

Clause 13 in Report No. 10 of Committee of the Whole was adopted, without amendment, by the Council of The Regional Municipality of York at its meeting held on June 23, 2016.

13

Contingency Waste Disposal Strategy

Committee of the Whole recommends adoption of the following recommendations contained in the report dated May 26, 2016 from the Commissioner of Environmental Services:

1. Council authorize up to 15,000 tonnes of additional waste annually to be delivered under the Region's contract with Emerald Energy-from-Waste Inc.
2. Council authorize the establishment of a handling fee of \$50,000 per year to compensate Emerald Energy-from-Waste for additional costs associated with handling and disposal of unprocessable wastes.
3. The upset limit of the Emerald Energy-from-Waste contract be increased from \$17,058,468 to \$31,852,468 to accommodate the additional tonnage and handling fee for unacceptable waste until September 15, 2028.
4. Council authorize up to 20,000 tonnes of waste annually to be delivered under the Region's contract with Waste Management of Canada, and that the upset limit be increased from \$2,018,000 to \$8,680,000 in order to accommodate the additional tonnage until December 31, 2020.
5. Council authorize renewal of York Region's contract with Green Lane Landfill for an additional five years from January 1, 2018 to December 31, 2022 and that the City of Toronto be advised of this renewal before July 4, 2017.
6. The Commissioner of Environmental Services be authorized to execute amending agreements and any documentation, as necessary to give effect to these recommendations.

Report dated May 26, 2016 from the Commissioner of Environmental Services now follows:

1. Recommendations

It is recommended that:

1. Council authorize up to 15,000 tonnes of additional waste annually to be delivered under the Region's contract with Emerald Energy-from-Waste Inc.
2. Council authorize the establishment of a handling fee of \$50,000 per year to compensate Emerald Energy-from-Waste for additional costs associated with handling and disposal of unprocessable wastes.
3. The upset limit of the Emerald Energy-from-Waste contract be increased from \$17,058,468 to \$31,852,468 to accommodate the additional tonnage and handling fee for unacceptable waste until September 15, 2028.
4. Council authorize up to 20,000 tonnes of waste annually to be delivered under the Region's contract with Waste Management of Canada, and that the upset limit be increased from \$2,018,000 to \$8,680,000 in order to accommodate the additional tonnage until December 31, 2020.
5. Council authorize renewal of York Region's contract with Green Lane Landfill for an additional five years from January 1, 2018 to December 31, 2022 and that the City of Toronto be advised of this renewal before July 4, 2017.
6. The Commissioner of Environmental Services be authorized to execute amending agreements and any documentation, as necessary to give effect to these recommendations.

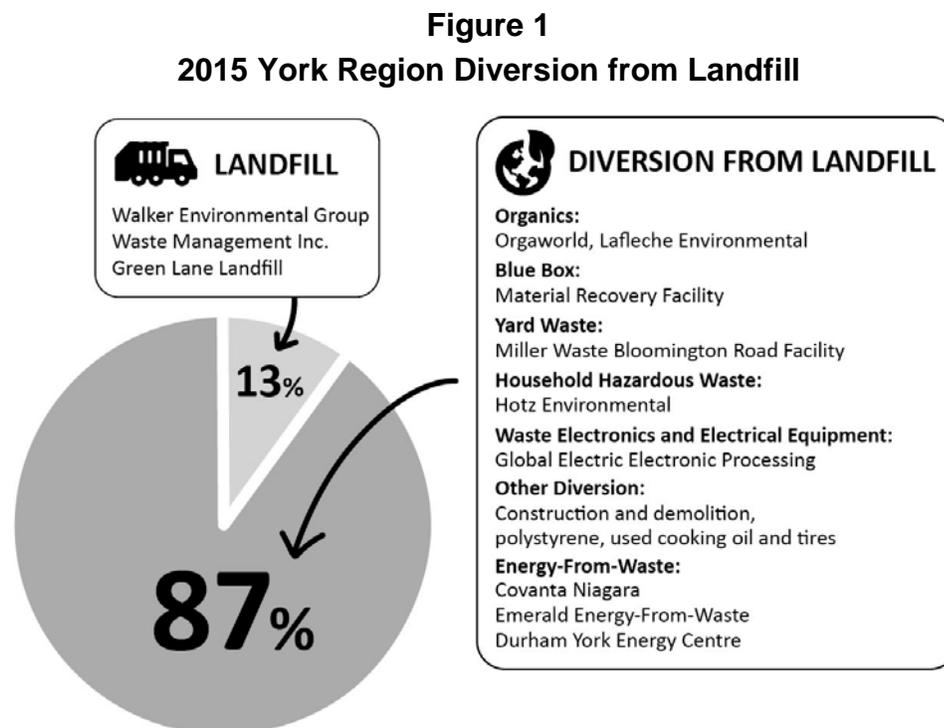
2. Purpose

The purpose of this report is to secure additional contingency processing and disposal capacity for residual waste by increasing the upset limits for York Region's existing contracts with Emerald Energy-from-Waste (Emerald EFW) and Waste Management of Canada and to obtain Council authority to renew the existing Green Lane Landfill contract with the City of Toronto for an additional five years.

3. Background

York Region's waste management system maximizes diversion from landfill

York Region's waste management system is designed for sustainability, with province-leading programs to maximize diversion from landfill. In addition to blue box, green bin, and other traditional diversion programs, York Region is committed to recovering energy from non-recyclable residual wastes. As a result of this commitment, York Region achieved 87 per cent diversion from landfill in 2015, as summarized in Figure 1.



Residual waste processing and disposal contracts provide flexible capacity to meet York Region’s current needs

As shown in Table 1, York Region’s residual waste processing and disposal contracts provide up to 170,000 tonnes of combined annual capacity. The contracts reflect York Region’s commitment to diversion from landfill by providing up to 100,000 tonnes of energy-from-waste capacity per year. The contracts include multiple processing and disposal options to provide flexibility and ensure continuity of service in the event of a disruption to the system. A map showing the location of the facilities is included as Attachment 1.

Table 1
York Region Residual Waste Contract Summary

Contract	Contract Type¹	Minimum Annual Tonnage	Maximum Annual Tonnage	Expiry Year
Durham York Energy Centre ²	EFW	30,000	30,000	2036
Emerald EFW	EFW	10,000	12,400	2028
Covanta Niagara (U.S.A.) ³	EFW	45,000	57,600	2023
Walker Environmental Group	Landfill	10,000	50,000	2020
Waste Management Canada	Landfill		20,000	2020
Subtotal		95,000	170,000	
Green Lane Landfill ⁴	Landfill	25,000	80,000	2022
Total		120,000	250,000	
Actual 2015 Residual Waste Disposal			139,130	

1. EFW = "Energy-from-waste"
2. Initial 20-year term of Durham York Energy Centre operating contract expires January 2036. Regions may exercise optional extension terms to January 2046. Facility is co-owned by Durham and York Regions.
3. Covanta Niagara contract can be extended to 2028 upon mutual agreement of parties and otherwise expires in 2023.
4. Green Lane Landfill minimum and maximum annual tonnages are shown separately in Table 1 as this contract is considered an emergency contingency only. Minimum tonnage of 25,000 tonnes waived by agreement with Toronto staff. During the five-year optional extension term through December 31, 2022, the maximum tonnage is reduced to 78,000 tonnes per year in accordance with the original contract.

Emerald Energy EFW contract was created to take advantage of direct delivery from curbside

In response to the closure of the Dongara Plant in September 2013, Council authorized staff to negotiate up to 70,000 tonnes per year of energy-from-waste capacity at Emerald EFW in Brampton (formerly Algonquin Power) and Covanta Niagara EFW Facility in Niagara Falls, New York. The resulting contracts were approved by Council in October 2013.

Some areas within the City of Vaughan are close enough to Emerald EFW to make direct delivery from the curb economically practical. Direct delivery to Emerald EFW is the low cost option for these areas because it avoids fees associated with transfer and haulage. On this basis, Emerald EFW was awarded a contract to process up to 12,400 tonnes per year delivered directly from the curb in Vaughan. Covanta Niagara was awarded a contract to process up to 57,600 tonnes originating from the transfer stations, which represents the balance of the 70,000 tonnes of total annual processing capacity authorized by Council.

Council increased the Emerald EFW upset limit in 2015 to provide an additional processing option for waste originating from transfer stations

In May 2014, York Region obtained pricing from U-Pak Disposals to transport waste from the transfer stations to Emerald EFW through Request for Tender #T-14-27. Pricing obtained through the tender was significantly lower than the price previously offered in 2013 by Emerald EFW's predecessor, Algonquin Power. This improved price for transportation, in combination with rising costs at Covanta Niagara, made Emerald EFW a cost-competitive option for waste originating from the transfer stations.

In May 2015, Council authorized an increase to the upset limit for the Emerald EFW contract to allow for processing of up to 3,000 additional tonnes of waste per year originating from York Region's transfer stations. The requested increase of 3,000 tonnes per year was based on the estimated quantity of waste that would be available during regularly scheduled maintenance activities at the Durham York Energy Centre.

The upset limit increase did not increase the original contract maximum tonnage of 12,400 tonnes per year. Additional tonnage above this limit is subject to availability and prior agreement by Emerald EFW.

Landfill contracts provide contingency disposal and a solution for managing bulky wastes unsuitable for energy-from-waste

In 2015, York Region generated 38,218 tonnes of residual waste at public drop-off depots at the Georgina Transfer Station and McCleary Court and Elgin Mills Community Environmental Centres. Residual waste from public-drop off depots contains a high percentage of bulky materials that are unsuitable for energy-from-waste facilities. Energy-from-waste facilities must remove unprocessable wastes and redirect them to landfill disposal, resulting in double handling and increased costs to the Region. York Region maintains landfill contracts to manage bulky wastes directly, reducing costs. Landfill contracts also provide contingency capacity that can be used in the event of a major disruption such as the temporary or permanent closure of one of the Region's processing facilities.

Contingency contract with Waste Management of Canada provides alternative to York Region's primary landfill contract with Walker Environmental Group

The Walker Environmental Group in Niagara Falls and Waste Management of Canada's Twin Creeks Landfill near Watford are the two major commercial landfills in southern Ontario. York Region's primary landfill contract is the Walker Environmental Group, which provides up to 50,000 tonnes per year of landfill capacity until June 27, 2020.

To provide supplemental capacity on an as-needed basis, York Region also maintains a contingency contract for disposal at Twin Creeks Landfill. The Twin Creeks contract does not include a minimum annual commitment, which provides flexibility to use the capacity as required.

Green Lane Landfill contract remains inactive through agreement with Toronto staff

The original Green Lane Landfill contract commenced on January 1, 2003, prior to full implementation of York Region's current waste diversion programs. As York Region's diversion programs and commitment to energy-from-waste grew over the past 13 years, the 25,000 tonne minimum commitment to Green Lane became unmanageable.

As reported to Council in October 2012, Toronto staff have agreed to waive the 25,000 tonne minimum annual commitment in exchange for a commitment from York Region staff to use the site in short-term emergency situations only. At the 2016 contract price of \$42.78 per tonne, the value of the 25,000 tonnes of annual disposal capacity is in excess of \$1,000,000.

Since 2011, the Green Lane site has been used almost exclusively as a destination for mixed broken glass recovered from the blue box program. Mixed broken glass is used as a construction material to build on-site roads and counts toward York Region’s diversion from landfill.

In 2015, York Region installed a system to clean the mixed broken glass at the Material Recovery Facility. The improved glass quality allows York Region to send the material to secondary processors who refine it and sell it back to industry for use as a raw material in manufactured products, thereby reducing the need for capacity at Green Lane.

4. Analysis and Options

Canadian dollar devaluation and contractual cost escalation provisions increase unit price at Covanta Niagara

York Region’s contract with Covanta Niagara includes a currency adjustment in the event that the average monthly value of the Canadian dollar as reported by the Bank of Canada decreases to less than US\$0.90. These currency adjustments, in combination with annual cost escalation as specified in the contract, have increased Covanta Niagara’s processing price. As shown in Table 2, Covanta Niagara is now York Region’s highest unit cost residual waste contract.

Table 2
Summary of Average Transportation and Processing Cost per Tonne

Contract	Contract Type ¹	Transportation and Processing Cost Per Tonne (\$ cdn)
Emerald EFW ²	EFW	\$68.74
Walker Environmental Group ³	Landfill	\$69.42
Waste Management of Canada ⁴	Landfill	\$70.81
Durham York Energy Centre ⁵	EFW	\$72.00
Covanta Niagara ⁶	EFW	\$76.02

1. EFW = “Energy-from-waste”
2. Includes current Emerald EFW processing fee and transportation fees by U-Pak Disposals.
3. Current contract rate including transportation and disposal.
4. Current contract price for transportation and disposal assuming an average load size of 32 tonnes with 60 per cent originating from Earl Turcott Waste Management Centre, 30 per cent originating from York Region Waste Management Centre, and 10 per cent originating from Georgina Transfer Station.
5. Estimated 2016 per-tonne operating cost, net of electricity and metal recovery revenue, including property taxes and transportation by U-Pak Disposals. Excludes off-site environmental monitoring and other fixed operating costs. Cost per tonne excludes amortized capital costs.
6. Average Q1 2016 cost per tonne in Canadian dollars including currency adjustments, transportation by ECL Carriers, and customs brokerage fees.

Additional capacity at Emerald EFW would provide flexibility to take advantage of lower prices with no additional tonnage commitment

The original Emerald EFW contract provided processing for up to 12,400 tonnes per year of residual waste delivered directly from the curb. The proposed upset limit increase of 15,000 tonne per year, when combined with the original contract tonnage and the 3,000 tonne per year upset limit increase approved by Council in 2015, would provide staff with purchasing authority to deliver up to 30,400 tonnes per year. Quantities above the original contractual limit of 12,400 tonnes per year would be subject to availability and prior agreement by Emerald EFW. The potential impact of the combined upset limit increases on York Region’s energy-from-waste capacity is summarized in Table 3.

Table 3
Impact of Emerald EFW Upset Limit Increase on
York Region Residual Waste Contract Capacity

Contract	Contract Type¹	Current Minimum Annual Tonnage	Current Maximum Annual Tonnage	Maximum Including Additional Emerald EFW Tonnage²
Durham York Energy Centre	EFW	30,000	30,000	30,000
Emerald EFW	EFW	10,000	12,400	30,400
Covanta Niagara	EFW	45,000	57,600	57,600
Walker Environmental Group	Landfill	10,000	50,000	50,000
Waste Management of Canada	Landfill		20,000	20,000
Total		95,000	170,000	188,000
Actual 2015 Residual Waste Disposal				139,130

1. EFW = “Energy-from-waste”

2. Additional Emerald EFW tonnage includes proposed 15,000 tonne increase plus 3,000 tonne increase approved by Council in May 2015. Additional capacity subject to availability and prior agreement by Emerald EFW with no impact on contractual limits for waste delivered from the curb.

The proposed upset limit increase helps maximize diversion from landfill by increasing total energy-from-waste capacity with no additional minimum commitment. It also provides an opportunity to reduce cost by redirecting tonnage away from Covanta Niagara if currency pressures continue. The upset limit increase allows York Region to use additional capacity, if available, without creating an obligation to provide additional tonnage. York Region retains its ability to manage material using its other contracts as required.

Proposed handling fee provides fixed cost to remove unprocessable waste at Emerald EFW

York Region's contract with Emerald EFW allows the contractor to recover costs for removal and disposal of unprocessable wastes eg; mattresses, propane tanks scrap steel, concrete and asphalt. The primary material of concern for Emerald EFW is mattresses, which become entangled in ash processing equipment. For waste delivered directly from the curb there is no prior opportunity to remove unprocessable waste at the transfer station.

Emerald EFW's per tonne cost to transport and dispose of unprocessable waste in a landfill is approximately equivalent to the per-tonne fee that they receive from York Region for processing. Emerald EFW's additional costs relate to providing staff time and equipment to sort through the incoming waste and remove unprocessable materials. These waste sorting costs are relatively constant regardless of the total amount of unprocessable material. On this basis, Emerald EFW has proposed that a flat handling fee of \$50,000 per year be charged to provide the resources required to sort waste on the tip floor prior to incineration at the plant.

York Region staff have reviewed the cost information provided by Emerald EFW and are satisfied that the proposed \$50,000 annual fee represents a proportionate share of Emerald EFW's total cost to sort waste at the plant. The fixed fee structure provides a predictable mechanism that limits York Region's cost risk and does not require staff resources to verify unprocessable waste quantities. If the proposed annual handling fee is spread over the maximum 30,400 of processing capacity shown in Table 3, York Region's average cost for transportation and disposal at Emerald as shown in Table 2 would increase to \$70.38 per tonne, an increase of \$1.64 per tonne.

Additional processing capacity and handling fee for unprocessable waste requires increase to Emerald EFW upset limit

Staff recommend that the upset limit for the Emerald EFW contract be increased from \$17,058,468 to \$31,852,468 to accommodate the proposed handling fee and up to 15,000 additional tonnes of processing capacity per year through the end of the contract on September 15, 2028. The increase is calculated based on the current contract processing price plus an allowance of 2 per cent per year for CPI adjustments. On an average annual basis, the upset limit increase is equivalent to approximately \$1,212,000 per year.

Extension of contingency contract with Waste Management of Canada provides continued protection against major system disruptions

The contract with Waste Management of Canada was created in 2012 to provide contingency landfill capacity. At the time, York Region was landfilling some of its source separated organic waste due to disruptions at the processing facilities. Waste Management of Canada is the only York Region landfill contract that accepts source separated organic waste due to odour concerns. Both Walker Environmental Group Landfill and Green Lane Landfill have rejected organics in the past.

The contract is currently set to expire in February 2017. As of May 31, 2016, the unspent balance of the contract is \$414,743. At the current contract price, this balance would provide approximately 5,900 tonnes of capacity. Staff do not consider this to be a sufficient contingency to protect York Region against a prolonged border closure or a service interruption at an energy-from-waste facility, an organics processing facility, or the Walker Environmental Group Landfill.

Waste Management of Canada has offered to hold the existing pricing for transportation and disposal of up to 20,000 tonnes per year until December 31, 2020 with no minimum tonnage commitment from York Region. The price would be subject to an annual adjustment based on the Ontario Consumer Price Index.

As shown in Table 2, this price is competitive with York Region's other disposal options, especially when the absence of a minimum tonnage commitment is considered. Staff therefore recommend that the upset limit be increased from \$2,018,000 to \$8,680,000 to allow for disposal of up to 20,000 tonnes per year until December 31, 2020. On an average annual basis, the upset limit increase is equivalent to approximately \$1,480,000 per year.

Green Lane Landfill contract should be extended for five additional years to December 31, 2022

York Region has an option to extend the Green Lane Landfill contract at its sole discretion for an additional five years from January 1, 2018 until December 31, 2022. York Region must notify the City of Toronto in writing if it intends to exercise this option by July 4, 2017.

Toronto staff has honoured their commitment to waive the 25,000 tonne annual minimum with the understanding that the contract would only be used on a short-term contingency/emergency basis. Extending the contract for an additional five years provides York Region with an additional contingency disposal option, which would only be used on a short-term emergency basis. Staff recommend that Toronto staff be notified prior to July 4, 2017 of York Region's intent to extend the

Green Lane agreement from January 1, 2018 for an additional five years under the same terms and conditions.

Link to key Council-approved plans

Council has endorsed the 4th “R” (energy recovery) as the preferred method for managing non-recyclable waste. The Regional Official Plan establishes a goal of 90 per cent diversion from landfill by 2016. Energy recovery from waste is also identified as an important objective in the York Region Sustainability Strategy, the 2015 to 2019 Strategic Plan, and Vision 2051. Increasing the upset limit of the Emerald EFW contract provides an additional energy-from-waste alternative to help support these goals. Extending the Waste Management of Canada contract and renewing the Green Lane contract provides contingency landfill capacity in the event of a major disruption.

5. Financial Implications

Proposed upset limit increases for Emerald EFW and Waste Management of Canada provide additional capacity at no additional cost

As noted in Table 2, current unit prices at Emerald EFW and Waste Management of Canada are comparable to York Region’s other contracts for managing residual waste. Since the proposed upset limit increases do not require additional minimum commitments, York Region can cease using these contracts if better options are available. Staff will continue to allocate tonnages to stay within the limits of the annual operating budget.

Under the terms of York Region’s contract with Emerald EFW, York Region is responsible for all costs associated with the removal and disposal of unprocessable waste delivered to the facility. The proposed flat fee structure of \$50,000 per annum provides cost certainty, and does not increase if York Region elects to use additional processing capacity made available through the upset limit increase.

Emerald EFW option provides an opportunity to reduce greenhouse gas emissions and reduce cost

As shown in Table 3, the difference between Covanta Niagara’s maximum and minimum annual tonnages is 12,600 tonnes per year. Based on the per-tonne prices shown in Table 2, York Region could realize a savings of approximately \$92,000 per year by reducing Covanta Niagara to minimum and reallocating the tonnage to Emerald EFW. The proposed upset limit increase at Emerald EFW would make this possible.

The reallocation of 12,600 tonnes of waste from Covanta Niagara to Emerald EFW would result in an annual reduction of approximately 140 tCO₂e based on 360 round trips from the Earl Turcott Transfer Station in Markham. Similarly, in the future if the Region is able to divert tonnage that is suitable for energy-from-waste processing from the Walker Environmental Group Landfill to Emerald EFW, a reduction in greenhouse gas emissions would be realized.

6. Local Municipal Impact

York Region is committed to waste diversion and provision of sustainable, long-term waste management programs. York Region continues to partner with local municipalities on current waste diversion programs and future waste management program direction through the Integrated Waste Management Master Plan. Together with our local municipalities, we have achieved number one ranking by Waste Diversion Ontario for 2013 in addition to driving forward waste diversion, as well as a new focus on waste reduction. York Region's energy-from-waste contracts contribute to providing sustainable, long-term residual waste management services to all local municipalities.

7. Conclusion

The proposed upset limit increases for Emerald EFW and Waste Management of Canada provide additional capacity that may be used when other contracts are unavailable, or to achieve a cost saving up to \$92,000 per year. This additional capacity comes with no obligation to supply tonnage, providing maximum flexibility to York Region. Extending the Green Lane Landfill contract for an additional five years provides York Region with an additional contingency disposal option should the Region encounter short-term processing or disposal interruptions with one or more of our contracts.

Contingency Waste Disposal Strategy

For more information on this report, please contact Laura McDowell, Director, Environmental Promotion and Protection, Environmental Services at ext. 75077.

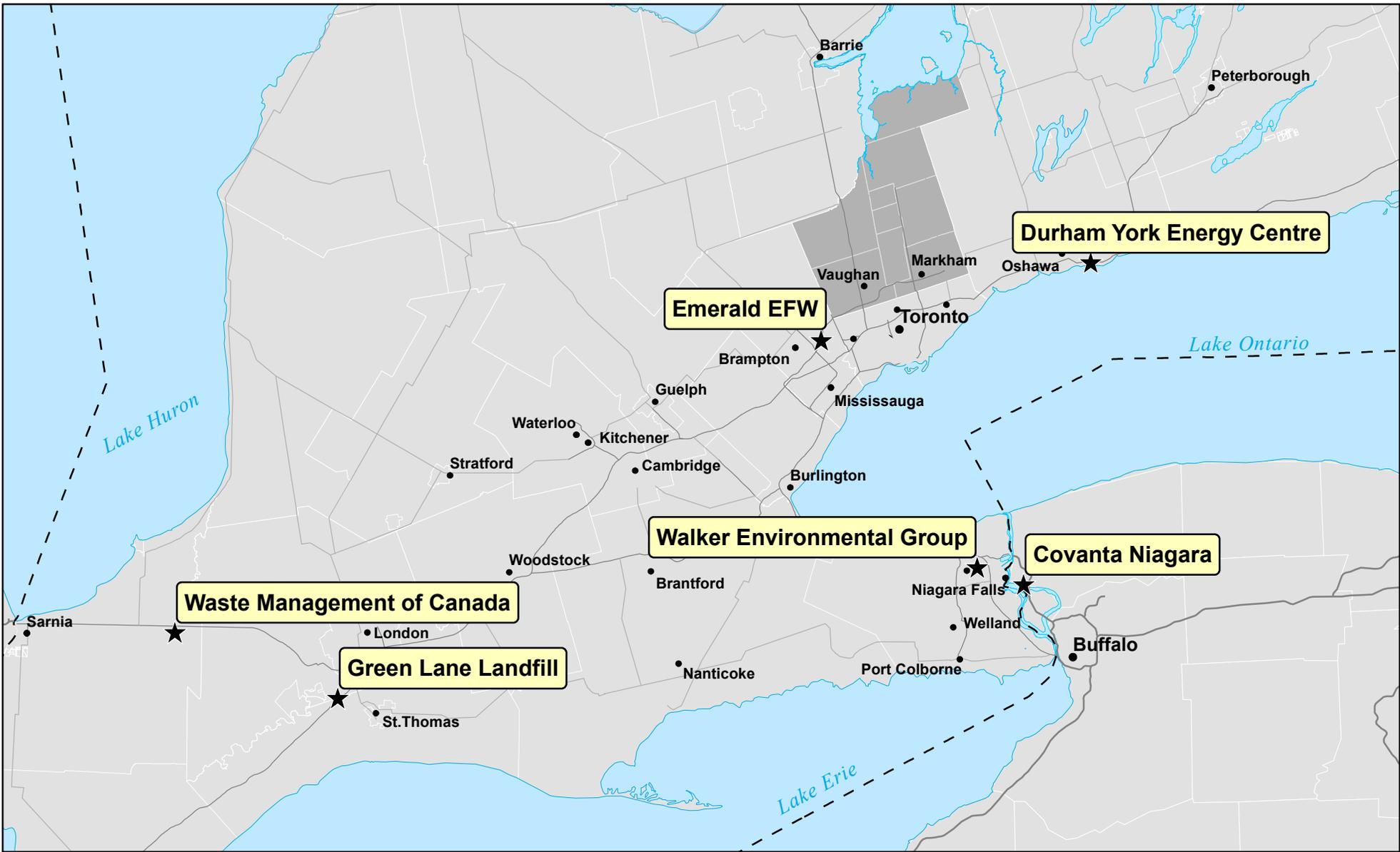
The Senior Management Group has reviewed this report.

May 26, 2016

Attachment

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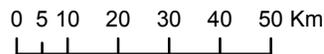
Accessible formats or communication supports are available upon request



Residual Waste Processing and Disposal Facility Locations



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 The Regional Municipality of York
 Environmental Services, Environmental Promotion and Protection, April, 2016
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Legend	
★ Facility Location	- - - International Border
• City	Water Body
Highway	York Region
Regional Boundary	