

January 2013

**Appendix B**  
**Alternative Haul Route and Leachate**  
**Treatment Assessment Criteria**

## 1.0 INTRODUCTION

This appendix to the TOR describes the assessment criteria that are proposed to be used in the EA of the proposed CRRRC for assessment of alternative haul routes (if the North Russell Road Site is selected as preferred) and for assessment of leachate treatment alternatives. Each criterion includes a statement of rationale, indicators proposed for measurement of each criterion, and data sources.

- Appendix B-1 presents the criteria proposed for the assessment in Task 4 of the EA methodology- Assessment of Alternative Haul Routes and Identify Preferred Haul Route; and
- Appendix B-2 presents the criteria proposed for the assessment in Task 5 of the EA methodology- Evaluate Leachate Management Options and Identify Preferred Alternative.

APPENDIX B-1 PROPOSED ASSESSMENT CRITERIA FOR ALTERNATIVE HAUL ROUTES

Assessment Criteria	Rationale	Indicators	Data Sources
Effects from truck traffic along haul routes	Truck traffic associated with new waste diversion and disposal facilities may adversely affect residents, business, institutions and movement of farm vehicles along the haul routes.	<ul style="list-style-type: none"> <li>▪ Number of residences and businesses along the haul route</li> <li>▪ Travel distance from Highway interchange to Site access location(s)</li> <li>▪ Required roadway and intersection upgrades along the haul route</li> </ul>	<ul style="list-style-type: none"> <li>▪ Available road and intersection characteristics, and traffic count information on potential haul routes</li> <li>▪ Historical traffic and collisions, if available</li> <li>▪ Aerial photographic mapping and field reconnaissance</li> <li>▪ Traffic impact study.</li> </ul>

**APPENDIX B-2 PROPOSED ASSESSMENT CRITERIA FOR EVALUATION OF LEACHATE MANAGEMENT OPTIONS**

Environmental Component	Assessment Criteria	Rationale	Indicators	Data Sources
Atmosphere	Odour	Leachate management and treatment options can produce air emissions, which may degrade off-Site air quality. Similarly, they can result in increased noise levels and odour emissions.	<ul style="list-style-type: none"> <li>Predicted odour emissions</li> </ul>	<ul style="list-style-type: none"> <li>Estimated leachate characteristics</li> <li>Total and available capacity of potential municipal treatment facilities, treatment facility capability and discharge criteria</li> <li>Results of baseline studies, including                             <ul style="list-style-type: none"> <li>characteristics of potential receiving waters</li> </ul> </li> <li>Identification of required treatment facility modifications and/or on-Site pre-treatment;</li> <li>Results of quantitative or qualitative predictive assessments for the environmental components</li> <li>Prediction of treatment facility performance</li> <li>Capital and operating cost estimates</li> </ul>
	Air quality		<ul style="list-style-type: none"> <li>Predicted air emissions</li> </ul>	
	Noise		<ul style="list-style-type: none"> <li>Predicted noise levels</li> </ul>	
Geology & Hydrogeology	Groundwater quality	Leachate management and treatment options have the potential to impact off-Site groundwater quality.	<ul style="list-style-type: none"> <li>Predicted effects on off-Site groundwater quality</li> </ul>	<ul style="list-style-type: none"> <li>Estimated leachate characteristics</li> <li>Total and available capacity of potential municipal treatment facilities, treatment facility capability and discharge criteria</li> <li>Results of baseline studies, including                             <ul style="list-style-type: none"> <li>characteristics of potential receiving waters</li> </ul> </li> <li>Identification of required treatment facility modifications and/or on-Site pre-treatment;</li> <li>Results of quantitative or qualitative predictive assessments for the environmental components</li> <li>Prediction of treatment facility performance</li> <li>Capital and operating cost estimates</li> </ul>
Surface Water	Surface water quality	Leachate management and treatment options have the potential to impact off-Site surface water quality and quantity.	<ul style="list-style-type: none"> <li>Predicted effects on off-Site surface water quality</li> </ul>	
	Surface water quantity		<ul style="list-style-type: none"> <li>Predicted effects on off-Site surface water quantity</li> </ul>	
Biology	Aquatic biological resources	Leachate management and treatment options have the potential to impact terrestrial and aquatic resources	<ul style="list-style-type: none"> <li>Predicted effects on aquatic habitat</li> <li>Predicted effects on aquatic species</li> </ul>	<ul style="list-style-type: none"> <li>Estimated leachate characteristics</li> <li>Total and available capacity of potential municipal treatment facilities, treatment facility capability and discharge criteria</li> <li>Results of baseline studies, including                             <ul style="list-style-type: none"> <li>characteristics of potential receiving waters</li> </ul> </li> <li>Identification of required treatment facility modifications and/or on-Site pre-treatment;</li> <li>Results of quantitative or qualitative predictive assessments for the environmental components</li> <li>Prediction of treatment facility performance</li> <li>Capital and operating cost estimates</li> </ul>
	Terrestrial biological resources		<ul style="list-style-type: none"> <li>Predicted effects on vegetation communities</li> <li>Predicted effects on wildlife habitat</li> <li>Predicted effects on vegetation and wildlife, including rare, threatened or endangered species</li> </ul>	

Environmental Component	Assessment Criteria	Rationale	Indicators	Data Sources
Land Use	Current and planned future land use	Leachate management and treatment options have the potential to impact off-Site current and planned future land uses, including sensitive land uses	<ul style="list-style-type: none"> <li>Location and type(s) of current and known planned future land uses within 1,000 metres of the Site</li> </ul>	
Traffic	Leachate haulage	Leachate management and treatment options have the potential to impact traffic due to haulage of leachate.	<ul style="list-style-type: none"> <li>Amount and type of traffic associated with leachate haulage</li> <li>Type(s) and usage of routes along which leachate will be transported</li> </ul>	
Technical Effectiveness		The technical effectiveness depends on the quantity and associated chemical loading associated with the leachate and characteristics of the watercourse that will receive the treated effluent, and the expected ability of the treatment system to provide the required treatment of the leachate.	<ul style="list-style-type: none"> <li>Amount of incremental increase in quantity and chemical loading on treatment facility by accepting leachate</li> <li>Predicted effect of treated effluent on receiving watercourse flow and quality</li> </ul>	
Regulatory Approvability		The approvability depends on the degree to which the technology has been approved for use in the past and its performance, and its expected ability to achieve regulatory requirements.	<ul style="list-style-type: none"> <li>Historical approval of technology and performance record</li> </ul>	

Environmental Component	Assessment Criteria	Rationale	Indicators	Data Sources
Capital and Operating Costs		<p>The capital costs depend largely on the amount of modifications/upgrades required to the off-Site treatment facility, and/or the need for on-site pre-treatment, as well as the leachate conveyance method, i.e., haulage by tanker or pipeline. The operational costs to treat leachate would be incremental and depend on the increased treatment associated with leachate loading and any additional treatment processes.</p>	<ul style="list-style-type: none"> <li>■ Estimated capital costs for modifications and upgrades</li> <li>■ Estimated operational costs</li> <li>■ Effects on overall treatment facility performance</li> <li>■ Revenue impacts to municipality by providing leachate treatment service</li> </ul>	