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Section 1 Summary

The Durham/York Residual Waste Study was initiated jointly by the Regions of Durham and York in 2005 to identify a long-term sustainable solution to manage the solid waste remaining after reuse, reduction and recycling (including composting) initiatives otherwise referred to in this EA Study document as “post-diversion residual waste”. Both Durham and York recognized the advantages of partnering in the process as they faced similar waste management challenges and had partnered successfully on other projects in the past. The Regions officially reached an agreement to proceed as co-proponents in the completion of an EA Study on June 30, 2005.

The EA Study entailed the evaluation of: residual waste management alternatives considering the potential effects on the environment; the availability of mitigation measures that address, in whole or in part, these effects; and, the comparison of the advantages and disadvantages of the remaining “net” effects. The result of this process provided the planning rationale and support for the preferred solution, the thermal treatment of post-diversion residual waste at the Clarington 01 Site.

1. Introduction and Background

1.1 Introduction to the Durham/York Residual Waste Environmental Assessment Study (EA Study)

The Durham/York Residual Waste Study was initiated jointly by the Regions of Durham and York (the Regions) in 2005 to identify a long-term sustainable solution to manage the solid waste remaining after reuse, reduction and recycling (including composting) initiatives otherwise referred to in this Environmental Assessment (EA) as "post-diversion residual waste". Both Regions recognized the advantages of partnering in the process as they faced similar waste management challenges and had partnered successfully on other projects in the past. The Regions officially reached an agreement to proceed as co-proponents in the completion of an EA Study on June 30, 2005.

The EA Study was undertaken in accordance with the approved EA Terms of Reference which defined the framework and methodology for the EA including the scope, study areas, study periods and consultation to be included in the project. The EA Terms of Reference included those activities required to fulfill the requirements of Ontario's *Environmental Assessment Act* (EAA). The EA Terms of Reference, developed in 2005 were approved by the Ontario Minister of the Environment (MOE) on March 31, 2006 (See **Appendix A-1**).

The EA Study evaluated residual waste management alternatives considering the potential effects on the environment, the availability of mitigation measures that address, in whole or in part, these effects and the comparison of the advantages and disadvantages of the remaining "net" effects. The result of this process provided the planning rationale and support for the preferred solution, the thermal treatment of post-diversion residual waste at the Clarington 01 site.

The following sections provide an overview of the Regions.

1.2 The Region of Durham

1.2.1 Durham Region - Background

The Regional Municipality of Durham is one of five regional municipal governments of the Greater Toronto Area (GTA) established by the Province of Ontario in 1974. The system of government in this Region is comprised of two levels of municipal government; Durham is the upper tier government, and the eight area municipalities within its boundaries (Oshawa, Pickering, Ajax, Whitby, Clarington, Brock, Scugog, and Uxbridge) constitute the lower tier governments.

Located east of the City of Toronto, Durham covers an area of approximately 2,535 square kilometres. It borders Toronto and Regional Municipality of York (York) in the west, Simcoe County in the north and Northumberland County, Peterborough County and the City of Kawartha Lakes in the east. In May 2006, Durham's population was 561,258. It is anticipated that by the year 2021, 970,000 people will inhabit the Region.

1.2.2 Durham - History of Waste Management

1974 Durham was formed by the Province of Ontario. Durham assumed responsibility for six operating local landfill sites located in Port Perry, Blackstock, Oshawa, Darlington, Uxbridge and Whitby. These facilities have all since been closed.

1985 Solid waste disposal was carried out by four regionally operated landfill sites, two privately owned landfill operations, and the Municipality of Metropolitan Toronto's (Metro Toronto) Brock West landfill. In addition to landfill disposal, a number of recycling groups operated in Durham.

1991 The Interim Waste Authority Ltd. (IWA) was created to find suitable long-term landfill capacity for the GTA. The Provincial Government announced that three long-term disposal sites for the GTA would be located in Durham, Peel, and Metro Toronto/York. The preferred site for Durham was in the Town of Pickering. The public reaction was strong and there were protests on how the search process was done. The project was working its way through the pre-hearing process when a new provincial government was elected in June 1995 and, in response to strong public opposition, the government ended the process. The consultant team costs for the Durham site search exceeded $11 million.

1997 Metro Toronto's Brock West landfill was closed and the bulk of Durham's residual wastes were sent to Metro Toronto's Keele Valley landfill located in neighbouring York.

1999 Durham adopted a *Long Term Waste Management Strategy Plan: 2000 to 2020* in December 1999. The main goals of the waste plan were:

- To divert at least 50 per cent of the residential waste from disposal by 2007 or earlier.
- To implement an integrated residential waste management system for the collection and processing or disposal of:
  - Blue box recyclables;
  - Food and yard waste compostables;
  - Residual residential wastes; and,
  - Special wastes.
- To secure an alternate source for the disposal of residential waste, when Toronto's Keele Valley Landfill Site was closed.
- To consider an "energy-from-waste" (EFW) facility for the disposal of post-diversion residual waste.

2002 On December 31, 2002, Toronto's Keele Valley Landfill closed and Durham began exporting the majority of its residential residual waste to Waste Management's Pine Tree Acres landfill site in Michigan. Only a small portion of Durham's Residual waste goes to the Brock Township landfill site, located within Durham's regional boundaries.

1.2.3 Durham Region - Current Waste Management System

Currently, the Region of Durham provides collection of recyclables for all eight municipalities and provides collection of garbage and food waste, leaf and yard waste, Christmas trees, White Goods and Bulky goods for all municipalities except Oshawa and Whitby which are locally responsible for collection of these materials.

The Region of Durham is responsible for:

- Collection, processing and marketing of blue box recyclables;
- Disposal of residential residual waste;
- Composting of SSO, as well as leaf and yard waste;
- Operation of a Recycling Centre;
- Operation of Brock Township landfill site;
- Operation of three waste transfer facilities;
- Operation of four household hazardous waste depots; and,
- Education and promotion of waste reduction programs.

In 2007, Durham managed approximately 224,000 tonnes of residential waste with approximately 48% of the waste being diverted from landfill. Residual waste continues to be exported to Waste Management's Pine Tree Acres landfill site in Michigan.

To date, several of the key goals of Durham's *Long Term Waste Management Strategy Plan: 2000 to 2020* have already been reached:

- 48% of the residential waste managed in 2007 was diverted from disposal (near the 50% goal);
- A SSO curbside collection program was implemented in 2006 to further increase waste diversion rates and complement the integrated residential waste management program;
- Capacity at Waste Management's Pine Tree Acres landfill in Michigan was secured to accept residual waste (until 2010) to replace Toronto's Keele Valley Landfill which closed in 2002; and,
- An EFW facility is being considered for the long-term treatment of residual garbage.

Residents continue to strongly support waste diversion programs in the Region. On January 23, 2008, Durham Regional Council stated its commitment to increasing waste diversion:

"The Region of Durham agrees to continue to support an aggressive residual garbage diversion and recycling program in order to achieve and/or exceed on or before December 2010, a 70 percent diversion recycling rate for the entire Region and that such aggressive programs shall continue beyond 2010."

Durham retained a consultant in 2008 to assist in identifying possible strategies for reaching 70% diversion. The consultant's study released in March 2009 suggests that Durham's waste diversion rate can be increased in two ways, by:

- Increasing participation in existing waste diversion programs; and,
- Creating new waste diversion opportunities.

The report suggests that the combination of these two initiatives has the potential to increase the Durham's current diversion rate of 47.7% to approximately 73%.

The study concludes that reaching 70% diversion by December 2010 may not be realistic, considering the time it takes for newly implemented waste diversion programs to come to fruition. The consultant estimates that a more reasonable date for reaching 70% diversion is 2013 (Golder Associates, 2009).

1.3 York Region

1.3.1 York Region - Background

York, another of the five regional municipal governments of the GTA, was established by the Province of Ontario in 1971. The regional system of government in this Region is comprised of two levels of municipal government; York is the upper tier municipal government, and the nine area municipalities within its boundaries (Vaughan, Aurora, Markham, Newmarket, East Gwillimbury, Richmond Hill, Whitchurch-Stouffville, Georgina, and King) constitute the lower tier.

York is located north of the Toronto and covers an area of approximately 1,776 square kilometres. It borders Simcoe County in the north, Peel Region in the west and Durham in the east. In 2006, York had a total estimated population of approximately 950,674. It is anticipated that by the year 2026, 1.3 million people will inhabit York.

1.3.2 York Region - History of Waste Management

1983 The majority of York's waste was disposed of at Toronto's Keele Valley Landfill Site located in Vaughan, within York boundaries.

1991 Like Durham, York also participated in the IWA's efforts to site a landfill to serve both Toronto and York within York. The intent was for this new site to replace the Keele Valley landfill site. Large amounts of time and money were expended on this siting effort but in response to intense public opposition, this landfill siting exercise, like the effort in Durham, was abandoned.

1993 York Regional Council approved its first strategic plan, *Vision 2021,* as an example of its goals to meet the needs of the York community.

2002 The Keele Valley landfill closed. Since 2002, York has exported its residential waste to three landfills: Toronto's Green Lane Landfill in Ontario, Onyx's Arbor Hills Landfill in Michigan, and Republic Waste Services' Carleton Farms Landfill in Michigan.

2002 *Vision 2026* was developed. It built on the key elements of *Vision 2021.* In terms of minimizing and managing waste, *Vision 2026* encouraged the continued diversion of waste from landfill through programs such as recycling and composting, enhanced public awareness programs about recycling, pursuing new technologies to reduce and handle waste; and leadership in waste reduction.

2006 York and its nine area municipalities developed the *Joint Waste Diversion Strategy*. The results of the study led York to set a diversion goal of 65% for the short-term (by 2010) and 70% for the longer-term. The study identified the following priority initiatives to be investigated/implemented immediately:

- SSO;
- Optimized blue box material recovery programs;
- Community environmental centres;
- Bag limits/financial incentives;
- Enhanced communication and public outreach;
- Diversion of textiles;
- Infrastructure development; and,
- Advocacy

1.3.3 York Region - Current Waste Management System

Currently, the area municipalities are responsible for the delivery of the following waste management services within their respective communities:

- Collection of residential residual waste, blue box materials, yard waste, bulky items, white goods, and SSO;
- Waste management policies and enforcement;
- Promotion and education;
- Recycling depots;
- Public space recycling; and,
- Provision of recycling containers.

York is responsible for the delivery of the following waste management services:

- Processing and marketing of blue box materials;
- Transfer, composting, and marketing of yard waste ;
- Transfer, composting, and marketing of SSO;
- Design, construction and operation of Community Environmental Centres;
- Waste management policies and enforcement;
- Promotion and education;
- Operation of household hazardous waste depots;
- Operation of municipal waste transfer, white goods, and blue box recycling drop-off facilities;
- Operation of residential electronics drop-off facilities; and,

- Operation of reusable goods diversion events.

In 2007, the York managed approximately 319,000 tonnes of residential waste with approximately 45% of the waste being diverted from landfill. In 2007, residual waste was exported to three landfills: Toronto's Green Lane Landfill in Ontario, Onyx's Arbor Hills Landfill in Michigan, and Republic Waste Services' Carleton Farms Landfill in Michigan. York has recently committed to sending 100,000 tonnes of residual waste per year to the Dongara plant in Vaughan where the waste is processed into "fuel pellets" to be used as a fuel product to substitute for conventional fossil fuel. These pellets are currently exported outside York and in some cases outside Canada.

In 2008, the Region of York ceased all shipments of residential residual waste to Michigan. This was made possible as a result of the above diversion initiatives, the commitment to the Dongara plant, and the continuation of the contract with the Green Lane Landfill for the receipt of residential residual waste. Although this has secured short-term waste disposal capacity for York, is still requires access to long-term disposal capacity.

Several of the priority initiatives mentioned in York's *Joint Waste Diversion Strategy* have already been implemented, including:

- Household SSO collection region-wide; and,
- Optimized blue box recycling: weekly collection region-wide.

These two initiatives have assisted York to increase its waste diversion rate to 45.7% in 2007, up from 34% in 2005.

1.4 The Future of Waste Management in Durham and York

Durham and York continue to face the challenge of managing residual waste. Although they have become reliant on exporting their residential residual waste outside their regional boundaries, both Regions desire a Durham/York based solution that is socially and environmentally acceptable to both communities, that maximizes environmental protection and that fosters the wise management of potential resources.

Both Regions remain committed to investigating technically feasible waste reduction, reuse, recycling and disposal opportunities. Durham is dedicated to reaching its goal of diverting 70% of its residential waste from disposal by December 2013 and will look for opportunities to increase diversion even more in the future. Similarly, York is committed to designing a waste management system that will divert approximately 65% of its residential waste from disposal in the short-term and hopes to increase this rate to over 70% in the 10-year planning horizon (2016). Moreover, both Regions are committed to developing strategies that will promote reducing and reusing waste so that managing the material may one day be avoided all-together.

However, even with significant decreases in waste production (i.e. via zero waste initiatives) and increases in waste diversion, there still remains a residual waste that is required to be managed by the Regions in the foreseeable future.

Through extensive public consultation, the Regions have determined that a local landfill solution is not acceptable. The Regions also determined that continuing to transport waste to a landfill

located outside of Ontario was not sustainable, as it does not provide the security of a long-term stable solution. This conclusion was reached after careful consideration of the fact that any non-local landfill option exposes the Regions to significant public policy risks that are not within their control. This direction provided the basis for Durham and York not including a purely landfill based alternative in its evaluation of long-term waste disposal options.

Durham and York have both set aggressive targets to divert waste from disposal and developed comprehensive plans to reduce, reuse and recycle waste produced in both Regions. These initiatives, along with responsible decision making, will assist both Regions in becoming leaders in sustainable waste management practices.