CITY OF TEMISKAMING SHORES
NEW WASTE MANAGEMENT CAPACITY
ENVIRONMENTAL ASSESSMENT

ALTERNATIVE METHODS
"PREFERRED FACILITY LOCATION"

Submitted to:

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AMEC	AMEC Environment & Infrastructure
City	City of Temiskaming Shores
CTWMB	Cochrane Temiskaming Waste Management Board
EA	Environmental Assessment
°F	degrees Fahrenheit
IC&I	institutional, commercial and industrial
kg/m^3	kilograms per cubic metre
km	kilometres
m^3	cubic metre
m^3/year	cubic metre per year
MOE	Ministry of the Environment
MRF	Materials Recovery Facility
PET	polyethylene terephthalate
TCLP	toxic chemical leaching potential
ToR	Terms of Reference
WMMP	Waste Management Master Plan

1.0 INTRODUCTION

AMEC Environment & Infrastructure, a Division of AMEC Americas Ltd. (AMEC), was retained by the City of Temiskaming Shores (the City) to conduct an environmental assessment (EA) for new waste management capacity. As part of the EA process, the City developed a Terms of Reference (ToR), which was approved by the Ministry of the Environment (MOE) on the 28 November 2012. The ToR represents a guidance document for the preparation of the EA. As such the document requires as one of the steps in the EA process, the site selection process to be conducted in a stepwise fashion for the delineation of potentially suitable areas and the establishment of a long-list of candidate sites. With the comprehensive list of criteria provided in Table 6.1 of the ToR, candidate sites are evaluated to identify a short list of sites and subsequently, to determine the preferred site.

The City's only existing and operating landfill site, the Haileybury Landfill is anticipated to reach capacity between 2016 and 2018. The resulting need for new landfill capacity has been identified and is reflected in the City's draft Solid Waste Management Master Plan (WMMP) (Earth Tech, 2008). The "alternative methods" include such aspects as various landfill site locations and different landfill site designs.

This text has been developed in support of the EA process and in accordance with the ToR to document the planning efforts related to the identification and evaluation of "Alternative Methods Facility Location", and the determination of the preferred facility location.

1.1 BACKGROUND

The City is located in north-eastern Ontario, near the Quebec border, at the head of Lake Temiskaming and has a current population of approximately 10,600 residents. The City was formed in January 2004 through the amalgamation of the former Town of Haileybury, former Town of New Liskeard and the former Township of Dymond into a single tier municipality (Earth Tech, 2008).

The City has two existing landfill sites: the New Liskeard Landfill (formally the Town of New Liskeard Landfill) and the Haileybury Landfill (formally the Town of Haileybury Landfill). The New Liskeard Landfill, located approximately 3 kilometres (km) west of the former Town of New Liskeard off of Rockley Road, has been used for landfilling since 1916 (Earth Tech, 2008). The Haileybury Landfill, located approximately 9 km southwest of the former Town of Haileybury off of Highway 11 along Dump Road, has been in operation since 1975 (Earth Tech, 2008).

Prior to amalgamation, the New Liskeard Landfill received waste only from the former Town of New Liskeard, while the Haileybury Landfill received waste from the former Town of Haileybury, the former Town of Dymond, the Town of Cobalt, and from residents of Firstbrooke and Lorrain Townships (Earth Tech, 2008). The New Liskeard Landfill reached its approved landfill capacity in June 2009, and is currently no longer accepting waste. Today, the Haileybury Landfill accepts landfill waste from the City of Temiskaming Shores and the Town of Cobalt.

Based on waste generation projections, the Haileybury Landfill is expected to reach its approved landfill capacity by mid-2016 to 2018. As such, the City's draft WMMP identified the provision of additional landfill capacity to facilitate long-term waste disposal as the second key objective in establishing a sustainable solid waste management program for the City of Temiskaming Shores (Earth Tech, 2008).

The City also administers a recycling program through the operation of a Materials Recovery Facility (MRF) through the Cochrane Temiskaming Waste Management Board (CTWMB) (Earth Tech, 2008). The recycling program includes the collection of paper fibres, aluminum and steel cans, container glass, and No. 1 polyethylene terephthalate (PET) plastic, which are deposited at drop-off depots located throughout the City (Earth Tech, 2008).

2.0 SITE SELECTION PROCESS

2.1 Delineation of Potentially Suitable Areas

The Provincial Planning Policy (Ministry of Municipal Affairs and Housing, 2005) and the MOE Guideline D-4 (Land Use On or Near Landfills and Dumps, 1994) provide guidelines and policies which must be met for new and expanding landfill sites. The Environmental Protection Act, Ontario Regulation (O. Reg.) 347 General-Waste Management and O. Reg. 232/98 identify specific setbacks from sensitive land uses and outline additional general buffer requirements.

With the buffers applied to the preliminary study area, potentially suitable areas have been identified, thus further refining the preliminary study area. Potential landfill sites inside and outside the City's municipal boundary are illustrated on Figures 1 and 2, respectively. The criteria of being located within 10 km of the municipal boundary and of having reasonable road access have also been applied to the identification of nine locations within and eight locations outside the municipal boundary.

2.2 Assignment of Ranking Scores

The ranking of each assessment criteria will be based on the level of concern and/or the potential for adverse impact presented by each conceptual landfill alternative. The determination of the level of concern and potential for adverse impact will be based on how each alternative affects the criteria's indicator. For example, evaluating a conceptual landfill alternative under the criteria for Public Health, Safety and Socioeconomic Factors will include determining the distance of the proposed landfill development to the nearest residence. For the purpose of this EA, the closer the distance between the proposed development and the nearest residence, the greater the level of concern and/or potential adverse impact to the environment.

The rating of the level of concern and/or potential for adverse environmental effects was determined in consultation with City's Waste Management Advisory Committee. For those criteria where a concern or potential for environmental effect was identified, one of the following ratings was assigned:

- High – Where the site may affect the environmental component so as to seriously disturb the integrity, distribution, operation, or abundance of the component and is expected to raise serious concern with the public and/or government reviewers.
- Medium – Where the site may affect the environmental component so as to bring about a disturbance but does not threaten the integrity, distribution, operation, or abundance of the component as determined by public and/or government reviewers. Short-term effects associated with construction and operation of facilities also constitute a potential for moderate effects/concerns.
- Low – Where the site may affect the environmental component in such a way that only a portion of the component is disturbed for a short period of time.
- None – The site causes little or no effect to the environmental component and causes no concern among government reviewers and/or the public.

To assist with the identification of the overall most feasible (preferred) alternative the following ranking system was applied.

Table 3.1: Feasibility Assessment Ranking System

Level of Concern/Potential Impact Rating	Ranking Value
None	0
Low	1
Low to medium	2
Medium	3
Medium to high	4
High	5

The scores are introduced to summarize the quantitative and qualitative evaluation using the EA environmental components into a numeric score. To arrive at an overall score for each of the conceptual landfill alternative, the individual scores for each environmental component will be tallied in order to assess the overall feasibility.

The following sections will present discussions on how each conceptual landfill alternative is assessed for each individual feasibility assessment environmental component, as well as summary rankings for the main key criteria.

3.0 NATURAL ENVIRONMENT

Aquatic Environment – Fish Habitat

Aquatic habitat includes lakes, rivers or other water bodies. Section 7, of O. Reg. 232/98 (for new or expanding landfill sites) outlines the requirement of a 100 metre (m) buffer area around the waste fill area of the landfill site or a minimum of 30 m at every point of the buffer area if there is adequate space for site access, parking, surface water management facilities structures and that the buffer area is sufficient to ensure that potential impacts of the landfill operation to the outside are minimal. Section 13 of O. Reg. 347 references the following restrictions to locating landfill sites near sensitive land uses:

- Section 13(1) - The fill area shall not be subject to flooding and shall be so located that no direct drainage leads to a watercourse;
- Section 13(2) - The landfill shall be at least one-quarter of a mile (400 m) from the nearest dwelling;
- Section 13(3) - The landfill shall be at least two hundred yards (182 m) from the nearest public road;
- Section 13(4) - The site shall be at least 100 feet (30 m) from any watercourse, lake or pond; and
- Section 13(5) - The site shall not be on land covered by water.

All of the potential sites have been setback a minimum of 100 m from the nearest water body. The potential sites will be ranked and evaluated based on distance to the nearest surface water feature.

For the purposes of this assessment, a high level of concern will be associated to potential sites within 30 m, a medium to high level of concern to sites between 30 m and 100 m, medium level of concern to sites between 100 m and 200 m, low to medium concern to sites between 200 m and 400 m, low level of concern to sites between 400 m and 1 km, and no concern to sites farther than 1 km.

Aquatic Environment – Fish/Community Species

Fish community species implies a variety of species as opposed to a limited variety which could be found in water bodies such as seasonal flood zones. The City of Temiskaming Shores identifies coldwater lakes and streams on its Official Plan. The potential sites will be ranked and evaluated based on distance to the nearest cold water feature as identified on the Official Plan. For lakes located outside of the Official Plan, coldwater lakes will be inferred if the feature has at any point at least 500 m between banks.

For the purposes of this assessment, a high level of concern will be associated to potential sites within 30 m, a medium to high level of concern to sites between 30 m and 100 m, medium level of concern to sites between 100 m and 200 m, low to medium concern to sites between 200 m

and 400 m, low level of concern to sites between 400 m and 1 km, and no concern to sites farther than 1 km.

Aquatic Environment – Species At Risk

The Temiskaming region is home to two aquatic Species At Risk, the Lake Sturgeon and Snapping Turtles. Review of available information from the Ontario Ministry of Natural Resources (MNR) provides the below information regarding the species habitat and protection requirements.

The Lake Sturgeon lives almost exclusively in freshwater lakes and rivers with soft bottoms of mud, sand or gravel. They are usually found at depths of 5 to 20 metres. They spawn in relatively shallow, fast-flowing water (usually below waterfalls, rapids, or dams) with gravel and boulders at the bottom. However, they will spawn in deeper water where habitat is available. They also are known to spawn on open shoals in large rivers with strong currents. Lake sturgeon is listed as special concern in the Southern Hudson Bay/James Bay region, protection objectives include maintaining or enhancing habitats to support Lake Sturgeon.

Snapping Turtles spend most of their lives in water. They prefer shallow waters so they can hide under the soft mud and leaf litter, with only their noses exposed to the surface to breathe. During the nesting season, from early to mid-summer, females travel overland in search of a suitable nesting site, usually gravelly or sandy areas along streams. Snapping Turtles often take advantage of man-made structures for nest sites, including roads (especially gravel shoulders), dams and aggregate pits. The Snapping Turtle is a special concern species under Ontario's Endangered Species Act. The Snapping Turtle has also been assessed nationally as a special concern species by the federal Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

Both Lake Sturgeon and Snapping Turtles do not have habitat protection with areas of natural or scientific interest (ANSI) designation and as all potential sites have been screened to be at least 100 m from the closest lake or river. For the purposes of this assessment, all potential sites will be evaluated as having a low level of concern.

Terrestrial Environment – Habitat, Vegetation Communities, Plant Life

The predominant landforms of the assessment area include agricultural lands and boreal forests. Significant terrestrial habitats (i.e. wetlands, old growth forest) will require confirmation through appropriate terrestrial baseline assessments of each potential site. The potential for impact can be accomplished through review of Land Information Ontario maps indicating land cover, Ontario Geological Survey maps indicating quaternary geology, and available aerial imagery. The City's Official Plan identifies land use designation areas that identify that the potential sites are not located within agricultural lands and have a buffer area of 300 m. The *Canadian Environmental Protection Act, 1999* (CEPA 1999) identifies the protection of agricultural and other lands as:

> *Where a person complains that a contaminant is causing or has caused injury or damage to livestock or to crops, trees or other vegetation which may result in economic loss to*

> *such person, the person may, within fourteen days after the injury or damage becomes apparent, request the Minister to conduct an investigation. (CEPA 1999, S. 172)*

For the purposes of this assessment, the potential for impact is reasoned to have medium impact in extractive resource land use designations, low to medium impact for wooded areas, low impact for partially wooded areas, and no impact for cleared areas.

Terrestrial Environment – Protected Areas

Protected areas within Ontario are comprised of National Parks, Provincial Parks, Conservation areas, and ANSI. The nearest Conservation Area or Park is W.J.B. Greenwood Provincial Park located 10 km south of the nearest potential site. ANSI are located within the assessment area, as such the potential sites will be ranked and evaluated based on distance to the nearest earth sciences ANSI feature.

For the purposes of this assessment, a high level of concern will be associated to potential sites within 30 m, a medium to high level of concern to sites between 30 m and 100 m, medium level of concern to sites between 100 m and 200 m, low to medium concern to sites between 200 m and 400 m, low level of concern to sites between 400 m and 1 km, and no concern to sites farther than 1 km.

Terrestrial Environment – Wetlands

The potential sites are not located within water bodies, which include significant wetland areas. Land Information Ontario identifies small areas as wetlands, which will be confirmed through a terrestrial survey. The potential sites will be ranked and evaluated on the distance to the nearest wetland as indicated through Land Information Ontario mapping.

For the purposes of this assessment, a high level of potential impact will be associated to potential sites within 30 m, a medium to high level of potential impact to sites between 30 m and 100 m, medium level of potential impact to sites between 100 m and 200 m, low to medium potential impact to sites between 200 m and 400 m, low level of potential impact to sites between 400 m and 1 km, and no potential impact to sites farther than 1 km.

Terrestrial Environment – Birds

The areas identified as Important Bird Areas for Canada are predominately coastal regions and areas near large bodies of water such as the Great Lakes and James Bay, the assessment area in not considered an Important Bird Area for Canada. The Atlas of the Breeding Birds of Ontario identifies the relative abundance and types of birds within the region. To quantify the impact will require a terrestrial survey; the potential impact to birds will be assessed based on the site vegetative cover and previous impacts as identified through Land Information Ontario mapping and available aerial imagery.

For the purposes of this assessment, a medium level of potential impact will be associated to wooded sites, low to medium potential impact to wooded sites with partial or neighboring habitat clearing, and low potential impact to sites cleared of vegetation.

Terrestrial Environment – Other Wildlife

Wildlife is adaptable to many different habitats including forests, plains and wetlands. Habitats require a diverse range of animal and plant life supporting each other to thrive. To identify the wildlife impact will require a baseline survey to identify wildlife tracks, scat and any incidental encounters typically included in aquatic or terrestrial surveys. The potential impact to wildlife for the purpose of this assessment will be assessed on the site vegetative cover and previous impacts as identified through Land Information Ontario mapping and available aerial imagery.

For the purposes of this assessment, a medium level of potential impact will be associated to wooded sites, low to medium potential impact to wooded sites with partial or neighboring habitat clearing, and low potential impact to sites cleared of vegetation.

Terrestrial Environment – Rare Species/Species At Risk

The Temiskaming region has eight Species At Risk rated from special concern Bald Eagle, Black Turn, Lake Sturgeon, Pigerine Falcon, Snapping Turtles, and Yellow Rail, as well as some rated as threatened (Eastern Whip-poor-will) and one rated as endangered (the Loggerhead Shrike). Habitat protection is in place for some of these species, to identify if they are present at the potential sites will require a terrestrial survey; the potential impact to Species At Risk will be assessed on the distance to life sciences ANSI locations as identified through Land Information Ontario mapping.

For the purposes of this assessment, a high level of potential impact will be associated to potential sites within 30 m, a medium to high level of potential impact to sites between 30 m and 100 m, medium level of potential impact to sites between 100 m and 200 m, low to medium potential impact to sites between 200 m and 400 m, low level of potential impact to sites between 400 m and 1 km, and no potential impact to sites farther than 1 km.

Groundwater – Quality

Leachate impact to groundwater is regulated through O. Reg, 232/98 and can be limited through engineering measures including liners and leachate collection systems. To adequately identify the potential impact to groundwater aquifers will require a hydrogeological assessment. In this assessment, groundwater quality will be evaluated on the basis of surficial geology as indicated through the Ontario Geological Survey. All of the potential sites are located within the following four surficial geological zones.

1. Bedrock knob primary material of bedrock;
2. Ground moraine primary material of till;

3. Ice contact delta, esker, delta, kame delta, delta moraine primary material of sand with secondary material of gravel; and
4. Outwash plain, valley plain primary material sand.

Natural soil conditions are not always ideal for protection of groundwater aquifers. Bedrock and coarse grained sand overburden deposits with high permeability offer no natural protection to downstream aquifers. Till deposits contain finer grained overburden with a lower permeability, which offers a higher degree of protection to underlying aquifers.

For the purposes of this assessment, the potential sites were assessed as having a medium to high level of potential impact will be located within geological zone 1, 3, and 4, a medium level of potential impact will be located within geological zone 2.

Groundwater – Quantity and Flow

The locations of each potential site are on topographic highs or plateaus, which most likely indicate recharging conditions. To accurately identify the potential impact onto groundwater quantity or flow a hydrogeological assessment will be required. The production of leachate can be controlled through engineering measures that limit the quantity of impacted groundwater. The potential locations do not offer significant advantages or disadvantages as to the potential impact onto groundwater quantity or flow.

For the purposes of this assessment, each site will be assigned a medium level of potential impact.

Surface Water – Quality

Surface water impacts from landfilling are regulated through O. Reg. 232/98 and can be limited through engineering measures. To adequately identify the potential impact to groundwater aquifers and surface water aquifers will require a hydrogeological assessment. All of the potential sites are located with a minimum of 100 m setback from the nearest water body. In this assessment, all of the potential sites will be ranked and evaluated based on distance to the nearest surface water feature.

For the purposes of this assessment, a high level of concern will be associated to potential sites within 30 m, a medium to high level of concern to sites between 30 m and 100 m, medium level of concern to sites between 100 m and 200 m, low to medium concern to sites between 200 m and 400 m, low level of concern to sites between 400 m and 1 km, and no concern to sites farther than 1 km.

Surface Water – Quantity and Flow

Surface water impacts from landfilling are regulated through O. Reg, 232/98 and can be limited through engineering measures, such as daily synthetic covers that minimize sand consumption and increase the waste to cover ratio. To adequately identify the potential impact to groundwater aquifers and surface water aquifers will require a hydrogeological assessment. There is no significant distinction between the prescreened locations for quantity or flow of surface water.

For the purposes of this assessment, all of the potential sites pose a low level of risk to surface water features and will be assigned a low level of potential impact.

Atmospheric Environment – Air Quality

Air quality at all locations are similar and potential for air quality impact will have minor variations.

For the purposes of this assessment, all locations will be ranked with a low level of potential impact based on the design of each site that will be significantly less than the 1.5 million cubic metres, which is the requirement to incorporate a landfill gas management system.

Atmospheric Environment – Greenhouse Gas Emission

Greenhouse gas emissions generated by the operations and activities at each potential site have no significant variations. Transportation distance of the waste from the source will create a quantifiable difference as the largest sources of waste generation are that areas of New Liskeard and Haileybury. The road travel distance from each potential site to two central locations (Whitewood Avenue & Pagel Street in New Liskeard, and Main Street & Rorke Avenue in Haileybury) will be combined to rank the potential sites.

For the purposes of this assessment, a high level of concern will be associated to potential sites with a combined road travel distance of greater than 40 km, a medium to high level of concern to sites between 40 km and 35 km, medium level of concern to sites between 35 km and 30 km, low to medium concern to sites between 30 km and 25 km, low level of concern to sites within 25 km.

Soils Geology – Surficial Geology

Protection of significant surficial geology has been considered through the screening and buffers from identified agricultural lands as well as distance to the nearest earth science ANSI. Surficial geology does impact the ability of the environment to provide natural attenuation of any contamination above any engineered systems. The potential sites will be ranked based on the soil type of the area as indicated by the Ontario Geological Survey, confirmation and details of surficial geology will be required through a hydrogeological assessment. In this assessment groundwater quality will be evaluated on the basis of surficial geology as indicated through the Ontario Geological Survey. All of the potential sites are within the following four surficial geological zones.

1. Bedrock knob primary material of bedrock;
2. Ground moraine primary material of till;
3. Ice contact delta, esker, delta, kame delta, delta moraine primary material of sand with secondary material of gravel; and
4. Outwash plain, valley plain primary material sand.

As described in the groundwater quality section (Section 3.3.10), varying natural soil conditions affect permeability and the potential for attenuation capacity. Bedrock and coarse grained sand overburden deposits with high permeability offer little natural attenuation potential to downstream aquifers, while till deposits contain finer grained overburden with lower permeability which offers a higher degree of attenuation potential to underlying aquifers.

For the purposes of this assessment, the potential sites assessed as having a medium to high level of potential impact will be located within geological zone 1, 3, and 4, a medium level of potential impact will be located within geological zone 2.

Soils Geology – Soil Contamination

The potential amount of soil contamination at each potential site will have no significant variation between the sites as each site will have similar design and operations to accommodate the waste disposal requirements.

For the purposes of this assessment, all of the potential sites pose a low potential risk to soil contamination and they will all be assigned a low level of potential impact.

4.0 SOCIAL ENVIRONMENT

Land Use & Resources – Existing Land Use

The existing land uses of the potential sites inside the municipal boundary (I-3 through I-9) are within the rural designation and not located within the residential, town centre, recreation, or agricultural areas. Location I-1 is located in a waste management facility and I-2 is located within an area designated as extractive resources. Potential sites outside the municipal boundary are located within the following jurisdictions: O-1 Township of Hudson; O-2, O-3, O-4 and O-5 District of Temiskaming; and O-6, O-7 and O-8 Township of Coleman. Potential sites outside the municipal boundary will require approval and coordination with other municipalities and planning boards.

For the purposes of this assessment, the potential sites located within the municipal boundary located in rural areas are assessed as having a low level of concern, location I-1 within the municipal boundary and zoned for a waste management facility is assessed with no level of concern, location I-2 within the municipal boundary and in conflict with extractive resources area is assessed a medium level of concern, locations outside the municipal boundary have a uncertainty as to the intended use and contain a potential for conflict are assessed as a low-medium level of concern.

Land Use & Resources – Planned Land Use & Policies

The planned land uses of the potential sites inside the municipal area (I-3 through I-9) are within the rural designation and part of the natural environment inventory with the exceptions of location I-1 located in a waste management facility and I-2 located within an area designated as extractive resources.

Ranking of the potential sites for planned usage and policies will follow the rationale described above for the existing land use.

Land Use & Resources – Land Resources

The land resources contained at the potential sites are both mining and forestry. To quantify the amount of mining resources at any given location will require a rigorous exploration program, for the purposes of this assessment mining resources will be quantified by the distance to the nearest mining hazard as identified through the abandoned mine information system and also indicated on the official plan. Forestry resources will be assessed by the presence of forested land as indicated by available aerial imagery.

For the purposes of this assessment, a medium to high level of concern will be associated to sites within 250 m of an identified mining hazard, medium level of concern to sites between 250 m and 500 m, low to medium concern to sites between 500 m and 1 km, low level of concern to sites between 1 km and 2 km, and no concern to sites farther than 2 km, should the potential site also

be forested this will increase the level of concern to the next level creating the high level of concern to sites within 250 m of a mining hazard and forested.

Noise – Noise Levels

The potential amount of noise levels at each potential site will have no significant variation between the sites during construction and operations as each site will have similar design and operations to accommodate the waste disposal requirements.

For the purposes of this assessment, all of the potential sites pose a low potential risk to noise levels and they will all be assigned a low level of potential impact.

Noise – Sensitive Receptor Locations

The location of all the potential sites will be considered a stationary source in a class 3 rural area as defined in the MOE's *NPC-232 Sound Level Limits For Stationary Sources In Class 3 Areas (Rural)*. The selected site will require a noise assessment to ensure compliance of all noise sources.

For the purposes of this assessment, all of the potential sites will be ranked and evaluated based on distance to the nearest residence. A high level of concern will be associated to potential sites within 30 m, a medium to high level of concern to sites between 30 m and 100 m, medium level of concern to sites between 100 m and 200 m, low to medium concern to sites between 200 m and 400 m, low level of concern to sites between 400 m and 1 km, and no concern to sites farther than 1 km.

Public Health & Safety – Water Wells & Supplies

A buffer of 500 m from known water wells has been applied, leachate impact to groundwater is regulated through O. Reg. 232/98 and can be limited through engineering measures including liners and leachate collection systems. To adequately identify the potential impact to groundwater wells will require a hydrogeological assessment. The uncertainty of the potential sites attenuation zone creates the level of concern.

For the purposes of this assessment, the sites will be ranked as medium level of concern for sites with identified water wells closer to the site then the nearest surface water feature, low to medium level of concern to sites with wells within 1 km not separated by surface water features, low level of concern to sites with wells farther than 1 km or separated by surface water features, and a low level of impact will also be applied to the existing landfill site I-1 as these impacts are identified and documented in annual monitoring reports.

Public Health & Safety – Litter, Odour and Dust

Litter, odour and dust concerns are addressed in the landfill operations report, indicating preventative measures, best management practices and contingency plans. The potential amount

of litter, odour and dust impact at each potential site will have no significant variation between the sites as each site will have similar design and operations to accommodate the waste disposal requirements.

For the purposes of this assessment, all of the potential sites pose a low potential risk to soil contamination and they will all be assigned a low level of potential impact.

Public Health & Safety – Road Safety

The volume of traffic increase generated by the location of a landfill could affect local traffic patterns. Section 13 (3) of O. Reg. 347 states that, "The landfill shall be at least two hundred yards (182 m) from the nearest public road". The restriction is intended to prevent a lineup of vehicles on public roads to access the landfill. All of the potential sites are located outside the town centre, residential and employment areas that indicates low traffic volume. For sites outside the municipal boundary, aerial imagery identifies these areas to be in rural indicating low traffic volume. The uncertainty of the potential sites access routes impact on traffic patterns generates the concern.

For the purposes of this assessment, all of the potential sites will be assessed a low level of concern to potential road safety considerations.

Aboriginal Communities – Traditional Land Use and Resources

A review of the publicly available history of the Temiskaming region from the Ontario Heritage Foundation indicates the first peoples to live in the Lake Temiskaming area were Algonquins whose traditional land usage was for trapping, hunting and fishing as well as cultural practices. All of the potential sites are located with a buffer to water features, which indicates no restrictions to fishing resources. All of the sites are in the non-restrictive firearms zone or shotgun only zone within the municipal boundary; therefore, there is the potential for hunting and trapping activities at the sites. The uncertainty of the potential impact generates the level of concern to affecting hunting and trapping resources. To date, no information has been provided from the engaged Aboriginal communities on harvesting or related practices.

For the purposes of this assessment, all of the potential sites will be assessed a low to medium level of concern to traditional land usage and resources.

Aboriginal Communities – Built Heritage

To adequately identify any impact on Aboriginal built heritage, all of the potential sites would require an archaeological assessment. The nearest First Nation community to the potential sites as presented is the Timiskaming First Nation Reserve No. 19, located approximately 20 km northeast of the City in the Province of Quebec. To date, no information has been provided from the engaged Aboriginal communities on potential built heritage.

For the purposes of this assessment, the potential for impact on Aboriginal built heritage will be assessed as no level of potential impact.

Aboriginal Communities – Archaeological Site

To adequately identify any impact on Aboriginal archaeological sites, all of the potential sites would require an archaeological assessment. As discussed above, the nearest First Nation community is located approximately 20 km northeast of the City in the Province of Quebec. The uncertainty of the potential impact generates the level of concern. To date, no information has been provided from the engaged Aboriginal communities on potential archaeological sites. The new development (I-1) located near the existing New Liskeard Landfill Site has undergone a Stage 1 and Stage 2 Archaeological Assessment indicating no archaeological resources.

For the purposes of this assessment, every site will be assessed a low to medium level of concern, with the exception of location I-1 which will be assessed a low level of concern.

Aboriginal Communities – Cemeteries & Burial Ground

To adequately identify any impact on Aboriginal cemeteries and burial ground sites, all of the potential sites would require an archaeological assessment. With the exception of location I-1, no information on Aboriginal cemeteries and burial grounds is publically available from archaeological assessments. The new development (I-1) located near the existing New Liskeard Landfill Site has undergone a Stage 1 and Stage 2 Archaeological Assessment indicating no archaeological resources.

For the purposes of this assessment, every site will be assessed a low to medium level of concern, with the exception of location I-1 which will be assessed a low level of concern.

Recreation – Trails

A review of the South Temiskaming Active Trail Organization trail map shows no conflict between any of the potential sites. A review of the Ontario Federation of Snowmobile Clubs trail map does present potential conflict between some of the potential sites and identified trails.

For the purposes of this assessment, as any conflict would most likely still provide access to trail users, a low to medium level of potential impact will be assessed to sites located within 500 m of an identified trail and a low level of potential impact to all the remaining sites.

Recreation – Parks & Other Recreational Areas

A review of the City's Official Plan indicates the location of recreational parks. Land Information Ontario data identifies the location of national and provincial parks. The potential sites are not located in parks or within 1 km of parks. The expected level of impact between the potential sites and parks is none.

For the purposes of this assessment, no level of potential impact will be assigned to all potential sites.

Transportation – Road Infrastructure

The potential impact on road infrastructure is generated by increased traffic and road constructions. Any road construction to the potential sites would be considered an easement and maintained within the operations of the landfill. The increased traffic and deterioration of road conditions due to waste haulage would be considerable, and require potential road redesign and reconstruction to accommodate the increased damage from heavier loads. All of the potential sites are located outside the town centre, residential and employment areas that indicates low traffic volume. For sites outside the municipal boundary, aerial imagery identifies these areas to be in rural indicating low traffic volume. The uncertainty of the potential sites road design loads and the increased road damage generates the level of concern.

For the purposes of this assessment, all of the potential sites will be assessed a low to medium level of concern to road infrastructure with the exception of I-1, which is located on a haul road, the expected level of concern is low.

Transportation – Air Traffic

Transport Canada has established planning guidelines for land use in the vicinity of airports. A potential municipal landfill site would be considered an extremely hazardous area as they would be an attractant to birds which are hazardous for aircraft. The planning guideline recommends an 8 km buffer between extremely hazardous areas and an airport reference point. The nearest airports as listed by Navigation Canada are St-Bruno-De-Guigues and Earlton (Timiskaming Regional).

For the purposes of this assessment, since all of the potential sites are not within 8 km of an airport, all of the sites will be assessed no level of potential impact on air traffic.

Visual Aesthetics – Visual Landscape

The visual aesthetics of landfill can be controlled through engineered solutions. Most of the locations are located on topographic high points and the final waste elevation contours will most likely be visible above vegetation at some distance from the site. The surrounding vegetation would obstruct the view of waste from nearby public access locations with the exception of the landfill entrance which would be visible.

For the purposes of this assessment, each site will be assessed a low level of potential impact, with exception of I-1, which is highly visible from a considerable distance and will be ranked as high.

Municipal & Community – Municipal Services (except roads)

The potential impact on the consumption of municipal services would be similar to all potential sites. The construction of municipal services to support a site would vary slightly based on the distance from existing utilities. Aside from location I-1, each site would require the construction of municipal services.

For the purposes of this assessment, each potential site will be assessed a low level of potential impact with the exception of location I-1 which will be assessed no level of potential impact.

5.0 CULTURAL ENVIRONMENT

Heritage – Built Heritage

Review of Canada's Historic Places website identifies the location of heritage structures. All of the potential sites are not located in or within 1 km of heritage structures.

For the purpose of this assessment, all of the sites will be assigned no level of potential concern.

Heritage – Other Cultural Features

Review of Ontario Historic Plaques website identifies the location of heritage features. All of the potential sites are not located in or within 1 km of heritage features.

For the purpose of this assessment, all of the sites will be assigned no level of potential concern.

Archaeological – Archaeology Sites

To adequately identify any impact on archaeological sites, all of the potential sites would require an archaeological assessment. The uncertainty of archaeological resources generates the level of potential impact. The new development located near the existing New Liskeard Landfill Site has undergone a Stage 1 and Stage 2 Archaeological Assessment indicating no archaeological resources.

For the purposes of this assessment, every site will be assessed a medium level of concern except for location I-1 which will be assessed a low level of concern.

Archaeological – Cemeteries & Burial Ground

A review of publicly available information from the Ontario Genealogical Society identifies the location of cemeteries. A total of 16 cemeteries were identified within the townships of Bucke, Coleman, Dymond, Firstbrook, Gillies Limit, and Hudson. All of the potential sites are located farther than 1 km of a cemetery with the exception of location I-8 which is approximately 700 m from the Silverland Cemetery.

For the purposes of this assessment, all of the potential sites will be assessed no level of potential impact with the exception of location I-8, which will be assessed a low level of potential impact.

6.0 ECONOMIC ENVIRONMENT

Local Economy – Labour Market & Local Employment

The potential for impact during operations on the labour market and providing local employment is equal for every potential site. As each potential site would have a similar design and the amount of site preparation would be similar for every potential site with the exception of location I-1, which would require less effort.

For the purposes of this assessment, every site will be assessed a low to medium level of potential impact, except for location I-1, which will be assessed a low level of potential impact.

Local Economy – Local Businesses

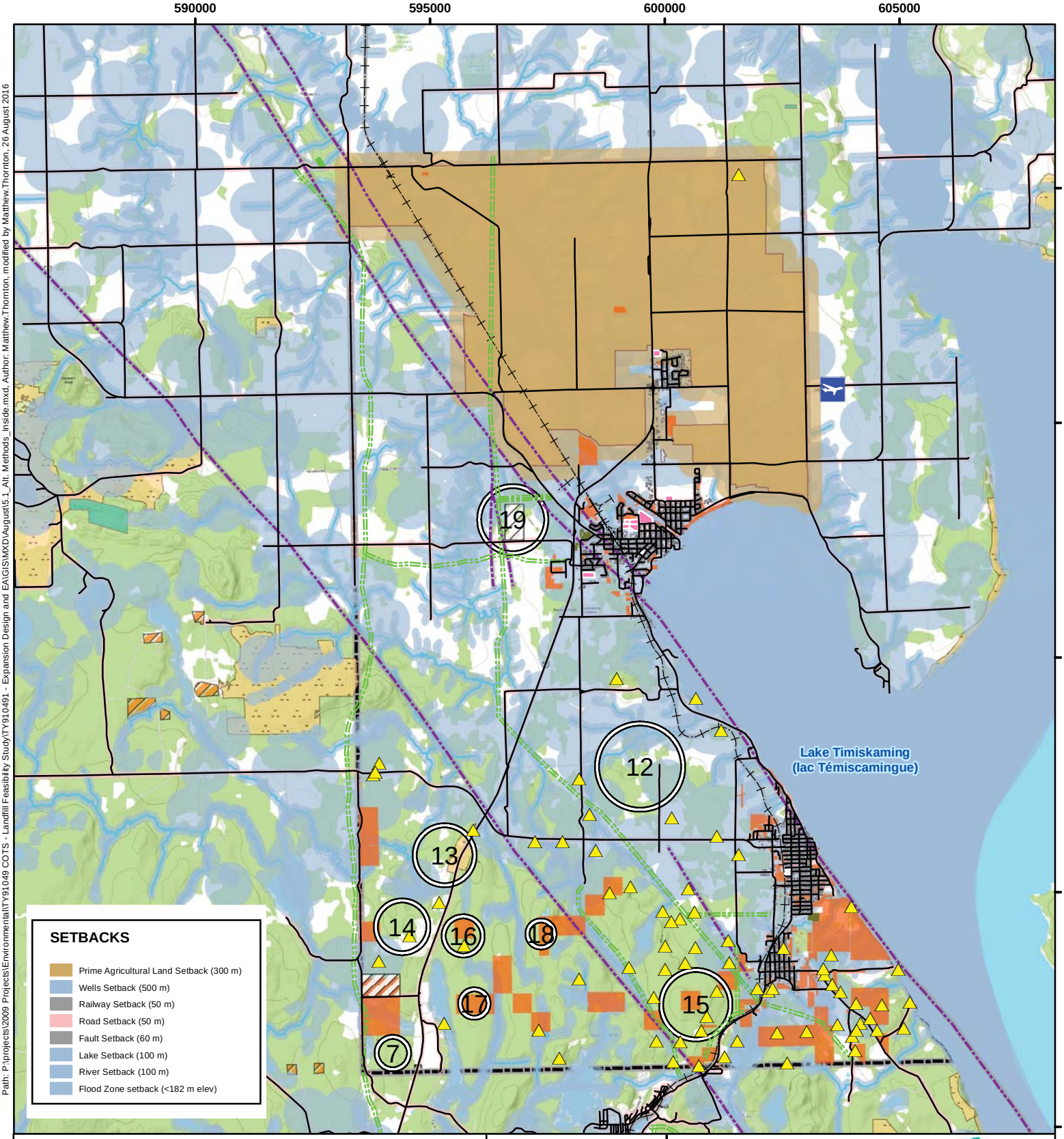
Impact from a landfill site to local businesses is inferred to be minimal as all of the potential sites are located outside the employment area as identified by the City's Official Plan. The neighboring properties for some of the potential sites may operate as businesses as well increasing traffic volume towards the landfill may provide greater exposure for some businesses. The level of potential impact is created by the uncertainty of any impact on local businesses with the exception of location I-1, which previously operated as a landfill.

For the purposes of this assessment, all of the potential sites will be assessed a low to medium level of potential impact, with the exception of location I-1 which will be assessed a low level of potential impact.

Municipal Finances – Revenue & Expenses

The revenue and expenses of operating a landfill is expected to be similar for all sites as potential designs and operations would be similar. The additional impact will come from the initial land acquisition, construction and the requirement for additional engineered environmental controls or remediation. To determine the need for additional engineered environmental controls, detailed design of each potential site will be required. The necessity of environmental remediation will require a hydrogeological assessment and environmental monitoring to identify the need for a remediation. Without the benefit of hindsight to determine the requirement for additional engineered environmental controls or remediation, this assessment will rank the potential location based on the necessity of initial cost of land acquisition and construction. As each potential site would have a similar design, the amount of initial construction would be similar for every potential site with the exception of location I-1, which would require less effort.

For the purposes of this assessment, every site will be assessed a low to medium level of potential impact except for location I-1 which will be assessed a low level of potential impact.



Path: P:\projects\2009 Projects\Environmental\TY910491 COTS - Landfill Feasibility Study\TY910491 - Expansion Design and EA\GIS\MXD\August\5.1_Alt. Methods_Inside.mxd, Author: Matthew.Thornton, modified by Matthew.Thornton, 26 August 2016

LEGEND

- Airport
- Mine Hazards
- Road Network
- Utility Line
- Faults
- Railway
- Candidate Sites for Waste Management
- Schools
- Landfill Property Boundary
- Vacant Land - City
- Cemetery
- Prime Agricultural Land
- Building Footprints
- Landfill Footprint
- MNRF Waste Disposal Site
- Wetland
- Significant Ecological Area
- Areas of Natural and Scientific Interest
- Aggregate Site
- Waterbody
- Watercourse
- Municipal Boundary (City of Temiskaming Shores)
- Wooded Area

NOTES:
- Background image extracted from ESRI World Topo Map.
- All base data on this map was extracted form Land Information
- Geonames extracted from Geobase.

Datum & Projection: NAD 1983 UTM Zone 17N

0 2.5 5 7.5 10 Kilometres

N W E S

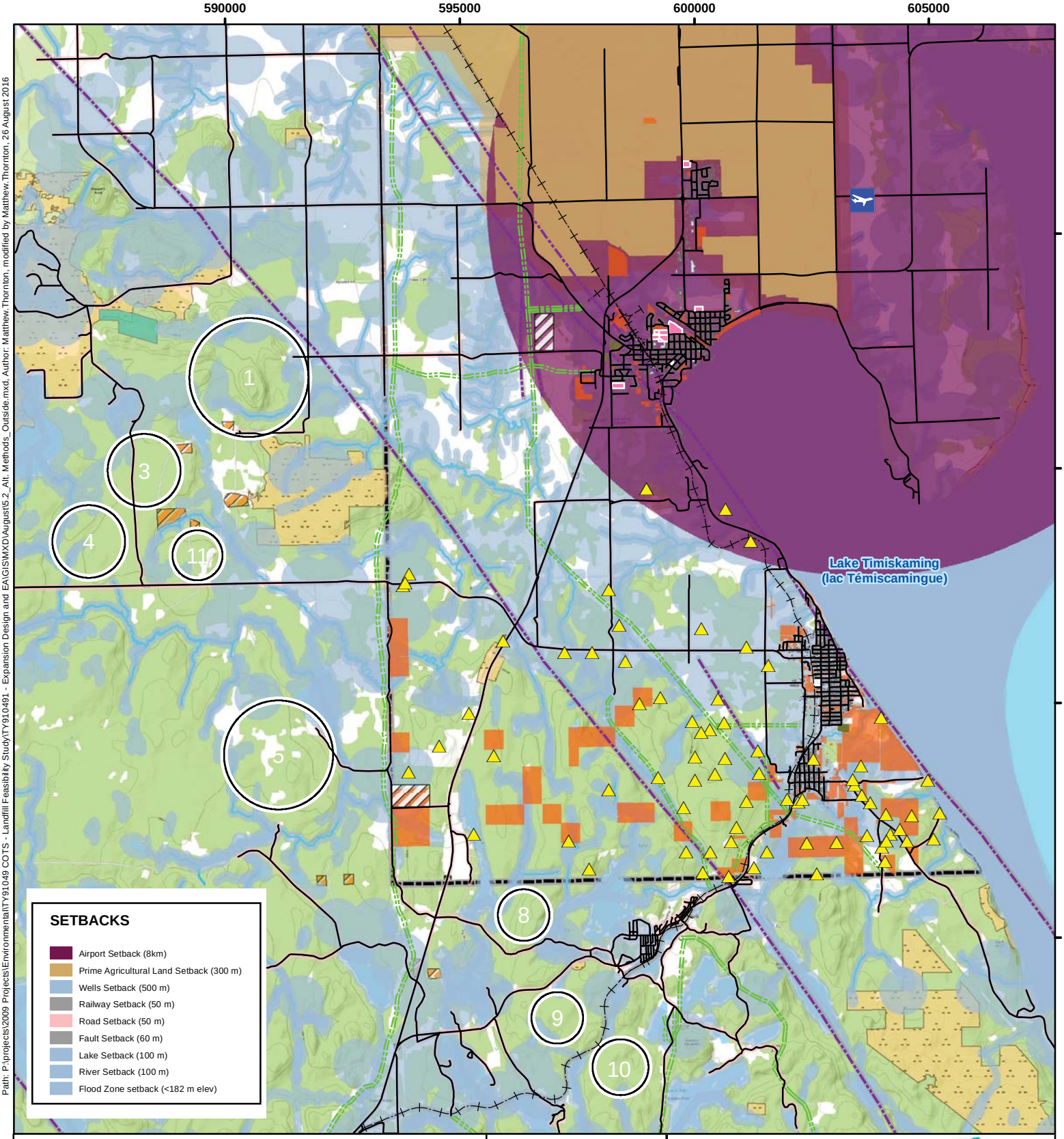
Temiskaming Shores

amec foster wheeler

TECHNICAL SUPPORT DOCUMENT
NEW WASTE MANAGEMENT CAPACITY
TEMISKAMNG SHORES, ONTARIO

Alternative Methods Inside Municipal Boundaries

PROJECT N°:TY910491	**FIGURE: 1**
SCALE: 1:110,000	DATE: August 2016



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LEGEND

- Airport
- Mine Hazards
- Road Network
- Utility Line
- Faults
- Railway
- Candidate Sites for Waste Management
- Schools
- Landfill Property Boundary
- Vacant Land - City
- Cemetery
- Prime Agricultural Land
- Building Footprints
- Landfill Footprint
- MNRF Waste Disposal Site
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Datum & Projection: NAD 1983 UTM Zone 17N

0 2.5 5 7.5 10 Kilometres

N W E S

Temiskaming Shores

amec foster wheeler

TECHNICAL SUPPORT DOCUMENT
NEW WASTE MANAGEMENT CAPACITY
TEMISKAMNG SHORES, ONTARIO

Alternative Methods Outside Municipal Boundaries

PROJECT N°:TY910491	**FIGURE: 2**
SCALE: 1:110,000	DATE: August 2016

7.0 LONG LIST AND SHORT LIST EVALUATIONS

7.1 Long List Evaluations

The ranking of potential sites is presented on **Error! Reference source not found.**. The andidate site with the most favourable score is I-1 (the existing New Liskeard Landfill), the next closest potential candidate sites are locations I-8 and I-9, and the most favourable scoring site outside of the municipal boundary is location O-3. The candidate site I-8, located northwest of Highway 11B between Cobalt and North Cobalt, scores lower than most other candidate sites based on its Natural Environment assessment. Location I-9, located in the southwest corner of the city limits, scores only marginally better than some of the other candidate sites. The best candidate site located outside the municipal boundary is O-3, located north of Highway 558 past the Bartle Lake Access Road, the location is preferable based on its Natural Environment Assessment. The preliminary study area has been refined to the short list of candidate sites: I-1, I-8, I-9, and O-3.

Table 3.2: Feasibility Assessment Ranking Scores

ENVIRONMENTAL COMPONENTS	CRITERIA	ALTERNATIVES																
		I-1	I-2	I-3	I-4	I-5	I-6	I-7	I-8	I-9	O-1	O-2	O-3	O-4	O-5	O-6	O-7	O-8
Natural Environment																		
Aquatic environment	Fish habitat	1	2	1	2	2	2	2	1	1	2	1	2	2	1	1	1	2
	Fish community/species	0	0	1	1	0	2	0	0	0	0	0	0	0	1	1	0	0
	Species At Risk	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Terrestrial environment	Habitat, vegetation communities, plant life	0	3	1	1	1	2	2	0	2	2	2	1	2	2	2	2	2
	Protected areas	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Wetlands	2	0	2	2	2	1	1	1	2	2	1	2	4	1	1	1	2
	Birds	1	2	2	2	2	3	3	1	3	3	3	2	3	3	3	3	3
	Other wildlife	1	2	2	2	2	3	3	1	3	3	3	2	3	3	3	3	3
	Rare species/Species At Risk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Groundwater	Quality	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	Quantity and flow	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Surface water	Quality	1	2	1	2	2	2	2	1	1	2	1	2	2	1	1	1	2
	Quantity and flow	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Atmospheric environment	Air quality (e.g., landfill gas emissions)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Greenhouse gas emissions	1	1	1	2	1	2	2	1	2	3	4	3	3	3	2	3	3
Geology, soils	Surficial geology	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	Soil contamination	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Social Environment																		
Land use & resources	Existing land uses (residences, businesses)	0	3	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
	Planned land uses and land use policies	0	3	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
	Land resources	0	2	2	4	5	2	3	4	2	1	1	1	1	1	4	4	5
Noise	Noise levels	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Sensitive receptor locations	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Public health and safety	Water wells/ drinking water supplies	1	2	2	3	1	1	1	1	1	2	1	1	1	1	1	2	1
	Effects related to litter, odours, and dust	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Road safety	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Aboriginal communities	Traditional uses of land and resources	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Built heritage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Archaeological sites	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Cemeteries, burial grounds	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Recreation	Trails	1	2	1	1	1	1	1	2	1	1	2	1	2	2	2	1	1
	Parks and other designated recreation areas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transportation	Road infrastructure	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Air traffic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Visual aesthetics	Visual landscape quality	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Municipal and community services	Municipal infrastructure & services	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cultural Environment																		
Heritage	Built heritage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Other cultural features	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ENVIRONMENTAL COMPONENTS	CRITERIA	ALTERNATIVES																
		I-1	I-2	I-3	I-4	I-5	I-6	I-7	I-8	I-9	O-1	O-2	O-3	O-4	O-5	O-6	O-7	O-8
Archaeology	Archaeological sites	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Cemeteries, burial grounds, other	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Economic Environment																		
Local economy	Labour market, local employment	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Local businesses	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Municipal finances	Revenues and expenses	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Total Score	**41**	**58**	**57**	**60**	**57**	**59**	**59**	**52**	**56**	**61**	**59**	**57**	**63**	**59**	**61**	**61**	**64**

8.0 SHORT LIST ASSESSMENT

8.1 Location I-1 – New Liskeard Landfill

Based on the design and operations of the New Liskeard Landfill, the landfill design of the candidate site would be a mounded deposition located east of the existing approved limit of waste. The site is currently owned by the City, has a layout and infrastructure in place fitting a landfill, as well as an environmental monitoring network in place. Daily cover materials are expected to be obtainable from existing sources onsite.

The primary advantage to this candidate site is that the location is permitted, zoned, and it has previously operated as a landfill site. The candidate site has the advantage pertaining to the least amount of potential impact on the economic environment. All other potential candidate sites are disadvantaged based on the potential impact on land use and resources. Neighbouring the landfill is a new renewable energy development that has undergone an assessment for the Renewable Energy Approval, which conducted archaeological, noise and various other assessments; these assessments limit the level of uncertainty regarding the continued use of this candidate site. The existing stress on the terrestrial environment and existing impact on the natural environment is also considered an advantage; other candidate sites will create new stress to the terrestrial environment and impact the quality of the natural environment.

The two main disadvantages of this candidate site in comparison to the short list of candidate sites is the proximity to sensitive noise receptors and the visual aesthetics.

8.2 Location I-8 – Northwest of HWY 11B

Based on the Ontario Geological Survey maps indicating quaternary geology, this candidate site is assumed to be bedrock. It is within proximity to multiple abandoned mine/mine hazards and part of an active mining claim (L 4272008), which indicates the candidate site is expected to have limited overburden over bedrock. The landfill design would be a mounded deposition on a southeast facing slope towards Highway 11B. The acquisition of the land may present additional effort and cost based on mining considerations. Creating mild sloped access roads, providing infrastructure and proper site layout may require additional effort as a result of inferred bedrock topography. The candidate site will require new permitting, a full hydrogeological assessment and the implementation of environmental monitoring program. On-site availability of daily cover materials may be limited; importing material or using alternative cover materials may need to be considered.

The primary advantage to this candidate is that the location is already in a historically stressed and impacted area from mining-related activities.

The disadvantage of this candidate site, in comparison to candidate site I-1 (New Liskeard Landfill), is the level of potential impact on resource extraction mining activities. The lack of overburden deposits on-site also presents a number of limitations for site development as the

design would have to follow the bedrock topography. The absence of overburden will also have implications on the leachate collection and attenuation potential of the site. The potential impact on the economic environment is expected to be greater than candidate site I-1 (New Liskeard Landfill). The uncertainty of impact on the cultural environment is also a disadvantage to this candidate site.

8.3 Location I-9 – Southwest Corner

Based on the Ontario Geological Survey maps indicating quaternary geology, the candidate site is assumed to be on bedrock. As identified on Ontario Geological Survey maps, given the proximity to sand and gravel pits, the candidate site is expected to have sand and gravel overburden. The landfill design would be a mounded deposition on a west facing slope towards Moose Lake Road. The acquisition of the land may present additional effort and cost based on aggregate pit resources. Creating mild sloped access roads, providing infrastructure and proper site layout may require additional effort as a result of inferred bedrock topography. The site will require new permitting, a full hydrogeological assessment and the implementation of environmental monitoring. Daily cover materials are expected to be obtainable from existing sources on-site.

The primary advantage to this candidate site is that the location is already in a historically stressed and impacted area from its proximity to the Haileybury landfill and aggregate resources.

The disadvantage of this candidate site, in comparison to candidate site I-1 (New Liskeard Landfill), is the level of potential impact on resource extraction, forestry and aggregate activities. Given the type of geology mapped, there is a potential for rapid development and migration of a leachate plume that may result in the need for a large contaminant attenuation zone. The potential impact on the economic environment is also expected to be greater. The uncertainty of impact on the cultural environment is also a disadvantage to this candidate site.

8.4 Location O-3 – North of HWY558 past Bartle Lake Access Road

Based on the Ontario Geological Survey maps indicating quaternary geology, the candidate site is assumed to be on an ice contact delta, esker, delta, kame delta, delta moraine. As identified on Ontario Geological Survey maps, given the proximity to sand and gravel pits, the candidate site is expected to have sand and gravel overburden. The landfill design has two potential options: (1) trench fill or (2) mounded deposition to a mild southeast facing slope towards the intersection of Highway 558 and Bartle Lake Access Road. The acquisition of the land may present additional effort and cost based on the candidate site being located outside the municipal boundary and potential for aggregate pit resources. Creating mild sloped access roads, providing infrastructure and a proper site layout should be relatively inexpensive. The candidate site will require new permitting, a full hydrogeological assessment and the implementation of environmental monitoring. Daily cover materials are expected to be obtainable from existing sources onsite.

The primary advantage to this candidate site is that the location is in a remote location and expected to be relatively flat with sufficient aggregate materials for daily cover and initial site construction.

The disadvantage of this candidate site, in comparison to candidate site I-1 (New Liskeard Landfill), is that it is outside the municipal boundary and the level of potential impact on aggregate resources. The potential impact on the economic environment is expected to be greater than the candidate site I-1 (New Liskeard Landfill). The uncertainty of impact on the cultural environment is also a disadvantage to this site.

8.5 Short List Evaluation

The ranking of potential sites presented on **Error! Reference source not found.** indicates a istinct advantage to candidate site I-1, the New Liskeard Landfill. The primary advantages of this location are the established environmental impact and monitoring network coupled with the social impression associated with the location. Environmental impacts are identified and monitored, the impacts and monitoring will continue regardless of expansion. Socially the location is recognized and associated by local residents, businesses, and government authorities as a waste disposal facility since 1916 (Earth Tech, 2008). The principal disadvantage to candidate sites I-8 and I-9 is the anticipated surficial geology of bedrock, and the associated design and operational challenges that would require distinctively constructed solutions. The major disadvantage to candidate site O-3 is that the location is outside the municipal boundaries and would require negotiations with other authorities to purchase and use the site. Candidate site I-1, distinguishes itself as the preferred facility location given the potential environment effects and identified advantages and disadvantages.

Thus, based on the evaluation of the short list of candidate sites and refined study area, the preferred facility location is I-1, the existing New Liskeard Landfill, located on the north side of Rockley Road.

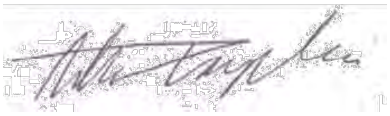
9.0 CLOSURE

This review was prepared exclusively for the City of Temiskaming Shores for specific application to the EA for the New Waste Management Capacity. No other warranty, expressed or implied, is made.

Respectfully submitted,

AMEC Environment & Infrastructure,
a Division of AMEC Americas Limited

Prepared By:



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Project Manager/Senior Hydrogeologist

10.0 REFERENCES

Earth Tech Canada Inc. 2008. Draft Solid Waste Management Master Plan.

APPENDIX A

COMPARATIVE EVALUATION OF ALTERNATIVES TO (SUMMARY MATRIX)

Summary – Considerations for Determining the Preferred Alternative To
New Waste Management Capacity
Environmental Assessment
City of Temiskaming Shores

Alternatives	Do Nothing	Thermal waste treatment facility	Energy from waste facility	Waste export	Waste import	Landfilling
Environmental Considerations						
Potential for destruction terrestrial and aquatic habitat	No additional adverse effects	Greenfield site development would have potential for impacts / displacement of habitat and wildlife Landfill component may lead to additional adverse effects on habitat and wildlife	Greenfield site development would have potential for impacts / displacement of habitat and wildlife Landfill component may lead to additional adverse effects on habitat and wildlife	Potential for such impacts limited to transfer stations that are likely required within the City	Greenfield site development would have potential for impacts / displacement of habitat and wildlife; impact larger than for a facility tailored solely to the City's needs	Greenfield site development would have potential for impacts / displacement of habitat and wildlife Expansion of existing landfill would allow to minimize such effects as part of infrastructure is already in place
Potential for air emissions (incl. Local and global considerations)	No additional adverse effects	Potential for adverse effects from air emissions Increased transport related emissions (incl. GHG emissions) due to high transport efforts	Potential for adverse effects from air emissions Increased transport related emissions (incl. GHG emissions) due to high transport efforts	Odours from transfer station High transport related emissions (incl. GHG emissions) Potential for air emissions at receiving site dependent on technology used for management/ treatment	Potential for additional adverse effects through increased haul traffic and increased haul distance (GHG emissions) Potential for emissions further dependent on technology used for management	Transport related air emissions (incl. GHG emissions) Potential for landfill gas emissions (if not captured/managed)
Potential for effects on groundwater resources	No additional adverse effects	Ongoing need for landfilling of by-products Landfill component would pose potential for adverse effects on groundwater resources	Ongoing need for landfilling of by-products Landfill component would pose potential for adverse effects on groundwater resources	No additional adverse effects (transfer station would likely be located at existing landfill)	Increased volume of waste would result in a greater potential for adverse effects	Potential for adverse effects
Other:						
Socio/Cultural Considerations						
Potential for land use conflicts	No additional adverse effects	Potential for land use conflicts (air emissions, noise levels at nearby receptors)	Potential for land use conflicts (air emissions, noise levels at nearby receptors)	Increased truck traffic, odours from transfer station Potential conflicts at receiver location	Along haul route and as a result of additional haul trucks Potential for conflicts dependent on technology used for management	Noise levels at nearby receptors, odours from landfill, additional dust from hauling trucks; If landfilling through expansion of existing site new land use conflicts would be minimal
Number of facilities required	No additional adverse effects	Two: One incinerator plus one landfill site	Two: One incinerator (including a generator) plus one landfill site	Two: One transfer station plus one facility at receiving end	Two: Probably one transfer station near source and plus one facility in COTS	One
Other:		May require imported waste to support the facility	May require imported waste to support the facility	Adverse effects on receiving jurisdiction	Additional waste streams for other communities	N/A
Economic Considerations						
Construction Cost	N/A	High (incinerator plus landfill site)	Very High (EFW facility plus landfill site)	Moderate (transfer station)	Dependent on technology chosen for management	Low
Operating Cost	N/A	High (facility has to operate on a continuous basis in order to be cost effective; this requires on-going maintenance)	Very High (facility has to operate on a continuous basis in order to be cost effective; this requires on-going maintenance); Potential for cost offsets from energy generation with significant waste stream	Moderate (transfer station)	Dependent on technology chosen for management	Low
Transport Cost	N/A	Moderate to High (transport component includes transport of waste to incinerator and transport of ashes to landfill site)	Moderate to High (transport component includes transport of waste to incinerator and transport of ashes to landfill site)	High (cost effort depending on location; trucking cost could be reduced through construction and operation of transfer station which require capital and operation cost)	High (cost effort depending on source location; trucking cost could be reduced through construction and operation of transfer which require capital and operation cost)	Moderate
Approval Time/Cost/Risk	N/A	Extensive approval requirements due to complexity of facility and the fact that two facilities are involved (facility siting, engineering, air dispersion modeling); Potential risk that current landfill capacity would be consumed before this option can be operational	Extensive approval requirements due to complexity of facility and the fact that two facilities are involved (facility siting, engineering, air dispersion modeling, negotiations with utility companies etc.); Potential risk that current landfill capacity would be consumed before this option can be operational	Moderate to Low. If exported to an existing facility licensed for import of waste from the City approvals would be limited to the transfer station development. If not licensed to receive waste from the City, Certificate of Approval for receiving facility would need to be amended.	Dependent on technology chosen for management	Low
Legal/Contractual Risk	COTS non-compliant with MOE approval	Would have to be run by a third party, commitment of waste stream	Would have to be run by a third party, commitment of waste stream Need for a market/agreement for generated energy	Contractual risk with potential receiver	Dependent on technology chosen for management	Low
Other:						

Summary – Considerations for Determining the Preferred Alternative To
New Waste Management Capacity
Environmental Assessment
City of Temiskaming Shores

Alternatives	Do Nothing	Thermal waste treatment facility	Energy from waste facility	Waste export	Waste import	Landfilling
Technical Considerations						
Complexity of technology (maintenance requirements, staffing, training monitoring)	Low	High maintenance requirement, skilled staff required, air monitoring required	High maintenance requirement, skill staff required, air monitoring required	Low	Dependent on technology chosen for management	Low
How well is need/problem addressed?	Does not address problem	Would add additional life to landfill, yet landfilling is still required	Would add additional life to landfill, yet landfilling is still required	Problem addressed	Dependent on technology chosen for management	Problem fully addressed
Technical Risk (proven technology? Reliability?)	No change	Only one facility currently in operation in Ontario	Not a proven technology within Ontario	Coordination of hauling trucks	Dependent on technology chosen for management	Low (acceptable technology proven in this environment)
Additional Studies Required	N/A	Additional studies pertaining to waste stream volumes and composition of waste in order to size the facility (i.e., furnaces)	Additional studies pertaining to waste stream volumes and composition of waste in order to size the facility (i.e., furnaces, turbines)	No additional studies required	Dependent on technology chosen for management	No additional studies required
Other:						
Municipal Policy Considerations						
Compliance with Draft WMMP	No	No	No	No	No	Yes Explicit objective of Draft WMMP
Potential to support waste diversion efforts	No	No Alternative does not support overall objective of reducing waste stream; this alternative requires considerable capital investment tailored to address a specific waste volumes; reduction in the waste volume would potentially jeopardize economics behind the investment	No Alternative does not support overall objective of reducing waste stream; this alternative requires even more capital investment than the thermal treatment alternative; reduction in the waste volume would potentially jeopardize economics behind the investment and potentially the power supply agreements and associated revenue streams	No Typically export agreements are based on specified minimum waste quantities; a change in waste generation rates (e.g., as a result of intensified diversion) may adversely affect contract and/ or tipping fees	Yes	Yes
Municipal preferences	No	No	No	No	No	Yes Explicit objective of Draft WMMP Explicit objective of Municipal Council
Other:						

APPENDIX B

SUMMARY – OPEN HOUSE EVENT (21 FEBRUARY 2013)

CITY OF TEMISKAMING SHORES

NEW WASTE MANAGEMENT CAPACITY PROJECT

SUMMARY OF FEBRUARY 2013 OPEN HOUSE

Submitted to:
City of Temiskaming Shores
325 Farr Drive
P.O. Box 2050
Temiskaming Shores, Ontario
P0J 1K0

Submitted by:
AMEC Environment & Infrastructure,
a division of AMEC Americas Limited
131 Fielding Road
Lively, Ontario
P3Y 1L7

February 2013

TY910491

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1.0 INTRODUCTION

This Summary of February 2013 Open House Report (Report) is part of the commitment of the City of Temiskaming Shores (City) to inform and consult with local communities and stakeholders regarding the New Waste Management Capacity Project (Project). The February 21, 2013 Open House was organized by the City to share information about the Project, the related environmental assessment process, and to solicit input on the identification and evaluation of “Alternatives To”. This Report presents a summary of the consultation activities and feedback associated with this session.

2.0 CONSULTATION PROCESS

2.1 Notification of the Open Houses

Notifications of the Open House were provided in advance through Canada Post's unaddressed admail to all residents, apartments, farms and businesses within the municipal boundaries of the City (approximately 5,632 notices were delivered). Notices were also mailed to all individuals and Aboriginal communities on the Project Mailing List the week of February 11, 2013.

The open house was also advertised on the local radio channel CJTT-FM (104.5 FM) on three times for thirty seconds on February 20 and 21, 2013.

Notifications of the Commencement of the Environmental Assessment (EA) and Open House were published in the local newspaper as summarized in Table 1. Copies of the newspaper advertisements are presented in Appendix A.

Table 1: Newspaper Publication Schedule

Notice/Publication	Publication Dates
Notice of Commencement of EA	
Temiskaming Speaker	February 6 and 13, 2013
Weekender	February 8, 15, and 22, 2013
Notice of Open House	
Temiskaming Speaker	February 13 and 20, 2013
Weekender	February 15 and 22, 2013

A section of the City's website has also been dedicated to this project. The notice and all related Project information is available on the website. The information can be accessed through: www.temiskamingshores.ca

2.2 Description of the Open Houses

The Open House was held on February 21, 2013 from 3:00 p.m. to 7:00 p.m. at Riverside Place (55 Riverside Drive, Temiskaming Shores). It consisted of a selection of 17 poster boards covering various aspects of the Project. Information was presented on the following areas.

- Project history,
- Need for new waste management capacity,
- Current and future waste management practices,
- Project schedule,
- Alternatives To,
- Evaluation Criteria, and
- Environmental Assessment process.

Attendees were provided with a summary matrix of the Alternatives To, including a preliminary discussion of each Alternative To by proposed evaluation criteria. Copies of the poster boards and summary matrix are available on the City's website and are presented in Appendix B.

Attendees were encouraged to sign a registration form at the door and indicate whether they would want to be placed on a Project Mailing List. There were 31 attendees during the open house (21 signed the register).

Comment Forms were made available for each attendee. Project representatives encouraged attendees to fill out and return the comment forms following the session. Comments and questions gathered from comment form submissions and records of conversations recorded by open house staff are presented in Section 2.3.

2.3 Summary of Questions and Comments

There were seven Comment Forms completed and returned to the City. Completed Comment Forms are presented in Appendix C. The following presents a summary (paraphrased) of the responses received by questions.

1. Do you have any comments, interests or suggestions related to the New Waste Management Capacity project in general?

    - Recycling pick-up service in the City might increase diversion and increase landfill lifespan
    - Would like to have a Regional Platform and have all local townships involved in the process to make it an environmental priority for everyone in the area. Too many dumps in the area.
    - Public information session was well done. Informal open houses work well for this type of project. Boards were very informative and well done.
    - The city may have potential to accept waste from outlying areas for disposal of waste to assist in operation costs.
    - At present there is no need for curb side pickup, each home owner can deliver to one site, as this would only add extra expenses.
    - Once again, the "Summary - Considerations for Determining the Preferred Alternative to New Waste Management Capacity Environmental Assessment" handed out at the open house, if read carefully, directs the project back to the previous Terms of References choice ie. The expansion of the New Liskeard landfill site. So much for the new broader "new catchment" area that was supposed to be considered under the revised Terms of Reference approved by the MOE. We have reached this conclusion, as under the "landfilling" column on the information sheet handed out, nothing reflects the costs of developing a new site, the purchase of land that might be required, new technology to be used, additional studies required, technical risk and the necessary training and maintenance to ensure a site is maintained a level similar to some of the "pristine" landfills we have visited.

      The City has now leased the contamination attenuation zone at the New Liskeard landfill to Canadian Solar on a long term lease. The changes to this area and integrity of the zone have been changed by regarding and drilling necessary for construction. Trans Canada Energy and Canadian Solar should be consulted as the

negative impact on the solar farm, with the westerly winds blowing garbage and dust, could have a significant financial impact.

No where under the “Considerations” is there any mention of building a new landfill site and the impact, whether it be within Temiskaming Shores on City owned land or a purchased site within or outside the city limits. Did the MOE not send the City back to redo the Terms of Reference to encompass a broader perspective and area to be considered?

Who is on the committee looking at alternative sites? Is it solely made up of town employees and council member? We do realize that the final vote rests with Council.

The New Liskeard landfill is officially closed as per the MOE. Would not any expansion be considered a "New" site as you can only expand an active site?

2. Please identify any criteria that are important to you that the City should use in the evaluation of Alternatives To and the identification of the Preferred Alternative To (where most important is a 1 and least important is 5).The following presents the average of responses received.[1]

   - Environmental: 1.3
   - Economic: 2.0
   - Technical: 2.0
   - Municipal Policy: 2.3
   - Other: 1 (location/aesthetics)

   Comments:
   - Environmental: groundwater, emissions, odours, wind borne garbage; adverse effects on habitat/wildlife are essential considerations
   - Economic: should never become the final selection point when choices are close considering lifespan
   - Technical: any choice must use the best and most current engineering, not the basics to gain approval
   - Other- Location/Aesthetics: the New Liskeard landfill is not only close to residential properties, it is on the highest point of land seen for miles; expansion here would certainly make you rethink “Temiskamazing” or “Heart of the Scenic North”; what an eyesore

3. Regarding the evaluation of Alternatives To, please rank alternatives and provide any comments regarding these Alternatives To (where most preferred is a 1 and least preferred is 5).The following presents the average of responses received. [2]

[1] Comment Forms submitted by two individuals appear to have had reversed their rankings based on review and conversations. The averages presented reflect the corrected numbers. Original forms are presented in Appendix C.
[2] Comment Forms submitted by one individual appears to have had reversed their rankings based on

- Do Nothing: 5
- Landfilling: 1.7
- Thermal Technology: 4
- Energy from Waste: 2.9
- Waste Export: 3.9
- Waste Import: 4.0
- Other: 1 (increase diversion), 4 (Private company contract)

Comments:

- Energy from waste, perhaps Miller Paving and Asphalt Plant
- Waste import, increase volume to be viable
- All of the proposed options have environmental drawbacks, but importing or exporting waste doesn't make any common sense to me. Handle it where it's made, don't make it someone else's problem.
- Landfilling, Thermal Technology, Energy from Waste, Waste Export: Landfilling and Waste Export must go hand-in-hand as the site could be within or just outside the city limits as per the new Terms of Reference.
- Private company contract: Seek submissions/proposals from a company such as as Miller Waste Management to look after waste management for the town.

4. How did you hear about the Community Meeting?

- Newspaper advertisement: 3
- Invitation: 4
- Website :
- From a neighbour/friend: 1
- Other: 1 (City staff)

5. How would you rate the following about this Open House (where poor is 1 and excellent is 5)? The following presents the average of responses received.

- Location of the Open House: 4.7
- Time of day it was held: 4.6
- Length of the session: 4.7
- Information provided: 4.7
- Your opportunity to comment/be heard: 4.9
- Your opportunity to have your questions answered: 4.7

An overall summary of comments and questions received during the sessionis presented in Table 2 together with study team responses

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review and conversations. Another individual developed a modified ranking. The averages presented reflect the corrected numbers. Original forms are presented in Appendix C.

Table 2: Comments, Questions and Responses

Comments/Questions	Responses
Develop a landfill for a larger regional area	This would involve shipping and/or receiving wastes across municipal boundaries and requires cooperation and long-term commitments from all participating municipalities. To establish a regional waste management system is a long term undertaking and could not be accomplished before the City runs out of landfill capacity. The process is also complex from a permitting and contractual basis (cost sharing for operations, etc.). Increased shipping costs and increased distances (non-local landfill) can also lead to illegal dumping.
Increase recycling capabilities and bring in curb side pickup	The City is working to increase the efficiency of the recycling program; however, increased diversion will not completely eliminate the need for additional waste management capacity for residual waste.
Recycling pick-up service in the City might increase diversion and increase landfill lifespan	Agreed, however increased diversion will not completely eliminate the need for additional waste management capacity for residual waste
Would like to have a Regional Platform and have all local townships involved in the process to make it an environmental priority for everyone in the area. Too many dumps in the area.	This would require cooperation and long-term commitments from all participating municipalities. To establish a regional waste management system is a long term undertaking and could not be accomplished before the City runs out of landfill capacity. A regional system would involve shipping and/or receiving wastes across municipal boundaries and is very complex from a permitting and contractual basis (cost sharing for operations, etc.). Increased shipping costs and non-local landfill can lead to illegal dumping.
Public information session was well done. Informal open houses work well for this type of project. Boards were very informative and well done.	The City and AMEC will continue to share project information in similar forms to ensure community involvement and input is a part of the process.
The city may have potential to accept waste from outlying areas for disposal of waste to assist in operation costs.	Importing of waste was an alternative that was evaluated, but it was not very well received by the public.
At present there is no need for curb side pickup, each home owner can deliver to one site, as this would only add extra expenses.	Review and evaluation of waste and recycling collection is not directly part of this scope.
Once again, the "Summary - Considerations for Determining the Preferred Alternative to New Waste Management Capacity Environmental Assessment" handed out at the open house, if read carefully, directs the project back to the previous Terms of References choice ie. The expansion of the New Liskeard landfill site. So much for the new broader "new catchment" area that was supposed to be considered under the revised Terms of	At this stage we have only completed Section 5.0 of the Terms of Reference (ToR) (i.e., The Alternatives To the Undertaking). No decision as to the Site has been completed. Once the preferred alternative to has been finalized, we will proceed to the “Alternative Methods” which will include a site selection process and evaluation of alternative

Reference approved by the MOE. We have reached this conclusion, as under the "landfilling" column on the information sheet handed out, nothing reflects the costs of developing a new site, the purchase of land that might be required, new technology to be used, additional studies required, technical risk and the necessary training and maintenance to ensure a site is maintained a level similar to some of the "pristine" landfills we have visited.	designs/operational approaches as well as the evaluation of environmental effects of the Undertaking.
The City has now leased the contamination attenuation zone at the New Liskeard landfill to Canadian Solar on a long term lease. The changes to this area and integrity of the zone have been changed by regarding and drilling necessary for construction. Trans Canada Energy and Canadian Solar should be consulted as the negative impact on the solar farm, with the westerly winds blowing garbage and dust, could have a significant financial impact.	The potential effects/interferences with landfilling operations and the surrounding land uses will be considered throughout the EA process.
No where under the “Considerations” is there any mention of building a new landfill site and the impact, whether it be within Temiskaming Shores on City owned land or a purchased site within or outside the city limits. Did the MOE not send the City back to redo the Terms of Reference to encompass a broader perspective and area to be considered?	As indicated above we are only at the stage where we are identifying the preferred waste management alternative. Once that strategy is identified then the study team will start the site selection process.
Who is on the committee looking at alternative sites? Is it solely made up of town employees and council member? We do realize that the final vote rests with Council. The New Liskeard landfill is officially closed as per the MOE. Would not any expansion be considered a "New" site as you can only expand an active site?	Similar to the previous feasibility study it is anticipated that a Technical Advisory Committee will be set up to direct the site selection process, but this will have to follow the criteria established within the ToR. Any expansion of the New Liskeard site would essentially be new in that the current landfill standards would be followed to develop any additional cells. However, the landfill site is registered on title and can have very few future uses, a landfill expansion and a solar farm are two such uses.
Economic: should never become the final selection point when choices are close considering lifespan.	Economics will not be the final selection point and will be weighted in accordance with public and council input.
Technical: any choice must use the best and most current engineering, not the basics to gain approval	The MOE design standards for landfill sites would be used as a guidance tool, however, many aspects of the design and operational approaches will likely exceed the minimum standards.
Other- Location/Aesthetics: the New Liskeard landfill is not only close to residential properties, it is on the highest point of land seen for miles; expansion here would certainly make you rethink “Temiskamazing” or “Heart of the Scenic North”;	Potential for adverse visual effects is just one of the evaluation criteria that will be used to assess the alternative methods (site locations).

what an eyesore	
Energy from waste, perhaps Miller Paving and Asphalt Plant	We are not aware of any facilities that are located within reasonable distance, with sufficient capacity, and capable or licensed to process municipal waste. Waste to energy also does not completely eliminate the need for landfilling.
Waste import, increase volume to be viable	Waste import scenarios have not been well received by the community to date.
All of the proposed options have environmental drawbacks, but importing or exporting waste doesn't make any common sense to me. Handle it where it's made, don't make it someone else's problem.	Landfilling locally has been identified as the preferred option.
Landfilling, Thermal Technology, Energy from Waste, Waste Export: Landfilling and Waste Export must go hand-in-hand as the site could be within or just outside the city limits as per the new Terms of Reference.	Currently the options for the landfilling alternative would include continuation of the City's diversion program and landfilling all the residual waste generated within the City and none will be exported to a site not owned by the City.
Private company contract: Seek submissions/proposals from a company such as as Miller Waste Management to look after waste management for the town.	Typically smaller centres subcontract the operation of their landfill site, but they actually own the facility. Through this process the City is trying to secure a long-term waste management solution. The long-term operation of the facility is beyond the current scope of this project.
What is the current recycling program?	The City currently provides a depot style recycling program. There are four recycling depots setup across the City.
Leachate from the existing landfill, is it being contained?	The leachate in being managed and is within the property limits.
Further development of existing Sites, which have already got landfill derived impacts, rather than developing a new Site and potentially impacting another area	Re-development of brownfield sites, as well as development of greenfield sites will be considered in the next part of the EA process.
City should purchase land around existing landfill to allow for expansion and long-term planning	The City is currently exploring land acquisition options around the existing landfill site.
Post your decision on local newspaper or radio	The City will continue to notify the community of the Project through the Project mailing list, notices and updates to our website

3.0 CONCLUSION

The session was well attended. The proposed “Alternatives To” were considered adequate (no additional alternative were identified). The evaluation criteria suggested for determining the overall preferred “Alternative To” were also considered adequate and no suggestions were made for additional considerations.

Aside from increased diversion, landfilling was considered the overall preferred “Alternative To”. As far as the evaluation criteria are concerned, no notable differences in the significance of the individual criteria were expressed.

Overall, there was a positive interest in the Project. The community identified an interest in seeing increase recycling programs and further information on the selected preferred alternative (and site selection). Ensuring that the selected preferred alternative is developed with utmost care to the environment was identified as important to the attendees.

On the comment forms participants were also asked to evaluate the information sessions and there was overall very positive feedback on the session, information presented, and knowledge of the team.

APPENDIX A

NOTICES

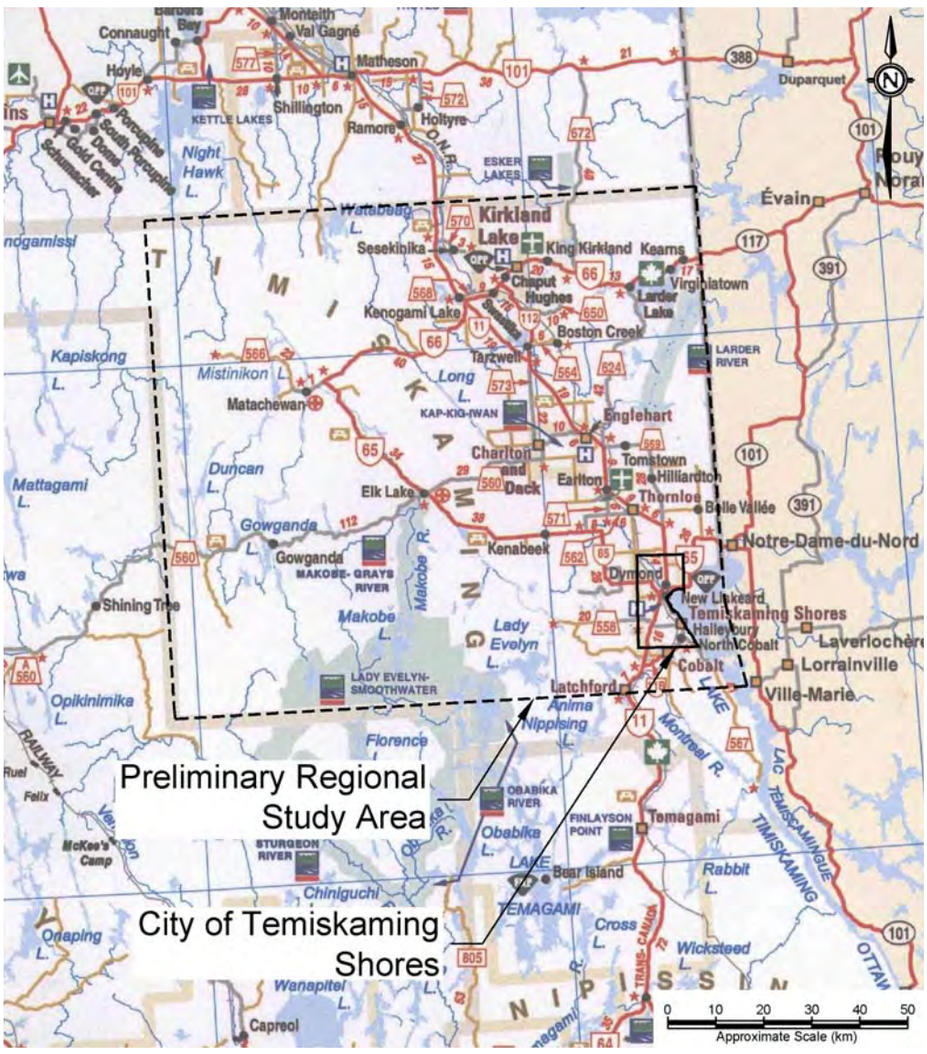
Notice of Commencement of Environmental Assessment

New Waste Management Capacity

The City of Temiskaming Shores (the City) is beginning an environmental assessment for new waste management capacity, Currently, the City's waste is disposed of at its Haileybury Landfill Site. This site will reach its capacity in 2016. The City places emphasis on intensifying its waste reduction and recycling efforts but also identified the need for new waste managament capacity by 2016.

The Process

In May 2011, the City initiated the planning process by developing Terms of Reference for the environmental assessment pursuant to the Ontario *Environmental Assessment Act*. The assessment is to identify and evaluate alternatives, and to determine the preferred approach to addressing the City's need for new waste management capacity. The assessment will include the evaluation of environmental effects, development of mitigation measures, and detailed design and operation plans for the preferred approach.



On November 28, 2012, the Minister of the Environment (MOE) approved the Terms of Reference. Electronic copies are available via the website below. Hard copies of the approved Terms of Reference are also available for review at City Hall - 325 Farr Drive, Temiskaming Shores.

This environmental assessment will be carried out according to the approved Terms of Reference and the requirements of the *Environmental Assessment Act*. Results from this study will be documented in an Environmental Assessment Report, which will be submitted to the MOE for a review. At that time, the public and other interested persons will be informed when and where the environmental assessment can be reviewed.

Consultation

Members of the public, agencies and other interested persons are encouraged to actively participate in the planning of this undertaking by attending consultation opportunities or contacting staff directly with information, comments or questions. Consultation opportunities are planned throughout the planning process and will be advertised in local newspapers, on the City's website, and directly to individuals or groups on the Project Mailing List.

If you would like to be added to our Project Mailing List or have project-related questions, please contact:

Dave Treen, Technical and Environmental Compliance Coordinator
CITY OF TEMISKAMING SHORES
325 Farr Drive, P.O. Box 2050, Temiskaming Shores, Ontario P0J 1K0
Phone: (705) 672-3363 Ext. 4136
Email: dtreen@temiskamingshores.ca
Website: www.temiskamingshores.ca/en/municipalservices/LinksDocuments.asp

LET'S TALK

You're invited to get involved in our environmental assessment

The City of Temiskaming Shores is hosting a public open house to share information about the environmental assessment and proposed "Alternatives To" for the new waste management capacity project. The City is evaluating the potential alternatives for waste management for our community based on the Ministry of the Environment approved Terms of Reference.

The City of Temiskaming Shores would like to meet with members of the community and businesses to hear what environmental considerations and alternatives are important to you for consideration in the environmental assessment process.

OPEN HOUSE

Please drop by our Open House:

Thursday, February 21st
3:00pm to 7:00pm
Riverside Place
55 Riverside Street
Temiskaming Shores, Ontario

If you would like to be added to our Project Mailing List or have project-related questions, please contact:

Dave Treen
Technical and Environmental Compliance Coordinator
City of Temiskaming Shores
325 Farr Drive, P.O. Box 2050
Temiskaming Shores, Ontario P0J 1K0
Phone: (705) 672-3363 Ext. 4136
Email: dtreen@temiskamingshores.ca

Dymond
Haileybury
New Liskeard

City of • Ville de
Temiskaming Shores

Discover a whole new Ontario • Découvrez un tout nouvel Ontario

Website: www.temiskamingshores.ca/en/municipalservices/LinksDocuments.asp

APPENDIX B

POSTER BOARDS AND SUMMARY MATRIX

City of • Ville de Temiskaming Shores
Dymond Haileybury New Liskeard
Discover a whole new Ontario • Découvrez un tout nouvel Ontario

Open House

Environmental Assessment

New Waste Management Capacity

Alternatives To

Thursday, February 21st
3:00 p.m. to 7:00 p.m.
Riverside Place
55 Riverside Drive

Project History

- **2009:** The City's Draft Waste Management Master Plan (WMMP) promotes increased recycling and waste diversion and identifies need for new landfill capacity
- **2009:** New Liskeard Landfill site operation is suspended (Site reached capacity)
- **2009/10:** City's feasibility study proposes New Liskeard Site expansion
- **2011/12:** City's Terms of Reference for the Environmental Assessment (EA) developed and approved by Ministry of the Environment
- **2013/2014:** Undertake studies and consultation for completion of the EA
- **2018 to 2020:** Haileybury Landfill Site expected to reach capacity

Current Waste Management Practice

Recycling Waste Diversion

- Material Recovery Facility (MRF)
- Collection of recyclable materials

Solid Waste Collection

- Residential waste
- Industrial, commercial and institutional solid waste
- Special waste
- Hazardous waste (at landfill , e.g. old/used paint, oils, batteries, etc.)

Waste Disposal

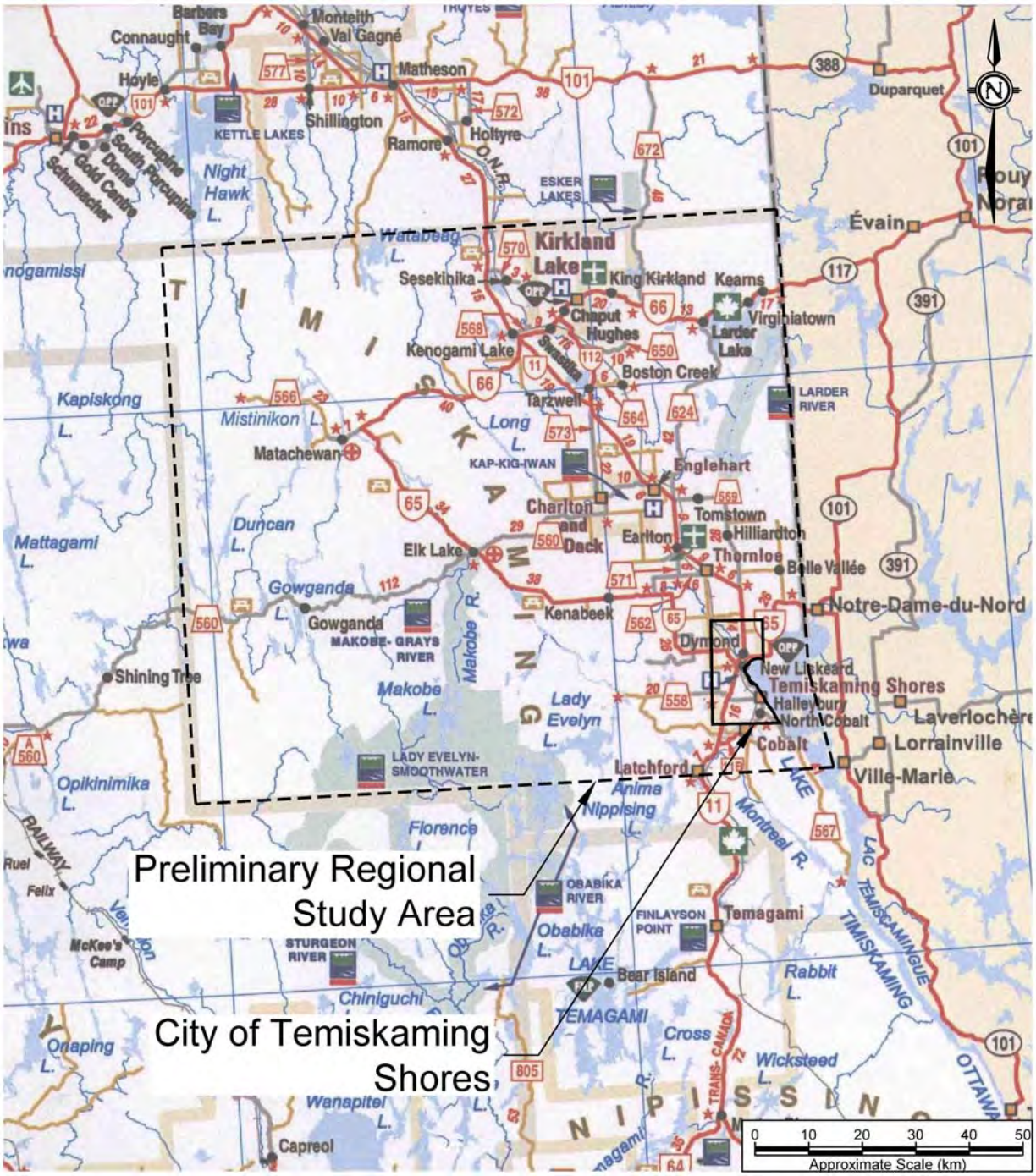
- New Liskeard Landfill (operation suspended in June 2009)
- Haileybury Landfill has serviced the entire City and Town of Cobalt since 2009

Current Waste Management Practice

The New Liskeard Landfill

- Used for waste deposition since about 1916
  - Landfilling was suspended in June 2009
- Located approx. 3 km west of the former Town of New Liskeard
  - Total property area is 32 hectares
  - Approx. 5 hectares have been landfilled
- Contaminants managed through natural attenuation
- On-going groundwater monitoring – no contamination off site
- Potential opportunity for new landfill capacity through site expansion

Preliminary Regional Study Area



Discover a whole new Ontario • Découvrez un tout nouvel Ontario

Environmental Assessment

Regulatory Requirements

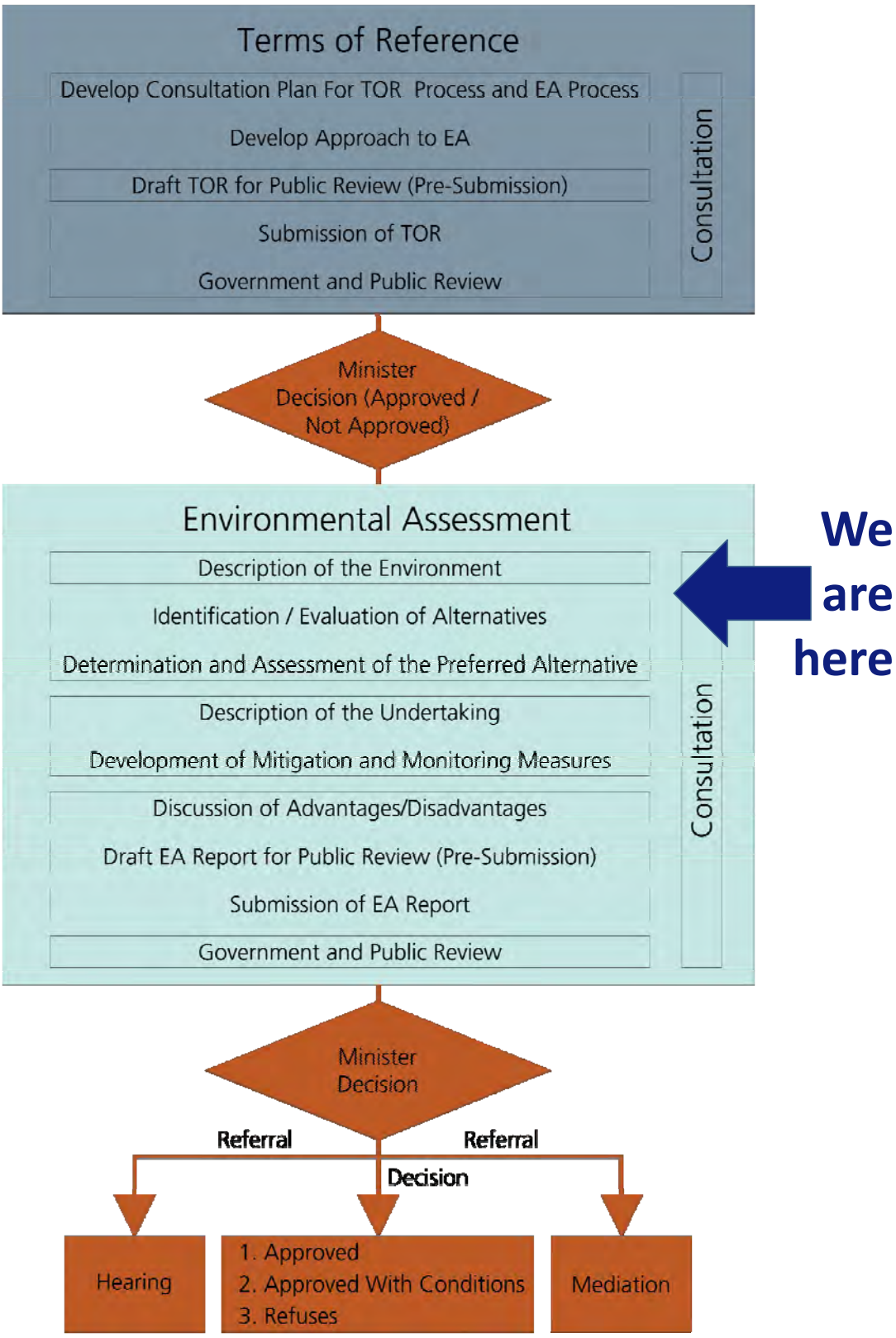
- Environmental assessments are required under Ontario Regulation 101/07 (Waste Management Projects) for new landfill sites and landfill expansions exceeding 100,000 m^3
  - Under certain conditions, this requirement also applies to thermal waste treatment facilities
- Ontario *Environmental Assessment Act* requires
  - Terms of Reference (Approved November 2012)
  - Environmental Assessment
    (Notice of Commencement issued January 2013)

Environmental Assessment

Key Elements of the Environmental Assessment

- Establish the need/rationale for the undertaking
- Description of the Project
- Environmental characterization of the Project area
- Identification/evaluation of alternatives
- Assessment of environmental effects
- Development of mitigation and monitoring measures
- Consultation and engagement (public, stakeholders, government agencies, Aboriginal communities)

EA Process


Terms of Reference
Develop Consultation Plan For TOR Process and EA Process
Develop Approach to EA
Draft TOR for Public Review (Pre-Submission)
Submission of TOR
Government and Public Review
Consultation
Minister Decision (Approved / Not Approved)
Environmental Assessment
Description of the Environment
Identification / Evaluation of Alternatives
Determination and Assessment of the Preferred Alternative
Description of the Undertaking
Development of Mitigation and Monitoring Measures
Discussion of Advantages/Disadvantages
Draft EA Report for Public Review (Pre-Submission)
Submission of EA Report
Government and Public Review
Consultation
We are here
Minister Decision
Referral
Referral
Decision
Hearing
1. Approved
2. Approved With Conditions
3. Refuses
Mediation

Project Schedule and Next Steps

Project Schedule

Year	2011			2012				2013				2014				2015	
Activities / Quarter Year	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd
Terms of Reference	■	■	■	■	■	■											
Environmental Assessment							■	■	■	■	■	■					
Design and Engineering												■	■	■			
Permits and Approvals														■	■	■	
Construction (Start)																	★

Alternative To

- Different alternatives to address the need; for this Project, the following Alternatives To have been identified:
  - Do nothing (status quo)
  - Landfilling
  - Energy from Waste
  - Thermal waste treatment facility
  - Waste Export
  - Waste Import
- ***Do you have any other Alternatives To that should be considered?***

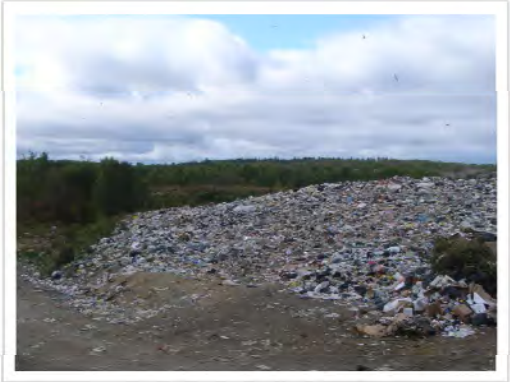
Alternative Methods

- Refers to the different ways of implementing the preferred Alternative To
- This can include:
  - Alternative Site locations
  - Alternative Designs

Alternatives To: Do Nothing

“Do nothing”

- Considered the status quo, where waste from the City is continued to be landfilled at the Haileybury Landfill Site
- This scenario is proposed only for the purpose of providing a comparison to any other Alternative To
- This is not a real alternative for the City as the current landfill will reach capacity sometime between 2018 and 2020



Typical Concerns

- Non-Compliance with Permits
- Adverse environmental effects
- Potential for waste management service disruptions

Mitigation Measures

- Not applicable

Alternatives To: Landfilling

Landfilling

- Involves the disposal of waste in an engineered landfill facility, designed and operated to handle the various types of waste generated by the City in accordance with Ontario's Landfill Regulation 232/98.
    - Could involve the development of a new landfill site or the expansion of an existing site.
- Typical features include measures to collect and manage gas and leachate generated in the landfill. Operational features would involve daily cover, groundwater monitoring, and the implementation of a capping and closure scenario when the approved capacity is reached.

Typical Concerns

- Adverse environmental effects
- Adverse impacts on water (ground and surface)
- Increases in odour
- Increases in noise levels
- Increase in local truck traffic and related dust, noise, traffic safety
- Landfill gas generation

Mitigation Measures

- Siting facility away from sensitive receptors
- Minimize size of landfill
- Limit operating hours and haul routes
- General housekeeping
- Implement air pollutant and noise control systems
- Landfill gas management plan

Alternatives To: Thermal Technology

Thermal waste treatment facility (incineration)

- Involves the development and operation of a waste incinerator, where waste would be incinerated at a high temperature in a controlled facility using fossil fuel (e.g., natural gas)
  - Any such facility would be equipped with air emission controls and would be closely monitored with respect to its compliance with applicable air quality standards
  - Typically this involves a small landfilling component for disposal of residues
- This Alternative To has been included as it offers a potential approach to future waste management that minimizes the need for additional landfill capacity

Typical Concerns

- Adverse environmental effects
- Adverse impacts from air emissions
- Adverse impacts on water (ground and surface)
- Loss of habitat for plants and wildlife
- Odour and noise levels
- Local truck traffic and related dust, noise, traffic safety
- Cost effectiveness
- Schedule (design and approvals)
- Management of the ash (hazardous and non hazardous landfilling)

Mitigation Measures

- Siting facility away from sensitive receptors
- Implement air pollutant and noise control systems
- Air quality monitoring
- Limit operating hours
- Prescribe haul routes
- For landfill component : see “Landfilling”

Alternatives To: Energy from Waste

Energy from Waste (EFW)

- Principally the same approach as “Thermal Technology” but this alternative allows for generating energy from the waste management process
  - Offers an economically attractive approach for managing the waste in combination with the utilization of its value as an energy source

Typical Concerns

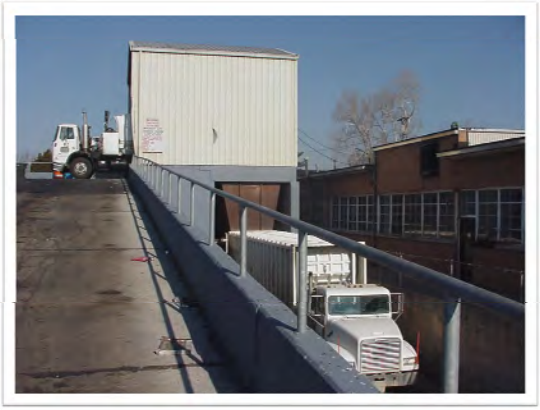
- Adverse environmental effects
- Adverse impacts from air emissions
- Adverse impacts on water (ground and surface)
- Loss of habitat for plants and wildlife
- Odour and noise levels
- Local truck traffic and related dust, noise, traffic safety
- Cost effectiveness
- Schedule (design and approvals)
- Management of the ash (hazardous and non hazardous landfilling)

Mitigation Measures

- Siting facility away from sensitive receptors
- Implement air pollutant and noise control systems
- Air quality monitoring
- Limit operating hours
- Prescribe haul routes
- For landfill component : see “Landfilling”

Alternatives To: Waste Export

Waste Export



- Involves the export of waste into another jurisdiction outside of the City
  - Waste would be disposed of or otherwise processed in a facility, licensed to manage the various types of waste generated by the City. The City would ensure long-term acceptance of its waste in a contractual agreement with the facility's owner
- Included as it has the potential to address the need for additional waste management capacity without the City becoming owner/operator of an existing or new management facility.

Typical Concerns

- Likely requires transfer stations
- Increase in local truck traffic
- Adverse environmental effects related to factor such as, ground- and surface water (at transfer station)
- Increases in noise, odour, vermin, litter (at transfer station)
- Makes City dependent on other jurisdiction
- Tipping fees/ overall cost

Mitigation Measures

- Siting transfer facility away from sensitive receptors
- Limit operating hours and prescribe haul routes
- Developing one or more transfer stations
- Landfill gas management plan

Alternatives To: Waste Import

Waste Import

- Involves the import of waste by the City and its management together with the City's own residual waste
- Waste imports could provide additional funds that could help to cover the cost for the development and operation of the City's own management system (e.g., landfill or incinerator)

Typical Concerns

- Adverse environmental effects dependent on the technology chosen to manage the waste
- Increased adverse effects due to increased volume to be managed
- Increase in truck traffic related to waste import

Mitigation Measures

- Dependent on technology chosen to manage imported waste (see other Alternatives To)

Evaluation Criteria

Environmental Considerations

- Natural environment (e.g., air, water, land, species at risk)
- Social environment (e.g., transportation, other infrastructure, noise)
- Cultural environment (e.g., heritage and archaeological resources)
- Economic environments (e.g., land use, land values)

Economic Considerations

- Relative approval cost (cost implications of required planning and approval processes and associated time implications)
- Relative cost (construction operation, maintenance)
- Cost effectiveness and financial risks

Technical Considerations

- How well does the alternative address the stated problem or need?
- Complexity of the technology?
- Reliability of technology – is this a proven technology?
- Flexibility regarding changes in waste volumes)

Municipal Policy Considerations

- How well does the alternative meet relevant municipal policies (e.g., Waste Management Master Plan objectives; sustainable development policies)
- Long-term operating principles and objectives; dependency on other jurisdictions

Contact Us

How to get involved in the Environmental Assessment Process?

- Attend public open houses
- Join our Project mailing list to be kept up-to-date
- Watch for Public Notices in local newspapers and on the City's website
- Check out the Project web site: www.temiskamingshores.ca
- Review and comment on draft reports as they are released
- Contact Dave Treen for further information.

Dave Treen
CITY OF TEMISKAMING SHORES
325 Farr Drive
P.O. Box 2050
Temiskaming Shores, Ontario P0J 1K0
www.temiskamingshores.ca

Summary – Considerations for Determining the Preferred Alternative To
New Waste Management Capacity
Environmental Assessment
City of Temiskaming Shores

Alternatives	Do Nothing	Thermal waste treatment facility	Energy from waste facility	Waste export	Waste import	Landfilling
Environmental Considerations						
Potential for destruction terrestrial and aquatic habitat	No additional adverse effects	Greenfield site development would have potential for impacts / displacement of habitat and wildlife Landfill component may lead to additional adverse effects on habitat and wildlife	Greenfield site development would have potential for impacts / displacement of habitat and wildlife Landfill component may lead to additional adverse effects on habitat and wildlife	Potential for such impacts limited to transfer stations that are likely required within the City	Greenfield site development would have potential for impacts / displacement of habitat and wildlife; impact larger than for a facility tailored solely to the City's needs	Greenfield site development would have potential for impacts / displacement of habitat and wildlife Expansion of existing landfill would allow to minimize such effects as part of infrastructure is already in place
Potential for air emissions (incl. Local and global considerations)	No additional adverse effects	Potential for adverse effects from air emissions Increased transport related emissions (incl. GHG emissions) due to high transport efforts	Potential for adverse effects from air emissions Increased transport related emissions (incl. GHG emissions) due to high transport efforts	Odours from transfer station High transport related emissions (incl. GHG emissions) Potential for air emissions at receiving site dependent on technology used for management/ treatment	Potential for additional adverse effects through increased haul traffic and increased haul distance (GHG emissions) Potential for emissions further dependent on technology used for management	Transport related air emissions (incl. GHG emissions) Potential for landfill gas emissions (if not captured/managed)
Potential for effects on groundwater resources	No additional adverse effects	Ongoing need for landfilling of by-products Landfill component would pose potential for adverse effects on groundwater resources	Ongoing need for landfilling of by-products Landfill component would pose potential for adverse effects on groundwater resources	No additional adverse effects (transfer station would likely be located at existing landfill)	Increased volume of waste would result in a greater potential for adverse effects	Potential for adverse effects
Other:						
Socio/Cultural Considerations						
Potential for land use conflicts	No additional adverse effects	Potential for land use conflicts (air emissions, noise levels at nearby receptors)	Potential for land use conflicts (air emissions, noise levels at nearby receptors)	Increased truck traffic, odours from transfer station Potential conflicts at receiver location	Along haul route and as a result of additional haul trucks Potential for conflicts dependent on technology used for management	Noise levels at nearby receptors, odours from landfill, additional dust from hauling trucks; If landfilling through expansion of existing site new land use conflicts would be minimal
Number of facilities required	No additional adverse effects	Two: One incinerator plus one landfill site	Two: One incinerator (including a generator) plus one landfill site	Two: One transfer station plus one facility at receiving end	Two: Probably one transfer station near source and plus one facility in COTS	One
Other:		May require imported waste to support the facility	May require imported waste to support the facility	Adverse effects on receiving jurisdiction	Additional waste streams for other communities	N/A
Economic Considerations						
Construction Cost	N/A	High (incinerator plus landfill site)	Very High (EFW facility plus landfill site)	Moderate (transfer station)	Dependent on technology chosen for management	Low
Operating Cost	N/A	High (facility has to operate on a continuous basis in order to be cost effective; this requires on-going maintenance)	Very High (facility has to operate on a continuous basis in order to be cost effective; this requires on-going maintenance); Potential for cost offsets from energy generation with significant waste stream	Moderate (transfer station)	Dependent on technology chosen for management	Low
Transport Cost	N/A	Moderate to High (transport component includes transport of waste to incinerator and transport of ashes to landfill site)	Moderate to High (transport component includes transport of waste to incinerator and transport of ashes to landfill site)	High (cost effort depending on location; trucking cost could be reduced through construction and operation of transfer station which require capital and operation cost)	High (cost effort depending on source location; trucking cost could be reduced through construction and operation of transfer which require capital and operation cost)	Moderate
Approval Time/Cost/Risk	N/A	Extensive approval requirements due to complexity of facility and the fact that two facilities are involved (facility siting, engineering, air dispersion modeling); Potential risk that current landfill capacity would be consumed before this option can be operational	Extensive approval requirements due to complexity of facility and the fact that two facilities are involved (facility siting, engineering, air dispersion modeling, negotiations with utility companies etc.); Potential risk that current landfill capacity would be consumed before this option can be operational	Moderate to Low. If exported to an existing facility licensed for import of waste from the City approvals would be limited to the transfer station development. If not licensed to receive waste from the City, Certificate of Approval for receiving facility would need to be amended.	Dependent on technology chosen for management	Low
Legal/Contractual Risk	COTS non-compliant with MOE approval	Would have to be run by a third party, commitment of waste stream	Would have to be run by a third party, commitment of waste stream Need for a market/agreement for generated energy	Contractual risk with potential receiver	Dependent on technology chosen for management	Low
Other:						

Summary – Considerations for Determining the Preferred Alternative To
New Waste Management Capacity
Environmental Assessment
City of Temiskaming Shores

Alternatives	Do Nothing	Thermal waste treatment facility	Energy from waste facility	Waste export	Waste import	Landfilling
Technical Considerations						
Complexity of technology (maintenance requirements, staffing, training monitoring)	Low	High maintenance requirement, skilled staff required, air monitoring required	High maintenance requirement, skill staff required, air monitoring required	Low	Dependent on technology chosen for management	Low
How well is need/problem addressed?	Does not address problem	Would add additional life to landfill, yet landfilling is still required	Would add additional life to landfill, yet landfilling is still required	Problem addressed	Dependent on technology chosen for management	Problem fully addressed
Technical Risk (proven technology? Reliability?)	No change	Only one facility currently in operation in Ontario	Not a proven technology within Ontario	Coordination of hauling trucks	Dependent on technology chosen for management	Low (acceptable technology proven in this environment)
Additional Studies Required	N/A	Additional studies pertaining to waste stream volumes and composition of waste in order to size the facility (i.e., furnaces)	Additional studies pertaining to waste stream volumes and composition of waste in order to size the facility (i.e., furnaces, turbines)	No additional studies required	Dependent on technology chosen for management	No additional studies required
Other:						
Municipal Policy Considerations						
Compliance with Draft WMMP	No	No	No	No	No	Yes Explicit objective of Draft WMMP
Potential to support waste diversion efforts	No	No Alternative does not support overall objective of reducing waste stream; this alternative requires considerable capital investment tailored to address a specific waste volumes; reduction in the waste volume would potentially jeopardize economics behind the investment	No Alternative does not support overall objective of reducing waste stream; this alternative requires even more capital investment than the thermal treatment alternative; reduction in the waste volume would potentially jeopardize economics behind the investment and potentially the power supply agreements and associated revenue streams	No Typically export agreements are based on specified minimum waste quantities; a change in waste generation rates (e.g., as a result of intensified diversion) may adversely affect contract and/ or tipping fees	Yes	Yes
Municipal preferences	No	No	No	No	No	Yes Explicit objective of Draft WMMP Explicit objective of Municipal Council
Other:						

APPENDIX C

COMMENT FORMS (COMPLETED)

COMMENT FORM
Environmental Assessment, New Waste Management Capacity
February 21, 2013, City of Temiskaming Shores

Your comments on the Environmental Assessment are important to us and will be used in the planning and development of this Project.

1. Do you have any comments, interests or suggestions related to the New Waste Management Capacity project in general?

Recycling pick-up service in City might increase diversion & increase landfill lifespan

2. Please identify any criteria that are important to you that the City should use in the evaluation of ***Alternatives To*** and the identification of the ***Preferred Alternative To***.

Criteria	**Ranking** Most important (1) to Least important (5)					**Comment**
Environmental	(1)	2	3	4	5	
Economic	1	(2)	3	4	5	
Technical	(1)	2	3	4	5	
Municipal Policy	1	(2)	3	4	5	
Other (specify) _____	1	2	3	4	5	

3. Regarding the evaluation of ***Alternatives To***, please rank alternatives and provide any comments regarding these ***Alternatives To*** (circle number).

Alternative To	**Ranking** Most Preferred (1) to Least Preferred (5)					**Comment**
Do Nothing	1	2	3	4	(5)	
Landfilling	1	(2)	3	4	5	
Thermal Technology	1	2	3	(4)	5	
Energy from Waste	1	2	(3)	4	5	
Waste Export	1	2	3	(4)	5	
Waste Import	1	2	3	4	(5)	
Other (specify) _____	(1)	2	3	4	5	Increased diversion

4. How did you hear about the Community Meeting?

❑ Newspaper advertisement ☒ Invitation ❑ Website

❑ From a neighbour / friend ❑ Other: via mail

5. How would you rate the following about this Open House (circle number)?

	Poor ⟷ Excellent					Comments
Location of the Open House	1	2	3	(4)	5	
Time of day it was held	1	2	3	(4)	5	
Length of the session	1	2	3	(4)	5	
Information provided	1	2	3	4	(5)	
Your opportunity to comment/be heard	1	2	3	4	(5)	
Your opportunity to have your questions answered	1	2	3	(4)	5	

6. Do you want to be added to our mailing list for future information about the Project?

Name: _____

Organization or Affiliation (if applicable): _____

Street Address: _____

Municipality: _____

Postal Code: _____

Phone: _____

Email: _____

Thank you for your input!

Completed forms can be left with a member of our team or faxed/mailed to:

Dave Treen, Technical and Environmental Compliance Coordinator
CITY OF TEMISKAMING SHORES, 325 Farr Drive, P.O. Box 2050, Haileybury, Ontario P0J 1K0
E-mail: dtreen@temiskamingshores.ca; Fax: (705) 672-2911

Information will be collected and used in accordance with the Environmental Assessment Act, and solely for the purpose of assisting the City of Temiskaming Shores in meeting environmental assessment and approval requirements. This material will be maintained on file for use during the study and may be included in project documentation. All comments will become part of the public record. Personal information is protected under authority of the Freedom of Information and Protection of Privacy Act, Section 32, and is used solely for the purpose of completing this environmental assessment. Individuals will not be identified in any public documents or used for any purpose other than this project.

COMMENT FORM
Environmental Assessment, New Waste Management Capacity
February 21, 2013, City of Temiskaming Shores

Your comments on the Environmental Assessment are important to us and will be used in the planning and development of this Project.

1. Do you have any comments, interests or suggestions related to the New Waste Management Capacity project in general?
Would like To have a Regional Platform & have all Local Twps involved in this process To make it an environmental priority for everyone in the area. Too many dumps in area

2. Please identify any criteria that are important to you that the City should use in the evaluation of ***Alternatives To*** and the identification of the ***Preferred Alternative To***.

Criteria	**Ranking** Most important (1) to Least important (5)				
Environmental	1	2	3	4	(5)
Economic	1	2	3	4	(5)
Technical	1	2	3	4	(5)
Municipal Policy	1	2	3	4	(5)
Other (specify) _____	1	2	3	4	5

NOTE:
Based on conversations with this individual the rankings in Question 2 appear to be reversed.

3. Regarding the evaluation of ***Alternatives To***, please ra…nts regarding these ***Alternatives To*** (circle number).

Alternative To	**Ranking** Most Preferred (1) to Least Preferred (5)					**Comment**
Do Nothing	1	2	3	4	(5)	
Landfilling	1	(2)	3	4	5	
Thermal Technology	1	2	3	4	(5)	
Energy from Waste	(1)	2	3	4	5	
Waste Export	1	2	(3)	4	5	
Waste Import	1	2	(3)	4	5	
Other (specify) _____	1	2	3	4	5	

4. How did you hear about the Community Meeting?

- ☐ Newspaper advertisement
- ☑ Invitation
- ☐ Website
- ☐ From a neighbour / friend
- ☐ Other: _____

5. How would you rate the following about this Open House (circle number)?

	Poor ← → Excellent					Comments
Location of the Open House	1	2	3	4	(5)	
Time of day it was held	1	2	3	4	(5)	
Length of the session	1	2	3	4	(5)	
Information provided	1	2	3	4	(5)	
Your opportunity to comment/be heard	1	2	3	4	(5)	
Your opportunity to have your questions answered	1	2	3	4	(5)	

6. Do you want to be added to our mailing list for future information about the Project?

Name: _____

Organization or Affiliation (if applicable): _____

Street Address: _____

Municipality: _____

Postal Code: _____

Phone: _____

Email: _____

Thank you for your input!

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COMMENT FORM
Environmental Assessment, New Waste Management Capacity
February 21, 2013, City of Temiskaming Shores

Your comments on the Environmental Assessment are important to us and will be used in the planning and development of this Project.

1. Do you have any comments, interests or suggestions related to the New Waste Management Capacity project in general?

_____

_____

_____

_____

2. Please identify any criteria that are important to you that the City should use in the evaluation of ***Alternatives To*** and the identification of the ***Preferred Alternative To***.

Criteria	**Ranking** Most important (1) to Least important (5)	**Comment**
Environmental	(1) 2 3 4 5	
Economic	(1) 2 3 4 5	
Technical	(1) 2 3 4 5	
Municipal Policy	(1) 2 3 4 5	
Other (specify) _____	(1) 2 3 4 5	

3. Regarding the evaluation of ***Alternatives To***, please rank alternatives and provide any comments regarding these ***Alternatives To*** (circle number).

Alternative To	**Ranking** Most Preferred (1) to Least Preferred (5)	**Comment**
Do Nothing	1 2 3 4 5	
Landfilling	(1) 2 3 4 5	
Thermal Technology	1 2 3 4 (5)	
Energy from Waste	1 2 3 4 (5)	
Waste Export	1 2 3 4 (5)	
Waste Import	1 2 3 4 (5)	
Other (specify) _____	(1) 2 3 4 5	

4. How did you hear about the Community Meeting?

☑ Newspaper advertisement ☐ Invitation ☐ Website

☑ From a neighbour / friend ☐ Other: _____

5. How would you rate the following about this Open House (circle number)?

	Poor ← → Excellent					Comments
Location of the Open House	1	2	3	4	(5)	
Time of day it was held	1	2	3	4	(5)	
Length of the session	1	2	3	4	(5)	
Information provided	1	2	3	4	(5)	
Your opportunity to comment/be heard	1	2	3	4	(5)	
Your opportunity to have your questions answered	1	2	3	4	(5)	

6. Do you want to be added to our mailing list for future information about the Project?

[redacted]

Thank you for your input!

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COMMENT FORM
Environmental Assessment, New Waste Management Capacity
February 21, 2013, City of Temiskaming Shores

Your comments on the Environmental Assessment are important to us and will be used in the planning and development of this Project.

1. Do you have any comments, interests or suggestions related to the New Waste Management Capacity project in general?

The city may have potential to export waste from out laying areas for disposal of waste to avoid in operation costs.

2. Please identify any criteria that are important to you that the City should use in the evaluation of ***Alternatives To*** and the identification of the ***Preferred Alternative To***.

Criteria	**Ranking** Most important (1) to Least important (5)	**Comment**
Environmental	(1) 2 3 4 5	
Economic	1 (2) 3 4 5	
Technical	1 (2) 3 4 5	
Municipal Policy	1 (2) 3 4 5	
Other (specify) _____	1 2 3 4 5	

3. Regarding the evaluation of ***Alternatives To***, please rank alternatives and provide any comments regarding these ***Alternatives To*** (circle number).

Alternative To	**Ranking** Most Preferred (1) to Least Preferred (5)	**Comment**
Do Nothing	1 2 3 4 (5)	
Landfilling	1 (2) 3 4 5	
Thermal Technology	1 2 (3) 4 5	
Energy from Waste	(1) 2 3 4 5	MULLER TOWNSHIP & ASPHALT PLANT.
Waste Export	1 2 3 (4) 5	
Waste Import	1 (2) 3 4 5	AS ABOVE INCREASE VOLUME TO BE
Other (specify) _____	1 2 3 4 5	VIABLE

4. How did you hear about the Community Meeting?

☑ Newspaper advertisement ☐ Invitation ☐ Website

☐ From a neighbour / friend ☑ Other: City staff

5. How would you rate the following about this Open House (circle number)?

	Poor ← → Excellent					Comments
Location of the Open House	1	2	3	4	(5)	
Time of day it was held	1	2	3	4	(5)	
Length of the session	1	2	3	4	(5)	
Information provided	1	2	3	4	(5)	
Your opportunity to comment/be heard	1	2	3	4	(5)	
Your opportunity to have your questions answered	1	2	3	4	(5)	

6. Do you want to be added to our mailing list for future information about the Project? Copied by D. Treen

Name: _____

Organization or Affiliation (if applicable): _____

Street Address: _____

Municipality: _____

Postal Code: _____

Phone: _____

Email: _____

Thank you for your input!

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COMMENT FORM
Environmental Assessment, New Waste Management Capacity
February 21, 2013, City of Temiskaming Shores

Your comments on the Environmental Assessment are important to us and will be used in the planning and development of this Project.

1. Do you have any comments, interests or suggestions related to the New Waste Management Capacity project in general?

Public info session was well done. Informal open houses work well for this type of project. Boards were very informative & well done.

2. Please identify any criteria that are important to you that the City should use in the evaluation of ***Alternatives To*** and the identification of the ***Preferred Alternative To***.

Criteria	**Ranking** Most important (1) to Least important (5)				
Environmental	1	2	3	(4)	5
Economic	1	(2)	3	4	5
Technical	1	2	3	(4)	5
Municipal Policy	1	2	3	(4)	5
Other (specify) _____	1	2	3	4	5

NOTE:
Based on conversations with this individual and written comments the rankings in Questions 2 and 3 appear to be reversed.

3. Regarding the evaluation of ***Alternatives To***, please rar s regarding these ***Alternatives To*** (circle number).

Alternative To	**Ranking** Most Preferred (1) to Least Preferred (5)					**Comment**
Do Nothing	(1)	2	3	4	5	All of the proposed options have environmental drawbacks, but importing or exporting waste doesn't make any common sense to me. Handle it where it's made, don't make it someone else's problem.
Landfilling	1	2	(3)	4	5	
Thermal Technology	1	2	(3)	4	5	
Energy from Waste	1	2	(3)	4	5	
Waste Export	(1)	2	3	4	5	
Waste Import	(1)	2	3	4	5	
Other (specify) _____	1	2	3	4	5	

4. How did you hear about the Community Meeting?

- ☐ Newspaper advertisement
- ☑ Invitation
- ☐ Website
- ☐ From a neighbour / friend
- ☐ Other: _____

5. How would you rate the following about this Open House (circle number)?

	Poor ← → Excellent					Comments
Location of the Open House	1	2	3	4	(5)	
Time of day it was held	1	2	3	4	(5)	
Length of the session	1	2	3	4	(5)	
Information provided	1	2	3	4	(5)	
Your opportunity to comment/be heard	1	2	3	4	(5)	
Your opportunity to have your questions answered	1	2	3	4	(5)	

6. Do you want to be added to our mailing list for future information about the Project?

Name: _____

Organization or Affiliation (if applicable): _____

Street Address: _____

Municipality: _____

Postal Code: _____

Phone: _____

Email: _____

Thank you for your input!

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COMMENT FORM
Environmental Assessment, New Waste Management Capacity
February 21, 2013, City of Temiskaming Shores

Your comments on the Environmental Assessment are important to us and will be used in the planning and development of this Project.

1. Do you have any comments, interests or suggestions related to the New Waste Management Capacity project in general?
at present there is no need for curb recycling pick ups, each home owner can deliver to one site, that would only add extra expenses

2. Please identify any criteria that are important to you that the City should use in the evaluation of ***Alternatives To*** and the identification of the ***Preferred Alternative To***.

Criteria	**Ranking** Most important (1) to Least important (5)	**Comment**
Environmental	(1) 2 3 4 5	
Economic	(1) 2 3 4 5	
Technical	1 2 3 (4) 5	
Municipal Policy	1 2 (3) 4 5	
Other (specify) _____	1 2 3 4 5	

3. Regarding the evaluation of ***Alternatives To***, please rank alternatives and provide any comments regarding these ***Alternatives To*** (circle number).

Alternative To	**Ranking** Most Preferred (1) to Least Preferred (5)	**Comment**
Do Nothing	1 2 3 4 (5)	
Landfilling	(1) 2 3 4 5	
Thermal Technology	1 2 3 4 5	
Energy from Waste	1 2 (3) 4 5	
Waste Export	1 2 3 4 (5)	
Waste Import	1 2 3 4 (5)	
Other (specify) _____	1 2 3 4 5	

4. How did you hear about the Community Meeting?

☑ Newspaper advertisement ☐ Invitation ☐ Website

☐ From a neighbour / friend ☐ Other: _____

5. How would you rate the following about this Open House (circle number)?

	Poor ← → Excellent					Comments
Location of the Open House	1	2	3	4	(5)	
Time of day it was held	1	2	3	4	(5)	
Length of the session	1	2	3	4	(5)	
Information provided	1	2	3	(4)	5	
Your opportunity to comment/be heard	1	2	3	(4)	5	
Your opportunity to have your questions answered	1	2	3	(4)	5	

6. Do you want to be added to our mailing list for future information about the Project?

Name: No only post your ~~dec~~ decision on

Organization or Affiliation (if applicable): Local paper and Radio

Street Address: _____

Municipality: _____

Postal Code: _____

Phone: _____

Email: _____

Thank you for your input!

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CITY OF TEMISKAMING SHORES, 325 Farr Drive, P.O. Box 2050, Haileybury, Ontario P0J 1K0
E-mail: dtreen@temiskamingshores.ca; Fax: (705) 672-2911

Information will be collected and used in accordance with the Environmental Assessment Act, and solely for the purpose of assisting the City of Temiskaming Shores in meeting environmental assessment and approval requirements. This material will be maintained on file for use during the study and may be included in project documentation. All comments will become part of the public record. Personal information is protected under authority of the Freedom of Information and Protection of Privacy Act, Section 32, and is used solely for the purpose of completing this environmental assessment. Individuals will not be identified in any public documents or used for any purpose other than this project.

COMMENT FORM
Environmental Assessment, New Waste Management Capacity
February 21, 2013, City of Temiskaming Shores

Your comments on the Environmental Assessment are important to us and will be used in the planning and development of this Project.

1. Do you have any comments, interests or suggestions related to the New Waste Management Capacity project in general?

Once again, the " Summary - Considerations for Determining the Preferred Alternative to New Waste Management Capacity Environmental Assessment" handed out at the open house, if read carefully, directs the project back to the previous Terms of References choice ie. the expansion of the New Liskeard Landfill site. So much for the new broader "new catchment" area that was supposed to be considered under the revised Terms of Reference approved by the MOE. We have reached this conclusion, as under the "Landfilling" column on the information sheet handed out, nothing reflects the costs of developing a new site, the purchase of land that might be required, new technology to be used, additional studies required, technical risk, and the necessary training and maintenance to ensure a site is maintained a level similar to some of the "pristine" landfills we have visited.

The City has now leased the contamination attenuation zone at the New Liskeard landfill to Canadian Solar on a long term lease. The changes to this area and integrity of the zone have been changed by regrading and drilling necessary for contruction. Trans Canada Energy and Canadian Solar should be consulted as the negative impact on the solar farm, with the westerly winds blowing garbage and dust, could have a significant financial impact.

No where under the "Considerations" column is there any mention of building a new landfill site and the impact, whether it be within Temiskaming Shores on City owned land or a purchased site within or outside city limits. Did the MOE not send the City back to redo the Terms Of Refernece to encompass a broader perspective and area to be considered?

Who is on the committee looking at alternative sites? Is it solely made up of town employees and council member? We do realize the final vote rests with Council.

The New Liskeard Landfill is officially closed as per the MOE. Would not any expansion be considered a "New" site as you can only expand an active site?

2. Please identify any criteria that are important to you that the City should use in the evaluation of ***Alternatives To*** and the identification of the ***Preferred Alternative To***.

Criteria	Ranking (Most important (1) to Least important (5))	Comment
Environmental	1 (2) 3 4 5	-ground water, emissions, odours wind borne garbage -adverse effects on habitat/wildlife are essential considerations.
Economic	1 2 (3) 4 5	-should never become the final selection point when choices are close. Considering lifespan
Technical	1 2 (3) 4 5	-any choice must use the best and most current engineering, not the basics to gain approval.
Municipal Policy	1 2 3 4 (5)	
Other (specify) location/Aesthetics.	(1) 2 3 4 5	-the NH landfill is not only close to residential properties, it is on the highest point of land seen for miles - expansion here would certainly make you rethink "Temiskamazing" or "Heart of the Scenic North" -What an eyesore.

3. Regarding the evaluation of ***Alternatives To***, please rank alternatives and provide any comments regarding these ***Alternatives To*** (circle number).

Alternative To	Ranking (Most Preferred (1) to Least Preferred (7))	Comment
Do Nothing	1 2 3 4 5 6 (7)	
Landfilling	(1) 2 3 4 5 6 7	landfilling and Waste Export must go hand in hand as the site could be within or just outside the city limits as per the new terms of Reference.
Thermal Technology	1 2 3 4 5 (6) 7	
Energy from Waste	1 2 3 4 5 (6) 7	
Waste Export	(1) 2 3 4 5 6 7	
Waste Import	1 2 (3) 4 5 6 7	
Other (specify) Private Company Contract. Miller Waste Management to look after waste management for the town.	1 2 3 (4) 5 6 7	-Seek submissions/proposals from company as

4. How did you hear about the Community Meeting?

❑ Newspaper advertisement ☒ Invitation ❑ Website

❑ From a neighbour / friend ❑ Other: _____

5. How would you rate the following about this Open House (circle number)?

	Poor ← → Excellent					Comments
Location of the Open House	1	2	3	(4)	5	
Time of day it was held	1	2	(3)	4	5	
Length of the session	1	2	3	(4)	5	
Information provided	1	2	3	(4)	5	
Your opportunity to comment/be heard	1	2	3	4	(5)	
Your opportunity to have your questions answered	1	2	3	4	(5)	

6. Do you want to be added to our mailing list for future information about the Project?

[redacted]

Thank you for your input!

Completed forms can be left with a member of our team or faxed/mailed to:

Dave Treen, Technical and Environmental Compliance Coordinator
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