but are simply listed in all work plans as a common source of climate change assumptions.
This section notes that traffic movement counts are to be collected at all key intersections along the preferred haul route where existing data is unavailable. This statement should be broadened to include collecting counts where the existing ones are too dated. The time frames for the traffic count data collection should capture the peak hour traffic volumes at the specific location; for example, the peak hour may be earlier than 7:00 AM in some locations.	Based on WEG's operating experience as well as based on an initial review of available 24 hour data, the peak hour will not be earlier than 7AM. We will collect data for locations where counts may be older than 3 years on County Road 6. **See Appendix F-9: Traffic Assessment.**
It is not clear if the peak period of traffic generation by the site is the same as the peak periods for the adjacent street traffic. To be consistent with MTO guidelines for traffic impact studies, the analysis of impacts to the network should be evaluated for AM and PM peak hours of the adjacent street traffic and the AM and PM peak hours of the site peak generation hour (where the site peak and the peak of adjacent streets are not the same).	Based on WEG's operating experience, the site peak generation hour will not be outside the adjacent street peak period of 7-9 AM period during the morning or the 3-6 PM period during the afternoon. The study will select the highest combination of background and site traffic within these periods to identify the peak hour for analysis. **See Appendix F-9: Traffic Assessment.**

Government Agency Comment	How Comment was Considered
Since the facility will have a finite operational life of approximately 20 years, an assessment of the impact of the site operations at the end of this term with future background traffic and site traffic should be considered.	Noted. However, the end of operational life of the landfill may not be an appropriate horizon year since the last landfill cell will have already been constructed by that point and all of the related construction traffic will have ceased. The mid-life horizon at 2033 is likely representative of peak landfill traffic since both landfill construction and filling operations will be fully underway by that point, but during the EA this could be adjusted to a slightly later year if the forecasts indicate another year with significantly greater baseline traffic.
Since there could be a number of private and commercial entrances to the primary and secondary haul routes, the quality of service for road users, and the effects from the increased traffic on the operation of these accesses also should be considered. Potential effects to the operation and pickup of students by school buses that are operating within the area also should be considered.	See previous response. The landfill-related traffic will largely be confined to the designated haul route and any landfill traffic on other routes is expected to be incidental. **See Appendix F-9: Traffic Assessment.**
The safety review should identify by severity the historical number of collisions that have occurred, and the predicted number of collisions that will occur under baseline future conditions and the predicted number of collisions for future conditions with the landfill site in operation. The anticipated reduction in the predicted number of collisions by severity and type resulting from possible mitigation measures should also be identified along with the basis for these potential savings. The corresponding societal costs for the increased number of collisions or reductions in collisions should be identified.	All of the requested safety metrics will depend on available collision data and safety performance functions for County Road 6 or similar roads to County Road 6, as well as available collision modification factors (CMF) from the Highway Safety Manual or the CMF Clearinghouse. If the data or functions are not available it will be challenging to predict future details on collisions. **See Appendix F-9: Traffic Assessment.**
The life cycle costs (savings) in collisions (by severity) should be included. In addition, the costs associated with the need for accelerated improvements to the haul roads arising from the operation of the landfill site over the full 20-year term should be estimated and included in the cost summary.	We believe it may be premature to consider life cycle costs in the traffic assessment study without first identifying existing conditions and what issues may be generated with the proposed facility, and what mitigation measures will be needed. If the study identifies mitigation measures which are demonstrated to be attributable to WEG, and WEG agrees with the recommended improvements, we do not believe life cycle costs would be necessary in the traffic assessment study report.
Updated Draft Visual Impact Assessment Work Plan **JMCC Peer Review – Schollen & Company (April 18, 2017)**	

Government Agency Comment	How Comment was Considered
Peer Review Comment	**How Comment was Considered**
The bullet point that describes 'on-site and in the vicinity' makes specific reference to 'public road allowances'. This statement should be expanded upon to read 'and Public Lands' in order to ensure that public amenities such as parks, community facilities and other public recreational amenities are addressed by the study.	The phrase "*representative properties where views to the landfill/quarry property are available (i.e., the viewshed)*" also encompasses public properties.
Section 5.0 - Page 7/ 3/6. The last sentence in this paragraph reads '… in order to reduce visibility and visual impacts of the proposal'. It is recommended that the sentence be modified to read '… in order to reduce visibility and 'prevent' or 'mitigate' the visual impacts of the proposal', in order to be consistent with the objectives stated in Section 2.0.	Noted, although the meaning is the same.
Section 5.1 - Page 7/ 1/1. A bullet point should be added to this section that references 'Land Ownership Mapping to Identify Public Lands'.	Noted. Bullet point has been added as recommended.
Section 5.2 - Page 8/1/1. The second sentence should be amended to read 'this study area may consist…'.	Noted.
Section 5.3 - Page 8/2/3. More specific information regarding the source, level of detail and resolution of the 'topographic surveys' that are proposed to be used should be provided.	These details will be documented in the final report. **See Appendix F-6: Visual Landscape Assessment.**
Section 7.2 - Page 11/1/4. The methodology proposed as described in this section varies significantly from that which was proposed previously, which included the preparation of 'photo realistic' images. The proposed methodology is valid; however, Line 4 should be amended to read 'Sketch Up Models that <u>will accurately illustrate views and visual relationships will be prepared</u>…'	Noted.
Table A-1 - Page 2/6/'Study Areas' Column. The 'Study Areas' column related to the 'visual impact of the waste disposal facility' criterion includes a checkmark in only the 'On-Site and Site Vicinity' box. To be consistent with the Work Plan. The box associated with 'Along the Haul Routes' should also be indicated with a checkmark (refer to paragraph 6 on page 6 in Section 4.0)	Agreed, although in this case the On-Site and Site Vicinity study area was defined broadly enough to encompass the entire haul route anyway.
Ingersoll PRT – Alternative Methods Interim Report **Frederick Bernard, Arcadis Canada & Peter Klassen, Tetra Tech Canada, May 26, 2017.**	

Government Agency Comment	How Comment was Considered
Consultation Record It is recommended that the Report should state approximately how many stakeholder comments specific to each alternative were received. In addition, details should be provided with respect to what events were held and when. WEG should also provide additional details on the First Nations consultation that occurred.	The Alternative Methods Interim Report was not intended to provide a complete record of the consultation program that was, and still is, being carried out in association with the "alternative methods" assessment. Rather, the interim report was prepared as a component of the ongoing consultation program with various stakeholders. Our analysis of the "alternative methods" had been presented and discussed over several months at Community Liaison Committee meetings, public workshops and meetings with individual community members as it was being developed. The interim report is simply the consolidation of that information for the interest of any stakeholders actively engaged in this EA. A full account of the consultation efforts will be prepared and presented with the draft EA report **(See Section 10 and Appendix I)**.
Noise Mitigation	We agree that standard noise mitigation could have been mentioned in Section 8.3.2 in relation to the haul routes, since it is Walker's routine practice at its other landfills to communicate and monitor speed limits and post signage limiting the use of engine brakes **(see Section 6.4).**
Further Examination of Diversion	The reviewer is correct that Minister's Amendment #9 to the ToR requires Walker to prepare a further review of diversion opportunities. Since Walker had dealt extensively with this subject in its ToR , and in particular in the supporting documents, Walker sought further clarity on the scope of this requirement from the Ministry at the time of the ToR approval. In our subsequent letter to the Ministry dated May 11, 2016, we confirmed our understanding that this further review of diversion opportunities would be carried out in conjunction with the development of the facility characteristics (currently underway), and not as an "alternative method" in the EA. The results will be documented in the draft EA **(see Section 7.2.5)**.

Government Agency Comment	How Comment was Considered
The screening of alternatives in some cases seem "high level" and it is not clear what level of technical expertise in areas such as geotechnical engineering, hydrology, ecological risks, etc. were applied in the section of the preferred alternatives, for example landfill design.	The reviewer notes that the analysis of the alternatives seems "high level" and states that it is not clear what degree of technical input was involved. This EA was intentionally designed so that the screening and comparative evaluation of the "alternative methods" could be carried out, to the extent possible, at a general or planning-level of detail, in keeping with the Ministry's advice in the EA Code of Practice, that "the level of detail at which alternatives are evaluated will normally increase as the proponent proceeds through the planning process". Wherever possible, simple indicators have been chosen at this stage for each criterion in the comparative evaluation that reflect the differences between the alternatives in a practical way that is understandable without a high degree of technical knowledge. This methodology was accepted in the Approved Amended Terms of Reference. This should be confused with the detailed assessment of the proposed landfill to be carried out in the EA, where all of the 41 EA criteria will be studied in-depth by Walker's technical experts.
It is not clear how cumulative effects are specifically incorporated into the assessment of alternatives. A cumulative effects assessment is important for determining the cumulative impact of the present quarry use and the proposed landfill use on both existing and sensitive land uses, as well as other "zoned for" sensitive land uses that are currently permitted by the current Official Plan and Zoning By-law to establish in close proximity to the quarry and proposed landfill but are not yet established in the study area.	Cumulative effects were not considered in a rigorous manner in the screening and comparative evaluation of the alternative methods since the combined effects of the ongoing quarry operations or other activities in the area would generally be common elements among the different alternatives, and would not necessarily help distinguish between the alternatives. Nevertheless, the role of the ongoing quarry operations was certainly factored into the assessment in a practical manner; for example, the screening of the various footprint alternatives was very much dependent on the future location of the quarry and processing operations. A rigorous cumulative effects assessment is, however, a key component of the upcoming evaluation of the proposed undertaking, as set out in Section 8.2 of the ToR and detailed in the Draft Cumulative Effects Work Plan **(see Appendix G: Cumulative Effects Work Plan)**.
Ingersoll PRT – Facility Characteristics Assumptions, Revision 2 Review **John Muller, P. Eng., Tetra Tech Canada, May 24, 2017**	

Government Agency Comment	How Comment was Considered
Depth of Fill & Differential Settlement – concern that the depth of the proposed landfill increases the potential for differential settlement and associated stresses on the liner and leachate collection system piping, reducing their effectiveness in minimizing leachate heads on the liner system and the associated leakage rates through the base of the landfill.	We note that the average waste thickness within the landfill is proposed to be 32.3 m which is within the limits of the design requirements for the Ministry's generic double liner system. We acknowledge that there will be a considerable amount of backfill placed beneath the liner, on the quarry floor, which will serve to multiply the attenuation layer of the liner by a factor of 5 to 22 times. This structural fill layer will have to be engineered and constructed to ensure that there is not excessive differential settlement. Note that this geotechnical assessment is a requirement of Section 6(2)(c)(v) of O. Reg 232/98 and that Walker will be undertaking in conjunction with any application under the EPA. We also note that the Ministry's guideline related to waste depths greater than 50 m is specifically for purge well contingency systems (Landfill Standards, Section 4.8.2, Table 8(a)). Contingency systems have yet to be developed for this proposal, but if they include landfill purge wells then this requirement will be addressed. Lastly, we note that estimates of service life and contaminating lifespan are not required if the Ministry's generic liner system is specified (O. Reg. 232/98, S. 6(2)(c)(xix-xx)), as is the case with this proposal.
Concern with unanticipated design and installation of geomembrane failure due to stress concentrations created during liner installation. Provided some recommendations for minimizing the failure risk associated with stresses on the liner system.	We agree that liner construction requires careful design, construction techniques and quality control, especially for the liner geomembranes, and these will be detailed in the design and operations report accompanying any EPA application. We note that Walker has considerable current field experience with this type of liner construction; the South Landfill in Niagara is currently being built with the Ministry's generic double liner system in a former quarry setting.
No details are provided regarding the nature of the fill material to be placed below the base elevation of the liner system for landfill cells.	Section 1.5 of the report clearly notes that the backfill materials will be sourced on-site from overburden stripping operations, not imported. As noted above, this structural fill layer will have to be carefully engineered and constructed and that a geotechnical assessment will be prepared as a requirement of Section 6(2)(c)(v) of O. Reg 232/98.
Preferred leachate treatment alternative	We are pleased to note that the reviewer supports the choice of an on-site treatment plant as reasonable for this proposal.

Government Agency Comment	How Comment was Considered
Leachate quantity & quality	We believe that the leachate generation rates are adequate for the purposes of initial assumptions, since they are based on detailed modelling for Walker's South Landfill, of similar size and design. These assumptions are further qualified based on actual leachate generation rates observed at the currently operating South Landfill. However, these will be further refined and supported as the design progresses, especially as it relates to the sizing of the leachate treatment facility and its discharge. We note the reviewer's comment that TKN values from other landfills in Ontario and Quebec are more typically in the range of 200 to 1,000 mg/L. However, as specifically noted in Section 1.7.2 of the Facility Characteristics Assumptions document, the range of about 130 to 250 mg/L proposed by Walker are following pre-treatment in an aerated pond. We will provide these comments to the leachate treatment facility design and engineering team for further consideration to ensure appropriate influent characteristics are considered.
Need for contingency planning for leachate management	We agree with the reviewer that a contingency plan for leachate management is required, and it is something that will be addressed in conjunction with the development of the design & operations report in support of the EPA application for the landfill.

Government Agency Comment	How Comment was Considered
The Approved Amended Terms of Reference (Page 43) notes that the inclusion of 'the Emergency Detour Routes as a traffic contingency' was also done so in response to input from interested parties and CLC members. The initial Traffic Study Assessment Work Plan noted that 'a contingency plan will be prepared, which will identify feasible alternative route(s) to the site in the event of Highway 401 road closures. Emergency Detour Routes will be considered in the development of the Contingency Plan'. The revised draft for this work plan subsequently removed this statement, but provided no indication as to how this specific item is to be addressed other than information will be obtained from the Ministry of Transportation Ontario (MTO). The work plan should, as a minimum, review the Emergency Detour Routes for Highway 401 as noted in the Terms of Reference to appease the input already received in this regard. The work plan should also identify any special conditions or considerations that should be made in the event that an emergency detour is put in place, i.e., that only the designated routes are to be followed to ensure the integrity of the local road network for other road users.	Contingency plans for unexpected or upset conditions are required to be submitted to the Ministry as part of an application for an Environmental Compliance Approval (ECA) for a landfill under the Environmental Protection Act. If the EA is approved, Walker will prepare a Design & Operations Report (D&O) in support of the ECA application based on the facility characteristics that emerge from the EA. Included in the D&O will be a description of the proposed contingency plans that will address emergency detour routes (along with other possible emergency or upset conditions). However, during background data collection (work plan section 7.1) information will be obtained from MTO on Emergency Detour Routes including the frequency of closures of Highway 401. **See Section 8.**
As noted in Table 5 of the Approved Amended Terms of Reference (Page 46), one of the comments received from a local interested party relates to the accelerated deterioration of the roads with increased truck use. The revised Traffic Study Assessment Work Plan identifies pavement structure conditions and studies/reports to be collected and observed as part of the field data collection. There appears to be no indication within the work plan as to how this data is to be used and how such concerns will be addressed. The work plan should indicate how the pavement structure data is to be used and whether there is any intension to address concerns related to accelerated pavement deterioration as part of the scope of the assessment. In addition, the minimum acceptable pavement condition should be agreed upon between the appropriate municipality and WEG to ensure that any future rehabilitation is assigned to the appropriate party.	The data are to be collected and reviewed to confirm that the road structure is suitable for heavy vehicle traffic. (However, now with the more recent selection of County Road #6 as the preferred haul route from among the other alternatives, this may be largely unnecessary since CR#6 is already designated by the County as a trucking route.) Maintenance of CR#6 for this purpose is within the authority of the County of Oxford. Language added for clarity regarding the purpose of obtaining pavement structure conditions information.

Government Agency Comment	How Comment was Considered
As part of the addenda to the Approved Amended Terms of Reference, Point 8 notes that WEG will 'work cooperatively with the MTO on any further assessment that they wish to carry out'. The revised Traffic Study Assessment Work Plan seems to only note that a meeting will be held with MTO to convey and discuss public concerns regarding the operations of Highway 401 between County Road 6 and the ONroute service centre (Ingersoll Travel Plaza) and that the ramp operations are to be analyzed using the Highway Capacity Manual. To be consistent with the addenda, the work plan should be flexible to allow for more than just completing an analysis of the ramp operations. It is expected that weaving analysis between the interchange ramp and service centre ramp may be required to confirm whether an increase in traffic to the landfill site may adversely affect operating conditions between these facilities. It may also be prudent to review the ramp terminal intersections and their expected operations in conjunction with the ramp operations to appease MTO requirements.	As required in the addenda #8 to the ToR, Walker and HDR met with MTO on May 19, 2017 to relay public concerns and review the appropriate scope of the traffic assessment as it relates to the Highway 401 interchange.
Re: Updated Draft Technical Work Plan Summary In the section titled Key Updates to Traffic Technical Work Plan in the Updated Draft Technical Work Plan Summary (Page 2 of 4), it is noted that the 'traffic forecasts for the landfill will be based on approximately 163 inbound trucks per day of various sizes…'. There is no other mention of the inclusion of other vehicles and/or outbound movements. • The forecasts should also include any outbound movements from the landfill as well as address the demands from other vehicles that will access the landfill on a typical day, not just the 163 inbound waste trucks. • The actual design vehicle (classification of truck) to which any improvements to the existing road infrastructure will need to accommodate should be defined.	This summary was prepared for the purposes of consultation with the general public about the work plans. Section 6.1 of the updated traffic work plan itself includes a listing of assumed vehicle trips and types related to the landfill operation. Outbound trips are assumed to match inbound. Language has been added to note that the number of outbound trips are assumed to be the same number as inbound.

Government Agency Comment	How Comment was Considered
Re: Updated Draft Technical Work Plan Summary In the section titled Key Community Input Provided to Technical Experts in the Updated Draft Technical Work Plan Summary (Page 2 of 4), four bullets are listed with key input items raised by various community parties. The work plan is silent regarding whether these items and any others that have been or will be provided are to be specifically addressed within the context of the traffic study, as part of another component of the approval submission, or not at all. Since four specific items are included as part of the work plan summary, it could be interpreted or misconstrued that the traffic study will seek to address these items. The means to address the various key community inputs should be provided that will allow the various parties raising concerns to understand the process to receive at adequate response.	This summary was prepared for the purposes of consultation with the general public about the work plans. The tables in Section 3 of the full traffic work plan are meant to correlate common issues heard from the community to the approved EA Criteria. The evaluation of each of these criteria in the EA conveys an assurance that these community issues will be addressed.
Re: Updated Draft Technical Work Plan Summary One of the key community input items referenced in Point 5 above relates to the need to 'review existing County traffic studies on County Road 6 (specifically southbound traffic). Since the focus of the study will be on the proposed (or primary) haul route with inbound (loaded) trucks largely travelling north (northwest) along the route, it would seem that there are some concerns that exist for those vehicles travelling outbound (unloaded) from the landfill. The other three bullets provide more context regarding the concerns raised by the community. It would be beneficial to expand upon the concerns related specifically with southbound traffic travelling along the haul route to ensure that such concerns are addressed to the satisfaction of not only those making the observation, but to all parties involved. It is anticipated that this item was raised based on the findings documented in the County of Oxford Transportation Master Plan Study (2009), which noted that the link selected by WEG as its primary haul route (County Road 6) is the only link 'east of Ingersoll, north of Highway 401…where the volume exceeds' the road capacity in the southbound direction. The addition of vehicles using this link from the proposed landfill may only compound such capacity issues.	Noted. This summary was prepared for the purposes of consultation with the general public about the work plans. Refer to the full work plan for a complete description of the proposed data collection and assessment, in particular the tables in Section 3 of the full traffic work plan which correlate common issues heard from the community to the approved EA Criteria.

Government Agency Comment	How Comment was Considered
Re: Updated Draft Technical Work Plan Summary The proposed methodology in the Updated Draft Technical Work Plan Summary (Page 1 of 4) notes the use of 'traffic impact study guidelines of the County of Oxford and the Ministry of Transportation'. However, within the list of Key Guidance Documents/Standards (Page 3 of 4) to be consulted the only reference made to the County of Oxford relates to their road design criteria. The work plan should reference any applicable documents and/or guidelines published by the County of Oxford that will be consulted beyond the road design criteria already listed. Alternatively, the reference to such guidelines from the County of Oxford should be corrected, if made in error.	Noted. The correct reference is "road design criteria for the Town of Ingersoll and County of Oxford" as is listed in the full work plan.
Alternative Methods - Updated Draft Traffic Assessment Work Plan Paul Steel, P. Eng., Tetra Tech Canada on behalf of the Town of Ingersoll (May 25, 2017)	

Government Agency Comment	How Comment was Considered
There is no reference to either this transportation master plan or any follow up study within the Updated Draft Technical Work Plan Summary that may have been completed to further assess this issue as noted in the County's master plan. • Additional sources of information, data and analyses such as those contained in the County of Oxford Transportation Master Plan Study (2009) and any follow up studies would prove to be relevant sources of key guidance that should be cited in the work plan. It may be that no such follow up analyses have been completed; however, this should be confirmed prior to advancing with any analysis for the landfill. • Given the findings noted in the County's master plan, it would appear that any improvements to County Road 6 should be identified as part of a larger study that considers local and through traffic in the urban area as a whole, i.e., not in isolation. Although it is recognized that the traffic study for the proposed landfill needs to focus on a finite corridor, there may be opportunities to improve the surrounding network as a whole that should be addressed prior to a significant development such as the landfill progressing. Some of the capacity pressures noted in the County's master plan specific to southbound traffic may be alleviated elsewhere by enhancing alternative route options. This may present alternative routing scenarios for WEG besides the proposed haul route and/or provide more credence for this route option if existing capacity constraints can be adequately addressed that are not compounded by the proposed landfill. The need to conduct and advance an environmental assessment study would be determined by municipal government(s), not WEG.	Noted. This summary was prepared for the purposes of consultation with the general public about the work plans. Refer to the full work plan for a complete description of the proposed data collection and assessment. Note that this study would be among the documents collected and reviewed during the EA as mentioned in Section 7.1 (Background Data Collection) of the work plan. We agree that any broader transportation assessment for the County or local townships is beyond the reasonable scope of this EA. **See Appendix F-9: Traffic Assessment.**

The proposed haul route seeks to establish a private road access from an existing field entrance onto County Road 6. The Traffic Study Assessment Work Plan indicates that 'the study area for the traffic assessment will be based on the preferred haul route, which consists of access from Highway 401 via County Road 6 interchange, north on County Road 6, and then west onto a private road into the landfill.' Beyond this description and other references to the Highway 401 interchange at County Road 6, there are limited details regarding those intersections that will specifically be analyzed as part of the traffic assessment. Page 10 notes the sight distance at the site entrance is a proposed indicator/measure to gauge the potential for traffic collisions. The site entrance is proposed to be located in the northwestern corner of the site at Road 64/35 Line. Similarly, the calculated collision rate 'at all study intersections' is also a proposed indicator/measure to gauge the potential for traffic collisions. In addition there are several references to 'key intersections'. One of the assumed key intersections will be on County Road 6 where the private road access is to be established. • The work plan should identify the various 'key intersections' that will be analyzed to allow interested parties to comment on their applicability as well as to identify other possible intersections that should be included in the assessment. • The County of Oxford defines specific requirements for the management of accesses onto their road network. These requirements are included in Section 4 of the County of Oxford Transportation Master Plan Study (2009), which largely conform to national guidelines published by the Transportation Association of Canada. The traffic assessment should specifically address the appropriateness of the proposed location for the establishment of the private road access into the landfill to ensure that it meets the requirements set out in the County's policy documents. Specific items of interest are the need to limit the number of accesses onto county roads (arterials) since land access is a secondary consideration, provision of shared access to the adjacent lands from what is being defined as a private access, the driveway alignment in relation to a nearby entrance on the opposing side of County Road 6, and sight distance requirements due to the presence of the backslope along the west ditch of County Road 6. The proposed private road access is also located at the end of an auxiliary	We are aware of the County requirements for new access and will be following their requirements in this regard. We note, though, that this section of CR #6 (near the proposed new haul route access) is <u>not</u> part of the province's Emergency Detour Route (EDR) for Highway 401, as stated by the reviewer.

Government Agency Comment	How Comment was Considered
lane along northbound County Road 6 that could be impacted by any turning lane requirements. This section of County Road 6 is also part of the Emergency Detour Route for Highway 401 that may introduce additional stipulations for access management that should be addressed. • Similar considerations should be made, where appropriate, for other key intersections to be assessed.	
The Traffic Study Assessment Work Plan provides a set of working assumptions regarding future land uses (both community based and industry focused) that are to be used to guide the forecasting of traffic volumes along the proposed haul route. These working assumptions (Page 13 of the work plan) were identified by WEG; however, in the Transcript of Recording for the CLC Meeting No. 24 held on January 25, 2017, part of the discussion recording notes that 'one of the things we are doing, we will meet with Carmeuse, Lafarge and Federal White, to find out what they're plans are for the next 20 years, regarding tonnage, rehabilitation, all those types of things and those will be incorporated in the final Land Use Planning Forecast' (refer to Page 55 of 130). It will be important to document the final land use plans and assumptions as part of finalizing the work plan for the traffic study. All assumptions regarding community and industry growth should be vetted through and agreed upon by the appropriate parties to substantiate the baseline conditions. The traffic forecasting will rely on the accuracy and relevance of these assumptions.	Noted. Walker is in the process of updating and finalizing these assumptions in consultation with the respective parties. The assumptions will be documented in an updated an updated Land Use Planning Forecast. It will also be documented in the EA report for review and comment.

Government Agency Comment	How Comment was Considered
The Transcript of Recording for the CLC Meeting No. 24 notes that a portion of the discussion related to cumulative impacts associated with additional truck traffic onto County Road 6 and possible impacts from the frequent shunting of rail cars. Concerns were expressed regarding the potential queuing that can occur at the at-grade crossing, which could be compounded by traffic accessing the proposed landfill. Some options were raised regarding possible improvements that could be considered for the intersection between County Road 6 and Beachville Road, as well as grade separation of the railway. The response to the option for grade separation was documented as 'if the assessment points that far, that extreme, then we'll consider it but it's too early, too premature to tell at this time'. The need to provide any kind of grade separation for roads, railway, watercourses etc. can make any project cost prohibitive. One of the options ruled out from the feasibility screening documented in the CLC Consultation Paper was Route 1; the rationale for such was 'major upgrades to the bridge are cost prohibitive'. With the potential for the proposed haul route to require grade separation of the railway crossing, this may render this route option to also be cost prohibitive and/or bring Route 1 back into the list of those to be re-evaluated against the criteria and indicators.	Noted. The need for any further mitigation measures such as these can only be addressed pending completion of the impact assessment during the EA. **See Appendix F-9: Traffic Assessment.**

Government Agency Comment	How Comment was Considered
The Facility Characteristics Assumptions (Revision 02) notes that 'secondary haul routes for any local deliveries will follow the most appropriate County roads' (Page 3). In addition, the Updated Draft Technical Work Plan Summary (Page 2 of 4) advises of the analysis that will be undertaken 'along the primary haul route (and secondary roads if applicable).' It is recognized that these secondary routes may be subject to change based on the origin of the local deliveries; however, in order to analyze such, WEG must either make some assumptions or already have at its disposal an idea as to these origins. In a similar vain to Point 9, it would be beneficial for the work plan to identify which secondary roads could form a part of the analyses to allow interested parties to comment on their applicability as well as to identify other possible routes that could be considered in the assessment.	Given the proximity of the site to Highway 401, and the selection of the preferred haul route directly from Highway 401 to the site along CR #6, we anticipate that the majority of short-haul waste, soil import and construction materials will also use the designated haul route. Any local access to the site, expected to be limited to some of the employees in personal vehicles and possibly occasional waste deliveries from local businesses, will be incidental and spread out over a variety of routes as necessary. As a result, at this point, Walker does not intend to designate or assess any secondary haul routes. Reference to assessment of secondary haul routes has been removed from the work plan. **See Appendix F-9: Traffic Assessment.**

Government Agency Comment	How Comment was Considered
The Facility Characteristics Assumptions (Revision 02) indicates that subject to approvals, 'construction is projected to commence in 2020, and landfilling to commence in 2023' (Page 10). With this in mind, the horizon years chosen to meet MTO requirements have been identified as 2023, 2028 and 2033 (Updated Draft Technical Work Plan Summary, Page 2 of 4). Volumes have been estimated (noted in Point 4) for the operations phase of the landfill, which are assumed to remain constant throughout the landfill's lifecycle. However, the proposed site development stages noted in the Facility Characteristics Assumptions (Page 2) indicates a five year cycle from one stage to the next (four stages in total) at maximum filling rates. The assumptions also state that 'additional equipment will be required during construction and closure phases which are expected to occur up to 8 months per year' (Page 13). The work plan should confirm the intent to maintain a consistent number of vehicle trips from the landfill for each of the horizon years being analyzed or identify where any discrepancies could occur. Likewise, the work plan should comment on whether or not an overlap from any construction activities and associated vehicle trips can be expected beyond those specifically listed in the Traffic Study Assessment Work Plan, i.e., additional vehicles are required to access the landfill as part of the closure of one stage and the preparation of the subsequent stage beyond the regular operational requirements. Given the length of time that this can be expected to occur, the traffic volume estimates may need to be revised. It may also be prudent to consider undertaking a sensitivity analysis that confirms capacity thresholds or triggers for further upgrades and whether any staging can be implemented to delay any major capital expenditures where applicable.	Noted. Construction vehicles are incorporated into the traffic estimate, and appropriate peaking factors will be applied to these landfill traffic estimates during the assessment and documented in the EA. **See Appendix F-9: Traffic Assessment.**

Government Agency Comment	How Comment was Considered
The Facility Characteristics Assumptions (Revision 02) notes that 'seasonality of traffic assumptions are not considered in the above estimates' (Page 11), referring to the traffic volume estimates and trips per day. One of the points of discussion recorded in the Transcript of Recording for the CLC Meeting No. 24 (Page 54 of 130) raised a concern regarding the seasonal variations in traffic volumes and trip types that can be expected within the study area. County Road 6 serves summer recreational demands with vehicles heading to the lake areas and in wintertime due to vehicles rerouting to avoid Highway 401. To appease the feedback received specific to seasonal fluctuations, it may be prudent to consider a separate analysis beyond the typical peak hour periods. Any variations to the traffic volumes previously estimated that account for seasonal demands should be documented.	Noted. Seasonal variations are to be examined in the existing or new traffic count data and, if they are significant, allowance will be made in the assessment. **See Appendix F-9: Traffic Assessment.**
The Facility Characteristics Assumptions (Revision 02) provide staffing requirements specific to full-time personnel required for landfill operations (Page 13). It is assumed that the 15 personnel trips per day itemized in the Traffic Study Assessment Work Plan are attributed to this staffing requirement. The documents reviewed appear to be silent on the possibility of part-time or seasonal staffing requirements, which could alter the number of personnel trips per day. Any revisions required to the traffic volume estimates to account for staffing demands should be reflected in the work plan.	As noted above, appropriate peaking and/or seasonal factors will be applied to these landfill traffic estimates during the assessment and documented in the EA. **See Appendix F-9: Traffic Assessment.**
There are multiple sources of information provided by WEG in support of their application and approval process; however, interested parties have to pull this information together from the various sources to gain a comprehensive understanding as to how, what and why certain decisions have been made. Whether through completion of the traffic study or by some other means, it would be beneficial to have one document that can be referenced instead of multiple that documents the process from start to finish, specific to traffic related items.	Noted. Currently the EA is in its consultation phase and materials are being issued progressively as "work-in-progress". The EA report will comprehensively consolidate all of the materials. **See Appendix F-9: Traffic Assessment.**

Government Agency Comment	How Comment was Considered
An item that does not appear to be noted in any of the available documentation is the possibility of considering the use of larger trucks to transport the waste from the regional transfer stations to the landfill. Many provinces allow longer combination vehicles to operate on certain corridors in an attempt to increase the efficiency and reduce operating costs associated with goods movement. This possibility should be investigated further to determine whether this may be a valid option to increase efficiencies while reducing the net number of trucks and trips on the surrounding road network. Such a consideration would need to ensure there is no deterioration in the safety performance, level of service, travel delay or other pertinent traffic metrics. This should be done in conjunction with defining the design vehicle for the traffic analyses.	With the exception of small number of Walker owned trucks, the vast majority of trucks hauling materials and waste to the proposed are not owned or controlled by Walker. Therefore, Walker cannot dictate what type of vehicles haulers must use. The truck traffic assumptions being used in the EA represent a conservative estimate which will be used in the effects assessment. Walker can however, seek ways to support and incentivize haulers to use more efficient means of transporting materials which would reduce the net number of trucks accessing the site while reducing carbon emissions. Some recent examples of Walkers support of increasing efficiency, reducing traffic and carbon emissions at our currently operating South Landfill in Niagara include; • For Walker owned trucks, when retiring older 48 foot tailers, we replaced them with 53 foot trailers, thereby increasing payload and reducing the net number of trucks required to move the same volume of material. • For independently owned haulers, we made significant investment in 2 truck tippers. These tippers provide a means of unloading trailers without the requiring walking floor or hydraulic tipping equipment. This in turn allows the haulers to replace their fleet with lighter and larger trailers that carry a higher payload which ultimately meets the objectives noted above. • Feasibility assessments are underway to convert landfill gas into renewable natural gas (RNG) at Niagara. The RNG could then be compressed to vehicle fuel requirements and used as a fuel source for trucks using Walker's Niagara facilities. Walker will continue to invest in and support innovations that reduce truck traffic, improve efficiencies and lower carbon emissions as part of its ongoing operations. **See Appendix F-3: Greenhouse Gas Assessment.**

Government Agency Comment	How Comment was Considered
Point 1 above discussed the Emergency Detour Routes in place for the Highway 401 corridor adjacent to the Town and Point 11 above noted concerns regarding the frequent shunting of rail cars across County Road 6. In the documents reviewed, the topic of establishing an emergency access and an emergency access route specific to the landfill does not seem to be discussed. • Given the recent sensitivity regarding a lack of emergency egress from communities within Canada, it may be prudent for WEG to consider specific ingress and egress routes for the landfill beyond the proposed haul route and site entrance documented in the various traffic related documents. It is recognized that this may already be something that WEG is in the process of addressing, but it isn't necessarily something that has been discussed in the available documentation reviewed to date that focus on traffic related items. In addition, with the proposed landfill in close proximity to the Town, WEG should consider development of a transportation plan, for approval by the Town and/or the Ministry, which specifically speaks to the response requirements for emergencies and/or events that can be prone to landfill development. • Although it may be prudent for WEG to consider specific ingress and egress routes for the landfill beyond the proposed haul route and site entrance documented in the various traffic related documents, it may be appropriate for the Town (and other adjacent municipalities) to work with WEG to establish a transportation plan (in the absence of a current plan) that specifically addresses any emergency response requirements for emergencies and/or events that can be prone to landfill development. For example, large volumes of methane gas and other combustibles can be generated or accumulated through improper disposal of waste, and through improper treatment can lead to nearby residences having to be evacuated. Establishing an emergency plan to identify detour routes for road closures, railway crossing blockages, evacuation needs and maintaining adequate first responder access may be needed.	Contingency plans for unexpected or upset conditions are required to be submitted to the Ministry as part of an application for an Environmental Compliance Approval (ECA) for a landfill under the Environmental Protection Act. If the EA is approved, Walker will prepare a Design & Operations Report (D&O) in support of the ECA application based on the facility characteristics that emerge from the EA. Included in the D&O will be a description of the proposed contingency plans that will address emergency detour routes (along with other possible emergency or upset conditions). Walker would be amenable to participating in any other emergency response planning exercise that the local municipalities may consider. **See Section 8.3.**

Government Agency Comment	How Comment was Considered
In the Updated Draft Technical Work Plan Summary, a list of Key Guidance Documents/Standards (Page 3 of 4) notes the use of 'road design criteria for the Town of Ingersoll and the County of Oxford'. • The Town may wish to use this as an opportunity to guide the way in which their road design criteria is applied as part of the traffic study and beyond through to implementation, if applicable. In lieu of such criteria or since the County's network may be impacted greater than the Town's, the Town and County should confirm the minimum acceptable standards that WEG will need to adhere to with respect to road infrastructure improvements and possible triggers to implement such improvements. • WEG should consider whether there any current bylaws or known restrictions that are currently in place or could be put into effect that might improve the situation for neighbouring municipalities, i.e., time restrictions for large/heavy waste vehicles travelling through municipal boundaries, road bans, or alternatively whether the Environmental Assessment Act approval should impose conditions to the same effect.	Noted.
The Traffic Study Assessment Work Plan provides a set of working assumptions regarding future land uses (both community based and industry focused) that are to be used to guide the forecasting of traffic volumes along the proposed haul route. These working assumptions (Page 13 of the work plan) were identified by WEG and provided to the consultant responsible for the traffic study. Supporting documentation of these assumptions as stated by WEG regarding the Lafarge Woodstock Quarry, the Carmeuse operations and the population/employment growth should be confirmed and documented through peer review and/or consultation with the relevant municipalities/parties. Any known variances from the stated assumptions could influence the rate at which traffic volumes are expected to grow along the proposed haul route and alter the analysis findings.	Noted. Walker is in the process of updating and finalizing these assumptions in consultation with the respective parties. The assumptions will be documented in an updated an updated Land Use Planning Forecast. It will also be documented in the EA report for review and comment. **See Appendix F-9: Traffic Assessment.**

Government Agency Comment	How Comment was Considered
The current traffic control scheme at County Road 6 and Beachville Road is a four-way stop. This may or may not be adequate to address the future traffic volumes from background traffic growth and landfill development, which will be assessed as part of the traffic study. Some improvement to this control scheme is expected as will be defined from the analyses to be completed by WEG. Once specific intersection improvements have been identified through the appropriate analyses, WEG should consult with the adjacent municipalities to confirm whether the proposed improvements are acceptable to these municipalities based on their experience, concerns, and observations with similar improvement implementation elsewhere.	Noted.
TOWN OF INGERSOLL ***Draft Air Quality Assessment Work Plan*** Dr. Luca Neil, Airzone One Ltd. (and colleagues) on behalf of the Town of Ingersoll (May 23, 2017)	
Under "ENVIRONMENTAL ASSESSMENT CRITERIA' (p. 5), RWDI indicate that "Effects due to fine particulate exposure" will consider only the operational period assuming that particulate impacts will be negligible following closure and rehabilitation efforts. However, RWDI do not provide any evidence or rationale for excluding this assessment form the Post-Closure Period assessment. These emissions should be directly assessed based on proposed Post-Closure operations. Any sources considered negligible under any scenarios should be accompanied with appropriate rationale and assessments to allow reviewers to confirm negligibility.	See Section 6.2 and Table A-1 of the approved Terms of Reference; the study duration for this criterion was proposed to be limited to the operational period on the basis that the ongoing operation of the control facilities along with routine monitoring and maintenance were activities that were insignificant in terms of particulate emission.

Government Agency Comment	How Comment was Considered
RWDI indicate a criterion of 25% of the applicable limit as the basis for expanding the corresponding study areas (p. 6). However, this criterion appears to be based solely on contaminant emissions from the subject facility and not a cumulative air quality assessment of each contaminant. RWDI should provide rationale, or clarification, on why this criterion is based on subject source emissions only. Furthermore, RWDI have not provided a basis for the use of 25% as the criterion; rationale, or clarification, is required.	There is no published document from the MECP regarding applying a percent of criterion to expanding the corresponding study area. The 25% indicator was outlined as a suggestion when to expand the study area. Due to the nature of the sources from the site, it is anticipated that most contaminants will be highest close to the property line and not at the furthest extend of the study area. In the event that concentrations are predicted to be greater than 25% of the limit at the furthest extent of the study area, the study area would be extended... With respect to the cumulative air quality assessment versus subject facility, the verbiage will be updated to reflect the results from the cumulative air quality assessment. S.4 will be updated to include verbiage regarding cumulative air quality assessment results. **See Appendix F-2: Air Quality Assessment.**
RWDI provide a generic list of potential receptors in Section 4 (p. 7). As we have previously indicated, allowance must be made for review by all stakeholders of all information used to select receptors, including Town of Ingersoll, and allowance should be made for input into the decision-making process by all stakeholders to choose distinct receptors. It is not clear if RWDI will include all appropriate stakeholders in the determination of distinct receptors.	Receptor locations will be developed collaboratively among our experts as the EA progresses. They have already held some preliminary conferences to discuss possible common receptor points and they will continue to work together to refine these as they collect more data and carry out their analyses throughout the EA studies, for instance, once they have carried out some initial field inventories. **See Appendix F-2: Air Quality Assessment.**
On p.8, RWDI indicate (Tabulated) that contaminants will be compared to certain indicators or measures but do not mention that certain contaminants (e.g., PM2.5 or substances with no Ontario benchmarks) will need to be referred to the human health or ecological assessment.	The health assessment study addresses the input of data from the air quality assessment. **See Appendix F-15: Human Health Risk Assessment.**
In answer to one of our original critiques of the ToR, RWDI has provided a list of potential contaminants (Table 6.1.1.2) that may be emitted as constituents of dust. However, this list appears to only consider potential waste streams to be received by the site and only metals. While RWDI admit that this list may be altered, they should be sure to give consideration to soil constituents (e.g., crystalline silica) and other constituents (e.g., mineralogical or other materials) that may become airborne during the working of fill material, as well as other soil movement operations. RWDI should also provide references and sources for their complete list of particle constituents in the final assessment and not confine themselves just to metals.	Walker has specific standard operating procedures for waste that may contain controlled substances such as Silica and Asbestos. These operating procedures are developed to contain the waste material and prevent releases to the air of these substances. These substances will continue to be managed through these operational procedures.

Government Agency Comment	How Comment was Considered
In Section 5.2.1, RWDI make no reference to volatile organic compounds (e.g., Benzene,) nor Total Suspended Particulate Matter (and constituents thereof) as potential contaminants emitted from haul route traffic. These contaminants, and corresponding criteria, should be added to Table 6.2.1.1. This comment has been previously made on the draft ToR and RWDI appear to have still not considered all contaminants from vehicle exhausts. RWDI should also consider emissions of Diesel Particulate Matter, for evaluation by the Human Health Assessment.	Noted - Section 5.2.1 and Section 6.2.11 have been updated.
Again, as with the draft ToR, RWDI appears to have not fully considered all contaminants from landfill gas and its flaring. Tables 6.2.2.1 and 6.2.2.2 are incomplete lists of contaminants that can potentially be emitted, as described in our 5 May 2014 report (and further in our 3 June 2013 report). RWDI have previously indicated that 6.2.2.2 is complete "based on extensive experience with other landfill assessments". RWDI should divulge its "extensive experience with other landfill assessments" and explicitly show how this justifies the abbreviated list provided. Alternatively they should expand the list as suggested in our comment 5.1 (ii) (b) submitted 3 June 2013.	The MECP has provided comment on the list of compounds to be considered for this study. Table 6.2.2.1 and 6.2.2.2 have been updated to incorporate their comments.
Section 5.2.2 of the draft ToR, RWDI discusses 23 compounds associated with landfill gas to be assessed based upon the 1992 Ontario "Interim Guide to Estimate and Assess Landfill Air Impacts". It is noted that the revised ToR identifies only 22 compounds in Table 6.2.2.1. Further, it is noted that due consideration should be given to LFG Constituents listed in Table 2.4-1 of US EPA AP42.	See comment above. Refer to Table 6.2.2.1 and 6.2.2.2 of the Work Plan.
In section 5.3 RWDI indicate "Through our experience with other landfills in Southern Ontario, we have considered an objectionable level for odour to be generally in the range of 3 to 5 OU. These levels are more closely related to public complaints." They do not, however, provide "our experience" for public review and so their assertion remains uncertain and questionable.	This statement removed. There was no intent to only assess levels from the 3 to 5 range but only a comment discussing annoyance versus detection.

Government Agency Comment	How Comment was Considered
In Section 6.3, the Minister's amendment #12 to the Approved Amended Terms of Reference required that "climate change should be considered in this environmental assessment". It is not clearly specified in the work plan how these expected changes to the local weather systems are to be accounted for in the environmental assessment.	Section 6.3 is simply meant to identify the assumptions (along with the associated reference document, for any further assumptions that are necessary) that are being adopted for this assessment. It is self-evident that wherever the assessment methodology makes reference to the use of meteorological data in the modelling or analysis of future scenarios (either baseline and/or landfill) that they would be adjusted to incorporate these climate change assumptions.
In Section 7.1, RWDI states that "meteorological data will be requested from the Ontario Ministry of the Environment, Conservation, and Parks for a local meteorological station approved by the MECP." As we have commented before, the response from RWDI does not appear to allow for review of input from all stakeholders. Further it does not discuss the possibility, nor make allowance, that no existing data may be appropriate for the site (i.e., that default MECP meteorological data is not appropriate for use in this assessment). The dataset typically provided by the MECP for assessment purposes in the region would include 5 years of data from the London airport for the period from 1996 through 2000. However as this data is already 15 years old, and in the light of increasingly significant climate change, a more recent 5 year meteorological dataset from the nearest local (i.e. < 70km from site) meteorological station should be used to prepare the initial case assessments of air quality and odour related impacts.	The MECP will require that the project obtain site specific meteorological data from the MECP and approved by the MECP for the specific site. RWDI intends to follow this procedure and required site specific data from the MECP under s.13.1 of O.Reg.419/05 (as amended). See note below: 13.1 (3) Local or site-specific meteorological data approved by the Director as an accurate reflection of meteorological conditions.
Further to Section 7.1, and further to comments in our 5 May 2014 report, the review of historical ambient air quality data should be open and transparent to all stakeholders and allow input from other stakeholders. It is not clear if RWDI plans to include third party stakeholders in discussions with the MECP prior to utilizing the data. Concerns stem from the appropriateness of historical data to be representative of the current and future conditions at the site in question. Furthermore, RWDI does not provide criteria against which it will "review and validate the measurements to ensure the data set would be considered valid for this evaluation." These criteria and evaluation processes should be made available to all stakeholders. Lastly, for all ambient air quality data, RWDI should provide all appropriate technical information on how samples were collected, processed and analysed, to allow for proper stakeholder input. This would also apply to soil and road samples that will be collected, as outlined in Section 7.3.2.	Any historical data that are used in the assessment will be documented in the EA report for review by all stakeholders, along with any further details on the sampling and testing methodologies.

Government Agency Comment	How Comment was Considered
When collecting background data concerning existing ECAs, Section 7.1, we would advise caution on how this data is used and caution RWDI to be careful on their reliance of this data. The process for obtaining an ECA has different requirements than those for completing an environmental assessment. Consequently, ECAs, and any corresponding reports, may not contain all relevant information required to complete an environmental assessment.	Noted. Any data obtained from existing ECAs are only one source of background information to be used in the EA.
In Section 7.3.2, the use of mitigation measures to adjust dust emissions rates should be accompanied with appropriate proof of efficacy and effectiveness. We have previously recommended that the general mitigation methods intended for use at the site should be described as part of the ToR so that they can be agreed upon before-hand. This, however, has not been done.	It is inappropriate to determine mitigation measures in advance of carrying out the assessment of potential effects (refer to Section 8.2 of the approved ToR for details on the overall EA methodology). Assumptions regarding any mitigation measures that are assessed during the EA will be documented in the EA report. **See Section 6.7.4.3.**
When modelling dust, as outlined in Section 7.3.2, RWDI appears to be ignoring non-subject sources, local traffic and landfill gas flaring, all of which can potentially produce particulate emissions. RWDI needs to include these in the dust dispersion modelling or provide rationale for their exclusion. As we have previously commented in our 5 May 2014 report, it is not clear what guidance Walker Environmental's consultants will be using to decide which non-subject, local pollutant sources to include in the modelling (see, for example, International Association of Impact Assessment "Guiding Principles For Air Quality Assessment Components Of Environmental Impact Assessments").	Local traffic and landfill gas flaring will be included in the particulate evaluation. Section 7.3.2 notes: *The future proposed operating scenario(s) for modeling will also include local traffic based on information supplied by the traffic expert.* For landfill gas flaring, Section 7.3.2 will be updated to add in landfill gas flaring to be clearer.
Section 7.3.2, as in other sections of the report, indicates that results from only ten (10) of the closest discrete receptors will be provided. RWDI needs to provide rationale on why results from only ten (10) discrete receptors will be provided, as opposed to the entire list of discrete receptors that will be assessed as discussed in Section 4.	It is noted in the same paragraph in Section 7.3.2 that contour plots will also be presented in the EA, which will characterize emissions at an infinite number of receptor points within the study area.
The final paragraph of section 7.3.2 indicates that only 24-hour concentrations of PM2.5 will be presented; annual PM2.5 should also be provided.	Noted, this has been updated.
In our 5 May 2014 report, we requested that any intended computer modelling of dust should be provided with and without fall-out. However, it appears that RWDI will not provide the alternate results as requested. In addition, the choice of deposition parameters should be open to all stakeholders to review as part of the development of the final technical work plan.	Deposition parameters and all other relevant modeling assumptions will be documented in the EA report. The use of deposition as well as the choice of deposition parameters will need to be approved by the MECP.

Government Agency Comment	How Comment was Considered
Section 7.4 of the ToR indicates 23 landfill gas related compounds of interest. As indicated above, only 22 are presented in Table 6.2.2.1.	See previous response.
Section 7.4.2 provides a discussion on the ambient monitoring of VOCs; however, no discussion is given to specific methods. RWDI's intended methods to measure background VOCs should be reviewed and agreed to before use in the environmental assessment. Furthermore, RWDI has not clarified how they will define upwind and downwind. Depending on how samples are collected, classification of upwind and downwind may not be straightforward and are subject to the meteorological conditions during sample collection.	A new section is added to the work plan outlining the updated ambient monitoring as requested by the MECP and the proposed sampling plan. Additional information is provided in this new section regarding how the upwind and downwind locations will be selected.
In section 7.4.3 RWDI have confined themselves to assessing 23 contaminants emitted from landfill gas without providing an explanation of this restriction.	See previous response.
In section 7.4.3 RWDI propose to estimate "rates from the proposed waste soil derived from the flux measurement programs for other landfill sites" but do not make it clear that those estimations will be transparent to public reviewers (such as the Town of Ingersoll), which it should.	The EA report will document the sources of data and assumptions used in the assessment. **See Appendix F-2: Air Quality Assessment.**
In section 7.5 the data "Odour source emission data have been collected for other landfill sites that would be utilized for this evaluation" should be made fully accessible for third-party review.	The EA report will document the sources of data and assumptions used in the assessment. **See Appendix F-2: Air Quality Assessment.**
In Section 7.5.1, RWDI admit that local agricultural sources may emit odours "related to landfill type odours." These may add to odours emitted from the landfill and cumulatively cause higher odour levels in the surrounding community. However, Walker Environmental consultants do not intend to take those preexisting odour sources into account. RWDI have previously indicated that odour will not be evaluated cumulatively and, therefore, do not intend to take those pre-existing odour sources into account; no rationale is provided. We recommend that Walkers consultants either include background odour or provide a detailed rationale as to why it is ignored. It is a general and fundamental element of EA air studies that the cumulative (subject source + background) levels of pollutants in the community be fully assessed.	Odours from agricultural operations and landfilling operations are typically distinct and are not additive.

Government Agency Comment	How Comment was Considered
In Section 7.5.2 landfill gas (containing hydrogen sulphide) is identified as being "offensive to most people all of the time", indicating that it would be considered objectionable at the detectable level, or 1 Odour Unit (OU)/m3; however, in Section 5.3 the suggested criteria for an objectionable odour, or "annoyance threshold", is proposed to be set at 3 to 5 OU/m3. Suggesting that off-site impacts in a range from 3 to 5 times the prescribed MECP odour limit of 1 OU/m3 should be used to assess the potential impacts from the site is inconsistent with the intent of Section 14 of the Environmental Protection Act (R.S.O. 1990, c. E.19). Landfill gas, which is clearly identified as being "offensive to most people all of the time" would be one of the key odourous emissions from the facility and therefore likely to cause an adverse effect at any detectable concentration (i.e. 1 OU/m3 as defined by the MECP).	Noted. In the same section RWDI proposes to model and characterize the emissions in terms of both the detection and annoyance thresholds.
Further to Section 7.5.2, RWDI do not indicate what frequency threshold will used as a basis for acceptability of odour exceedances. RWDI have previously indicated "that 0.5% exceedance frequency of 1 OU limit will be considered acceptable", based on "MOE correspondence". First, this threshold is not referenced in the draft work plan. Second, the only 0.5% criterion we are aware of is applicable to individual contaminants with 10 minute averaging periods and not whole odour assessments (TECHNICAL BULLETIN: METHODOLOGY FOR MODELLING ASSESSMENTS OF CONTAMINANTS WITH 10-MINUTE AVERAGE STANDARDS AND GUIDELINES for Odour under O. Reg. 419/05, MECP, September 2016). RWDI should provide rationale for the applicability of this criterion to whole odour assessments. It should be noted that the proposed range is not supported by MECP publications or guidelines. 1 OU/m3 is the prescribed standard; the Ontario Ministry of the Environment Interim Guide to Estimate and Assess Landfill Air Impacts (Air Resources Branch, 1992), Section C.4 Estimating Odour Impacts, Item (iv) specifies a criteria of less than or equal to 1 OU/m3 over 10 minute averaging time, with more stringent criteria to be applied in certain circumstances. There is no mention in any MECP publication that supports the use of a less stringent criteria.	RWDI will be evaluating odour levels less than 1 OU and greater than 1 OU if predicted to occur. We will also look at frequency of occurrence for levels about 1 OU in order to assess the frequency of time when a receptor or receptors may experience detectable odours. It should be noted that the MECP has treated odour similar to the Technical Bulletin in determining the potential for causing nuisance. Evaluating the frequency of occurrence is an important evaluation that will remain as part of the study. **See Appendix F-2: Air Quality Assessment.**

Government Agency Comment	How Comment was Considered
In Section 7.5.2 the odour levels suggested as being annoying are cited as 3 to 7 OU, whereas in Section 5.3 the annoying range is cited as being 3 to 5 OU. This is inconsistent and it is not clear which is the intended proposed standard to be used in the assessment.	These statements will be removed. As noted in the Work Plan, RWDI was always intending to assess levels above 1 OU. The comment about annoyance levels was to provide context around detection versus annoyance. Removing the statements does not change the intended evaluation. **See Appendix F-2: Air Quality Assessment.**
The following statement from Section 7.4.1 requires clarification: *Using the U.S. EPA's LandGEM landfill gas emission estimation model is the most direct method to determine first-order emission rates of VOCs from the proposed landfill. It is also recommended by the MECP; however, it can generate conservative estimates (i.e. overestimate) of VOC emissions. This could result in predicted levels in excess of the MECP's air quality standards, even with a proposed landfill gas collection system in place. For this assessment U.S. EPA default values for landfill gas constituents will be used.* It is unclear from the statement above whether or not the LandGEM landfill gas emission estimation model is to be used to estimate VOC emissions. It is specified as the recommended method, but the statements following suggests that it could be inaccurate and that U.S. EPA default values for landfill gas constituents will be used [as inputs in the LandGEM model?]. This point should be clarified.	As referenced *"For this assessment U.S. EPA default values for landfill gas constituents will be used"* Therefore, LandGEM will be used with U.S. EPA default values for landfill constituents. The other statement just notes that this is intended to be a conservative evaluation. **See Appendix F-2: Air Quality Assessment.**
When modelling haul route traffic, as outlined in Section 7.6, RWDI appears to be ignoring non-subject sources, landfill gas flaring and ambient background data. RWDI needs to include these in the dispersion modelling or provide rationale for their exclusion. Also, they appear to be ignoring volatile organic compound emissions (e.g., benzene) from vehicles.	This is not the case. When modeling haul route source emissions, RWDI will also be including all like emissions from other sources on the site. In addition, ambient background data will also be included in the evaluation. S.7.6 will be reviewed to update wording. The list of compounds to be assessed for the vehicular emissions has been updated as per discussions with the MECP. **See Appendix F-2: Air Quality Assessment.**
The Glossary contains potentially misleading and inappropriate definitions (s. 12). RWDI insist that the glossary of terms described in the work plan are based on RWDI's experience with similar projects. This response however, does not directly address our concerned raised in our comments submitted 3 June 2013.	The Glossary has been updated with respect to the comments raised in June of 2013.

Government Agency Comment	How Comment was Considered
It appears that the approach outlined in the WEG Cumulative Effects Work Plan, January 12, 2017, is consistent with the requirements as set out in the Approved Amended ToR.	Noted.
The report correctly acknowledges that cumulative effects assessment is neither explicitly required nor defined under the Ontario Environmental Assessment Act, nor is there any specific procedural guidance provided in the associated Code of Practice. In light of this, Walker has indicated that the guidance provided by the federal government regarding cumulative effects assessment under the former Canadian Environmental Assessment Act (CEAA) and CEAA 2012 is available and was consulted. This seems to be a reasonable approach.	Noted.
The reviewer agrees that the five-step methodology outlined above is a reasonable approach to take for this EA.	Noted.
The reviewer agrees, as noted in the Executive Summary, that the Southwestern Landfill EA should be designed from the outset as a cumulative effects assessment; and that it be embedded in the EA methodology rather than a separate study or additional step in the EA process.	Noted.
Though not a requirement, it is not clear whether stakeholders were consulted specific to the preparation of the cumulative effects assessment work plan. It is acknowledged that Walker had some consultation with government agencies, Aboriginal Communities and interested members of the public on these during the preparation of ToR and other draft technical work plans, but it is not clear whether specific input was sought for this draft. Please clarify.	There was not a preliminary work plan created for cumulative effects during the development of the ToR, as with the other technical studies, since the cumulative effects assessment was integrated into the overall EA methodology expressed directly in the ToR. Subsequently, though, the Minister's amendment to the ToR required a separate work plan for this aspect of the EA which resulted in this draft work plan currently undergoing review by government agencies, municipal peer review, Indigenous communities and interested members of the public. Face-to-face sessions have also been held with the CLC and at a public Open House.

Government Agency Comment	How Comment was Considered
In section 5.1 (Scoping), under "Examining Physical Activities That Will Be Carried Out", Walker should at least provide a partial list of activities that could potentially interact to cause cumulative effects such as on-Site and in the site vicinity; along the haul routes; and wider area. Walker should confirm if each technical discipline will develop a worst-case scenario for assessing cumulative effects. How would Walker verify future operations for Carmuse Quarry in order to establish future environmental baseline conditions, from which to extrapolate cumulative effects?	Until data are reviewed and field inventoried are carried out, any list of potential activities that could result in cumulative effects would be incomplete or, at best, only examples. Nevertheless, during the course of consultation examples have been given regularly such as the various quarry operations in the same vicinity. The EA will not examine "worst case" scenarios in the context of emergency or upset conditions – these will be dealt with through a set of contingency/emergency response procedures. Rather, the EA will be based on the proposed normal or typical operating scenarios, although in most cases within a range to reflect reasonable variations. (As an example, peaking factors will be applied to landfill traffic trips to account for daily or seasonal variability, as appropriate). The future scenarios for Carmeuse, and the other local quarry operators, will be drawn from their approved *Aggregate Resources Act* site plans, and by consultation directly with these operators.
As per section 5.2, the reviewer acknowledges that the methodology will vary from study to study (i.e., either quantitative or qualitative), depending on the nature of the effect. It is recommended, however, that quantitative methodology be used to the greatest extent possible, especially since the proposed landfill would be adjacent to an active and operational Carmeuse Quarry. Walker should make all reasonable efforts to obtain information/data from the quarry owner in order to conduct quantitative cumulative effects analyses. Without this information/data, the true cumulative effects of the proposed landfill cannot be known.	Agreed.

Government Agency Comment	How Comment was Considered
The last two paragraphs in section 5.3 are somewhat confusing and should be rewritten so that they could be clearly understood. The concepts of, and relationships between criteria, indicators and thresholds should be more thoroughly explained. While it is stated in this section "that many of the indicators were already developed and proposed, and subject to review and comment by government agencies, Aboriginal groups and the public, as part of the preliminary draft work plans for each of the technical studies", it is apparent the WEG is only going to present these indicators with the EA report. This approach is reasonable, but would require careful peer review of each technical supporting report document to ensure that the appropriate indicators were applied.	The indicators are already proposed for each of the EA Criteria, in the corresponding technical work plans to which they are assigned. This approach was taken so that the indicators could be understood in the context of their respective technical studies, whereas listing them all in the cumulative effects work plan without any technical context would ultimately prove more confusing than helpful. **See Appendix D: Evaluation of the Proposed Undertaking.**
Draft Cumulative Effects Assessment Work Plan **Frederick Bernard, Arcadis Canada & Peter Klassen, P. Eng., Tetra Tech Canada on behalf of the Town of Ingersoll (May 26, 2017)**	
It appears that the approach outlined in the WEG Cumulative Effects Work Plan, January 12, 2017, is consistent with the requirements as set out in the Approved Amended ToR.	Noted.
The report correctly acknowledges that cumulative effects assessment is neither explicitly required nor defined under the Ontario Environmental Assessment Act, nor is there any specific procedural guidance provided in the associated Code of Practice. In light of this, Walker has indicated that the guidance provided by the federal government regarding cumulative effects assessment under the former Canadian Environmental Assessment Act (CEAA) and CEAA 2012 is available and was consulted. This seems to be a reasonable approach.	Noted.
The reviewer agrees that the five-step methodology outlined above is a reasonable approach to take for this EA.	Noted.
The reviewer agrees, as noted in the Executive Summary, that the Southwestern Landfill EA should be designed from the outset as a cumulative effects assessment; and that it be embedded in the EA methodology rather than a separate study or additional step in the EA process.	Noted.

Government Agency Comment	How Comment was Considered
Though not a requirement, it is not clear whether stakeholders were consulted specific to the preparation of the cumulative effects assessment work plan. It is acknowledged that Walker had some consultation with government agencies, Aboriginal Communities and interested members of the public on these during the preparation of ToR and other draft technical work plans, but it is not clear whether specific input was sought for this draft. Please clarify.	There was not a preliminary work plan created for cumulative effects during the development of the ToR, as with the other technical studies, since the cumulative effects assessment was integrated into the overall EA methodology expressed directly in the ToR. Subsequently, though, the Minister's amendment to the ToR required a separate work plan for this aspect of the EA which resulted in this draft work plan currently undergoing review by government agencies, municipal peer review, Indigenous communities and interested members of the public. Face-to-face sessions have also been held with the CLC and at a public Open House.
In section 5.1 (Scoping), under "Examining Physical Activities That Will Be Carried Out", Walker should at least provide a partial list of activities that could potentially interact to cause cumulative effects such as on-Site and in the site vicinity; along the haul routes; and wider area. Walker should confirm if each technical discipline will develop a worst-case scenario for assessing cumulative effects. How would Walker verify future operations for Carmuse Quarry in order to establish future environmental baseline conditions, from which to extrapolate cumulative effects?	Until data are reviewed and field inventoried are carried out, any list of potential activities that could result in cumulative effects would be incomplete or, at best, only examples. Nevertheless, during the course of consultation examples have been given regularly such as the various quarry operations in the same vicinity. The EA will not examine "worst case" scenarios in the context of emergency or upset conditions – these will be dealt with through a set of contingency/emergency response procedures. Rather, the EA will be based on the proposed normal or typical operating scenarios, although in most cases within a range to reflect reasonable variations. (As an example, peaking factors will be applied to landfill traffic trips to account for daily or seasonal variability, as appropriate). The future scenarios for Carmeuse, and the other local quarry operators, will be drawn from their approved *Aggregate Resources Act* site plans, and by consultation directly with these operators.
As per section 5.2, the reviewer acknowledges that the methodology will vary from study to study (i.e., either quantitative or qualitative), depending on the nature of the effect. It is recommended, however, that quantitative methodology be used to the greatest extent possible, especially since the proposed landfill would be adjacent to an active and operational Carmeuse Quarry. Walker should make all reasonable efforts to obtain information/data from the quarry owner in order to conduct quantitative cumulative effects analyses. Without this information/data, the true cumulative effects of the proposed landfill cannot be known.	Agreed.

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The last two paragraphs in section 5.3 are somewhat confusing and should be rewritten so that they could be clearly understood. The concepts of, and relationships between criteria, indicators and thresholds should be more thoroughly explained. While it is stated in this section "that many of the indicators were already developed and proposed, and subject to review and comment by government agencies, Aboriginal groups and the public, as part of the preliminary draft work plans for each of the technical studies", it is apparent the WEG is only going to present these indicators with the EA report. This approach is reasonable, but would require careful peer review of each technical supporting report document to ensure that the appropriate indicators were applied.	The indicators are already proposed for each of the EA Criteria, in the corresponding technical work plans to which they are assigned. This approach was taken so that the indicators could be understood in the context of their respective technical studies, whereas listing them all in the cumulative effects work plan without any technical context would ultimately prove more confusing than helpful. **See Appendix D: Evaluation of the Proposed Undertaking.**
Updated Draft Ecology Assessment Work Plan **Barbara Hard, P. Bio., Arcadis Canada on behalf of the Town of Ingersoll (May 26, 2017)**	
It appears that the approach outlined in the WEG Cumulative Effects Work Plan, January 12, 2017, is consistent with the requirements as set out in the Approved Amended ToR.	Noted.
The report correctly acknowledges that cumulative effects assessment is neither explicitly required nor defined under the Ontario Environmental Assessment Act, nor is there any specific procedural guidance provided in the associated Code of Practice. In light of this, Walker has indicated that the guidance provided by the federal government regarding cumulative effects assessment under the former Canadian Environmental Assessment Act (CEAA) and CEAA 2012 is available and was consulted. This seems to be a reasonable approach.	Noted.
The reviewer agrees that the five-step methodology outlined above is a reasonable approach to take for this EA.	Noted.
The reviewer agrees, as noted in the Executive Summary, that the Southwestern Landfill EA should be designed from the outset as a cumulative effects assessment; and that it be embedded in the EA methodology rather than a separate study or additional step in the EA process.	Noted.

Government Agency Comment	How Comment was Considered
Though not a requirement, it is not clear whether stakeholders were consulted specific to the preparation of the cumulative effects assessment work plan. It is acknowledged that Walker had some consultation with government agencies, Aboriginal Communities and interested members of the public on these during the preparation of ToR and other draft technical work plans, but it is not clear whether specific input was sought for this draft. Please clarify.	There was not a preliminary work plan created for cumulative effects during the development of the ToR, as with the other technical studies, since the cumulative effects assessment was integrated into the overall EA methodology expressed directly in the ToR. Subsequently, though, the Minister's amendment to the ToR required a separate work plan for this aspect of the EA which resulted in this draft work plan currently undergoing review by government agencies, municipal peer review, Indigenous communities and interested members of the public. Face-to-face sessions have also been held with the CLC and at a public Open House.
In section 5.1 (Scoping), under "Examining Physical Activities That Will Be Carried Out", Walker should at least provide a partial list of activities that could potentially interact to cause cumulative effects such as on-Site and in the site vicinity; along the haul routes; and wider area. Walker should confirm if each technical discipline will develop a worst-case scenario for assessing cumulative effects. How would Walker verify future operations for Carmuse Quarry in order to establish future environmental baseline conditions, from which to extrapolate cumulative effects?	Until data are reviewed and field inventoried are carried out, any list of potential activities that could result in cumulative effects would be incomplete or, at best, only examples. Nevertheless, during the course of consultation examples have been given regularly such as the various quarry operations in the same vicinity. The EA will not examine "worst case" scenarios in the context of emergency or upset conditions – these will be dealt with through a set of contingency/emergency response procedures. Rather, the EA will be based on the proposed normal or typical operating scenarios, although in most cases within a range to reflect reasonable variations. (As an example, peaking factors will be applied to landfill traffic trips to account for daily or seasonal variability, as appropriate). The future scenarios for Carmeuse, and the other local quarry operators, will be drawn from their approved *Aggregate Resources Act* site plans, and by consultation directly with these operators.
As per section 5.2, the reviewer acknowledges that the methodology will vary from study to study (i.e., either quantitative or qualitative), depending on the nature of the effect. It is recommended, however, that quantitative methodology be used to the greatest extent possible, especially since the proposed landfill would be adjacent to an active and operational Carmeuse Quarry. Walker should make all reasonable efforts to obtain information/data from the quarry owner in order to conduct quantitative cumulative effects analyses. Without this information/data, the true cumulative effects of the proposed landfill cannot be known.	Agreed.

Government Agency Comment	How Comment was Considered
The last two paragraphs in section 5.3 are somewhat confusing and should be rewritten so that they could be clearly understood. The concepts of, and relationships between criteria, indicators and thresholds should be more thoroughly explained. While it is stated in this section "that many of the indicators were already developed and proposed, and subject to review and comment by government agencies, Aboriginal groups and the public, as part of the preliminary draft work plans for each of the technical studies", it is apparent the WEG is only going to present these indicators with the EA report. This approach is reasonable, but would require careful peer review of each technical supporting report document to ensure that the appropriate indicators were applied.	The indicators are already proposed for each of the EA Criteria, in the corresponding technical work plans to which they are assigned. This approach was taken so that the indicators could be understood in the context of their respective technical studies, whereas listing them all in the cumulative effects work plan without any technical context would ultimately prove more confusing than helpful. **See Appendix D: Evaluation of the Proposed Undertaking.**
Updated Draft Ecology Assessment Work Plan **Barbara Hard, P. Bio., Arcadis Canada on behalf of the Town of Ingersoll (May 26, 2017)**	
The elements of the Ecological Assessment Work Plan are in line with general requirements of natural resources inventory and environmental impact assessments for EAs. However, review of the Work Plan noted a number of deficiencies with regards to details of the execution of the Work Plan. It appears to be written as a proposed Terms of Reference for the Ecological Assessment rather than a work plan that is ready to be implemented. For example, site reconnaissance and selection of sampling and reference locations should have been made at this stage and should be available for review by stakeholders and agencies.	Noted. Aquatic sampling locations are identified in Section 7.2.1 of the work plan (although Figure 1, which is referenced, was inadvertently omitted from this draft). Figure 1 to be included in the final work plan.
The selection of appropriate survey and reference locations is of great importance for natural environment surveys. Therefore, this is considered a significant deficiency that make it impossible to properly assess the work plan.	Aquatic sampling locations are identified in Section 7.2.1 of the work plan (although Figure 1, which is referenced, was inadvertently omitted from this draft). Figure 1 to be included in the final work plan.
The Work Plan does not include provisions for the development of mitigation plans and implementation of mitigation measures, should they be deemed necessary.	It is a requirement of the EAA, part of the EA methodology in Section 8.2 of the approved ToR and listed as a major objective in Section 2(c) of the Ecology work plan.
Page 5: No overview of the study areas was provided. Therefore, an assessment of whether the proposed study areas are appropriate was not possible.	Figure 1, which is referenced, was inadvertently omitted from this draft. Figure 1 to be included in the final work plan.

Government Agency Comment	How Comment was Considered
Page 1, 1st Paragraph: It is mentioned in this paragraph that cumulative effects will be assessed. However, there is no discussion under Section 8, Data Analysis that discusses cumulative effects and how they may be assessed, monitored and possibly mitigated, if needed. This is a deficiency in the report. Cumulative effects may originate from effects of the landfill on the natural environment, including potential failure of the liner and the sudden release of contaminants, the effects of the operational quarry and truck traffic or a combination of both. Details of the methodology should be provided.	The overall methodology for this EA is a cumulative effects assessment; it is not a separate study or activity. Refer to the methodology in Section 8.2 of the approved ToR and the draft Cumulative Effects Assessment Work Plan for further details. Failure of the liner is not a form of cumulative effect (either multi-source or multi-stressor), although ecological effects that could be related to groundwater or surface water contamination is nevertheless a criterion included in this EA (see EA Criterion #36). Cumulative effects related to concurrent quarry operations are, by virtue of the EA methodology, evaluated as part of the environmental baseline.
Page 3: There is no indication of number of samples proposed, sampling locations and number and location of reference sites for both fish and benthic invertebrate studies. Although a figure is cited that shows proposed sampling location, it was not provided. This should be part of the proposed Work Plan as review of suitability of locations is necessary before sampling commences.	Figure 1, which is referenced, was inadvertently omitted from this draft. Figure 1 to be included in the final work plan.
Page 4, 1st Paragraph: The Scope of Work states that fish sampling will occur twice annually, during the spring and fall, but no indication is given for how many years this will be implemented. It is also not clear if this sampling is meant to be part of the long term effects monitoring.	For the purpose of this EA one year of data is proposed. Any ongoing monitoring will be a recommendation of the EA assessment.
Benthic Invertebrate Study: Page 4: OBBN Protocol Manual (Jones et al., 2004)- an updated version is available (2007).	The study protocol has been revised following direction from the Ministry of Environmental and Climate Change. Study protocol revision.
It is proposed to use the Hilsenhoff Biotic Index only. However, in order to ensure that differences in samples and sample locations in comparison to reference locations are captured, additional indices and criteria are suggested: Simpson's Evenness, Shannon-Wiener Diversity Index, % EPT (Ephemeroptera, Plecoptera, Trichoptera), % Worms, % Dominants, % Diptera, % Insects, total number of individuals.	Please see above response.
Ecological Land Classification (ELC) and Floral Surveys	Agreed, September has been inserted, October risks an early frost.

Government Agency Comment	How Comment was Considered
Page 5: The fall survey should be completed in September/October, rather than August/September, as an August survey would be too close to a July summer survey and would potentially not reflect a true fall survey.	Language amended – fall survey to be completed in September.
Page 5, last line: The year should be added to the Lee et al. reference.	Corrected.
Page 6, 3rd Paragraph: The floral surveys should not be confined to the property and should include all study areas such as Vicinity Study Area and Haul Roads and should also be included in the description of benthic/fish sampling locations.	The paragraph refers to the "area" not just the proposed landfill site itself. The inventory will include the Site Vicinity (within the limits of private property access).
Qualitative Surveys for Species at Risk and Rare Species Page 6: Species at Risk Ontario (SARO) lists 32 Species at Risk (SAR) in the Ingersoll area (Oxford County). Since this is a Work Plan and not a proposed Terms of Reference document, the screening for SAR should have already been completed and a work plan to address (include/exclude) each species with justification should have been developed. A location plan for species specific surveys should be shown. None of these tasks have been completed. This is a significant deficiency in the Work Plan	The screening is a component of the EA studies. The approved ToR required updating and consultation of the work plans in advance of the EA studies.
Breeding Bird Surveys Page 6: It is not indicated which protocol is proposed for the breeding bird surveys and how they will be carried out (timing, spacing between locations etc.). The standard breeding bird atlas protocol calls for surveys to be 15 days apart rather than 7 days as proposed in the work plan. Survey locations for breeding bird surveys should be provided on a figure. This has not been done.	The Atlas methodology is scientifically inappropriate for site specific surveys. It is meant to contribute to a large province-wide data set). We use the protocol presented on all our surveys across the province. Set routes are not used and the survey need not be repeatable in the sense of a monitoring program comparing data sets through time. **See Appendix F-7: Ecology Assessment.**
Amphibian Surveys Page 7: It is stated that amphibian survey locations have been selected, but no figure, description or rationale for survey location selection is given. It is also not indicated how many survey locations have been selected. Survey locations for amphibian surveys should be provided on a figure. The above deficiencies are significant.	We cannot pre-judge where amphibians might be. Once the field program commences we will determine where potential sites are. These will be the survey locations in the spring of 2018. **See Appendix F-7: Ecology Assessment.**
Bird Hazards Page 8: It is proposed to review background information before a field sampling plan is developed. However, as this is a Work Plan and not a proposed Terms of Reference document, the field program should have been developed and should	The data collection and background review is a component of the EA studies. The approved ToR required updating and consultation of the work plans in advance of the EA studies. **See Appendix F-7: Ecology Assessment.**

Government Agency Comment	How Comment was Considered
be able for review and comments by stakeholders. This is a significant deficiency.	
Page 9, 1st Paragraph: It is stated that the Index of Biotic Integrity analyzes fish for 12 possible metrics which will be determined by professional judgment. Only five (5) metrics are listed. It is not clear what the remaining 7 metrics are and, given that this is the Scope of Work, these should have been already established at this point. The absence of this information does not allow for the review of adequacy and suitability of the unnamed metrics for the Index of Biotic Integrity.	The analysis protocol has been revised following direction from the Ministry of Environmental and Climate Change. Protocol revision. **See Appendix F-7: Ecology Assessment.**
Page 11, Paragraph 4: More information should be provided on the suitability of the benchmarks to assess impact of dust on plants as well as the methodology and implementation. It is unclear if the benchmarks referred to have been accepted by environmental agencies such as Ministry of Environment or US EPA. Further discussion is required.	There is very little information or standards available on ecological effects of dust on plants. We have successfully applied this approach in other EAs. New benchmarks are incorporated as they become available. **See Appendix F-7: Ecology Assessment.**
There are a number of references listed in the reference section that are not cited in the text. References should be cross referenced for ease of review.	Corrected. Reference correction.
Updated Draft Economic Assessment Work Plan Peter Klassen, P. Eng., Tetra Tech Canada on behalf of the Town of Ingersoll (May 25, 2017)	
There are several references within the work plan to specific areas of impact. While physical impacts such as air and noise decrease as distance from the source increases, financial and economic impact may not be solely predicated on distance from the source. The work plan focuses on three impact areas: On Site and in the Site Vicinity, Along the Haul Routes, and Wider Area. The Town has expressed concern with the proximity of the landfill to town. As such the entire town should be included in the area denoted as Site Vicinity since residents may travel and use services throughout the town including close proximity to the proposed site. Similarly, WEG has designated a band of 500 m around the Haul Routes which excludes the potential increased traffic on the emergency haul routes. The haul routes would be used in times of weather issues or accidents along Hwy 401 and should be included in the same category.	In response to requests during consultation, the “Site Vicinity” study area has been extended to include the Town of Ingersoll. The EA is designed to assess the effects of the normal, day-to-day operation of the proposed landfill (although not necessarily just the “average” conditions, but also the range of effects that could result from normal operations, where appropriate). The EA will not include an assessment of emergency or upset conditions – it is not appropriate in an EA to characterize and weigh the advantages and disadvantages to the environment on conditions that are not planned or expected to occur, may never occur, or could occur at some unknown time and frequency. Instead, contingency plans for unexpected or upset conditions are required to be submitted to the Ministry as part of an application for an Environmental Compliance Approval (ECA) for a landfill under the Environmental Protection Act. If the EA is approved, Walker will prepare a Design & Operations Report (D&O) in support of the ECA application based on the facility characteristics that emerge from the EA.

Government Agency Comment	How Comment was Considered
	Included in the D&O will be a description of the proposed contingency plans that will address emergency detour routes (along with other possible emergency or upset conditions).
Future development plans may be impacted by the proximity of either a future or ongoing landfill site. Resultantly, the location of current development may not be reflective of how the Town expands. The work plan should include a comprehensive study of how anticipated and constructed waste facilities, including landfills and haulage routes (including emergency routes) have impacted development around the respective locations.	The baseline conditions for this EA will not be based simply on the location of current development, but rather will also account for future growth during the landfill lifespan, with the assumptions drawn from the County OP and related documents (see approved ToR, Section 8.2). In assessing the EA criteria, where relevant, evidence from development around other landfill sites will be considered.
There are two recently enacted regulatory initiatives Bill 151 (Waste Free Ontario Act, 2016) and the Cap and Trade Program Regulation and Quantification, Reporting and Verification of Greenhouse Gas Emissions Regulation that may have significant impact on the viability of the proposed WEG landfill. Accompanying Bill 151 the government of Ontario has also outlined its strategy with initiatives with a goal to reduce waste generation, increase diversion (from landfills) and reduce the amount of greenhouse gas generation from waste. The Financial/Economic work plan should include a comprehensive review of the impact of these two regulations, as there may be both regulatory and strategic initiatives to discourage the use of landfills in Ontario.	Walker has carefully reviewed the recent legislation and does not believe that it affects the viability of this undertaking. In fact, the province's *Proposed Strategy for a Waste-Free Ontario* under Bill 151 actually supports this proposed undertaking: "*Ontario will need 16 new or expanded landfills by 2050*"; "*The size of landfills will also be considered to reduce the need for multiple new landfills and use landfill gas reduction facilities effectively*" (i.e., larger regional sites); and "*Ontario will continue to be a leading jurisdiction in setting strict landfill standards and requirements. This means continuing to protect drinking water by applying groundwater protection limits and design requirements for leachate collection systems that are unsurpassed by any other jurisdiction in North America*" (i.e., the MECP generic liner designs). Furthermore, Walker has committed in its EA to assess the effects of greenhouse gas emissions. **See Appendix F-3: Greenhouse Gas Emissions Assessment.**
Property value may change in different periods of time as the impact of development moves forward. As the Municipal Property Assessment Corporation does evaluations every four years, the actual information related to properties may be out of date in relation to the perception of value in the four different stages of the potential WEG project.	Noted. Real estate information and area real estate reports are included in the data collection listed in Section 7.1 of the work plan. This can be supplemented through contact with local agents if and as necessary (Walker already has made contact with several as part of this project). Previous property value protection studies and programs are also listed among the data collection. **See Appendix F-8: Economic/Financial Assessment.**

Government Agency Comment	How Comment was Considered
In lieu of this, the Financial/Economic Work Plan should incorporate both historic impacts of similar projects and consult with independent real estate agents who understand and can assess the impact within the Town.	
There are several elements that impact the value and cost of disposal within the region. These elements include the cost of diversion, the long term environmental cost of landfilling, the cost of disposal to competitive landfill sites (including the US), the cost of transportation, and the potential loss of revenue to surrounding municipal landfill sites. All these aspects should be considered in the overall value to both regional and surrounding customers to the site.	Noted. These are all factors that are considered to be reflected in the cost of service.
One-time and ongoing financial compensation has been given to neighbours of other waste processing and disposal sites. The Economic/Financial Assessment should include formulas and examples that have been used in past in both Ontario and outside Ontario. All impacted residents of Ingersoll must be satisfied with an agreed upon formula for compensation prior to an approval under the Environmental Assessment.	It is premature to propose compensation, or even a method for compensation, in this work plan prior to actually determining if there will be impacts, and to what extent. This is a matter that will be addressed in the EA as part of impact management planning (see approved ToR, Section 8.2, Step #5). **See Section 7.5.**
Two periods are contemplated (Operational Period, Post-Closure Period) and should be expanded to four and should now include pre-construction phase, and construction phase.	As explained in Section 3 of the work plan, and in Section 6.2 of the approved ToR, the construction period is combined with the operational period in this EA since construction and operation of this type of landfill occur concurrently throughout the landfill lifespan.
Section 4 Study Areas (Pages 7 and 8) • On Site Vicinity should now include the Town of Ingersoll. • Haul Routes should include 500 m around Emergency Routes.	See previous responses, above.
Section 6.2.2 – (Page 15) Should include potential that the Town will expand into surrounding townships and the work plan should examine the possibility that eastward expansion will be discouraged.	As noted above, the baseline planning forecast is drawn from the County Official Plan.
Section 7.1 Ontario Ministry of Environment, Conservation, and Parks – (Page 18) • Background data should include Bill 151, supportive MECP strategy and legislation and potential ban to specific materials to disposal.	Noted.

Government Agency Comment	How Comment was Considered
• Paragraph 2 – revised assessment should include annual updates to ensure most recent values are used. • Paragraph 3 – the relationship between the term "zones" and Site Vicinity should be clarified.	
Section 7.2 Field Data Collection – (Page 19) Key Stakeholder Interviews should include residents in Site Vicinity and along Haul Routes.	Residents will be surveyed as part of the social assessment, and these data will be made available to inform the economic assessment as required **(see Appendix F-14: Social Assessment)**.
Section 8 Data Analysis – Property Value Impact Assessment – (Page 20 – 22) Paragraph 1 – property value should be expanded to include all of the Town of Ingersoll.	The initial study area is judged to be adequate based on current knowledge and experience. However, as stated in the same section of the work plan: "*It is noted that this area may be adjusted outward if information from other disciplines flags the potential for direct or indirect effects associated with operation and closure of the site beyond the two kilometre line*."
List of Recommendations to mitigate and or otherwise manage potential … add bullet: • Review of Compensation mechanisms at other waste landfill/processing sites.	As noted above, these are listed as data supporting the assessment in Section 7.1.
Updated Draft Groundwater & Surface Water Assessment Work Plan Thomas Franz, Arcadis Canada; Dr. Walter Illman, Hydro Resources International & Brian Adeney, Tetra Tech Canada; on behalf of the Town of Ingersoll (May 26, 2017)	
p. 1: Title page: revised report. This is a revised report and not a final work plan. A final work plan should include details to the study that will be conducted at the site. It should be noted that many of the comments on Dr. Illman's previous submissions as part of Town of Ingersoll's submissions are not incorporated into the revised report. Please provide a detailed response to Dr. Illman's previous comments.	Walker provided the MECP with detailed responses to comments from the Town of Ingersoll, including those of Dr. Illman, for consideration by the Minister prior to approving the Terms of Reference, all of which is on file as part of the public record at: http://www.walkerea.com (Documents/EA Documentation).
p. 4: Study Durations, Operational Period. How long is the operation period expected to last? What are some issues that could affect the operational period?	The operational period has been estimated at approximately 20 years based on maximum filling rates, but could extend somewhat longer depending on market conditions. (See approved ToR, Section 5.2.)
p. 4: Study Durations, Post-Closure Period. How long is this period estimated to be? The timeframe should be specified.	The full contaminating lifespan of the landfill (i.e., leachate and gas). This will be assessed and presented as part of the EA reporting, in accordance with the requirements of O. Reg. 232/98. The Landfill Standards (s. 4.5) provides the following initial guidance*: "For planning post-closure care activities for a site utilizing*

Government Agency Comment	How Comment was Considered
	the single or double composite generic design, the contaminating life span for leachate impact on groundwater (based on the minimum infiltration rate of 0.15 metres per year) is 160 years and 360 years, respectively. "
p. 4: Study Durations, EA Criteria, Effects due to contact with contaminated groundwater or surface water. How about the effect on the natural groundwater flow path when the landfill is constructed? Would this change the flow direction? Will this focus groundwater flows into certain areas and create stagnant zones where contaminants can accumulate over long periods?	The proposed modeling program will address groundwater flow relative to baseline (i.e., without the landfill), which will identify the potential for any related implications for contaminant transport. See Section 9 of the work plan.
p. 5: Study Durations, EA Criteria, Loss/displacement of surface water resources. If the groundwater flow path is altered with the construction of the landfill, how will this affect stream flows and flow into/out of wetlands?	Determining the potential effects on stream flows and flow into/out of wetlands is the objective of this criterion. See Section 9 of the work plan.
p. 5, "Post closure Period"; the comment "and thus have a more limited range of potential effects" is not appropriate, because the most significant effects or impacts, especially in groundwater and surface water may potentially occur in the post closure period.	Noted; however, these are broad definitions for the study areas taken from the approved ToR. As noted directly below in the same section of the work plan, the post-closure period has been identified as significant for several of the groundwater and surface water criteria.
p. 5; statement "These contaminants have the potential to seep into the groundwater or surface water and could pose a public health concern" should be re-phrased to include environmental health concerns.	In this context, the criterion is specific to public health. Other criteria are included in the EA related to environmental and ecosystem effects which are noted in Section 3 of the work plan.
p. 6: 5.0 Study Areas. The study area may need to be examined to consider the impacts of regional groundwater flow. How will current and future municipal wells be affected by activities at the proposed landfill?	The initial study areas are intended to be sufficient to characterize the full extent of any effects from the proposed landfill, including those on municipal well supplies, but as noted in the same section of the work plan: "*These study areas are not intended to be fixed. Flexibility is available to expand or focus study areas, depending on the study findings. The boundaries of the study areas will reflect the limits of the groundwater flow domain and/or the limits of any potential effects of the proposed undertaking on groundwater or surface water flow, quantity and/or quality.*"
p. 6: 5.0 Study Areas, "These study areas are not intended to be fixed". Study areas may not be intended to be fixed, but they should be defined in greater detail. Also, the rationale for selecting the study area should be better explained.	The table directly below this statement in the work plan provides the rationale for the study areas on a criterion-by-criterion basis.
p. 6: 5.0 Study Areas, "These study areas are not intended to be fixed." The areal extent is mentioned, but what about the vertical extent? Would deeper units be affected by the proposed landfill if leaks develop? Would the leachate	The vertical aspect of the assessment is described in terms of the subsurface investigations proposed to be carried out during the EA (see Section 8.2 of the work plan, as well as the accompanying Draft Hydrogeological Technical Work Program

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be dense and sink causing the plume to migrate downwards? One would also need to know what the expected leachate chemicals will consist of and their concentrations.	(Golder, April 6, 2017)). The expected leachate characterization will be in accordance with O.Reg. 232/98 and the Landfill Standards.
p. 6: 5.0 Study Areas, "…initial estimate of the study areas based on experience with the existing Carmeuse Lime (Canada) Limited site, and other landfills." Is the extent of the study site based on aggregate operations? The area may be too small considering that the impacts from the landfill are anticipated to be potentially more severe (leakage of contaminants and migration of landfill gases).	No, as noted, the initial study area is based on experience with other landfill sites, applied to this particular quarry setting.
p. 6: 5.0 Study Areas, "…and other landfills". What other landfills are considered to base the experience upon? Are these landfills built in unconsolidated deposits, fractured rocks, and/or karst terrains?	Golder has corporate experience in landfills in a wide variety of settings and terrain. Furthermore, Walker has direct expertise in the permitting, construction, operation, and post-closure care of landfills in comparable quarry settings in Niagara Region.
p. 6: 5.0 Study Areas, "The boundaries of the study areas will reflect the limits of the groundwater flow domain…" It is not clear how the limits of the groundwater flow domain will be established. How will the impacts of the proposed landfill be anticipated?	The groundwater flow domain will likely be based on regional hydraulic boundaries such as groundwater flow divides and major discharge boundaries. The domain will be refined as physiographic mapping, hydrogeologic data, and previous modelling reports for the area are reviewed. The model will be sufficiently large such that undue "boundary effects" will not occur. Interim model simulations will reveal if the boundaries are appropriately proportioned to avoid artificially influencing the potential impacts of the proposed landfill. If boundary effects are observed the model domain will be re-assessed and, if necessary, expanded / altered.
p. 7: 5.0 Study Areas, EA criteria, Explosive hazard due to combustible gas accumulation in confined spaces. What criteria are used to determine the distance of "500 m" for examining explosive hazard due to combustible gas accumulation in confined spaces? What infrastructure is present (e.g., water mains, sewer lines, tile drains, cables, gas lines, etc.) in the area that could cause the migration and storage of landfill gases that could lead to explosion hazards? The radial focal point is not indicated in the Work Plan (i.e., 500 metres from the limit of waste, or property boundary). The assessment of LFG migration potential does not specifically include the identification all potential receptors within the study area, or evaluation of theoretical gas migration	See Section 9 of the work plan as it relates to the scope of the assessment for landfill gas migration.

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potential within the study area in the event of failure of landfill environmental controls.	
p.7: 5.0 Study Areas, Loss/Displacement of surface water resources; there are several external watercourses north of the site that will need to be diverted or incorporated into the on-site drainage collection system and controls. Given the potential for increased snowmelt and peak flow runoff over time, this volume will need to addressed in the site drainage plan and not adversely impact downstream water users or aquatic systems due to lower flows, if any, to the confluence point of the Thames River.	Noted.
p. 8: 5.0 Study Areas, EA criteria, impact on the availability of groundwater supply to wells. The study site to assess this appears to be too small and needs to be rigorously justified. There are municipal wells in surrounding areas (and new wells could also be installed in the future for groundwater extraction for drinking water purposes).	See the previous response re: initial study areas.
p. 8: 5.0 Study Areas, EA criteria, impact on the availability of groundwater supply to wells, "…due to the existing and proposed activities at the Site". Will quarrying be permitted as a proposed activity alongside the construction and operation of the proposed landfill?	Quarrying may continue within the landfill footprint as the landfill is being developed in other, completed sections.
p. 9: 6.0 Indicators/Measures, "Effects due to contact with contaminated groundwater or surface water". What is it meant by effects due to contact with contaminated groundwater or surface water? It would be better to specify the potential receptors.	This criterion is in the group "Public Health & Safety", so in this case it is clearly related to human contact or ingestion.
pgs. 7, 8, 9: study area. The study area for groundwater should not be constrained to the study area shown in Figure 1. The study area should be extended to natural boundaries of groundwater flow, e.g. groundwater divides, in order avoid that artificial boundary effects are created due to the setting of arbitrary boundaries (e.g. in the modelling). In order to properly define hydrogeological conditions (e.g. to infer groundwater flow directions and natural groundwater flow boundaries), interpretations and interpolations of data from outside of natural boundaries are typically required, and therefore, the area for data collection and monitoring should include areas far outside what is shown in Figure 1, and must be flexible as described in the TOR. A	See responses to previous comments regarding the study area, and the flexibility concept.

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minimum starting point would be the natural surface water divides that are further assessed based on underlying strata and direction.	
p. 10: Indicators/Measures: Reg. 153/04 (as amended) together with its "Rationale" document (including updates) should be included in the table showing the Proposed Indicators/Measures for "Effects due to contact with contaminated groundwater or surface water". Reg. 153/04 and its underlying "Rationale" document are currently the most complete compendium of human health and environmental standards in groundwater and surface water.	Agreed.
p. 11: 7.0 Assumption, 7.1 Facility Characteristics, Groundwater Comment: Why is the buffer variable from 30 to 150 m? According to EPA ON reg 232-98, s. 7(2), the buffer area should be at least 100 m wide at every point. Note the exceptions (30 m buffer) in s.7(3), however, WEG needs to demonstrate that a 30 m buffer is sufficient.	Noted. Walker has been clear that any areas where the buffer width is less than 30 m will require justification.
p. 11: 7.0 Assumption, 7.1 Facility Characteristics, Groundwater, "The waste fill area will average approximately 32.85 m thick; depth below grade will range between 30 and 40 m and depth below the bedrock/overburden interface will range between 10 and 20 m." Landfill will encompass both the overburden and bedrock, hence the site is heterogeneous which will make groundwater flow more complex. This will cause the design and operation of the proposed landfill to be more technically complex.	Noted.
p. 12: 7.0 Assumption, 7.1 Facility Characteristics, Landfill gas. Will gas pressure be monitored to eliminate positive gas pressure? How will this be accomplished?	The landfill gas control system will be designed to mitigate positive gas pressure. Landfill gas monitoring would include vacuum/pressure measurements. Appropriate landfill gas control system design and monitoring programs will be developed over the course of the EA.
p. 12: "Groundwater"; states "compacted engineered backfill" – the nature of the material and compaction criteria are unknown and need to be specified. Backfill type and its compaction have a significant effect on differential settlement of the material which can cause deformation of the liner(s) and leachate collections system pipes, and can even cause failure (breaking) of these systems.	Noted. In accordance with O. Reg. 232/98 Walker will be required to submit design specifications for the proposed landfill that must include: "*a geotechnical assessment of the suitability of the site for the landfilling of municipal waste that considers bearing capacity, differential settlement and slope stability during construction, operation and after closure, and that addresses the potential effects on any liner or leachate collection system*" (s.4.1.1(6)(2)(c)(v))
p. 12: "Groundwater" and "Surface Water"; it is unclear if dewatering and water management in general will be conducted during the operational life only, or if these activities will be continued in perpetuity. The hydrogeological and	Dewatering is currently being carried out as part of the quarry operations, which is expected to continue during and following the landfill operational period. Walker would carry out supplemental dewatering during its operational period only if and as

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hydrological assessments and any modelling of effects and impacts on local groundwater and surface water resources and receptors (including groundwater / surface water flow and contaminant transport) must take this into account.	required for landfill construction purposes. The groundwater and surface water assessment will incorporate these assumptions.
p.11 "Surface Water"; it is stated that the landfill, stormwater and groundwater seepage on the undeveloped portion of the quarry will be managed separately. As the new landfill would be constructed on fill, its base may be significantly higher than the unused and adjacent future quarry floor elevation resulting in a significant groundwater and surface water gradient. It will be important to detail how this will be controlled so that potentially impacted runoff does not affect groundwater quality beneath the site. The monitoring well network will need to be oriented to detect any early issues. Similarly, it will need to be clear how the elevation of the existing waterbody south of the proposed landfill site relates to the landfill area and the potential for contaminants to migrate towards the waterbody and further to the Thames River or groundwater system.	Noted; these matters will be addressed during the EA. It should be noted that any water that comes into contact with waste, more commonly referred to as leachate or contact water, will be contained within lined portion of the site and managed accordingly via the leachate collection and treatment systems.
P. 11: "Surface Water"; spills management during operations not mentioned. While waste coming to the site will be classified as non-hazardous, there is the possibility of hazardous materials being present at site and vehicle spills/fuel leaks entering the "undeveloped area" drainage system and contaminating a large volume of site runoff. This will need to be addressed in the drainage system design as it could impact water quality for discharge and treatment requirements. The site operations plan should also address the potential for the site runoff to become impacted by operations and include viable contingencies.	The EA is intended to characterize the environmental advantages and disadvantages of the undertaking as planned (i.e., normal or typical operations). If the EA is approved, contingency and emergency response plans will be developed as part of the Design & Operations report for submission under the EPA, and will include spills response.
p. 12: 7.3 Climate Change. Section 7.3 of the draft Work Plan outlines anticipated average annual and seasonal changes in temperature and precipitation from recent climate change projections for Ontario. (McDermid and Hogg, 2015). While these data show changes suitable for long-term water balance calculations, they do not show possible changes due to discrete extreme precipitation events. For example, reductions in summer precipitation could vary from 2.5 to 4.5% over the next 80 years but the intensity of individual short-term events could increase significantly from present levels (e.g. 4 hr, 6 hr or 24 hr precipitation amounts). This will factor greatly in the design and costs	Agreed. Additional assumptions may be extracted from the reference document(s), as required, in order to address climate change resilience in the facility design (including storm water management).

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for on-site stormwater management infrastructure and facilities within the base area of the landfill to isolate non-contact water. A similar issue exists with high flow changes in the upper Thames River basin. This extreme flow condition may be compounded by the anticipated higher winter precipitation (snowpack) and higher resultant runoff that could combine with higher short duration rainfall events to create higher peak flows. The resultant flows from higher spring runoff should be assessed in conjunction with the 1:250 year storm event for design purposes for peak flows expected in the Thames River to address potential overflow onto the site.	
p.12: 7.3 Climate Change; higher summer temperatures and evaporation have the potential to worsen low flow conditions in the Thames River which already has historically poor assimilative capacity for dilution of treated leachate discharged to the river. This could further affect water quality and associated aquatic health.	Noted.
p.15: 8.2 Field Data Collection. Because the quarry is currently being dewatered, and during the construction and operation of the landfill, this dewatering will continue, a deep unsaturated zone is/will be present. Therefore, the unsaturated zone should also be characterized, but this is not apparent in the work plan. Also, what will WEG do to characterize surface water/groundwater interaction? How will WEG characterize the fluxes of groundwater into and out of the Thames River and other surface water bodies? The work plan should also include some language of the characterization of the engineered barrier system (e.g., lab tests on cover and backfill material, clay liner, etc.).	As noted in previous responses, the design specifications for the engineered liner system and subgrade (backfill) will be set out as a requirement of O. Reg. 232/98 for the EPA submission. Surface water / groundwater interactions will be characterized by analyzing gradients between surface water and shallow groundwater level data. In addition, an analysis of existing pumping records associated with dewatering of the existing Carmeuse Quarry will be completed. This information will be used to calibrate the groundwater model and quantify flux rates between the Thames River any associated tributaries and the quarry.
p.15: 8.2 Field Data Collection. Will parameters necessary for conducting contaminant transport simulations obtained during the field studies? This was not apparent in the work plan. For example, parameters such as the diffusion coefficient, longitudinal and transverse dispersivity, degradation and reaction parameters, etc. should be obtained for the overburden, fractured bedrock, backfill, clay liner, and any other material used as part of the engineered barrier system.	At this time we do not feel a contaminant transport model is necessary to meet the objectives of the study. Instead, failure scenarios and associated mitigation measures may be examined by assessing potential contaminant flow pathways using the groundwater flow model assuming a conservative proxy parameter. However, if, in the course of the study, it is decided that the failure scenario should include calculating specific parameter concentrations at various points along the flow path (for example property line, surface water receptor etc.), a contaminant transport

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	model may be employed in a coupled or loosely coupled approach with the groundwater flow model. **See Appendix F-10: Groundwater Assessment.**
p.16: 8.2 Field Data Collection. Will the MECP or other parties such as the Town of Ingersoll be consulted to make sure that the characterization and sampling plan is adequate? Such language is included for the surface water characterization and monitoring below.	This detail is provided in the accompanying Draft Hydrogeological Technical Work Program (Golder, April 6, 2017)) which has been reviewed with the MECP.
p. 16: states "Drill boreholes in the bedrock and overburden at representative locations on the site to characterize site geological and hydrogeological conditions…"; this should say to "characterize in great detail".	Noted.
p. 16: states "Obtain and review available site specific studies previously undertaken to determine hydraulic conductivity in the bedrock aquifer(s) and assess groundwater flow directions". This statement is somewhat unclear, as the groundwater flow and contaminant transport would occur through fractured rock. It should be re-phrased to indicate that appropriate hydrogeological studies will be undertaken to appropriately characterize flow through discrete fractures (e.g. vertical fractures) and through more frequently and randomly fractured media (horizontal and vertical).	This is intended to mean that previous studies may have information concerning conductivity and groundwater flow, which would be used to supplement the on-site investigations.
p. 16 states "Carry out an inventory of private and public water wells in the vicinity of the site, based on MOE water well records, augmented with door-to-door inventories of selected receptor points." It is unclear what will be done with this information. It should be clear that this information will be used cautiously, as the drillers' logs of these wells are not always reliable, but it should also be noted that selected wells from this database should be used for groundwater quality monitoring.	Noted. These data are intended to be used judiciously to supplement other types of information.
p. 16: states "Retain an expert in Karst geology provide input into, and participate in data collection and interpretation regarding Karst features". This work should also include an evaluation of the effect on the development of Karst due the potential presence of more aggressive landfill leachate within the fractured bedrock.	It is premature at this stage to presume that any leachate will be emitted into the bedrock, but it is an issue that can be examined further if that is found to be the case. **See Section 7.3.6.**
p. 17: states "Groundwater samples will be collected using dedicated sampling equipment and analyzed by an independent accredited laboratory for the parameters listed in Section 10 of O. Reg.232/98, as well as for a suite of	Noted; that is what the work plan states.

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groundwater quality indicator parameters." The list of parameters contained in O.Reg. 232/98 is a good starting point, but it is necessary to consider additional chemical parameters in the groundwater quality characterization in order to establish pre-construction (pre-operation) conditions, and during on-going monitoring in order to detect effects.	
p.18: 9.0 Data Analysis, Groundwater. What scenarios will be considered in the groundwater modeling? What conceptual model will be utilized and how will this be decided? Will a 2D or 3D model be constructed? How large will the model be and what features will be built into the model (e.g., 3D extent of the landfill and the buffer materials)? Will surface water/groundwater flow and transport be jointly considered or will they be treated separately? If surface water and groundwater are treated separately, what is the rationale for this? What is the extent of the groundwater model? It should at the minimum consider the critical receptors (municipal wells, etc.) in the area. How will the landfill be treated in the groundwater model and how will the leakage be simulated? How will the groundwater model account for the contaminant attenuation zone? Will biodegradation, sorption, etc. be considered?	At this time the following basic scenarios are being contemplated: 1) Existing Conditions; 2) Operations at Full Build Out; 3) Closure; and 4) Potential Failure. Additional scenarios may be added as the study progresses. The conceptual model will be developed during the early to mid stages of the study and will involve the syntheses of several sources of information including: Walker site data and drawings, regional topographic, physiographic and geologic mapping, publically available databases (for eg. the MECP WWIS) background reports, previous models in the area, borehole and/or geophysical logs, water levels, flow measurements, aquifer response, packer or slug testing, and water chemistry. We anticipate the groundwater model will be 3D. The model will likely be regional in scale (see prior comment on model domain). At this time it is intended that groundwater and surface water models will be simulated separately to avoid unnecessary computational efforts when pairing potentially incongruous time and temporal scales between the two hydrologic domains. However, as there is clearly interaction between groundwater / surface water, the input / output of each model will be jointly reviewed to ensure that appropriate integration occurs where necessary (for example, shared infiltration rates). A detailed description of how the landfill will be implemented in the model is not possible until a conceptual model has first been established through the study. However, in general terms, the landfill will be modelled based on the hydraulic containment design and include the necessary topographic mapping and engineered structures. Features that require depressurization will likely be modelled via drain-type or pumping well boundary conditions. Areas that act as barriers will likely be modelled using low permeability zones. At this time we do not consider that a contaminant transport model is necessary to meet the objectives of the study. Instead, failure scenarios and associated mitigation measures may be examined by assessing potential contaminant flow

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	pathways using the groundwater flow model assuming a conservative proxy parameter. However, if, in the course of the study, it is decided that the failure scenario should include calculating specific parameter concentrations at various points along the flow path (for example property line, surface water receptor etc.), a contaminant transport model may be employed in a coupled or loosely coupled approach with the groundwater flow model. **See Appendix F-10: Groundwater Assessment.**
p.18: 9.0 Data Analysis, Groundwater. The length of the simulation period should also be discussed. How long is the operational period and the closure period? How long would potential hazards need to be considered? Would changes in material properties be considered in the assessment if the closure period is excessively long (e.g., > 1000 years)?	See previous responses re: study durations.
p.18: 9.0 Data Analysis, Groundwater. What model will be used to conduct the groundwater flow and contaminant transport studies? For the surface water assessment, a model is specified.	A 3D numerical model code will be used to conduct the groundwater flow modeling. It is anticipated the flow code used will be industry standard codes MODFLOW or FEFLOW. At this time we do not feel a contaminant transport model is necessary to meet the objectives of the study. Instead, failure scenarios and associated mitigation measures may be examined by assessing potential contaminant flow pathways using the groundwater flow model assuming a conservative proxy parameter. However, if, in the course of the study, it is decided that the failure scenario should include calculating specific parameter concentrations at various points along the flow path (for example property line, surface water receptor etc.), a contaminant transport model may be employed in a coupled or loosely coupled approach with the groundwater flow model. **See Appendix F-10: Groundwater Assessment.**
p.18: 9.0 Data Analysis, Groundwater, "The degree of potential effects will be compared using the criteria and indicators". This is quite vague. What kinds of potential effects do WEG anticipate and how will this be simulated and assessed?	See Section 3 of the work plan where the respective EA criteria are described in association with the public issues and concerns, and also Section 5 where each criterion is related to its associated regulatory standards. **See Appendix F-10: Groundwater Assessment.**

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p.18: 9.0 Data Analysis, Groundwater, "A groundwater monitoring program will be developed and proposed trigger mechanisms will be set for the implementation of a contingency plan". The groundwater monitoring program will be very critical. Because the tear in the liner may be small, the release of contaminants may be very narrow causing a narrow plume. How will the planned monitoring system detect a narrow plume?	Noted. Appropriate monitoring programs will be developed during the course of the EA once the net effects are analysed. **See Section 7.3.**
p.18: 9.0 Data Analysis, Groundwater, "The potential for leachate from the landfill impacting adjacent properties will be assessed". Presumably, the monitoring will only take at some horizontal distance away from the landfill. What if there is leakage beneath the landfill? Will there be monitoring systems placed below the engineered barrier system, to what depth, and at what density?	Appropriate monitoring programs will be developed during the course of the EA once the net effects are analysed. **See Section 8.**
p.18: 9.0 Data Analysis, Groundwater, "Prediction of future environmental conditions will be completed using modeling and other methods. This 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. Further, the County of Oxford will be consulted with to identify any pre-existing plans for municipal well field expansion, and incorporate those into the evaluation." If the impacts of the proposed landfill are to be identified, recognized, and determined, then the field studies and groundwater models have to encompass these areas. Therefore, the current study areas may be too small.	See previous responses re: study areas.
p. 18: states "During each sampling event, surface water quantity, in the form of discharge rates, will be established measured at each sampling station using an industry standard flow meter. A cross-section will be measured at of each station, (if not previously determined), will be taken and flow measurements will be collected following standard Provincial flow measurement protocols". The use of weirs should be considered in smaller streams in order to allow a more accurate measurement of stream flows.	Weirs will be considered if difficult hydraulic conditions are encountered at the flow gauging locations; however the potential effect of the weirs on fish passage will need to be balanced with the potential increase in accuracy of flow measurements. In most cases, the flow gauging stations are planned to be implemented upstream of culverts, which often provide good hydraulic control for development of stage discharge relationships.
p. 19: 9.0 Data Analysis, Groundwater, "The Geology and Hydrogeology discipline, in consultation with the EA Management Team and the Design &	The proposed mitigation measures would be fully documented in the EA report for review and comment by all stakeholders.

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Operations Team, will provide input…" Would input be obtained and considered from outside experts including MECP, JMCC, the Town of Ingersoll and other parties? This section implies that the input will only come from the proponent's side.	**See Section 8.**
p. 19: states "A predictive model of landfill performance (contaminant transport model and/or flow model) will be conducted. Requirements to meet groundwater quality criteria will be assessed at the On-Site site property boundary using the results of the contaminant transport model." It is noted here that a combination of one- and three-dimensional models will likely be required to achieve this goal. Models will need to be calibrated and then will need to appropriately represent the fate and transport of leachate through the liner system, backfill, and natural (fractured rock) groundwater system, and this will need to be done under various plausible scenarios (base case operation and failure modes). The models have to be capable of predicting groundwater flow and contaminant transport to private and municipal wells and surface water features, and they have to be able to do this during and after the operational phase of the waste disposal site. In general, the Work Plan lacks details on the groundwater modeling given the complexity of the heterogeneous overburden and fractured rock terrain. The groundwater modelling should be used to evaluate the migration of landfill leachate and landfill gas with the fracture rock system. The modelling should consider the lifespan of engineered systems and the strength of the contamination potential of the landfill based on when a potential release of leachate would occur (e.g. due to breach in the liner). Modelling should be conducted for the performance and operation of the engineering systems, taking into account: a. Contaminating lifespan of the waste; i. Design lifespans of the engineering systems (liners, covers, leachate collection systems, etc.) ii. Groundwater management by dewatering (it is unclear if dewatering is intended to continue during only the operating life of the waste disposal site or is it will continue beyond this time frame)	In terms of the engineered liner system, Walker has elected to adopt Generic Design Option II – Double Liner as *per* O. Reg. 232/98 and the Landfill Standards. Consequently, the contaminating lifespan of the leachate, the service life of the engineering components in the liner system, and the full-term performance of the liner system have been established in O. Reg. 232/98 and the Landfill Standards and are not required to be replicated (s. 6(2)(c)(xix-xx)). The groundwater assessment will, however, address several of the other matters mentioned here, including: • Physical flow alteration (incorporating baseline assumptions regarding ongoing quarrying and quarry dewatering); • Feasible contingency measures that can be employed in the event of a failure in the liner system. • Any effects on stream baseflow. The issue of basal stability and differential settlement is dealt with in previous responses, above. Potential future development scenarios are incorporated into this EA through the characterization of the (future) baseline conditions assessment. Walker has provided a set of common assumptions regarding forecast growth and development within the study area for this purpose, as set out in Section 7.2 of the work plan. In addition, Walker has committed to consultation with the municipality/ municipalities as part of the study, regarding plans for new wells or changes to pumping. **See Section 7.3.6**

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iii. Effect of landfill operation on stream baseflow, including dewatering (and potential discontinuation of dewatering). b. Potential failure scenarios, including, but not limited to: i. Differential settlement of material beneath the liner system(s) in order to evaluate the effects of abrupt failure of liner and/or leachate collection system on releases of contaminants into the groundwater flow system; ii. Failure of the leachate collection systems, including timing of such failures which may affect changes in leachate chemistry migrating within the fracture rock system (i.e. the earlier leachate can escape from the landfill, the higher will be the leachate concentrations), and iii. Failure of dewatering pumping wells, e.g. to predict effects on contaminant migration on drinking water supplies and streams. c. Potential development scenarios, including, but not limited to: i. Increased pumping from municipal wells; ii. Establishment of new municipal wells; iii. Continued extraction of rock from existing and future quarries.	
p. 19: 9.0 Data Analysis, Landfill gas. Will a model for landfill gas migration be developed for this undertaking? If so, what model will be used?	It is not expected that modeling will be necessary for the assessment of landfill gas migration. Appropriate design elements (liner and landfill gas control system) will mitigate the potential for landfill gas migration. **See Section 8.2**
p. 19: 9.0 Data Analysis, Landfill gas. There is no mention of the unsaturated zone. Will the unsaturated zone be characterized during the EA studies? The extent of the unsaturated zone is unclear. What is the depth to the water table under current conditions, under operational conditions, and during the closure period? The pathway for gas migration may be different depending on the extent of the unsaturated zone (e.g., depending on the amount of dewatering, the extent of the unsaturated zone could be deeper exposing more units and pathways in both the overburden and fractured bedrock to landfill gas migration).	Noted. As mentioned previously in these responses, ongoing quarrying and dewatering will be taken into account in the assessment. As noted in Section 9 of the work plan, the focus in terms of landfill gas will be prevention, backed up with appropriate monitoring and contingency plans. **See Section 8.2**

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p. 24, Figure 1: Location Plan. The Wellhead Protection Area designated by the source water protection plan should be included on this figure. The study area may have to be made larger to consider the Wellhead Protection Areas of the Town of Ingersoll. While WEG states that the current Wellhead Protection Areas do not intersect the current quarry and the potential landfill, the Wellhead Protection Areas could change with the construction of the landfill and future quarrying operations. In addition, all environmentally sensitive features designated by various agencies should be included in the groundwater/surface water study areas.	As set out in the work plan, the study will assess any potential effects of the proposed landfill on WHPA and environmentally sensitive features. That does not necessarily mean that the study areas must include every WHPA and environmentally sensitive feature. See previous responses re: study area flexibility.
p. 24, Figure 1: Location Plan. Will all of these surface water bodies be sampled and monitored during the investigation?	See Section 9 of the work plan: "*An assessment of the existing flow regime in the Thames River and local tributaries will be completed using existing flow information from nearby hydrometric stations and measurements collected during the field programme*." All tributaries falling within the study area shown in Figure 1 will be assessed.
p. 24, Figure 1: Location Plan. The boundary of the study area should be extended beyond the current one and include all the nearby municipal wells and the Carmeuse property as aggregate resources may be extracted in the future. Cumulative impacts from both the proposed landfill and future quarry operations on adjacent Carmeuse lands need to be considered.	See previous responses re: flexible study area boundaries.
p. 24, Figure 1: Location Plan. The figure also includes breaks in the study area with arrows indicating that the study area will also include "contributing drainage area". While this is good, the contributing area should also include that for the groundwater. The contributing areas for the surface water and groundwater regimes may be different.	Noted. See previous responses re: flexible study area boundaries.
Draft Human Health Assessment Work Plan Dr. Jennifer Kirk, Arcadis Canada on behalf of the Town of Ingersoll (May 26, 2017)	
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The proposed human health risk assessment is in line with a typical risk assessment completed to address exposure to parameters in the environment. There are some additional considerations that have been proposed below, however, the general approach for this type of assessment is acceptable as proposed.	Noted.

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What does not appear to be adequately addressed are the health impacts resulting from the proposed project that are not related directly to chemical exposure. A screening level SHR has been added to the ToR; however, from the information provided in the work program it is not possible to evaluate whether the SHR will be of sufficient depth to adequately address the concerns of the community and stakeholders, or to provide meaningful information into the process. The objective of the SHR should be to improve the knowledge of the potential impacts and to propose adjustments to mitigate the negative and maximize the positive impacts (National Collaborating Centre for Healthy Public Policy, 2010). While the work plan discusses the steps involved in the SHR and the health determinants, it does not adequately provide information on how the results of each of the health determinants are to be evaluated, related back to impacts to human health or how the results will be incorporated into operation and post-closure of the landfill. The steps and the process of the SHR were outlined but it was not clear how the results of the process would be evaluated with respect to impacts to human health.	"*The objective of the SHR should be to improve the knowledge of the potential impacts and to propose adjustments to mitigate the negative and maximize the positive impacts*." Because this health assessment is integrated within an EA framework, and not a separate health assessment, the potential impacts and any necessary mitigation will have already been assessed in conjunction with a wide array of criteria and disciplines within the EA that have inherent health components (See Table 11-1 in the work plan.). Therefore, the scope of the supplementary review is simply to determine whether there is a potential for any additional indirect health effects that could arise and, if so, whether any further assessment is required. **See Appendix F-15: Human Health Risk Assessment & Supplemental Health Review.**
The proposed HHRA is following a format that is typical for HHRAs for contaminated sites; however, it does not address the concerns of the public. The main omissions may be covered in the SHR, but it appears that this SHR will be preliminary, hence the word "screening" and will not be comprehensive enough to address the community's concerns. From my perspective, major shortcomings are:	The Supplementary Health Review (SHR) is not intended to address the potential direct effects of the landfill operation (groundwater, surface water, air and soil contamination), which are the subject of the Human Health Risk Assessment (HHRA). Rather, as specified by the Minister in Amendment #13 to the ToR, the SHR is required to carry out "*a screening-level review of the socio-economic assessment results to determine the potential for related health effects*". **See Appendix F-15: Human Health Risk Assessment & Supplemental Health Review.**
1. Addressing the potential for engineering designs to fail and the impacts to groundwater and surface water	The EA will be based on normal operating conditions of the site, not possible emergency or upset conditions; those will be dealt with through the development of contingency/emergency response plans set out in the Design and Operations Report submitted for approval under the *Environmental Protection Act*.
2. How the quality of the Thames River for human use (i.e., recreational use and consumption of fish) is being (or is not being) addressed by WEG.	The HHRA will incorporate information from the Groundwater and Surface Water Assessment conducted by Golder. As part of the work plan, Golder aims to: "*Grab surface water samples will be collected on a seasonal basis (spring, summer, fall and winter), in addition to data available from the existing annual monitoring program, in an effort to capture the full range of flow conditions present at the Site, in the Thames River, upstream and downstream and in the representative tributary streams. Each sample will be analyzed by a certified laboratory for surface water*

Government Agency Comment	How Comment was Considered
	quality indicator parameters (e.g., metals and hydrocarbons), including target parameters that are routinely tested for the detection of leachate." Data from this assessment will inform the HHRA conducted by Intrinsik. **See Appendix F-15: Human Health Risk Assessment & Supplemental Health Review.**
3. Consideration of contaminants of emerging concerns (i.e., PFAS), how these are being addressed.	The HHRA will assess potential risks to these COPCs predicted by both the Air Quality and Groundwater/Surface water Studies, where data is available. If a particular COPC, for example a contaminant of emerging concern such as PFAS, does not have an existing appropriate health-based regulatory standard or TRV, this COPC will be evaluated qualitatively within the assessment, using information where available from literature or jurisdictional resources, such as the MECP. **See Appendix F-15: Human Health Risk Assessment & Supplemental Health Review.**
4. Acknowledgement and consideration of the effects of stress on the residents/communities and how stress affects human health.	The acknowledgement of health effects related to stress will be identified through the health review of the socio-economic assessments, which will assess criteria such as use and enjoyment of property, community character and social cohesion. **See Appendix F-15: Human Health Risk Assessment & Supplemental Health Review.**
5. Consideration of collection of rainwater for irrigation.	The Groundwater/Surface Water Assessment does not take into consideration the collection of rainwater for irrigation purposes. As such, this is out of scope of work for the HHRA. The Groundwater/Surface Water Assessment does, however, consider that: "*The establishment and operation of the waste disposal facility may affect agricultural crop or livestock production and related agriculture activities*." **See Appendix F-15: Human Health Risk Assessment & Supplemental Health Review.**
6. Consideration of effects on crop species (HHRA indicates livestock, not crops) for both consumption and yield for cash crops.	Acknowledged. This has been updated in Section 9.3.1 of the latest work plan: "If it is determined that these types of agricultural or small livestock operations exist with the Study Area (i.e., a 5 km radius from the proposed facility), the HHRA will consider this type of exposure scenario." **See Appendix F-15: Human Health Risk Assessment & Supplemental Health Review.**

Government Agency Comment	How Comment was Considered
It appears that the SHR is focusing primarily on dust and soil impacts, with some consideration for potable groundwater. However, there are other exposure pathways, such as vapour intrusion, significant impacts to potable water supplies (municipal and private), impacts to irrigation and livestock water, and extensive impacts to surface water, that have not been considered in the event that the landfill design and treatment system lose efficacy or there is a failure. In addition, chemical concentrations would be expected to be higher than those predicted if loss in efficacy or design failure were to occur.	The EA will be based on normal operating conditions of the site, not possible emergency or upset conditions; those will be dealt with through the development of contingency/emergency response plans set out in the Design and Operations Report submitted for approval under the *Environmental Protection Act*.
Why is the potential impacts on home garden or the agricultural food chain from vehicle deposition not considered?	Particulates along the haul routes due to traffic is being assessed and supplied as input to the HHRA (see Section 5.2 of the Air Quality Assessment work plan). **See Appendix F-2: Air Quality Assessment & Appendix F-15: Human Health Risk Assessment & Supplemental Health Review.**
Are there people on the haul route that capture rain water for irrigation or livestock water; deposition onto roofs and followed by precipitation could impact the water quality. Is this being considered?	The groundwater assessment will include a water well inventory to confirm the water supplies used in the site vicinity. This information will be available to the HHRA. Refer to the groundwater/surface water assessment work plan. Deposition on captured rain water for irrigation or livestock purposes is not considered a significant pathway for exposure and as such will not be evaluated in the HHRA. **See Appendix F-10: Groundwater Assessment**
Section 5: The study areas are very loosely defined. At what point will these be determined so that the appropriateness of the study areas and receptors can be evaluated?	The "study areas" for the health assessment are essentially an amalgam of those of the individual studies that will be supplying the input (groundwater, surface water, air, etc.). Furthermore, in some cases there are unique study areas for different criteria within each study. And lastly, this EA reflects a flexible (adaptive) approach to study areas that may evolve as the studies are completed. For all of these reasons, the study areas for the health assessment are not easily defined at this stage of the EA, but will be in the EA reporting, which will be made available for peer review. **See Appendix F-15: Human Health Risk Assessment**
Section 6: Effects due to contact with contaminated surface water and groundwater: Is the consumption of fish from the Thames River being considered? Is dermal contact from surface water being considered? Section 5 indicates that impacts to groundwater and surface water would be expected. How will these be evaluated within the HHRA and/or SHR?	The selection of specific exposure groundwater and surface water pathways for consideration in the HHRA will be conducted in collaboration with the Groundwater/Surface Water Assessment conducted by Golder. Where exposure to groundwater and/or drinking water is identified as a complete exposure pathway in the problem formulation step of the HHRA, these pathways will be carried forward for further assessment. Since the wider study area includes the Thames River, this

Government Agency Comment	How Comment was Considered
	pathway will be considered for inclusion in the HHRA and has been added as a potential pathway in Section 9.1.3. **See Appendix F-15: Human Health Risk Assessment**
Section 6: It is not clear if the proposed indicator of predicted air concentrations (for emissions and for fine particulate) are predicted based on landfill activity only or on the incremental increase resulting from the landfill. Will the indicators consider the additive effects of the landfill to the existing quarry and other local background sources?	This EA is designed to characterize the cumulative effects; therefore, the landfill emissions will be superimposed on the baseline emissions from other local sources (see the air quality assessment work plan). **See Appendix F-2: Air Quality Assessment**
Section 6: The proposed provincial and federal groundwater standards to be relied upon should have been provided to allow for appropriate comparison with the measured and modeled predicted contaminant of potential concern (COPC) concentrations.	These standards are published and readily available; they are referenced in the groundwater/surface water assessment work plan. Further information on the selection of COPCs is presented in Section 9.2.2 of the work plan.
It is not clear how COPCs in surface water will be evaluated within the HHRA as only groundwater standards/guidelines have been mentioned.	Section 6.0 of the groundwater/surface water assessment work plan provides a more comprehensive list of the applicable water quality standards. The standards address drinking water quality from both sources.
Section 7.3: It is not clear how climate change is being considered in the HHRA. Please clarify.	Section 7.3 is simply common language included in all work plans to convey Walker's commitment to consider climate change in this EA, where relevant, and to supply the standard reference material. In fact, it is not directly relevant to the health assessment given that the supporting studies supplying the input will have already incorporated climate change into their analyses.
Section 8.0: No information was provided regarding the data relied upon or consideration for background, therefore an evaluation of the data being used could not be completed.	Noted; the background data do not exist until the other studies are completed.
Section 9.1.3: The receptors and exposure pathways have not yet been identified. The Work Plan should have included the receptors and the exposure pathways that the receptors could be exposed to allow evaluation of the comprehensiveness of the study. Since only a list of possible exposure pathways were provided, comments are limited to this and have not been fully evaluated: a. Will consideration of dermal contact from groundwater and surface water be considered? Residual impacts in treated leachate would be expected. b. Will consideration of ingestion of local crops be considered?	It is noted in the work plan that the receptors, exposure pathways and conceptual model will be established once the associated studies have carried out their assessments. The discussions in Section 9.1.3 are indicated as preliminary based on the currently available study area information and professional judgment, and Figure 9-3 is labeled as an "example" at this time.

Government Agency Comment	How Comment was Considered
c. Will consideration of consumption of fish be considered? d. Will consideration of incidental ingestion and dermal contact of surface water and groundwater be considered?	
Figure 9-3 should also show the potential for landfill leachate to impact groundwater and discharge to surface water. The conceptual site model does not show the source of impacts and the potential for distribution within the environment.	Figure 9-3 does illustrate both groundwater and surface water as potential pathways and links the two together (although the arrow joining them could perhaps be double-ended). Regardless, Figure 9-3 is an example only and the conceptual model will not be fully established until the associated studies are more advanced.
Section 9.2, p. 15: The level of effort should be the same to assess any COPC originating (or predicted to originate) from the landfill. What process is proposed to choose the smaller number of chemicals on which to focus?	The process for selecting the COPCs is described further in Sections 9.2.1 through 9.2.4.
Section 9.2.2: The standards/guidelines proposed in this Section may not be protective of all operable exposure pathways. For example, how will COPCs relevant for the consumption of fish and dermal contact of surface water be identified using MECP groundwater standards and Canadian Drinking water guidelines?	If predicted COPC concentrations in surface water do not exceed the Ontario Drinking Water Standard, one can assume the concentration does not pose a dermal contact risk for recreational swimmers using the surface water body. Assuming concentrations do not exceed appropriate ecological aquatic protection value (APV) benchmarks (as specified in the MECP MGRA model) or drinking water standards, the only fish consumption risk might be from chemicals that are persistent and/or bio accumulative in nature, such as PCBs, pesticides, *etc*. These particular chemicals are also outlined in the annual Ontario Sport Fishing Guide. Should any of these chemicals be predicted within the surface water around or downstream of the landfill, based on emissions from the landfill, risks arising from fish consumption for these COPCs will be formally assessed in the detailed HHRA. **See Appendix F-15: Human Health Risk Assessment**
Section 9.2.3: It appears that the HHRA approach is only considering COPCs through deposition from air; however, the potential for leachate to impact groundwater if the design fails and for groundwater and/or leachate to reach the Thames River does not appear to be considered. This is particularly important given the Arcadis comments on surface and groundwater, relating to the greater potential at this proposed landfill for the sudden failure of the liner and release of contaminants and gas to the groundwater. The HHRA should also account for the potential for exposure to occur via these exposure pathways.	The EA is based on normal or typical operating conditions, so that the environmental advantages and disadvantages of the proposed undertaking are characterized in the way that it is expected to operate day-to-day and year-to-year. Walker will be developing monitoring, contingency and emergency response plans for the landfill (including the liner system) as part of the application for an Environmental Compliance Approval (ECA) under the Environmental Protection Act.
Section 9.2.4: How will COPCs be evaluated where an appropriate health-based regulatory air standard or toxicity value CANNOT be identified?	Should COPCs will be identified in the Air Quality or the Groundwater / Surface Water Assessment that do not have an appropriate health-based regulatory standards or TRVs, they will be assessed in the HHRA. In such a case, a qualitative

Government Agency Comment	How Comment was Considered
	assessment of potential risks will be conducted for that COPC, using information where available from literature or jurisdictional resources, such as the MECP. **See Appendix F-15: Human Health Risk Assessment**
Section 9.2.4: Any COPC that meets the requirements of persistent or bioaccumulative substance that could be associated with the landfill should be retained and assessed for multi-media exposure, not only those that show an increasing trend or that are already present.	Yes, as outlined in the workplan, any COPC that meets the requirements of persistent or bioaccumulative will be retained and assessed for multi-media exposure. **See Appendix F-15: Human Health Risk Assessment**
Section 9.2.4: How will contaminants of emerging concern be addressed in the HHRA (for example PFAS are associated with landfill leachates, standards do not currently exist at the Provincial level and they typically are not part of a standard routine monitoring)? Please provide an indication of how the HHRA assessment will address contaminants of emerging concern and failure or under performance of the design of the landfill.	The HHRA will assess potential risks to these COPCs predicted by both the Air Quality and Groundwater/Surface water Studies, where data is available. If a particular COPC does not have an existing appropriate health-based regulatory standard or TRV, this COPC will be evaluated qualitatively within the assessment, using information where available from literature or jurisdictional resources, such as the MECP. **See Appendix F-15: Human Health Risk Assessment**
Section 9.2.4: Please clarify how parameters identified in groundwater and/or surface water that have not been flagged previously for the multimedia assessment will be addressed.	Please see responses above.
Section 9.3.1: Will the updated Compendium of Canadian Human Exposure Factors for Risk Assessment be considered?	The Compendium of Canadian Exposure Factors for Risk Assessment is listed in Section 9.3.1 as one of the resources to be considered when characterizing receptors in the HHRA. However, those receptor characteristics recommended by the MECP under O. Reg. 153/04 will be primarily used in the current assessment.
Section 9.3.1: Since only "potential" human exposure scenarios were provided and not the actual ones that will be considered in the HHRA, a thorough review of the exposure scenarios could not be completed at this time.	Noted.
Section 11.2: Scoping of the Health Assessment: a. How will stress from negative impacts of the project be considered with respect to human health effects of the project? b. While the determinants are listed, it is not clear the approach proposed to be taken to address each of the determinants. Therefore, detailed comments on the work plan for the SHR could not be made at this time.	Any potential effects related to stress will be identified through the health review of the socio-economic assessments, which will assess criteria such as use and enjoyment of property, community character and social cohesion (see Appendix A to the work plan). **See Appendix F-14: Social Assessment**

Government Agency Comment	How Comment was Considered
Appendix A: Would impact to surface water and groundwater not be considered for the wider area? Would impacts to groundwater and surface water also not impact ecology, social and land use (future)?	The definition for "Wider Area" in Section 5 of the work plan indicates that it is more regional and intended for "some of the general or indirect effects of a landfill that are not resulting from specific physical activities on the site". In this case the groundwater and surface water studies have defined their Site & Site Vicinity study areas as large enough to encompass all of the related effects. Yes, the groundwater, surface water ecology, social and land use effects are interrelated. However, this is not intended to be depicted in the tables in Appendix A (although it is described in the criteria definitions/rationale in these tables). Table A-2 in the approved ToR illustrates many of the key discipline inter-relationships in the EA.
Appendix A: Would disease transmission via insects and vermin not also be a concern for human health? Please clarify.	Yes, and this information will be conveyed to the health assessment if any evidence is found that there could be disease vectors. (However, it should be noted that these are no longer typically experienced at well-run modern engineered landfill). **See Appendix F-15: Human Health Risk Assessment**
Appendix A: Stress is an adverse health effect, is there any reason that criteria that could result in stress are not assessed in the SHR? Example: displacement of residents from houses, disruption to use and enjoyment of public facilities, disruption of local traffic networks etc.	Agreed. These issues are within the scope of the social assessment, which will be reviewed by the health expert as part of the SHR, as stated in the work plan. **See Appendix F-15: Human Health Risk Assessment**
Additional Comments on the Air Quality Assessment Work Plan	
Section 5.2.1: According to the HHRA, the HHRA is identifying COPCs based on the results of other studies, such as the Air Quality study. This section suggests that based on the results of the HHRA, additional parameters may be considered in the Air Quality study, this appears to be a circular argument. The Air Quality study should identify any and all COPCs associated with vehicular exhaust and include these in their modeling to be incorporated into the HHRA.	This simply reflects the collaborative approach that is being used in this EA; the two studies will work cooperatively on the development of the appropriate parameters. **See Appendix F-15: Human Health Risk Assessment**
Section 5.2.1: It is not clear how the list of parameters were identified for vehicle exhaust. Is there a reason that other constituents of automobile exhaust, such as carbon dioxide, TSP, benzene, acrolein, acetaldehyde, 1,3-butadiene and formaldehyde were not included?	The MECP has provided a list of compounds they have deemed as applicable for the evaluation of automobile emissions. This list of compounds has been revised to accommodate the MECP's requested list. Updated Compound List for Haul Route is provided in Section 5.2.1.

Government Agency Comment	How Comment was Considered
Table 6.2.2.1: 1,1,2,2-tetrachloroethane does not have criteria, how will this be evaluated within the study?	Information for all compounds will be provided to the HHRA. For compounds without standards/guidelines from the MECP, additional information from the HHRA Technical Team will be utilized for evaluation. **See Appendix F-15: Human Health Risk Assessment**
Section 5.3: The consideration of an objectionable level for odour of 3 to 5 OU was stated, despite the recommendation by the MECP of 1 OU. Since complaints at other landfills would be dependent on any number of factors, the assessment should support the rationale that 3 to 5 OU would be appropriate for this landfill given site specific considerations (distance to nearest receptor etc.).	The statement about 3 to 5 OU will be removed and the evaluation criteria will be 1 OU and will also include an evaluation of frequency of occurrence. Language amended for clarity.
Section 7.3.1: Since there appears to be mistrust from the community with respect to the historical monitoring data, it would be advisable for RWDI to complete additional monitoring around the existing Carmeuse site to validate the historical data.	"Community mistrust" is not, of itself, a suitable rationale to disregard existing data. RWDI has proposed to carry out a critical review of the historical data in consultation with the MECP. **See Appendix F-2: Air Quality Assessment**
Section 7.3.2: To clarify, is it a total of ten receptor locations for both study areas or 10 receptor locations for each study area (dust dispersion).	For clarity, the presentation of the results for 10 receptor areas is only part of the evaluation. In addition, concentration isopleths will be provided as noted in the Air Quality Work Plan.
The modeling for odour and dust indicate a maximum of ten receptors to be modelled. There is no indication of what the minimum number will be. This should be understood so that it can be confirmed that sufficient modelling is completed to address receptors in the vicinity of the landfill site and the haul route.	The receptor locations will be chosen collaboratively among the Walker study team once sufficient background data has been collected, and may be further refined as the analyses progress. The final receptors will be fully documented in the EA. **See Appendix F-2: Air Quality Assessment**
Additional Comments on the Visual Assessment Work Plan	
It is not clear how the potential effects to human health (annoyance and stress) are being evaluated or addressed if visual impacts are deemed unacceptable. Once further details for the study design are presented, a review of potential impacts to health can be completed.	Noted. As discussed above, these issues are within the scope of the social assessment, which will be reviewed by the health expert as part of the SHR, as stated in the work plan. **See Appendix F-15: Human Health Risk Assessment and Supplemental Health Review**
Section 4.0: Along the Haul Routes: Other work plans have considered properties within a certain distance of the haul route (i.e., 500 m), not just those directly adjacent to these roads. Please explain why the visual assessment is only considering properties directly adjacent to the haul routes?	It is the visual expert's opinion at this time that those most likely to be affected by the visibility of additional trucks along the haul routes are those whose properties have frontage along the haul routes. However, following the initial reconnaissance if there are additional properties fronting on other roads (e.g., side streets) but with similar views, they can also be considered.

Government Agency Comment	How Comment was Considered
	See Appendix F-6: Visual/Landscapes Assessment
Additional Comments on the Cumulative Effects Assessment Work Plan	
Section 4: It appears that the cumulative effects of the quarry (and other local activities) and the proposed landfill are being considered through the evaluation of baseline conditions. What is not apparent is if "background" conditions are being considered i.e., those without the quarry and/or landfill.	A scenario whereby the quarry is not considered as part of the baseline has no relevance or value. There is no indication that the quarry will be closing within the time frame of the proposed landfill.
Section 5.2: The report indicates that certain types of impacts will be characterized to the extent possible. The footnote (number 8) indicates that noise, odour and visibility cannot easily be added quantitatively. What is not clear, is if the potential health impacts associated with the above, such as stress caused by the annoyance of noise, odour and visibility will be evaluated within the cumulative effects? Please clarify.	As discussed above, these issues are within the scope of the social assessment, which will be reviewed by the health expert as part of the SHR, as stated in the work plan. **See Appendix F-15: Human Health Risk Assessment and Supplemental Health Review**
Additional Comments on the Social Assessment Work Plan	
The Social Assessment Work Plan appears to be inclusive of concerns raised by the community. However, it is not clear how the results of the Social Assessment will be incorporated into an overall evaluation of human health.	As specified by the Minister in Amendment #13 to the ToR, the SHR is required to carry out "*a screening-level review of the socio-economic assessment results to determine the potential for related health effects*" (Section 11.0). The acknowledgement of health effects related to stress will be identified through the health review of the socio-economic assessments, which will assess criteria such as use and enjoyment of property, community character and social cohesion (see Appendix A to the work plan). **See Appendix F-15: Human Health Risk Assessment and Supplemental Health Review**
Section 7.2.2: What is the expected response rate of the questionnaire? For people in close proximity to the landfill it would be advisable to provide all residents with the questionnaire, not 1 in 4 households as suggested, so that the sample size of returned questionnaires is suitable to draw meaningful information from.	A professional polling firm will be retained to ensure that the response rate is statistically suitable. In that same section: "*An attempt will be made to sample more households closer to the site and in areas where the greatest potential for impacts are anticipated (i.e., within 500 m of the landfill and along the haul route).*" The next section of the work plan (Section 7.2.3) also discusses the use of personal interviews with nearest neighbours.
Additional Comments on the Groundwater & Surface Water Assessment Work Plan	

Government Agency Comment	How Comment was Considered
It is not clear, based on the human health work plan whether recreational use of surface water bodies has been considered including the consumption of fish.	The presence of, and potential effects on, fish in and around the site will be determined through the ecological assessment, and recreational uses around the site will be documented through the social assessment. See those respective work plans. All of these data will be available as input to the health assessment. **See Appendix F-15: Human Health Risk Assessment and Supplemental Health Review**
Suggest that groundwater quality in private drinking wells or wells used for irrigation within the study area be characterized to establish pre-landfill conditions.	Baseline water quality will be established using purpose-built groundwater monitoring installations. It is generally not as useful to rely on private water supplies to characterize baseline groundwater quality since they can be influenced by a variety of factors such as the construction and condition of the well and the piping system, etc. **See Appendix F-10: Groundwater Assessment**
Additional Comments on the Agricultural Assessment Work Plan	
It doesn't appear that the work plan is considering the potential loss of yield resulting from impacts to air quality or groundwater impacted by the landfill.	Section 3 of the agricultural work plan indicates the potential linkages, through the EA criteria, between groundwater, surface water, air quality and agriculture. Furthermore, in Section 5 of the same work plan, the indicators for the agricultural assessment include: Area of cropland potentially affected by emissions, fine particulates (dust), flooding or drainage disruption; and Number of farm operations with potential for loss of water quality or quantity affecting livestock or crop production. **See Appendix F-1: Agriculture Assessment**
Additional Comments on the Noise/Vibration Assessment Work Plan	
It is recommended that a review of the final receptor locations be completed prior to completing the studies to allow input from the community and stakeholders.	See previous responses re: receptors.