



Attachment 1 – Alternative
Methods Evaluation Criteria

Attachment 1: Table 1 - Criteria for the Evaluation of Site Development Alternatives (Master List)

Draft criteria for the evaluation of site development alternatives were included in the Approved Amended Terms of Reference (May 2018). The criteria and indicators were revised based on input from the Ministry of the Environment, Climate Change and Parks, Walpole Island First Nation and as a result of discussion with the community at a workshop and open house in the spring/summer of 2018 and included in the Interim Alternative Methods Report (December 2018). Some further revisions were made to create this final criteria list.

Criteria for the Evaluation of Site Development Alternatives

Environment		Criteria	Indicators	Data Sources	Rationale
Natural Biological – Terrestrial Ecosystems	1	<ul style="list-style-type: none"> Potential for effect on terrestrial systems from construction and operation. 	<ul style="list-style-type: none"> Area and type of terrestrial systems (e.g., significant woodlands, hedgerows, wetlands, etc.) to be removed on-site. Area and type of terrestrial systems (e.g., significant woodlands, hedgerows, wetlands, etc.) potentially disrupted within 1 km. 	<ul style="list-style-type: none"> Existing and proposed facility characteristics Natural Environment Existing Conditions Report Aerial photography & GIS mapping ELC mapping Official Plan mapping Communication with agencies (e.g., MNRF) and knowledgeable citizens 	There are minimal features on-site as it is an active landfill property. However, the existing woodlots in particular are important to some people in the community.
	2	<ul style="list-style-type: none"> Potential for effect on habitat of Endangered or Threatened species during construction. 	<ul style="list-style-type: none"> Area of habitat for endangered or threatened species on-site. 	<ul style="list-style-type: none"> ELC mapping Natural Environment Existing Conditions Report 	This criterion was added to reflect the importance of species to Indigenous Communities.
	3	<ul style="list-style-type: none"> Potential effect on medicinal or other culturally sensitive species of importance to Indigenous Communities during construction. 	<ul style="list-style-type: none"> Area and type of species of importance to be removed on-site. 	<ul style="list-style-type: none"> Natural Environment Existing Conditions Report 	This criterion was added to reflect the importance of species to Indigenous Communities.

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Natural Biological – Aquatic Ecosystems	4	<ul style="list-style-type: none"> Potential for effect on aquatic systems during construction. 	<ul style="list-style-type: none"> Amount and type of aquatic systems (i.e., ponds, drains) that would be displaced on-site. 	<ul style="list-style-type: none"> Natural Environment Existing Conditions Report Existing and proposed facility characteristics Communication with MNRF and LTVCA 	There are drains on-site that may need to be moved for the site development alternatives.
Natural Physical – Ground Water	5	<ul style="list-style-type: none"> Potential impacts to groundwater quality during construction, operation and post closure. 	<ul style="list-style-type: none"> Qualitative assessment of ability of alternative to meet Reasonable Use Guideline. 	<ul style="list-style-type: none"> Site data collected through intrusive investigations. Leachate characteristics taken from Table 1, Section 10 of O.Reg 232/98. Landfill design input. 	Differences in site development footprints and heights may result in different abilities to meet reasonable use guidelines.
	6	<ul style="list-style-type: none"> Leachate contaminating lifespan during construction, operation and post closure. 	<ul style="list-style-type: none"> Prediction based on tonnes of waste per hectare of footprint area and leachate generation rate. 	<ul style="list-style-type: none"> Leachate characteristics taken from Table 1, Section 10 of O.Reg 232/98. Estimation from the method used by Rowe et.al (2004). 	Differences in site development alternative footprints and heights may result in different contaminating lifespans. This criterion was added based on feedback from MECP at the ToR approval stage.
	7	<ul style="list-style-type: none"> Potential impacts to groundwater quantity. 	<ul style="list-style-type: none"> Landfill footprint. 	<ul style="list-style-type: none"> Existing and proposed facility characteristics. 	The size of the footprint represents the area removed from infiltration.
	8	<ul style="list-style-type: none"> Potential impacts to water supply wells. 	<ul style="list-style-type: none"> Extent of natural setting protection. 	<ul style="list-style-type: none"> Location of municipal water supply Existing and proposed facility characteristics Groundwater modelling. 	Local residents have expressed concerns about drinking water.

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Natural Physical – Surface Water	9	<ul style="list-style-type: none"> Potential impacts to surface water quantity. 	<ul style="list-style-type: none"> Changes in peak flows pre- and post-expansion. 	<ul style="list-style-type: none"> Topographic mapping and aerial imagery Climate data Soils and land use mapping Previous drainage studies Existing and proposed facility characteristics Field observations Aerial photography & GIS mapping Past monitoring reports Surface water modelling results 	Differences in site development alternative footprints and heights may result in different quantities of runoff.
	10	<ul style="list-style-type: none"> Potential impacts to surface water quality. 	<ul style="list-style-type: none"> Anticipated change in temperature, water quality, benthos and fish habitat. 	<ul style="list-style-type: none"> MECP published water quality data Water quality monitoring data Surface water quality program Benthic community inventory Fish habitat survey 	Differences in site development alternatives footprints and heights may result in different levels of runoff that could impact surface water quality.
Natural Physical - Atmospheric	11	<ul style="list-style-type: none"> Potential for dust during construction and operation. 	<ul style="list-style-type: none"> Relative concentration of dust at discrete receptors. 	<ul style="list-style-type: none"> Existing and proposed facility characteristics and operational parameters MECP local meteorological data MECP terrain data MECP and ECCC background air quality monitoring data (i.e. NAPS stations, etc.). US EPA and US EPA AP-42 emission factors US EPA LandGEM modeling for the site 	Construction, landfilling waste and landfill mining has the potential to cause some dust.

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Environment		Criteria	Indicators	Data Sources	Rationale
				<ul style="list-style-type: none"> Results of site specific air quality monitoring 	
	12	<ul style="list-style-type: none"> Potential for impacts to air quality during construction and operation. 	<ul style="list-style-type: none"> Relative concentrations of Nitrogen oxides, sulphur dioxide and carbon monoxide (together referred to as criteria air contaminants) at discrete receptors. Relative concentrations of Hydrogen sulphide, vinyl chloride, chloroform at discrete receptors. 	<ul style="list-style-type: none"> Existing and proposed facility characteristics and operational parameters MECP local meteorological data MECP terrain data MECP and ECCC background air quality monitoring data (i.e. NAPS stations, etc.). US EPA AP-42 and MECP emission factors US EPA LandGEM modeling for the site Results of site specific air quality 	Construction, landfilling waste and landfill mining has the potential to result in impact to air quality.
Natural Physical – Climate Change	13	<ul style="list-style-type: none"> Potential for greenhouse gas emissions during construction and operation. 	<ul style="list-style-type: none"> Daily/annual waste volume landfilled Anticipated differences in on-site vehicular activity. Extent of woodlot removal. 	<ul style="list-style-type: none"> Existing and proposed facility characteristics US EPA and US EPA AP-42 emission factors 	Landfilling waste has the potential to release greenhouse gases that can contribute to climate change.
	14	<ul style="list-style-type: none"> Resilience of engineered systems. 	<ul style="list-style-type: none"> Qualitative assessment of the resiliency of proposed infrastructure. 	<ul style="list-style-type: none"> Existing and proposed facility characteristics 	Climate change results in less predictable weather patterns and storms that are larger and more violent. These storms could effects landfill infrastructure which could result in a negative impact on the environment.

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Criteria for the Evaluation of Site Development Alternatives					
Environment		Criteria	Indicators	Data Sources	Rationale
Social	15	<ul style="list-style-type: none"> Potential for noise/vibration impacts on residents during site construction and site operation. 	<ul style="list-style-type: none"> Number of households in the study area who may experience noise/vibration impacts. 	<ul style="list-style-type: none"> GIS mapping Survey input from local residents as available Existing and future facility characteristics Public consultation 	Residents in the vicinity of the site may experience noise impacts that are already familiar, from the current and continued operation of the landfill. This experience may differ depending on the characteristics of the site development alternatives.
	16	<ul style="list-style-type: none"> Potential for odour during construction and operation. 	<ul style="list-style-type: none"> Relative concentrations of odour at discrete receptors. 	<ul style="list-style-type: none"> Existing and proposed facility characteristics MECP local meteorological data MECP terrain data MECP emission factor Survey input from local residents as available Public consultation 	Landfilling waste has the potential to cause some odour. Landfill mining is a component included in the site development alternatives which has an even greater potential to result in odour.
	17	<ul style="list-style-type: none"> Potential for visual impacts on residents during site construction and site operation. 	<ul style="list-style-type: none"> Percent change in view within study area. 	<ul style="list-style-type: none"> GIS mapping Existing and future facility characteristics Public consultation Survey input from local residents as available 	Residents in the vicinity of the site may have different views of the landfill based on the site development alternatives.

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Environment		Criteria	Indicators	Data Sources	Rationale
	18	<ul style="list-style-type: none"> Potential for landfill traffic effect on residents during construction and operation. 	<ul style="list-style-type: none"> Number of waste trucks during operation. Number of trucks for construction. 	<ul style="list-style-type: none"> Existing and proposed facility characteristics Survey input from local residents as available Public consultation 	The annual tonnage and the haul route for a future expanded site will be the same as it is currently. There may be potential for minor additional truck traffic during construction.
	19	<ul style="list-style-type: none"> Potential for effect on worker safety during construction and operation. 	<ul style="list-style-type: none"> Likelihood of safety concerns with alternative. 	<ul style="list-style-type: none"> Existing and proposed facility characteristics 	The safety of workers is important to Waste Connections. The difference in site development alternatives footprints and heights may result in different potential safety concerns.
Economic	20	<ul style="list-style-type: none"> Potential for effect on businesses during construction or operation. 	<ul style="list-style-type: none"> Number of businesses (e.g., agricultural operations) in the study area who may experience disruption. 	<ul style="list-style-type: none"> GIS mapping Survey input from local businesses as available Existing and proposed facility characteristics Public consultation activities 	There are limited businesses in the vicinity of the landfill (three in the study area) that may experience different nuisance effects depending on the site development alternatives.
	21	<ul style="list-style-type: none"> Potential for landfill traffic effect on businesses during construction and operation. 	<ul style="list-style-type: none"> Number of waste trucks during operation. Number of trucks for construction. 	<ul style="list-style-type: none"> Existing and proposed facility characteristics Survey input from local businesses as available 	The annual tonnage for a future expanded site will be the same as it is currently. There may be potential for minor additional truck traffic during construction.

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Environment		Criteria	Indicators	Data Sources	Rationale
	22	<ul style="list-style-type: none"> Potential for effect on agriculture during construction. 	<ul style="list-style-type: none"> Area of on-site crop production lost. Area of Class 1-3 soils lost. 	<ul style="list-style-type: none"> GIS mapping Personal communication Soils mapping of Ontario Canada Land Inventory Official Plan mapping 	The area around the site is primarily agriculture. The characteristics of the different development alternatives may have minor effect on farmers and farm operations.
	23	<ul style="list-style-type: none"> Cost of facility. 	<ul style="list-style-type: none"> Approximate cost of site development alternative. 	<ul style="list-style-type: none"> Cost estimate 	The site development alternative characteristics may result in differing capital and operating costs.
Cultural	24	<ul style="list-style-type: none"> Potential effects to archaeological resources as a result of construction. 	<ul style="list-style-type: none"> Area of undisturbed land affected by the expansion alternative. 	<ul style="list-style-type: none"> Stage 1 archaeological assessment Existing and proposed facility characteristics 	There is undisturbed land remaining on-site that could have archaeological resources.
	25	<ul style="list-style-type: none"> Potential effects to cultural resources as a result of construction. 	<ul style="list-style-type: none"> Number and type of cultural resources that may be affected by expansion alternative. 	<ul style="list-style-type: none"> Cultural Heritage Resource Assessment Existing and proposed facility characteristics 	There are identified cultural heritage resources on-site that could be impacted by alternatives.
Built	26	<ul style="list-style-type: none"> Effects on land use as a result of construction. 	<ul style="list-style-type: none"> Size of landfill footprint. 	<ul style="list-style-type: none"> Existing and proposed facility characteristics 	The site development alternatives involve different footprints resulting in differences in the use of land.
	27	<ul style="list-style-type: none"> Potential effects on existing transportation infrastructure and transportation 	<ul style="list-style-type: none"> Number of waste trucks during operation. Number of trucks for construction. 	<ul style="list-style-type: none"> Existing and proposed facility characteristics Annual tonnage 	The annual tonnage to the site will not change so the number of landfill trucks will remain approximately

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Environment		Criteria	Indicators	Data Sources	Rationale
		operation.	<ul style="list-style-type: none"> Anticipated impact on the Chatham-Kent Airport. 		the same as they are today. There may be potential for minor additional truck traffic during construction. Continued landfill truck traffic also has the potential to impact safety. It is noted that the airfield in the vicinity of the site equally dictates the height of landfilling for all alternatives and thus is not included in the comparative evaluation criteria.
	28	<ul style="list-style-type: none"> Potential for effects on existing landfill infrastructure as a result of construction. 	<ul style="list-style-type: none"> Extent and type of change required to existing site facilities. 	<ul style="list-style-type: none"> Existing and proposed facility characteristics 	Site development alternative may result in different needs to adjust existing features on-site.
	29	<ul style="list-style-type: none"> Ease to implement/construct and maintain/operate. 	<ul style="list-style-type: none"> Anticipated complexity of construction and operation. 	<ul style="list-style-type: none"> Existing and proposed facility characteristics 	The alternatives will have different levels of complexity for Waste Connections staff to construct and operate.

Attachment 1: Table 2 - Criteria for the Evaluation of Landfill Gas Management Alternatives

The table below includes the criteria relevant to the landfill gas management evaluation with associated indicators, data sources and rationale which were reviewed by MECP and WIFN. Where criteria from the master list (Evaluation Criteria for Site Development Alternatives) were not used, an explanation is provided below the table. These criteria were included in the Interim Alternative Methods Report (December 2018). Some further revisions were made to create this final criteria list.

Criteria for the Evaluation of Landfill Gas Management Alternatives				
Environment	Criteria	Indicators	Data Sources	Rationale
Natural Physical (Atmospheric & Climate Change)	<ul style="list-style-type: none"> Potential impacts to air quality during construction and operation. 	<ul style="list-style-type: none"> Relative levels of construction as an indicator of the generation of air contaminants from equipment exhaust (nitrogen oxides, sulphur dioxide and carbon monoxide). Relative amount of energy required to operate facility. 	<ul style="list-style-type: none"> Existing and proposed facility characteristics 	Different ways that landfill gas management may have different impacts on air quality.
	<ul style="list-style-type: none"> Potential for reduction in greenhouse gas (GHG) emissions during construction and operation. 	<ul style="list-style-type: none"> Qualitative assessment of the potential for greenhouse gas (GHG) emissions reduction as a result of landfill gas alternatives. 	<ul style="list-style-type: none"> Existing and proposed facility characteristics 	Landfills release greenhouse gases (GHG) that contribute to climate change. Collecting this gas reduces GHGs and additionally the use of landfill gas can also displace the use of conventional fuels, further offsetting GHGs. Different methods to manage landfill gas could have different impacts to GHGs.

Attachment 1: Table 2 - Criteria for the Evaluation of Landfill Gas Management Alternatives

Criteria for the Evaluation of Landfill Gas Management Alternatives				
Environment	Criteria	Indicators	Data Sources	Rationale
Social	<ul style="list-style-type: none"> Potential for noise as a result of landfill gas management facility construction and operation. 	<ul style="list-style-type: none"> Number of households in the study area who may experience noise or other disturbance. 	<ul style="list-style-type: none"> GIS mapping Existing and proposed facility characteristics 	The landfill gas management alternatives represent two difference scenarios – maintaining the status quo or actively using the gas. These scenarios will have different degrees of construction and thus different construction impacts on-site, and in the study area.
	<ul style="list-style-type: none"> Potential for odour during construction and operation. 	<ul style="list-style-type: none"> Number of potential odour sources, relative significance of odour sources (if characterization is possible), distance of odour sources to discrete receptors. 	<ul style="list-style-type: none"> GIS mapping Feedback from neighbours. Existing and proposed facility characteristics 	Different ways to manage landfill gas may have different impacts.
Economic	<ul style="list-style-type: none"> Potential for effect on businesses during construction and operation 	<ul style="list-style-type: none"> Number of potential odour sources and relative significance of odour sources (if characterization is possible), distance of odour sources to discrete receptors. Number of businesses in the study area who may experience noise or other disturbance. 	<ul style="list-style-type: none"> GIS mapping Existing and proposed facility characteristics 	Different ways to manage landfill gas have the potential to result in different odour and/or noise impacts which is the main disruption effect to local businesses.

Attachment 1: Table 2 - Criteria for the Evaluation of Landfill Gas Management Alternatives

Criteria for the Evaluation of Landfill Gas Management Alternatives				
Environment	Criteria	Indicators	Data Sources	Rationale
	<ul style="list-style-type: none"> Cost of facility. 	<ul style="list-style-type: none"> Approximate cost of landfill gas recovery facility. 	<ul style="list-style-type: none"> Cost estimate 	Different LF gas management alternatives may result in differing capital and operating costs.
Cultural	<ul style="list-style-type: none"> Potential effects to archaeological resources as a result of construction. 	<ul style="list-style-type: none"> Area of undisturbed land affected by the on-site component of landfill gas management alternative. 	<ul style="list-style-type: none"> Stage 1 archaeological assessment Existing and proposed facility characteristics 	There is undisturbed land remaining on site that could have archaeological resources.
Built	<ul style="list-style-type: none"> Ease to implement/construct and maintain/operate. 	<ul style="list-style-type: none"> Anticipated complexity of construction and operation. 	<ul style="list-style-type: none"> Existing and proposed facility characteristics 	The alternatives will have different levels of complexity to construct and operate.

The following provides an explanation on why some environmental components/criteria from the master list were not included in the evaluation of landfill gas alternatives:

- **Natural Environment Biological – Terrestrial Ecosystems** – Landfill gas management would not have any effect on the woodlot which is the main terrestrial feature.
- **Natural Environment Biological – Aquatic Ecosystems** – There is no potential impact on aquatic systems from landfill gas management.
- **Natural Environment Physical - Groundwater**– Landfill gas management will not impact groundwater quality at the site.
- **Natural Environment Physical – Surface Water** – Landfill gas management will not impact surface water quantity or quality.
- **Potential for dust during construction** – Construction activity associated with landfill gas management is minimal relative to the landfill construction activity; there will be no discernable impact on dust from this on-site construction.

Attachment 1: Table 2 - Criteria for the Evaluation of Landfill Gas Management Alternatives

- **Atmospheric, relative levels of landfill gas as a potential indicator for dust**- As no dust is created as a result of landfill gas management, this criteria is removed from further study, based on consultation with stakeholders and the MECP.
- **Resilience of an engineered systems** - No discernable differences are anticipated to the resiliency of the proposed infrastructure between the three landfill gas alternatives.
- **Potential for landfill traffic effect on residents off-site and along the haul route** - Landfill gas is collected and managed on-site and no traffic effects occur from landfill gas management on-site.
- **Potential for visual impacts on residents during site construction and site operation** - No differences will exist between alternatives with respect to landfill gas alternatives.
- **Potential for worker health and safety during construction and operation** - Operation of all alternatives must meet workplace health & safety regulations.
- **Potential for effect on agricultural during construction** - No loss of agriculture would result from any landfill gas facility alternative constructed on-site.
- **Potential for landfill traffic effect on businesses during construction and operation** – Minor onsite construction would occur with limited trucking and there would be no discernable difference between alternatives.
- **Potential effects to cultural resources as a result of construction** - None of the alternatives would result in loss of cultural resources.
- **Effects on land use as a result of construction** – None of the alternatives involve significant footprint size to identify a difference in future land use flexibility.
- **Potential effects on existing transportation infrastructure** - Minor onsite construction would occur with limited trucking and there would be no discernable difference between alternatives.

Attachment 1: Table 3 - Criteria for the Evaluation of Leachate Treatment Alternatives

The table below includes the criteria relevant to the leachate treatment evaluation with associated indicators, data sources and rationale which were reviewed by MECP and WIFN. Where criteria from the master list (Evaluation Criteria for Site Development Alternatives) were not used, an explanation is provided below the table. These criteria were included in the Interim Alternative Methods Report (December 2018). Some further revisions were made to create this final criteria list.

Criteria for the Evaluation of Leachate Treatment Alternatives				
Environment	Criteria	Indicators	Data Sources	Rationale
Natural Biological	<ul style="list-style-type: none"> Potential for effect on aquatic systems during construction and operation. 	<ul style="list-style-type: none"> Volume of leachate stored and/or treated on site at any one given time. Proximity to on-site watercourse/aquatic habitat. 	<ul style="list-style-type: none"> Existing and proposed facility characteristics 	<p>Different leachate treatment systems may have different potential to discharge untreated leachate to on-site watercourses.</p>
Natural Physical	<ul style="list-style-type: none"> Potential impacts to groundwater quality during construction, operation and post closure. 	<ul style="list-style-type: none"> Approximate travel time to groundwater aquifer. 	<ul style="list-style-type: none"> Existing and proposed facility characteristics Groundwater modelling 	<p>Different ways of leachate treatment may have different impacts on ground water.</p>
	<ul style="list-style-type: none"> Potential impacts to surface water quantity and quality. 	<ul style="list-style-type: none"> Volume of leachate stored and/or treated on site at any one given time. Proximity to on-site watercourse. 	<ul style="list-style-type: none"> Existing and proposed facility characteristics 	<p>Different ways of leachate treatment may have different impacts on surface water.</p>
	<ul style="list-style-type: none"> Potential impacts to air quality during construction and operation. 	<ul style="list-style-type: none"> Nitrogen Oxides, Sulphur Dioxide and Carbon Monoxide (together referred to as criteria air contaminants): relative levels of construction as an indicator. Relative amount of energy required to operate facility. 	<ul style="list-style-type: none"> Existing and proposed facility characteristics 	<p>Different ways of leachate treatment may have different impacts on air quality.</p>

Attachment 1: Table 3 - Criteria for the Evaluation of Leachate Treatment Alternatives

Criteria for the Evaluation of Leachate Treatment Alternatives				
Environment	Criteria	Indicators	Data Sources	Rationale
	<ul style="list-style-type: none"> Potential for greenhouse gas (GHG) emissions during construction and operation. 	<ul style="list-style-type: none"> Relative amount of energy required to operate facility. 	<ul style="list-style-type: none"> Existing and proposed facility characteristics 	<p>Some leachate treatment methods involve trucking which results in GHG.</p>
Social	<ul style="list-style-type: none"> Potential for noise/vibration impacts on residents during construction and operation. 	<ul style="list-style-type: none"> Number of households in the study area who may experience noise/vibration impacts as a result of leachate treatment facility construction and operation. 	<ul style="list-style-type: none"> GIS mapping Existing and proposed facility characteristics 	<p>Different ways to treat leachate may have different impacts on residents around the landfill during construction.</p>
	<ul style="list-style-type: none"> Potential for odour during construction and operation. 	<ul style="list-style-type: none"> Number of potential odour sources from leachate treatment facility construction and operation; relative significance of odour sources and relative distance of odour sources to discrete receptors. 	<ul style="list-style-type: none"> Feedback from neighbours. 	<p>Different ways to treat leachate may have different odour impacts on residents around the landfill during operation.</p>
	<ul style="list-style-type: none"> Potential for landfill traffic effect on residents during construction and operation. 	<ul style="list-style-type: none"> Number of trucks during construction and number of trucks required for chemicals and disposal of residue during operation. 	<ul style="list-style-type: none"> Existing and proposed facility characteristics 	<p>Different ways to treat leachate may have different traffic impacts on residents around the landfill and along the haul route.</p>
Economic	<ul style="list-style-type: none"> Potential for effect on businesses during construction and operation. 	<ul style="list-style-type: none"> Number of potential odour sources and relative significance of odour sources. Number of trucks during construction and number of trucks required for chemicals and disposal of residue during operation. 	<ul style="list-style-type: none"> GIS mapping Existing and proposed facility characteristics 	<p>Different ways to treat leachate may have different impacts on businesses around the landfill.</p>

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Criteria for the Evaluation of Leachate Treatment Alternatives				
Environment	Criteria	Indicators	Data Sources	Rationale
	<ul style="list-style-type: none"> • Cost of facility. 	<ul style="list-style-type: none"> • Approximate cost of the leachate treatment facility alternative. 	<ul style="list-style-type: none"> • Existing and proposed facility characteristics 	<p>Different leachate treatment methods may have different costs.</p>
Cultural	<ul style="list-style-type: none"> • Potential effects to archaeological resources as a result of construction. 	<ul style="list-style-type: none"> • Area of undisturbed land affected by the on-site component of the leachate treatment alternative. 	<ul style="list-style-type: none"> • Stage 1 archaeological assessment • Existing and proposed facility characteristics 	<p>There is undisturbed land remaining on-site that could have archaeological resources.</p>
Built	<ul style="list-style-type: none"> • Potential effects on existing transportation infrastructure and transportation operations. 	<ul style="list-style-type: none"> • Anticipated number of trucks required. 	<ul style="list-style-type: none"> • Existing and proposed facility characteristics 	<p>Some leachate treatment methods involve trucking which could have transportation impacts.</p>
	<ul style="list-style-type: none"> • Ease to implement/construct and maintain/operate. 	<ul style="list-style-type: none"> • Anticipated complexity of construction and operation. 	<ul style="list-style-type: none"> • Existing and proposed facility characteristics 	<p>The alternatives will have different levels of complexity to construct and operate.</p>

The following provides an explanation on why some criteria from the master list were not included in the evaluation of leachate treatment alternatives:

- **Potential for effect on terrestrial systems from construction and operation** – Leachate treatment would not have any effect on the woodlot which is the main terrestrial feature.
- **Potential for effect on habitat of endangered/threatened species during construction** - Leachate treatment would not have any effect on the woodlot which is the main terrestrial feature.
- **Potential effect on medicinal or other culturally sensitive species of importance to First Nations groups during construction** - Leachate treatment would not have any effect on the woodlot which is the main terrestrial feature.

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- **Leachate contaminating lifespan** – Leachate contaminating lifespan is the time required for leachate concentrations to reduce within the landfill. It is not related to where or how leachate is treated.
- **Potential impact to groundwater quantity** – This criterion considers the size of the footprint and the resulting reduction in recharge area. Given the relatively small size of the leachate treatment facilities these will have no discernable impact on recharge.
- **Potential impacts to water supply wells** – The location and type of leachate treatment is not related to water supply wells.
- **Potential for dust during construction** – Construction activity associated with leachate treatment is minimal relative to the landfill construction activity; there will be no discernable impact on dust from leachate treatment.
- **Resilience of an engineered systems** – All leachate treatment alternatives will be designed to be resilient to changing climate.
- **Potential for visual impacts on residents during site construction and site operation** – All leachate treatment facilities would be behind berms and not noticeable to the community.
- **Potential for effect on worker safety** – Operation of all three alternatives must meet workplace health & safety regulations.
- **Potential for landfill traffic on existing businesses during** – All 3 alternatives include conveying treated leachate/effluent via the existing pipe. Any trucking of leachate/effluent is for contingency only and will be the same for all three alternatives.
- **Potential for effect on agriculture during construction** – None of the alternatives would result in disruption/loss of agricultural land beyond the impact for the landfill itself.
- **Potential effects on cultural resources** – None of the alternatives would result in loss of cultural resources.
- **Potential for effects on existing landfill infrastructure** – None of the alternatives would result in significant impact on existing infrastructure.