APPENDIX A

Criteria for Comparative Evaluation of Alternative Sites

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Appendix A
Criteria for Comparative Evaluation of Alternative Sites

TAGGART GROUP OF COMPANIES

THE MILLER GROUP

1.0 INTRODUCTION

This appendix to the TOR describes the criteria that are proposed to be used in the Environmental Assessment (EA) to comparatively evaluate the two alternative Sites that are proposed for the CRRRC - the North Russell Road Site and the Boundary Road Site. Each criterion includes a statement of rationale, indicators proposed for measurement of each criterion, and data sources. The outcome of this step will be the identification of the preferred Site for the CRRRC.

Proposed Evaluation Criteria to Compare Alternative Sites for the Proposed CRRRC and Identify Preferred Site

Components	Assessment Criteria	Rationale	Indicators	Data Sources
Environmental Components				
Atmosphere	Which site is preferred regarding potential effects due to air quality and noise?	Operation of diversion and residual waste disposal facilities can produce air emissions that may degrade off-Site air quality. Similarly, they can result in increased noise levels and odour emissions.	▪ Number, type and location of off-Site receptors in Site-vicinity (within 500 m of site boundary)	▪ Aerial photographic mapping and field reconnaissance ▪ Consultation with Russell Township (as required) ▪ Consultation with the City of Ottawa (as required)
Geology, Hydrogeology & Geotechnical	Which site is preferred for protection of groundwater?	Diversion and disposal facilities have the potential to impact off-Site groundwater quality and/or quantity (availability).	▪ Geological setting; ▪ Type and thickness of any natural on-Site attenuation layer ▪ Presence and quality of groundwater resources on-Site and in Site-vicinity ▪ Interpreted direction of vertical groundwater flow on-Site and in Site-vicinity, i.e., area of groundwater recharge, transitional flow, or groundwater discharge	▪ Published geological, hydrogeological and geotechnical maps and reports including applicable source water protection plans and related studies/reports ▪ Municipal Official Plans, specifically any groundwater protection zones, recharge areas, etc. ▪ MOE water well records and determination of water well users in the area (using topographic maps, aerial photos and field reconnaissance) ▪ Findings of on-Site testing completed for this project or otherwise available to confirm/compare information
Surface Water	Which site is preferred for protection of surface water quality?	Diversion and disposal facilities have the potential to impact off-Site surface water quality.	▪ Number of existing ▪ Surface water outlet points ▪ Distance to nearest continuously flowing water course ▪ Characteristics of downstream surface water system and usage	▪ Topographic maps ▪ Air photos ▪ Interviews and discussions with municipalities, MNR, conservation authorities ▪ Published water quality and flow information ▪ Site reconnaissance ▪ Surface water flow and water quality monitoring stations

Components	Assessment Criteria	Rationale	Indicators	Data Sources
Biology	Which site is preferred for protection of terrestrial and aquatic biological systems?	Waste management projects have the potential to impact on-Site biological resources. Note that most on-Site biological systems are expected to be removed by the Site development.	▪ Amount of, quality of and impact on biological systems on-Site, including protected biological systems. Specifically including the total impact on: – class 1-3 wetlands – life science ANSIs – wooded areas – species at risk and endangered species and associated habitat – waterbodies and water courses	▪ Site reconnaissance and preliminary field surveys ▪ Published data sources including: Ontario Ministry of Natural Resources (MNR) Natural Heritage Information Centre; MNR fisheries data; Conservation Authority information and mapping; past natural feature surveys and regulatory requirements; Atlas of the Breeding Birds of Ontario; Atlas of the Mammals of Ontario; Ontario Herpetofaunal Summary Atlas; Bird Studies Canada and other similar organizations; Royal Ontario Museum SAR mapping; Species at Risk and Endangered Species Acts; the Committee on the Status of Endangered Wildlife in Canada; Municipal Official Plans; Ontario Base Maps; Natural Resource Values Information System mapping and Land Information Ontario; and aerial photography.

Components	Assessment Criteria	Rationale	Indicators	Data Sources
Socio-Economic Components				
Land Use & Socio-economic	Which site is more compatible with current and proposed planned future land uses in the Site-vicinity?	Waste management projects are often perceived to be more compatible with certain types of neighbouring land uses.	▪ Current land use within 1000 m of Site ▪ Certain and probable planned future land use within 1000 m of Site	▪ Aerial photographic and topographic mapping and field reconnaissance ▪ Published data on public recreational facilities/ activities ▪ Provincial Policy Statement, 2005 and ongoing review ▪ Eastern Ontario Smart Growth Panel Recommendations ▪ Discussions with municipality and institutions ▪ Municipal Official Plans and Zoning
	Which site is preferred for the protection of mineral aggregate resources?	Diversion and disposal facilities have the potential to impact future extraction and utilization of mineral aggregate resources underlying the site and in the surrounding area.	▪ Known and probable type and quality of mineral aggregate resources on site and within 500 metres	▪ Published reports, i.e., MNR, OGS, MNDM ARIPs; Existing quarry aggregate license; Municipal Official Plans and zoning; Findings of on-Site investigations completed for this project or otherwise available.
Cultural & Heritage Resources	Which site is preferred for the protection of archaeological and heritage resources, and cultural heritage landscapes?	Cultural and heritage resources can be altered by the redevelopment of diversion and disposal facilities.	▪ Number and significance of known archaeological and heritage features, and cultural heritage landscapes on-Site ▪ Area of on-Site lands with moderate to high potential for undiscovered archaeological sites	▪ Published data sources (including literature; historic maps, land registry data, assessment rolls and census records; Local Architectural Conservation Advisory Committee and/or municipal heritage building/district listings) ▪ Review of the Ministry of Tourism, Culture and Sport's updated database ▪ Site reconnaissance ▪ Stage 1 archaeological and cultural/heritage assessments ▪ Aboriginal communities and organizations (if responsive) ▪ Consultation with other government agencies as appropriate ▪ Applicable provincial guidance documents.

Components	Assessment Criteria	Rationale	Indicators	Data Sources
Agriculture	Which site is preferred regarding potential for effects on agriculture?	Waste management projects can adversely effect on-Site agricultural operations and use and are often perceived to have the potential to adversely impact off-Site agricultural operations and use.	▪ Percentage of on-Site lands with soil capability classes 1 to 3 ▪ Amount, type(s) and quality of on-Site improvements for agricultural purposes, (i.e., structures, tile drainage). ▪ Percentage of on-Site land being used for agricultural purposes ▪ Type(s) and extent of agricultural operations on-Site and within 500 m of Site boundary, i.e., organic, cash crop, livestock	▪ Provincial Policy Statement, 2005 and ongoing review ▪ Municipal Official Plans ▪ Aerial photographic and topographic mapping ▪ Available soils mapping, municipal drain mapping, available ownership information based on municipal assessment information and including farm tax credit information ▪ Field reconnaissance ▪ Canada Land Inventory (CLI) mapping ▪ Statistics Canada Agriculture Profiles ▪ Consult with the Ontario Federation of Agriculture, OMAFA, the Christian Farmer Union or other farming organizations
Technical Component				
Design & Operations	Which site is preferred regarding the anticipated amount of engineering required to assure MOE groundwater quality criteria are met at the property boundary?	Sites that require less engineering to assure protection of off-Site groundwater quality are typically preferred from a public and regulatory perspective.	▪ Degree of engineered containment expected to be required for on-Site systems	▪ Ont. Reg. 232/98 ▪ Published hydrogeological and geotechnical maps and reports; ▪ Findings of on-Site testing completed for this project or otherwise available to confirm/compare information ▪ Preliminary determination of on-Site engineered leachate management system requirements ▪ Review of previous knowledge or experience for designs in similar geological settings in Ontario

Components	Assessment Criteria	Rationale	Indicators	Data Sources
Traffic	Which site is preferred regarding potential effects from Site-related truck traffic?	Truck traffic associated with waste diversion and residual waste disposal facilities may adversely affect residents, businesses, institutions and movement of farm vehicles along the haul route(s).	▪ Proximity of Site to Highway interchange ▪ Characteristics of road network between Highway interchange and Site ▪ Land use from Highway interchange to Site along the main haul route(s)	▪ Available road and intersection characteristics, and traffic count information on potential haul routes ▪ Historical traffic and collisions, if available ▪ Aerial photographic mapping and field reconnaissance ▪ Location and nature of potential receptors ▪ Consult with Russell Township and the City of Ottawa, as appropriate