March 2011

DURHAM YORK ENERGY CENTRE

Application for a Certificate of Approval (Waste Disposal Site)

Submitted to:
Ontario Ministry of the Environment
Director Section 27
Environmental Assessment and Approvals Branch
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

REPORT

Report Number: 10-1151-0343 (5000)

Golder Associates

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APPLICATION FORM

Certificate of Approval (Waste Disposal Site)

The Regional Municipality of Durham

March 2011
Report No. 10-1151-0343 (5000)

Golder Associates

Ontario
Ministry of the Environment

Application for a Certificate of Approval for a Waste Disposal Site

Ce formulaire est disponible en français

Form Version 2.1

General Information and Instructions

General:

Information requested in this form is collected under the authority of the *Environmental Protection Act,* R.S.O. 1990 (EPA) and the *Environmental Bill of Rights*, C. 28, Statutes of Ontario, 1993, (EBR) and will be used to evaluate applications for approval of waste disposal sites under Section 27, EPA. Questions about this collection of information should be directed to: Information Unit Supervisor, Environmental Assessment and Approvals Branch, 2 St. Clair Ave. W, Floor 12A, Toronto ON M4V 1L5. Telephone outside Toronto 1-800-461-6290 or in Toronto 416-314-8001.

Instructions:

1. **Applicants are responsible for ensuring that they complete the most recent application form.** When completing this form, please refer to the following guidance material: the "Guide for Applying for Certificate of Approval of Waste Disposal Sites, Section 27, 30, 31 and 32, EPA," (referred to as the Guide) and "Guide - Application Cost for Waste Management, S. 27, EPA". Application forms and supporting documentation are available from the Environmental Assessment and Approvals Branch toll free at 1-800-461-6290 (locally at 416-314-8001), from your local District Office of the Ministry of the Environment, and in the "Publications" section of the Ministry of the Environment website at http://www.ene.gov.on.ca/envision/gp/index.htm#disposal.

2. Questions regarding completion and submission of this application should be directed to the Environmental Assessment and Approvals Branch, 2 St. Clair Avenue West, Floor 12A, Toronto, Ontario, M4V 1L5, telephone number 1-800-461-6290 or (416) 314-8001, or to your local District Office of the Ministry of the Environment.

3. A complete application consists of:

    1) a completed and signed application form;
    2) all required supporting information identified in this form, the guidance material, and
    3) a certified cheque, money order or credit card payment, in Canadian funds, made payable to the *Ontario Minister of Finance* for the applicable application fee.

    This form must be completed with respect to all requirements identified in the guidance material in order for it to be considered an application for approval.

    INCOMPLETE APPLICATIONS WILL BE RETURNED TO THE APPLICANT. The Ministry may require additional information during the technical review of any application initially accepted as complete.

4. The original application, along with the supporting information and the application fee, must be sent to:

    The Ministry of the Environment,
    Director, Environmental Assessment and Approvals Branch, Section 27
    2 St. Clair Avenue West, Floor 12A, Toronto, Ontario, M4V 1L5

    A copy of the application and the supporting information must be sent to the local Ministry District Office which has jurisdiction over the area where the facilities are located. To locate the appropriate local Ministry District Office, please visit the Ministry of the Environment Internet site at: www.ene.gov.on.ca/envision/org/op.htm#Reg/Dist.

    A copy of the application and the supporting information must also be sent to the local municipality (unless the application is for a revocation or an amendment that is environmentally insignificant or the applicant is a municipality). Copies shall be provided to both the upper and lower tier municipality if applicable to the area where this facility is located.

    A cover letter addressed to the Director of Environmental Assessment and Approvals Branch should accompany both submissions and indicate that a copy of the complete submission has been sent to the local District Office and local municipality(s).

5. Information contained in this application is not considered confidential and will be made available to the public upon request. Information submitted as supporting information may be claimed as confidential but will be subject to the *Freedom of Information and Protection of Privacy Act* (FOIPPA) and *EBR*. If you do not claim confidentiality at the time of submitting the information, the Ministry may make the information available to the public without further notice to you.

6. The electronic version of this form incorporates several features to assist you with completing your application. The form will calculate certain values based on the information you enter and will assist you in ensuring that all required information is included with your application. This form has been save-enabled; you can save a copy of this form that includes any information you have entered. You are encouraged to use the electronic version of this form, available on the Ministry of the Environment website at: http://www.ene.gov.on.ca/envision/gp/4181e.pdf.

Ontario
Ministry of the Environment

Application for a Provisional Certificate of Approval for a Waste Disposal Site

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For Office Use Only			
Reference Number	Payment Received $	Date *(y/m/d)*	Initials

Form ID: 180043

Application Summary

Applicant Name *(legal name of individual or organization as evidenced by legal documents)*

The Regional Municipality of Durham

✓ Project Name *(Project identifier to be used as a reference in correspondence)*

Durham York Energy Centre

✓ Project Description Summary *(If EBR is applicable, this summary will be used in the EBR posting notice)*

An Energy from Waste Facility is proposed to be constructed and operated on vacant land located on a 12.1 hectare property located in the Clarington Energy Business Park on the west side of Osbourne Road in the Regional Municipality of Durham. The facility will function to receive and thermally process municipal solid waste generated in the Regions of Durham and York. The energy content in the form of superheated steam will be used to generate electricity and potentially provide district heating. The hours of operation are 24 hours per day, 7 days per week, 365 days per year. The Facility meets all applicable air, noise waste and water environmental requirements under the Province of Ontario.

	Required Information	Completed (yes or no)
✓	**Project Name & Description**	Yes
✓	**Section 1: Applicant Information**	Yes
✓	**Section 2: Project Information**	Yes
✓	**Section 3: Site Information**	Yes
✓	**Section 4: Facility Information**	Yes
✓	**Section 5: Regulatory Requirements**	Yes
✓	**Section 6: Supporting Information**	Yes
✓	**Payment Information Section**	Yes
	Application Status: FORM COMPLETE.	**Print Completed Form**

Cost Summary:

Administrative processing *(required for most applications)*	$ 200.00
Hearing *(if mandatory or necessary)*	$ 0.00

Review of Application	$ 42,000.00
TOTAL COST	$ 42,200.00

Section 1: Applicant Information

Form ID: 1133361

1.1 Applicant Information *(Owner of works/facility)*

Applicant Name *(legal name of individual or organization as evidenced by legal documents)*: The Regional Municipality of Durham

Business Identification Number:

Business Name *(the name under which the entity is operating or trading - also referred to as trade name)*: The Regional Municipality of Durham — ☒ same as Applicant Name

Applicant Type:

- ☐ Corporation
- ☐ Individual
- ☐ Partnership
- ☐ Sole Proprietor
- ☐ Federal Government
- ☒ Municipal Government
- ☐ Provincial Government
- ☐ Other *(describe)*:

North American Industry Classification System (NAICS) Code: 562210 Waste Treatment and Disposal

Business Activity Description *(a description of the business endeavour, this may include products sold, services provided or machinery/equipment used, etc.)*: Waste Treatment and Disposal

1.2 Applicant Physical Address

Civic Address- Street information *(includes street number, name, type and direction)*: 605 Rossland Road East

Unit Identifier *(i.e. apartment number)*:

Survey Address *(Not required if Street Information is provided)*: Lot | Conc. | Part | Reference Plan

Municipality /Unorganized Township	County/District	Province/State	Country	Postal Code
Whitby	Region of durham	Ontario	Canada	L1N 6A3

Telephone Number *(include area code & ext.)*: (905)668-7711 ext.

Fax Number *(include area code)*:

Mobile Number *(include area code)*:

E-mail Address:

Geo Reference *(southwest corner of property)*

Map Datum	Zone	Accuracy Estimate	Geo Referencing Method	UTM Easting	UTM Northing
NAD83	17	+/- 5m	Aerial Photo	665414	4862615

1.3 Applicant Mailing Address

Same as Applicant Physical Address? ☒ Yes ☐ No *(If no, please provide site address information below)*

Civic Address - Street information *(civic numbering and street information including street number, name, type and direction)*: 605 Rossland Road East

Unit Identifier *(i.e. apartment number)*:

Delivery Designator | Delivery Identifier | Postal Station

Municipality	Province/State	Country	Postal Code
Whitby	Ontario	Canada	L1N 6A3

1.4 Statement of Applicant

I, the undersigned hereby declare that, to the best of my knowledge:

- The information contained herein and the information submitted in support of this application is complete and accurate in every way and I am aware of the penalties against providing false information as per s. 184(2) of the *Environmental Protection Act*.
- The Project Technical Information Contact identified in this form is authorized to act on my behalf for the purpose of obtaining approval under Section 27 of the EPA for the waste disposal site identified herein.
- I have used the most recent application form, as obtained from the Ministry of the Environment Internet site at http://www.ene.gov.on.ca/en/publications/forms/index.php#PartWaste or the Environmental Assessment and Approvals Branch at 1-800-461-6290.

Name of Signing Authority *(please print)*: Cliff Curtis

Title: Commissioner of Works

Telephone Number *(including area code & extension)*: (905)668-7711 ext.

Fax Number *(including area code)*:

E-mail Address:

Mobile Number *(including area code)*:

Signature: Clifford Curtis

Date *(y/m/d)*: 2011/02/22

Section 2: Project Information

2.1 Application Type

Type of Application:

- [x] New Certificate of Approval
- [ ] New Comprehensive Certificate of Approval
- [ ] Amendment to Current Certificate of Approval
- [ ] Convert Existing Approval to Comprehensive Certificate of Approval
- [ ] Administrative Amendment to Current Certificate of Approval
- [ ] Revocation
- [ ] Compliance with Conditions of the Existing Approval

Is this a submission for Preliminary Review of your application?

- [ ] Yes
- [x] No

If yes, the application must be complete and finalized before you submit it for Preliminary Review.

Application Initiated by:

- [x] Proponent
- [ ] Environmental Assessment and Approvals Branch
- [ ] Provincial Officer Order (attach copy)
- [ ] Other (specify):

Current Certificate of Approval

Certificate of Approval Number	Certificate of Approval Date of Issue *(yyyy/mm/dd)*

Project Schedule

Estimated date for start of construction/installation *(yyyy/mm/dd)*	Estimated date for start of operation *(yyyy/mm/dd)*
2011/06/01	2014/01/01

Comprehensive Certificate of Approval – Eligibility Screening Questionnaire

Screening Result: You are not required to complete the screening questionnaire

2.2 Project Technical Information Contact

Name of Project Technical Information Contact	Company
Samuel S. Joshi	Covanta Energy Corporation

Telephone Number *(include area code & ext.)*	Fax Number *(include area code)*	Mobile Number *(include area code)*	E-mail Address
(862)345-5064 *ext.*	(862)345-5210	(862)485-7438	SJoshi@covantaenergy.com

Address Information:

Same as Applicant Mailing Address? [ ] Yes [x] No *(If no, please provide technical information contact address information below)*

Civic Address - Street information *(civic numbering and street information including street number, name, type and direction)*	Unit Identifier *(i.e. apartment number)*
445 South Street	

Delivery Designator	Delivery Identifier	Postal Station

Municipality /Unorganized Township	Province/State	Country	Postal Code
Morristown	New jersey	USA	07960

Section 3: Site Information

Form ID: 180043

3.1 Site Address - *(location where activity/works applied for is to take place)*

Same as Applicant Physical Address? ☐ Yes ☒ No (If no, please provide site address information below)

Civic Address- Street information *(includes street number, name, type and direction)*	Unit Identifier *(i.e. apartment number)*
72 Osbourne Road	

Survey Address *(Legal description of the site)*	Lot	Conc.	Part	Reference Plan
	27	Broken Front	1	40R-26782

Municipality /Unorganized Township	County/District	Postal Code
Municipality of Clarington	Region of durham	L1E 2R2

Non Address Information *(includes any additional information to clarify applicants' physical location)*

Geo Reference *(southwest corner of property)*

Map Datum	Zone	Accuracy Estimate	Geo Referencing Method	UTM Easting	UTM Northing
NAD83	17	+/- 5m	Firstbase map	680425.041	4860195.229

3.2 Site Information - *(location where activity/works applied for is to take place)*

Site Name	MOE District Office
Durham York Energy Centre	York-Durham District Office

Is the site (property) that is the subject of this application owned by the Applicant?

☒ Yes ☐ No ***If no, please attach the owner's name, address and a signed letter granting consent for the installation and operation of the facilities***

Is the Applicant the operating authority of the site that is the subject of this application?

☐ Yes ☒ No ***If no, please attach the operating authority name, address and phone number***

Is the Site located in an area of development control as defined by the Niagara Escarpment Planning & Development Act (NEPDA)?

☐ Yes ☒ No ***If yes, please attach a copy of the NEPDA permit for proposed activity/work***

Is the Site located on the Oak Ridges Moraine Conservation Area as defined by the Oak Ridges Moraine Conservation Plan (ORMCP), a regulation made under the Oak Ridges Moraine Conservation Act (ORMCA)?

☐ Yes ☒ No ***If yes, please attach proof of Municipal planning approval for the proposed activity/work***

3.3 Site Zoning and Classification

Present Land Use	Present Official Plan Designation	Present Zoning Category
Vacant	Urban System - Employment Area	Energy Park General Industrial

Adjacent Land Use *(select all that apply)*

☒ Industrial ☐ Commercial ☐ Residential
☐ Agricultural ☐ Recreational ☐ Other*(specify)*:

Does the site currently have proper zoning for the proposed facility?

☒ Yes ☐ No

Has this facility been identified as part of the Official Plan?

☐ Yes ☒ No

Has the Applicant received municipal zoning confirmation?

☐ Yes ☐ No ***If yes, please attach correspondence from the municipality***

Section 4: Facility Information

Form ID: 180043

4.1 Facility Description *(information on the nature of the proposed business or activity at this site)*

Type of Facility / Operation *(select all that apply & complete all appropriate sections)*

☐ Landfill ☐ Transfer ☐ Processing ☒ Thermal Treatment Facility ☐ Household Hazardous Waste
☐ Closed Landfill ☐ Composting

Days and Hours of Operation	Population Served by this Site *(#)*	Service Area	Total Area of Site *(hectares)*
365 days /year, 24 hours/day	1,800,000	Regions of Durham and York	12.10

Monitoring *(select all that apply)*

☒ Groundwater ☒ Surface Water ☐ Landfill Gas ☐ Leachate ☐ None ☒ Other*(specify)*: Air

Type(s) of Waste to be Accepted at this Site *(select all that apply)*

☒ Municipal Waste ☐ Hazardous Waste ☐ Liquid Industrial Waste ☐ Other Liquid Waste

Municipal Waste Categories to be Accepted at this Site *(select all that apply)*

☐ All Categories ☒ Domestic Sources ☒ IC&I sources ☐ Source Separated Organics ☐ Tires ☐ Leaf & Yard Waste
☐ Contaminated Soil ☐ Wood Waste ☐ Blue Box Materials ☐ Other*(specify)*:

Other Liquid Waste Categories to be Accepted at this Site *(select all that apply)*

☐ Processed Organics ☐ Waste from Food Processing / Preparation Operations ☐ Hauled Sewage ☐ Other*(specify)*:

Hazardous / Liquid Industrial Waste Types to be Accepted at this Site

Class Code	Class Code	Class Code	Class Code	Class Code	Class Code	Class Code	Class Code	Class Code

4.2 Other Approvals for Facility – *Please attach a separate list if more space is required*

Separate list attached? ☐ Yes ☒ No

List all other environmental approvals/permits applied for related to this project or received in relation to this project under the *Environmental Protection Act* (discharges to air, waste management, etc.) and the *Ontario Water Resources Act* (water and sewage works).

Approval Type	Approval Number	Approval or Application Date *(yyyy/mm/dd)*	Approval Type	Approval Number	Approval or Application Date *(yyyy/mm/dd)*
Air & Noise (EPA s.9)					
Sewage Works (OWRA s.53)					

4.3 Waste Transfer and/or Processing – *Complete this information if waste transfer and/or processing take place at this facility.*

Waste Types to be Transferred or Processed	Design Capacity	
☐ Hazardous waste or liquid industrial waste	☐ ≤ 100 tonnes per day	☐ > 100 tonnes per day
☐ Waste other than hazardous waste and liquid industrial waste	☐ ≤ 100 tonnes per day	☐ > 100 tonnes per day

You are not required to complete section 4.3.

Liquid Waste

Maximum Storage Capacity *(m^3)*			Maximum Residual for Final Disposal *(m^3)*					
Hazardous	Liquid Industrial	Other Liquid Waste	Hazardous		Liquid Industrial		Other Liquid Waste	
			Daily	Annually	Daily	Annually	Daily	Annually

Solid Waste

Maximum Storage Capacity *(tonnes)*		Maximum Residual for Final Disposal *(tonnes)*			
Hazardous	Non-Hazardous	Hazardous		Non-Hazardous	
		Daily	Annually	Daily	Annually

Maximum Amount of Waste to be Received Daily

Liquid *(m^3)*			Solid *(tonnes)*	
Hazardous	Liquid Industrial	Other Liquid Waste	Hazardous	Non-Hazardous

Change to Operations

☐ No change proposed ☐ Change does not require fundamental design review ☐ Change requires fundamental design review

✓ 4.4 Thermal Treatment Facility – *Complete this information if thermal treatment takes place at this facility*

Waste Types for Thermal Treatment	Design Capacity	
☐ Hazardous waste or liquid industrial waste	☐ ≤ 100 tonnes per day	☐ > 100 tonnes per day
☒ Waste other than hazardous waste and liquid industrial waste	☐ ≤ 100 tonnes per day	☒ > 100 tonnes per day

Liquid Waste

Maximum Storage Capacity (m^3)			Maximum Residual for Final Disposal (m^3)					
Hazardous	Liquid Industrial	Other Liquid Waste	Hazardous		Liquid Industrial		Other Liquid Waste	
			Daily	Annually	Daily	Annually	Daily	Annually

Solid Waste

Maximum Storage Capacity (tonnes)		Maximum Residual for Final Disposal (tonnes)			
Hazardous	Non-Hazardous	Hazardous		Non-Hazardous	
		Daily	Annually	Daily	Annually
	4,380.00			400.00	56,000.00

Maximum Amount of Waste to be Received Daily

Liquid (m^3)			Solid (tonnes)	
Hazardous	Liquid Industrial	Other Liquid Waste	Hazardous	Non-Hazardous
				1,520.00

Maximum Daily Feed Rate ($tonnes/m^3$)

Hazardous Waste (tonnes)	Non-Hazardous Waste (tonnes)	Liquid Industrial Waste (m^3)	Other Liquid Waste (m^3)
	540.00		

Change to Operations

☐ No change proposed ☐ Change does not require fundamental design review ☐ Change requires fundamental design review

✓ 4.5 Landfill Site – *Complete this information if this facility operates as a landfill site*

Waste Types to be Accepted at the Landfill	Design Capacity		
☐ Hazardous waste or liquid industrial waste	☐ ≤ 40,000 m³	☐ > 40,000 m³ ≤ 3 million m³	☐ > 3 million m³
☐ Waste referred to in item 15 Schedule 4, O. Reg. 363 (uncontaminated tree stumps, leaves, branches, concrete and rocks)	☐ ≤ 40,000 m³	☐ > 40,000 m³ ≤ 3 million m³	☐ > 3 million m³
☐ Waste other than hazardous waste and liquid industrial waste, other than site referred to in item 15, schedule 4, O. Reg. 363	☐ ≤ 40,000 m³	☐ > 40,000 m³ ≤ 3 million m³	☐ > 3 million m³

You are not required to complete section 4.5.

Maximum Landfilling Capacity (m^3)

Hazardous Waste	Non-Hazardous Waste	Liquid Industrial Waste	Other Liquid Waste

Maximum Amount of Waste to be Received

Hazardous Waste (tonnes)		Non-Hazardous Waste (tonnes)		Liquid Industrial Waste (m^3)		Other Liquid Waste (m^3)	
Daily	Annually	Daily	Annually	Daily	Annually	Daily	Annually

Landfill Information

Area to be Landfilled (hectares)	Estimated Date of Closure (y/m/d)	Control Types (select all that apply)
		☐ Leachate Collection ☐ Landfill Gas Collection ☐ None
		☐ Other (describe):

Change to Operations

☐ No change proposed ☐ Change does not require fundamental design review or hydrogeological assessment ☐ Change requires fundamental design review or hydrogeological assessment

Section 5: Regulatory Requirements

5.1 Environmental Assessment Act (EAA) Requirements

Are the works for which this proposal is made subject to (or exempted from) the requirements of the EAA? ☒ Yes ☐ No

If "Yes," please check one of the following

☐ The works for which this application is made are exempt from the requirements of the EAA under:

☐ Section _____ of Ontario Regulation No. _____ **or**

☐ Declaration/Exemption Order Number _____

*If Regulation, Declaration Order or Exemption Order does not refer directly to this facility, state in a covering letter or other document why it does apply to this facility – **Please provide supporting information***

☐ The works for which this application is made have fulfilled all of the requirements of the EAA through the completion of the requirements of a Class EA process:

Name of Class EA: _____

Schedule/Group/Category (if applicable): _____

If applicable, please submit a copy of the completion documents.

Were Part II Order requests received? ☐ Yes ☐ No *If Yes, please submit a copy of the Minister's decision letter.*

☒ The works for which this application is made have fulfilled all of the requirements for the EAA through:

☐ Completion of an Environmental Screening Process pursuant to O. Reg. 101/07 of the EAA.

Please submit the Statement of Completion, and indicate if any Elevation Request(s) were received. If Elevation Request(s) were received, please submit a copy of the Director's decision letter.

☒ Completion of an Environmental Assessment

Please submit a copy of the signed Notice of Approval.

5.2 Hearing under the *Environmental Protection Act*

Is this application subject to a requirement for a mandatory hearing under s.30 of the *Environmental Protection Act*?

☐ Yes ☒ No

5.3 Environmental Bill of Rights (EBR) Requirements

Is this a proposal for a prescribed instrument under EBR? ☒ Yes ☐ No

If "Yes", is this proposal exempted from EBR requirements? ☒ Yes ☐ No

If "Yes," please check one of the following

☐ This proposal has been considered in a substantially equivalent process or by a decision of a tribunal. ***Please provide supporting information***

☐ This proposal is for an amendment to or revocation of an existing Certificate of Approval that is not environmentally significant. ***Please provide supporting information***

☐ This proposal is for an emergency situation. ***Please provide supporting information***

☒ This proposal has been subject to or exempted from EAA Requirements. ***Please provide supporting information***

5.4 Additional Public Consultation/Notification

Has any additional public consultation / notification related to the project is in the process of being completed or has previously been completed *(such as public hearings or notification of First Nations)*

☒ Yes ☐ No

If "Yes",
1) describe the public consultation / notification below;
2) attach a separate list describing each of these consultation activities, the results achieved, and planned future consultation activities.

See Attached Public Consultation Report

Section 6: Supporting Information

6.1 Supporting Information Checklist - *This is a list of all supporting information to this application and is subject to the FOIPPA and EBR.*

	Mandatory	Attachment	Attached	Reference	Confidential* (√)
★		Proof of Legal Name of Applicant	☐ Yes ☒ No	Not required for Municipalities; Required for Covanta Energy Corporation (Attachment 5)	☐
		Copy of NEPDA Permit	☐ Yes ☒ No	not applicable	☐
		Copy of Municipal Planning Approval (ORMCA)	☐ Yes ☒ No	not applicable	☐
★	Yes	Reference Plan	☒ Yes ☐ No	Figure 1 in Attachment 1	☐
★	Yes	Name, Address and Phone Number of the Operating Authority	☒ Yes ☐ No		☐
		Name, Address and consent of land/site owner for the installation/construction and operation of the works/facility	☐ Yes ☒ No	Land owned by Region	☐
★	Yes	Verification of EBR Public Participation Exception	☒ Yes ☐ No	EA - Notice of Approval (Attachment 2)	☐
★		Record of Public Consultation Report	☒ Yes ☐ No	Attachment 3	☐
★		Zoning Confirmation from the Municipality	☒ Yes ☐ No	The Municipality has executed a Host Community Agreement signed February 18 2010 (Attachment 4)	☐
★	Yes	Site Plan/Location Map with Geo-referencing point(s) identified	☒ Yes ☐ No	Figure 1 in Attachment 1	☐
★	Yes	Design and Operations Report	☒ Yes ☐ No	Attachment 1	☐
		Drainage Study	☐ Yes ☒ No	not applicable	☐
		Hydrogeolocial Assessment Report	☐ Yes ☒ No	not applicable	☐
		Waste Comprehensive Requirements 1. *Engineers Report* 2. *Declarations*	☐ Yes ☒ No	not applicable	☐
★	Yes	Application Fee	☒ Yes ☐ No		☐
		Financial Assurance/ Financial Assurance Estimates	☐ Yes ☒ No	not applicable	☐
★	Yes	A copy of this application has been sent to the local district office	☒ Yes ☐ No		☐
★		A copy of this application has been sent to the local municipality	☒ Yes ☐ No		☐
★	Yes	*Record of EA Process:* 1. Class EA Completion documents, or 2. *Environmental Screening Process- Statement of Completion, or* 3. *Individual EA – Notice of Approval.*	☒ Yes ☐ No	EA - Notice of Approval (Attachment 2)	☐

Other Attachments

Title	Reference	Confidential* (√)
		☐
		☐
		☐
		☐
		☐
		☐
Are you attaching an additional list of attachments? ☐ Yes ☐ No	If there is not enough space to list all of the attachments included in this application package, please include an additional listing of these attachments.	☐

***Please note:** the release of information contained in application forms and documentation submitted in support of applications for approval is subject to the provisions of the *Freedom of Information and Protection of Privacy Act*. This Act defines what may and may not be disclosed to the public, and is used to assess all requests for information contained in the documents on file with an application for approval. The information submitted with an application for approval may also be subject to the *Environmental Bill of Rights*. In those situations, the application and the associated non-confidential supporting documentation is made available for review by members of the public. The applicants should therefore identify all documents as noted above which are to be considered confidential and must provide detailed evidence in support of this claim. This evidence will be one of the factors the ministry would consider when making a decision regarding disclosure of specific documents on file.

Ontario
Ministry of the Environment

For Office Use Only			
Reference Number	Payment Received $	Date *(y/m/d)*	Initials

Form ID: 180043

☑ Payment Information: Application for a Provisional Certificate of Approval for a Waste Disposal Site

Please Note:

1. If you are completing this form by hand, you must attach a copy of the form titled "Costs for EPA s.27 (Waste Management) Applications - Supplement to Application for Approval" (PIBS 4186). You do not need to attach the supplemental form if you are filling in this form electronically.
2. If you are completing this form electronically, the fees for this application have been calculated based on the information you have provided. The Ministry may require additional information during the review of your application that could impact the total fee required.
3. All fees should be paid in Canadian funds, payable to the Ontario Minister of Finance.
4. Credit card payments are accepted for payments under $10,000 only.
5. If you are paying by certified cheque or money order, please staple your payment to this page.
6. Do not include this page in the copies of your application that are being provided to the local MOE Office or the local municipality(s).
7. The information collected in this section of the form is considered confidential and will only be used to process your application fee.

Amount Enclosed	Method of Payment		
$ 42,200.00	☒ Certified Cheque	☐ Money Order	☐ Journal Entry
	☐ Visa	☐ MasterCard	☐ American Express

Credit Card Information *(if paying by VISA, MasterCard or American Express)*

Name on Card *(please print)*	Credit Card Number	Expiry Date *(mm/yyyy)*
Cardholder Signature		**Date *(yyyy/mm/dd)***

If paying by certified cheque or money order, please attach it here.

APPLICATION FORM

Certificate of Approval (Waste Disposal Site)

The Regional Municipality of York

March 2011
Report No. 10-1151-0343 (5000)

Golder Associates

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Ministry of the Environment

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Information requested in this form is collected under the authority of the *Environmental Protection Act,* R.S.O. 1990 (EPA) and the *Environmental Bill of Rights*, C. 28, Statutes of Ontario, 1993, (EBR) and will be used to evaluate applications for approval of waste disposal sites under Section 27, EPA. Questions about this collection of information should be directed to: Information Unit Supervisor, Environmental Assessment and Approvals Branch, 2 St. Clair Ave. W, Floor 12A, Toronto ON M4V 1L5. Telephone outside Toronto 1-800-461-6290 or in Toronto 416-314-8001.

Instructions:

1. **Applicants are responsible for ensuring that they complete the most recent application form.** When completing this form, please refer to the following guidance material: the "Guide for Applying for Certificate of Approval of Waste Disposal Sites, Section 27, 30, 31 and 32, EPA," (referred to as the Guide) and "Guide - Application Cost for Waste Management, S. 27, EPA". Application forms and supporting documentation are available from the Environmental Assessment and Approvals Branch toll free at 1-800-461-6290 (locally at 416-314-8001), from your local District Office of the Ministry of the Environment, and in the "Publications" section of the Ministry of the Environment website at http://www.ene.gov.on.ca/envision/gp/index.htm#disposal.

2. Questions regarding completion and submission of this application should be directed to the Environmental Assessment and Approvals Branch, 2 St. Clair Avenue West, Floor 12A, Toronto, Ontario, M4V 1L5, telephone number 1-800-461-6290 or (416) 314-8001, or to your local District Office of the Ministry of the Environment.

3. A complete application consists of:

    1) a completed and signed application form;
    2) all required supporting information identified in this form, the guidance material, and
    3) a certified cheque, money order or credit card payment, in Canadian funds, made payable to the *Ontario Minister of Finance* for the applicable application fee.

    This form must be completed with respect to all requirements identified in the guidance material in order for it to be considered an application for approval.

    INCOMPLETE APPLICATIONS WILL BE RETURNED TO THE APPLICANT. The Ministry may require additional information during the technical review of any application initially accepted as complete.

4. The original application, along with the supporting information and the application fee, must be sent to:

    The Ministry of the Environment,
    Director, Environmental Assessment and Approvals Branch, Section 27
    2 St. Clair Avenue West, Floor 12A, Toronto, Ontario, M4V 1L5

    A copy of the application and the supporting information must be sent to the local Ministry District Office which has jurisdiction over the area where the facilities are located. To locate the appropriate local Ministry District Office, please visit the Ministry of the Environment Internet site at: www.ene.gov.on.ca/envision/org/op.htm#Reg/Dist.

    A copy of the application and the supporting information must also be sent to the local municipality (unless the application is for a revocation or an amendment that is environmentally insignificant or the applicant is a municipality). Copies shall be provided to both the upper and lower tier municipality if applicable to the area where this facility is located.

    A cover letter addressed to the Director of Environmental Assessment and Approvals Branch should accompany both submissions and indicate that a copy of the complete submission has been sent to the local District Office and local municipality(s).

5. Information contained in this application is not considered confidential and will be made available to the public upon request. Information submitted as supporting information may be claimed as confidential but will be subject to the *Freedom of Information and Protection of Privacy Act* (FOIPPA) and *EBR*. If you do not claim confidentiality at the time of submitting the information, the Ministry may make the information available to the public without further notice to you.

6. The electronic version of this form incorporates several features to assist you with completing your application. The form will calculate certain values based on the information you enter and will assist you in ensuring that all required information is included with your application. This form has been save-enabled; you can save a copy of this form that includes any information you have entered. You are encouraged to use the electronic version of this form, available on the Ministry of the Environment website at: http://www.ene.gov.on.ca/envision/gp/4181e.pdf.

Ontario
Ministry of the Environment

Application for a Provisional Certificate of Approval for a Waste Disposal Site

Ce formulaire est disponible en français

For Office Use Only			
Reference Number	Payment Received $	Date *(y/m/d)*	Initials

Form ID: 2145142

Application Summary

Applicant Name *(legal name of individual or organization as evidenced by legal documents)*

The Regional Municipality of York

✓ Project Name *(Project identifier to be used as a reference in correspondence)*

Durham York Energy Centre

✓ Project Description Summary *(If EBR is applicable, this summary will be used in the EBR posting notice)*

An Energy from Waste Facility is proposed to be constructed and operated on vacant land located on a 12.1 hectare property located in the Clarington Energy Business Park on the west side of Osbourne Road in the Regional Municipality of Durham. The facility will function to receive and thermally process municipal solid waste generated in the Regions of Durham and York. The energy content in the form of superheated steam will be used to generate electricity and potentially provide district heating. The hours of operation are 24 hours per day, 7 days per week, 365 days per year. The Facility meets all applicable air, noise waste and water environmental requirements under the Province of Ontario.

	Required Information	Completed (yes or no)
✓	**Project Name & Description**	Yes
✓	**Section 1: Applicant Information**	Yes
✓	**Section 2: Project Information**	Yes
✓	**Section 3: Site Information**	Yes
✓	**Section 4: Facility Information**	Yes
✓	**Section 5: Regulatory Requirements**	Yes
✓	**Section 6: Supporting Information**	Yes
✓	**Payment Information Section**	Yes
	Application Status: FORM COMPLETE.	**Print Completed Form**

Cost Summary:

Administrative processing *(required for most applications)*	$ 200.00
Hearing *(if mandatory or necessary)*	$ 0.00

Review of Application	$ 42,000.00
TOTAL COST	$ 42,200.00

Section 1: Applicant Information

Form ID: 391661

1.1 Applicant Information *(Owner of works/facility)*

Applicant Name *(legal name of individual or organization as evidenced by legal documents)*	Business Identification Number
The Regional Municipality of York	

Business Name *(the name under which the entity is operating or trading - also referred to as trade name)* ☒ same as Applicant Name

The Regional Municipality of York

Applicant Type:

- ☐ Corporation
- ☐ Individual
- ☐ Partnership
- ☐ Sole Proprietor
- ☐ Federal Government
- ☒ Municipal Government
- ☐ Provincial Government
- ☐ Other *(describe):*

North American Industry Classification System (NAICS) Code: 562210 Waste Treatment and Disposal

Business Activity Description *(a description of the business endeavour, this may include products sold, services provided or machinery/equipment used, etc.)*

Waste Treatment and Disposal

1.2 Applicant Physical Address

Civic Address- Street information *(includes street number, name, type and direction)*	Unit Identifier *(i.e. apartment number)*
17250 Yonge Street	

Survey Address *(Not required if Street Information is provided)*	Lot	Conc.	Part	Reference Plan

Municipality /Unorganized Township	County/District	Province/State	Country	Postal Code
Newmarket	York region	Ontario	Canada	L3Y 6Z1

Telephone Number *(include area code & ext.)*	Fax Number *(include area code)*	Mobile Number *(include area code)*	E-mail Address
(905)830-4444 *ext.*			

Geo Reference *(southwest corner of property)*

Map Datum	Zone	Accuracy Estimate	Geo Referencing Method	UTM Easting	UTM Northing
NAD83	17N	+/- 2m	Aerial Photo	621685	4878270

1.3 Applicant Mailing Address

Same as Applicant Physical Address? ☒ Yes ☐ No *(If no, please provide site address information below)*

Civic Address - Street information *(civic numbering and street information including street number, name, type and direction)*	Unit Identifier *(i.e. apartment number)*
17250 Yonge Street	

Delivery Designator	Delivery Identifier	Postal Station

Municipality	Province/State	Country	Postal Code
Newmarket	Ontario	Canada	L3Y 6Z1

1.4 Statement of Applicant

I, the undersigned hereby declare that, to the best of my knowledge:

- The information contained herein and the information submitted in support of this application is complete and accurate in every way and I am aware of the penalties against providing false information as per s. 184(2) of the *Environmental Protection Act*.
- The Project Technical Information Contact identified in this form is authorized to act on my behalf for the purpose of obtaining approval under Section 27 of the EPA for the waste disposal site identified herein.
- I have used the most recent application form, as obtained from the Ministry of the Environment Internet site at http://www.ene.gov.on.ca/en/publications/forms/index.php#PartWaste or the Environmental Assessment and Approvals Branch at 1-800-461-6290.

Name of Signing Authority *(please print)*	Title
Erin Mahoney	Commissioner of Environmental Services

Telephone Number *(including area code & extension)*	Fax Number *(including area code)*	E-mail Address
(905)830-4444 *ext.* 5125	(905)895-0260	erin.mahoney@york.ca

Mobile Number *(including area code)*	Signature	Date *(y/m/d)*
		2011/03/02

Section 2: Project Information

2.1 Application Type

Type of Application:

- [x] New Certificate of Approval
- [ ] New Comprehensive Certificate of Approval
- [ ] Amendment to Current Certificate of Approval
- [ ] Convert Existing Approval to Comprehensive Certificate of Approval
- [ ] Administrative Amendment to Current Certificate of Approval
- [ ] Revocation
- [ ] Compliance with Conditions of the Existing Approval

Is this a submission for Preliminary Review of your application?

- [ ] Yes
- [x] No

If yes, the application must be complete and finalized before you submit it for Preliminary Review.

Application Initiated by:

- [x] Proponent
- [ ] Environmental Assessment and Approvals Branch
- [ ] Provincial Officer Order (attach copy)
- [ ] Other (specify):

Current Certificate of Approval

Certificate of Approval Number	Certificate of Approval Date of Issue *(yyyy/mm/dd)*

Project Schedule

Estimated date for start of construction/installation *(yyyy/mm/dd)*	Estimated date for start of operation *(yyyy/mm/dd)*
2011/06/01	2014/01/01

Comprehensive Certificate of Approval – Eligibility Screening Questionnaire

Screening Result: You are not required to complete the screening questionnaire

2.2 Project Technical Information Contact

Name of Project Technical Information Contact	Company
Samuel S. Joshi	Covanta Energy Corporation

Telephone Number *(include area code & ext.)*	Fax Number *(include area code)*	Mobile Number *(include area code)*	E-mail Address
(862)345-5064 *ext.*	(862)345-5210	(862)485-7438	SJoshi@covantaenergy.com

Address Information:

Same as Applicant Mailing Address?

- [ ] Yes
- [x] No

(If no, please provide technical information contact address information below)

Civic Address - Street information *(civic numbering and street information including street number, name, type and direction)*	Unit Identifier *(i.e. apartment number)*
445 South Street	

Delivery Designator	Delivery Identifier	Postal Station

Municipality /Unorganized Township	Province/State	Country	Postal Code
Morristown	New jersey	USA	07960

Section 3: Site Information

Form ID: 2145142

3.1 Site Address - *(location where activity/works applied for is to take place)*

Same as Applicant Physical Address? ☐ Yes ☒ No (If no, please provide site address information below)

Civic Address- Street information *(includes street number, name, type and direction)*	Unit Identifier *(i.e. apartment number)*
72 Osbourne Road	

Survey Address *(Legal description of the site)*	Lot	Conc.	Part	Reference Plan
	27	Broken Front	1	40R-26782

Municipality /Unorganized Township	County/District	Postal Code
Municipality of Clarington	Region of durham	L1E 2R2

Non Address Information *(includes any additional information to clarify applicants' physical location)*

Geo Reference *(southwest corner of property)*

Map Datum	Zone	Accuracy Estimate	Geo Referencing Method	UTM Easting	UTM Northing
NAD83	17	+/- 5m	Firstbase map	680425.041	4860195.229

3.2 Site Information - *(location where activity/works applied for is to take place)*

Site Name	MOE District Office
Durham York Energy Centre	York-Durham District Office

Is the site (property) that is the subject of this application owned by the Applicant?

☐ Yes ☒ No ***If no, please attach the owner's name, address and a signed letter granting consent for the installation and operation of the facilities***

Is the Applicant the operating authority of the site that is the subject of this application?

☐ Yes ☒ No ***If no, please attach the operating authority name, address and phone number***

Is the Site located in an area of development control as defined by the Niagara Escarpment Planning & Development Act (NEPDA)?

☐ Yes ☒ No ***If yes, please attach a copy of the NEPDA permit for proposed activity/work***

Is the Site located on the Oak Ridges Moraine Conservation Area as defined by the Oak Ridges Moraine Conservation Plan (ORMCP), a regulation made under the Oak Ridges Moraine Conservation Act (ORMCA)?

☐ Yes ☒ No ***If yes, please attach proof of Municipal planning approval for the proposed activity/work***

3.3 Site Zoning and Classification

Present Land Use	Present Official Plan Designation	Present Zoning Category
Vacant	Urban System - Employment Area	Energy Park General Industrial

Adjacent Land Use *(select all that apply)*

☒ Industrial ☐ Commercial ☐ Residential

☐ Agricultural ☐ Recreational ☐ Other*(specify)*:

Does the site currently have proper zoning for the proposed facility?

☒ Yes ☐ No

Has this facility been identified as part of the Official Plan?

☐ Yes ☒ No

Has the Applicant received municipal zoning confirmation?

☐ Yes ☐ No ***If yes, please attach correspondence from the municipality***

Section 4: Facility Information

Form ID: 2145142

4.1 Facility Description *(information on the nature of the proposed business or activity at this site)*

Type of Facility / Operation *(select all that apply & complete all appropriate sections)*

☐ Landfill ☐ Transfer ☐ Processing ☒ Thermal Treatment Facility ☐ Household Hazardous Waste
☐ Closed Landfill ☐ Composting

Days and Hours of Operation	Population Served by this Site *(#)*	Service Area	Total Area of Site *(hectares)*
365 days /year, 24 hours/day	1,800,000	Regions of Durham and York	12.10

Monitoring *(select all that apply)*

☒ Groundwater ☒ Surface Water ☐ Landfill Gas ☐ Leachate ☐ None ☒ Other*(specify)*: Air

Type(s) of Waste to be Accepted at this Site *(select all that apply)*

☒ Municipal Waste ☐ Hazardous Waste ☐ Liquid Industrial Waste ☐ Other Liquid Waste

Municipal Waste Categories to be Accepted at this Site *(select all that apply)*

☐ All Categories ☒ Domestic Sources ☒ IC&I sources ☐ Source Separated Organics ☐ Tires ☐ Leaf & Yard Waste
☐ Contaminated Soil ☐ Wood Waste ☐ Blue Box Materials ☐ Other*(specify)*:

Other Liquid Waste Categories to be Accepted at this Site *(select all that apply)*

☐ Processed Organics ☐ Waste from Food Processing / Preparation Operations ☐ Hauled Sewage ☐ Other*(specify)*:

Hazardous / Liquid Industrial Waste Types to be Accepted at this Site

Class Code	Class Code	Class Code	Class Code	Class Code	Class Code	Class Code	Class Code	Class Code

4.2 Other Approvals for Facility – *Please attach a separate list if more space is required*

Separate list attached? ☐ Yes ☒ No

List all other environmental approvals/permits applied for related to this project or received in relation to this project under the *Environmental Protection Act* (discharges to air, waste management, etc.) and the *Ontario Water Resources Act* (water and sewage works).

Approval Type	Approval Number	Approval or Application Date *(yyyy/mm/dd)*	Approval Type	Approval Number	Approval or Application Date *(yyyy/mm/dd)*
Air & Noise (EPA s.9)					
Sewage Works (OWRA s.53)					

4.3 Waste Transfer and/or Processing – *Complete this information if waste transfer and/or processing take place at this facility.*

Waste Types to be Transferred or Processed	Design Capacity	
☐ Hazardous waste or liquid industrial waste	☐ ≤ 100 tonnes per day	☐ > 100 tonnes per day
☐ Waste other than hazardous waste and liquid industrial waste	☐ ≤ 100 tonnes per day	☐ > 100 tonnes per day

You are not required to complete section 4.3.

Liquid Waste

Maximum Storage Capacity *(m^3)*			Maximum Residual for Final Disposal *(m^3)*					
Hazardous	Liquid Industrial	Other Liquid Waste	Hazardous		Liquid Industrial		Other Liquid Waste	
			Daily	Annually	Daily	Annually	Daily	Annually

Solid Waste

Maximum Storage Capacity *(tonnes)*		Maximum Residual for Final Disposal *(tonnes)*			
Hazardous	Non-Hazardous	Hazardous		Non-Hazardous	
		Daily	Annually	Daily	Annually

Maximum Amount of Waste to be Received Daily

Liquid *(m^3)*			Solid *(tonnes)*	
Hazardous	Liquid Industrial	Other Liquid Waste	Hazardous	Non-Hazardous

Change to Operations

☐ No change proposed ☐ Change does not require fundamental design review ☐ Change requires fundamental design review

☑ 4.4 Thermal Treatment Facility – *Complete this information if thermal treatment takes place at this facility*

Waste Types for Thermal Treatment	Design Capacity	
☐ Hazardous waste or liquid industrial waste	☐ ≤ 100 tonnes per day	☐ > 100 tonnes per day
☒ Waste other than hazardous waste and liquid industrial waste	☐ ≤ 100 tonnes per day	☒ > 100 tonnes per day

Liquid Waste

Maximum Storage Capacity (m^3)			Maximum Residual for Final Disposal (m^3)					
Hazardous	Liquid Industrial	Other Liquid Waste	Hazardous		Liquid Industrial		Other Liquid Waste	
			Daily	Annually	Daily	Annually	Daily	Annually

Solid Waste

Maximum Storage Capacity (tonnes)		Maximum Residual for Final Disposal (tonnes)			
Hazardous	Non-Hazardous	Hazardous		Non-Hazardous	
		Daily	Annually	Daily	Annually
	4,380.00			400.00	56,000.00

Maximum Amount of Waste to be Received Daily

Liquid (m^3)			Solid (tonnes)	
Hazardous	Liquid Industrial	Other Liquid Waste	Hazardous	Non-Hazardous
				1,520.00

Maximum Daily Feed Rate ($tonnes/m^3$)

Hazardous Waste (tonnes)	Non-Hazardous Waste (tonnes)	Liquid Industrial Waste (m^3)	Other Liquid Waste (m^3)
	540.00		

Change to Operations

☐ No change proposed ☐ Change does not require fundamental design review ☐ Change requires fundamental design review

☑ 4.5 Landfill Site – *Complete this information if this facility operates as a landfill site*

Waste Types to be Accepted at the Landfill	Design Capacity		
☐ Hazardous waste or liquid industrial waste	☐ ≤ 40,000 m³	☐ > 40,000 m³ ≤ 3 million m³	☐ > 3 million m³
☐ Waste referred to in item 15 Schedule 4, O. Reg. 363 (uncontaminated tree stumps, leaves, branches, concrete and rocks)	☐ ≤ 40,000 m³	☐ > 40,000 m³ ≤ 3 million m³	☐ > 3 million m³
☐ Waste other than hazardous waste and liquid industrial waste, other than site referred to in item 15, schedule 4, O. Reg. 363	☐ ≤ 40,000 m³	☐ > 40,000 m³ ≤ 3 million m³	☐ > 3 million m³

You are not required to complete section 4.5.

Maximum Landfilling Capacity (m^3)

Hazardous Waste	Non-Hazardous Waste	Liquid Industrial Waste	Other Liquid Waste

Maximum Amount of Waste to be Received

Hazardous Waste (tonnes)		Non-Hazardous Waste (tonnes)		Liquid Industrial Waste (m^3)		Other Liquid Waste (m^3)	
Daily	Annually	Daily	Annually	Daily	Annually	Daily	Annually

Landfill Information

Area to be Landfilled (hectares)	Estimated Date of Closure (y/m/d)	Control Types (select all that apply)
		☐ Leachate Collection ☐ Landfill Gas Collection ☐ None
		☐ Other (describe):

Change to Operations

☐ No change proposed ☐ Change does not require fundamental design review or hydrogeological assessment ☐ Change requires fundamental design review or hydrogeological assessment

Section 5: Regulatory Requirements

Form ID: 2145142

5.1 Environmental Assessment Act (EAA) Requirements

Are the works for which this proposal is made subject to (or exempted from) the requirements of the EAA? ☒ Yes ☐ No

If "Yes," please check one of the following

☐ The works for which this application is made are exempt from the requirements of the EAA under:

☐ Section _____ of Ontario Regulation No. _____ **or**

☐ Declaration/Exemption Order Number _____

*If Regulation, Declaration Order or Exemption Order does not refer directly to this facility, state in a covering letter or other document why it does apply to this facility – **Please provide supporting information***

☐ The works for which this application is made have fulfilled all of the requirements of the EAA through the completion of the requirements of a Class EA process:

Name of Class EA: _____

Schedule/Group/Category (if applicable): _____

If applicable, please submit a copy of the completion documents.

Were Part II Order requests received? ☐ Yes ☐ No *If Yes, please submit a copy of the Minister's decision letter.*

☒ The works for which this application is made have fulfilled all of the requirements for the EAA through:

☐ Completion of an Environmental Screening Process pursuant to O. Reg. 101/07 of the EAA.

Please submit the Statement of Completion, and indicate if any Elevation Request(s) were received. If Elevation Request(s) were received, please submit a copy of the Director's decision letter.

☒ Completion of an Environmental Assessment

Please submit a copy of the signed Notice of Approval.

5.2 Hearing under the *Environmental Protection Act*

Is this application subject to a requirement for a mandatory hearing under s.30 of the *Environmental Protection Act*?

☐ Yes ☒ No

5.3 Environmental Bill of Rights (EBR) Requirements

Is this a proposal for a prescribed instrument under EBR? ☒ Yes ☐ No

If "Yes", is this proposal exempted from EBR requirements? ☒ Yes ☐ No

If "Yes," please check one of the following

☐ This proposal has been considered in a substantially equivalent process or by a decision of a tribunal. ***Please provide supporting information***

☐ This proposal is for an amendment to or revocation of an existing Certificate of Approval that is not environmentally significant. ***Please provide supporting information***

☐ This proposal is for an emergency situation. ***Please provide supporting information***

☒ This proposal has been subject to or exempted from EAA Requirements. ***Please provide supporting information***

5.4 Additional Public Consultation/Notification

Has any additional public consultation / notification related to the project is in the process of being completed or has previously been completed *(such as public hearings or notification of First Nations)*

☒ Yes If "Yes",

1) describe the public consultation / notification below;

☐ No 2) attach a separate list describing each of these consultation activities, the results achieved, and planned future consultation activities.

See Attached Public Consultation Report

Section 6: Supporting Information

6.1 Supporting Information Checklist - *This is a list of all supporting information to this application and is subject to the FOIPPA and EBR.*

	Mandatory	Attachment	Attached	Reference	Confidential* (√)
★		Proof of Legal Name of Applicant	☐ Yes ☒ No	Not required for Municipalities; Required for Covanta Energy Corporation (Attachment 5)	☐
		Copy of NEPDA Permit	☐ Yes ☒ No	not applicable	☐
		Copy of Municipal Planning Approval (ORMCA)	☐ Yes ☒ No	not applicable	☐
★	Yes	Reference Plan	☒ Yes ☐ No	Figure 1 in Attachment 1	☐
★	Yes	Name, Address and Phone Number of the Operating Authority	☒ Yes ☐ No		☐
★	Yes	Name, Address and consent of land/site owner for the installation/construction and operation of the works/facility	☐ Yes ☒ No	Land owned by The Regional Municipality of Durham	☐
★	Yes	Verification of EBR Public Participation Exception	☒ Yes ☐ No	EA - Notice of Approval (Attachment 2)	☐
★		Record of Public Consultation Report	☒ Yes ☐ No	Attachment 3	☐
★		Zoning Confirmation from the Municipality	☒ Yes ☐ No	The Municipality has executed a Host Community Agreement signed February 18 2010 (Attachment 4)	☐
★	Yes	Site Plan/Location Map with Geo-referencing point(s) identified	☒ Yes ☐ No	Figure 1 in Attachment 1	☐
★	Yes	Design and Operations Report	☒ Yes ☐ No	Attachment 1	☐
		Drainage Study	☐ Yes ☒ No	not applicable	☐
		Hydrogeolocial Assessment Report	☐ Yes ☒ No	not applicable	☐
		Waste Comprehensive Requirements 1. *Engineers Report* 2. *Declarations*	☐ Yes ☒ No	not applicable	☐
★	Yes	Application Fee	☒ Yes ☐ No		☐
		Financial Assurance/ Financial Assurance Estimates	☐ Yes ☒ No	not applicable	☐
★	Yes	A copy of this application has been sent to the local district office	☒ Yes ☐ No		☐
★		A copy of this application has been sent to the local municipality	☒ Yes ☐ No		☐
★	Yes	*Record of EA Process:* 1. Class EA Completion documents, or 2. *Environmental Screening Process- Statement of Completion, or* 3. *Individual EA – Notice of Approval.*	☒ Yes ☐ No	EA - Notice of Approval (Attachment 2)	☐

Other Attachments

Title	Reference	Confidential* (√)
		☐
		☐
		☐
		☐
		☐
		☐
Are you attaching an additional list of attachments? ☐ Yes ☐ No	If there is not enough space to list all of the attachments included in this application package, please include an additional listing of these attachments.	☐

***Please note:** the release of information contained in application forms and documentation submitted in support of applications for approval is subject to the provisions of the *Freedom of Information and Protection of Privacy Act*. This Act defines what may and may not be disclosed to the public, and is used to assess all requests for information contained in the documents on file with an application for approval. The information submitted with an application for approval may also be subject to the *Environmental Bill of Rights*. In those situations, the application and the associated non-confidential supporting documentation is made available for review by members of the public. The applicants should therefore identify all documents as noted above which are to be considered confidential and must provide detailed evidence in support of this claim. This evidence will be one of the factors the ministry would consider when making a decision regarding disclosure of specific documents on file.

Ontario
Ministry of the Environment

For Office Use Only			
Reference Number	Payment Received $	Date *(y/m/d)*	Initials

Form ID: 2145142

☑ Payment Information: Application for a Provisional Certificate of Approval for a Waste Disposal Site

Please Note:

1. If you are completing this form by hand, you must attach a copy of the form titled "Costs for EPA s.27 (Waste Management) Applications - Supplement to Application for Approval" (PIBS 4186). You do not need to attach the supplemental form if you are filling in this form electronically.
2. If you are completing this form electronically, the fees for this application have been calculated based on the information you have provided. The Ministry may require additional information during the review of your application that could impact the total fee required.
3. All fees should be paid in Canadian funds, payable to the Ontario Minister of Finance.
4. Credit card payments are accepted for payments under $10,000 only.
5. If you are paying by certified cheque or money order, please staple your payment to this page.
6. Do not include this page in the copies of your application that are being provided to the local MOE Office or the local municipality(s).
7. The information collected in this section of the form is considered confidential and will only be used to process your application fee.

Amount Enclosed	Method of Payment		
$ 42,200.00	☒ Certified Cheque	☐ Money Order	☐ Journal Entry
	☐ Visa	☐ MasterCard	☐ American Express

Credit Card Information *(if paying by VISA, MasterCard or American Express)*

Name on Card *(please print)*	Credit Card Number	Expiry Date *(mm/yyyy)*
Cardholder Signature		**Date *(yyyy/mm/dd)***

If paying by certified cheque or money order, please attach it here.

APPLICATION FORM

Certificate of Approval (Waste Disposal Site)

Covanta Durham York Renewable Energy Limited Partnership

March 2011
Report No. 10-1151-0343 (5000)

Golder Associates

Ontario
Ministry of the Environment

Application for a Certificate of Approval for a Waste Disposal Site

Ce formulaire est disponible en français

Form Version 2.1

General Information and Instructions

General:

Information requested in this form is collected under the authority of the *Environmental Protection Act,* R.S.O. 1990 (EPA) and the *Environmental Bill of Rights*, C. 28, Statutes of Ontario, 1993, (EBR) and will be used to evaluate applications for approval of waste disposal sites under Section 27, EPA. Questions about this collection of information should be directed to: Information Unit Supervisor, Environmental Assessment and Approvals Branch, 2 St. Clair Ave. W, Floor 12A, Toronto ON M4V 1L5. Telephone outside Toronto 1-800-461-6290 or in Toronto 416-314-8001.

Instructions:

1. **Applicants are responsible for ensuring that they complete the most recent application form.** When completing this form, please refer to the following guidance material: the "Guide for Applying for Certificate of Approval of Waste Disposal Sites, Section 27, 30, 31 and 32, EPA," (referred to as the Guide) and "Guide - Application Cost for Waste Management, S. 27, EPA". Application forms and supporting documentation are available from the Environmental Assessment and Approvals Branch toll free at 1-800-461-6290 (locally at 416-314-8001), from your local District Office of the Ministry of the Environment, and in the "Publications" section of the Ministry of the Environment website at http://www.ene.gov.on.ca/envision/gp/index.htm#disposal**.**

2. Questions regarding completion and submission of this application should be directed to the Environmental Assessment and Approvals Branch, 2 St. Clair Avenue West, Floor 12A, Toronto, Ontario, M4V 1L5, telephone number 1-800-461-6290 or (416) 314-8001, or to your local District Office of the Ministry of the Environment.

3. A complete application consists of:

    1) a completed and signed application form;
    2) all required supporting information identified in this form, the guidance material, and
    3) a certified cheque, money order or credit card payment, in Canadian funds, made payable to the *Ontario Minister of Finance* for the applicable application fee.

    This form must be completed with respect to all requirements identified in the guidance material in order for it to be considered an application for approval**.**

    INCOMPLETE APPLICATIONS WILL BE RETURNED TO THE APPLICANT. The Ministry may require additional information during the technical review of any application initially accepted as complete.

4. The original application, along with the supporting information and the application fee, must be sent to:

    The Ministry of the Environment,
    Director, Environmental Assessment and Approvals Branch, Section 27
    2 St. Clair Avenue West, Floor 12A, Toronto, Ontario, M4V 1L5

    A copy of the application and the supporting information must be sent to the local Ministry District Office which has jurisdiction over the area where the facilities are located. To locate the appropriate local Ministry District Office, please visit the Ministry of the Environment Internet site at: www.ene.gov.on.ca/envision/org/op.htm#Reg/Dist.

    A copy of the application and the supporting information must also be sent to the local municipality (unless the application is for a revocation or an amendment that is environmentally insignificant or the applicant is a municipality). Copies shall be provided to both the upper and lower tier municipality if applicable to the area where this facility is located.

    A cover letter addressed to the Director of Environmental Assessment and Approvals Branch should accompany both submissions and indicate that a copy of the complete submission has been sent to the local District Office and local municipality(s).

5. Information contained in this application is not considered confidential and will be made available to the public upon request. Information submitted as supporting information may be claimed as confidential but will be subject to the *Freedom of Information and Protection of Privacy Act* (FOIPPA) and *EBR*. If you do not claim confidentiality at the time of submitting the information, the Ministry may make the information available to the public without further notice to you.

6. The electronic version of this form incorporates several features to assist you with completing your application. The form will calculate certain values based on the information you enter and will assist you in ensuring that all required information is included with your application. This form has been save-enabled; you can save a copy of this form that includes any information you have entered. You are encouraged to use the electronic version of this form, available on the Ministry of the Environment website at: http://www.ene.gov.on.ca/envision/gp/4181e.pdf.

Ontario
Ministry of the Environment

Application for a Provisional Certificate of Approval for a Waste Disposal Site

Ce formulaire est disponible en français

For Office Use Only			
Reference Number	Payment Received $	Date *(y/m/d)*	Initials

Form ID: 1675281

Application Summary

Applicant Name *(legal name of individual or organization as evidenced by legal documents)*

Covanta Durham York Renewable Energy Limited Partnership

✓ Project Name *(Project identifier to be used as a reference in correspondence)*

Durham York Energy Centre

✓ Project Description Summary *(If EBR is applicable, this summary will be used in the EBR posting notice)*

An Energy from Waste Facility is proposed to be constructed and operated on vacant land located on a 12.1 hectare property located in the Clarington Energy Business Park on the west side of Osbourne Road in the Regional Municipality of Durham. The facility will function to receive and thermally process municipal solid waste generated in the Regions of Durham and York. The energy content in the form of superheated steam will be used to generate electricity and potentially provide district heating. The hours of operation are 24 hours per day, 7 days per week, 365 days per year. The Facility meets all applicable air, noise waste and water environmental requirements under the Province of Ontario.

	Required Information	Completed (yes or no)
✓	**Project Name & Description**	Yes
✓	**Section 1: Applicant Information**	Yes
✓	**Section 2: Project Information**	Yes
✓	**Section 3: Site Information**	Yes
✓	**Section 4: Facility Information**	Yes
✓	**Section 5: Regulatory Requirements**	Yes
✓	**Section 6: Supporting Information**	Yes
✓	**Payment Information Section**	Yes
	Application Status: FORM COMPLETE.	**Print Completed Form**

Cost Summary:

Administrative processing *(required for most applications)*	$ 200.00
Hearing *(if mandatory or necessary)*	$ 0.00

Review of Application	$ 42,000.00
TOTAL COST	$ 42,200.00

Section 1: Applicant Information

Form ID: 1285782

1.1 Applicant Information *(Owner of works/facility)*

Applicant Name *(legal name of individual or organization as evidenced by legal documents)*	Business Identification Number
Covanta Durham York Renewable Energy Limited Partnership	3246299

Business Name *(the name under which the entity is operating or trading - also referred to as trade name)* ☒ same as Applicant Name

Covanta Durham York Renewable Energy Limited Partnership

Applicant Type:

- ☐ Corporation
- ☐ Individual
- ☒ Partnership
- ☐ Sole Proprietor
- ☐ Federal Government
- ☐ Municipal Government
- ☐ Provincial Government
- ☐ Other *(describe)*:

North American Industry Classification System (NAICS) Code

562210 Waste Treatment and Disposal

Business Activity Description *(a description of the business endeavour, this may include products sold, services provided or machinery/equipment used, etc.)*

Waste Treatment and Disposal

1.2 Applicant Physical Address

Civic Address- Street information *(includes street number, name, type and direction)*	Unit Identifier *(i.e. apartment number)*
445 South Street	

Survey Address *(Not required if Street Information is provided)*	Lot	Conc.	Part	Reference Plan

Municipality /Unorganized Township	County/District	Province/State	Country	Postal Code
Morristown		New jersey	USA	07960

Telephone Number *(include area code & ext.)*	Fax Number *(include area code)*	Mobile Number *(include area code)*	E-mail Address
(862)345-5064 *ext.*			

Geo Reference *(southwest corner of property)*

Map Datum	Zone	Accuracy Estimate	Geo Referencing Method	UTM Easting	UTM Northing
NAD83	18N	+/- 2m	Aerial Photo	544548	4513989

1.3 Applicant Mailing Address

Same as Applicant Physical Address? ☐ Yes ☒ No *(If no, please provide site address information below)*

Civic Address - Street information *(civic numbering and street information including street number, name, type and direction)*	Unit Identifier *(i.e. apartment number)*
445 South Street	

Delivery Designator	Delivery Identifier	Postal Station

Municipality	Province/State	Country	Postal Code
Morristown	New jersey	USA	07960

1.4 Statement of Applicant

I, the undersigned hereby declare that, to the best of my knowledge:

- The information contained herein and the information submitted in support of this application is complete and accurate in every way and I am aware of the penalties against providing false information as per s. 184(2) of the *Environmental Protection Act.*
- The Project Technical Information Contact identified in this form is authorized to act on my behalf for the purpose of obtaining approval under Section 27 of the EPA for the waste disposal site identified herein.
- I have used the most recent application form, as obtained from the Ministry of the Environment Internet site at http://www.ene.gov.on.ca/en/publications/forms/index.php#PartWaste or the Environmental Assessment and Approvals Branch at 1-800-461-6290.

Name of Signing Authority *(please print)*	Title
Matthew R. Mulcahy	Senior Vice President, Business Development

Telephone Number *(including area code & extension)*	Fax Number *(including area code)*	E-mail Address
(862)345-5445 *ext.*	(862)345-5150	mmulcahy@covantaenergy.com

Mobile Number *(including area code)*	Signature	Date *(y/m/d)*
(201)214-7054	Matthew R. Mulcahy	March 2, 2011

Section 2: Project Information

2.1 Application Type

Type of Application:

- [x] New Certificate of Approval
- [ ] New Comprehensive Certificate of Approval
- [ ] Amendment to Current Certificate of Approval
- [ ] Convert Existing Approval to Comprehensive Certificate of Approval
- [ ] Administrative Amendment to Current Certificate of Approval
- [ ] Revocation
- [ ] Compliance with Conditions of the Existing Approval

Is this a submission for Preliminary Review of your application?

- [ ] Yes
- [x] No

If yes, the application must be complete and finalized before you submit it for Preliminary Review.

Application Initiated by:

- [x] Proponent
- [ ] Environmental Assessment and Approvals Branch
- [ ] Provincial Officer Order (attach copy)
- [ ] Other (specify):

Current Certificate of Approval

Certificate of Approval Number	Certificate of Approval Date of Issue *(yyyy/mm/dd)*

Project Schedule

Estimated date for start of construction/installation *(yyyy/mm/dd)*	Estimated date for start of operation *(yyyy/mm/dd)*
2011/06/01	2014/01/01

Comprehensive Certificate of Approval – Eligibility Screening Questionnaire

Screening Result: You are not required to complete the screening questionnaire

2.2 Project Technical Information Contact

Name of Project Technical Information Contact	Company
Samuel S. Joshi	Covanta Energy Corporation

Telephone Number *(include area code & ext.)*	Fax Number *(include area code)*	Mobile Number *(include area code)*	E-mail Address
(862)345-5064 *ext.*	(862)345-5210	(862)485-7438	SJoshi@covantaenergy.com

Address Information:

Same as Applicant Mailing Address? [ ] Yes [x] No *(If no, please provide technical information contact address information below)*

Civic Address - Street information *(civic numbering and street information including street number, name, type and direction)*	Unit Identifier *(i.e. apartment number)*
445 South Street	

Delivery Designator	Delivery Identifier	Postal Station

Municipality /Unorganized Township	Province/State	Country	Postal Code
Morristown	New jersey	USA	07960

Section 3: Site Information

Form ID: 1675281

3.1 Site Address - *(location where activity/works applied for is to take place)*

Same as Applicant Physical Address? ☐ Yes ☒ No (If no, please provide site address information below)

Civic Address- Street information *(includes street number, name, type and direction)*	Unit Identifier *(i.e. apartment number)*
72 Osbourne Road	

Survey Address *(Legal description of the site)*	Lot	Conc.	Part	Reference Plan
	27	Broken Front	1	40R-26782

Municipality /Unorganized Township	County/District	Postal Code
Municipality of Clarington	Region of durham	L1E 2R2

Non Address Information *(includes any additional information to clarify applicants' physical location)*

Geo Reference *(southwest corner of property)*

Map Datum	Zone	Accuracy Estimate	Geo Referencing Method	UTM Easting	UTM Northing
NAD83	17	+/- 5m	Firstbase map	680425.041	4860195.229

3.2 Site Information - *(location where activity/works applied for is to take place)*

Site Name	MOE District Office
Durham York Energy Centre	York-Durham District Office

Is the site (property) that is the subject of this application owned by the Applicant?

☐ Yes ☒ No ***If no, please attach the owner's name, address and a signed letter granting consent for the installation and operation of the facilities***

Is the Applicant the operating authority of the site that is the subject of this application?

☒ Yes ☐ No ***If no, please attach the operating authority name, address and phone number***

Is the Site located in an area of development control as defined by the Niagara Escarpment Planning & Development Act (NEPDA)?

☐ Yes ☒ No ***If yes, please attach a copy of the NEPDA permit for proposed activity/work***

Is the Site located on the Oak Ridges Moraine Conservation Area as defined by the Oak Ridges Moraine Conservation Plan (ORMCP), a regulation made under the Oak Ridges Moraine Conservation Act (ORMCA)?

☐ Yes ☒ No ***If yes, please attach proof of Municipal planning approval for the proposed activity/work***

3.3 Site Zoning and Classification

Present Land Use	Present Official Plan Designation	Present Zoning Category
Vacant	Urban System - Employment Area	Energy Park General Industrial

Adjacent Land Use *(select all that apply)*

☒ Industrial ☐ Commercial ☐ Residential

☐ Agricultural ☐ Recreational ☐ Other*(specify)*:

Does the site currently have proper zoning for the proposed facility?	Has this facility been identified as part of the Official Plan?
☒ Yes ☐ No	☐ Yes ☒ No

Has the Applicant received municipal zoning confirmation?

☒ Yes ☐ No ***If yes, please attach correspondence from the municipality***

Section 4: Facility Information

Form ID: 1675281

4.1 Facility Description *(information on the nature of the proposed business or activity at this site)*

Type of Facility / Operation *(select all that apply & complete all appropriate sections)*

- [ ] Landfill
- [ ] Transfer
- [ ] Processing
- [x] Thermal Treatment Facility
- [ ] Household Hazardous Waste
- [ ] Closed Landfill
- [ ] Composting

Days and Hours of Operation	Population Served by this Site *(#)*	Service Area	Total Area of Site *(hectares)*
365 days /year, 24 hours/day	1,800,000	Regions of Durham and York	12.10

Monitoring *(select all that apply)*

- [x] Groundwater
- [x] Surface Water
- [ ] Landfill Gas
- [ ] Leachate
- [ ] None
- [x] Other*(specify)*: Air

Type(s) of Waste to be Accepted at this Site *(select all that apply)*

- [x] Municipal Waste
- [ ] Hazardous Waste
- [ ] Liquid Industrial Waste
- [ ] Other Liquid Waste

Municipal Waste Categories to be Accepted at this Site *(select all that apply)*

- [ ] All Categories
- [x] Domestic Sources
- [x] IC&I sources
- [ ] Source Separated Organics
- [ ] Tires
- [ ] Leaf & Yard Waste
- [ ] Contaminated Soil
- [ ] Wood Waste
- [ ] Blue Box Materials
- [ ] Other*(specify)*:

Other Liquid Waste Categories to be Accepted at this Site *(select all that apply)*

- [ ] Processed Organics
- [ ] Waste from Food Processing / Preparation Operations
- [ ] Hauled Sewage
- [ ] Other*(specify)*:

Hazardous / Liquid Industrial Waste Types to be Accepted at this Site

Class Code	Class Code	Class Code	Class Code	Class Code	Class Code	Class Code	Class Code	Class Code

4.2 Other Approvals for Facility – *Please attach a separate list if more space is required*

Separate list attached? [ ] Yes [x] No

List all other environmental approvals/permits applied for related to this project or received in relation to this project under the *Environmental Protection Act* (discharges to air, waste management, etc.) and the *Ontario Water Resources Act* (water and sewage works).

Approval Type	Approval Number	Approval or Application Date *(yyyy/mm/dd)*	Approval Type	Approval Number	Approval or Application Date *(yyyy/mm/dd)*
Air & Noise (EPA s.9)					
Sewage Works (OWRA s.53)					

4.3 Waste Transfer and/or Processing – *Complete this information if waste transfer and/or processing take place at this facility.*

Waste Types to be Transferred or Processed	Design Capacity	
[ ] Hazardous waste or liquid industrial waste	[ ] ≤ 100 tonnes per day	[ ] > 100 tonnes per day
[ ] Waste other than hazardous waste and liquid industrial waste	[ ] ≤ 100 tonnes per day	[ ] > 100 tonnes per day

You are not required to complete section 4.3.

Liquid Waste

Maximum Storage Capacity *(m^3)*			Maximum Residual for Final Disposal *(m^3)*					
Hazardous	Liquid Industrial	Other Liquid Waste	Hazardous		Liquid Industrial		Other Liquid Waste	
			Daily	Annually	Daily	Annually	Daily	Annually

Solid Waste

Maximum Storage Capacity *(tonnes)*		Maximum Residual for Final Disposal *(tonnes)*			
Hazardous	Non-Hazardous	Hazardous		Non-Hazardous	
		Daily	Annually	Daily	Annually

Maximum Amount of Waste to be Received Daily

Liquid *(m^3)*			Solid *(tonnes)*	
Hazardous	Liquid Industrial	Other Liquid Waste	Hazardous	Non-Hazardous

Change to Operations

- [ ] No change proposed
- [ ] Change does not require fundamental design review
- [ ] Change requires fundamental design review

4.4 Thermal Treatment Facility – *Complete this information if thermal treatment takes place at this facility*

Waste Types for Thermal Treatment	Design Capacity		
☐ Hazardous waste or liquid industrial waste	☐ ≤ 100 tonnes per day	☐ > 100 tonnes per day	
☒ Waste other than hazardous waste and liquid industrial waste	☐ ≤ 100 tonnes per day	☒ > 100 tonnes per day	

Liquid Waste

Maximum Storage Capacity (m^3)			Maximum Residual for Final Disposal (m^3)					
Hazardous	Liquid Industrial	Other Liquid Waste	Hazardous		Liquid Industrial		Other Liquid Waste	
			Daily	Annually	Daily	Annually	Daily	Annually

Solid Waste

Maximum Storage Capacity (tonnes)		Maximum Residual for Final Disposal (tonnes)			
Hazardous	Non-Hazardous	Hazardous		Non-Hazardous	
		Daily	Annually	Daily	Annually
	4,380.00			400.00	56,000.00

Maximum Amount of Waste to be Received Daily

Liquid (m^3)			Solid (tonnes)	
Hazardous	Liquid Industrial	Other Liquid Waste	Hazardous	Non-Hazardous
				1,520.00

Maximum Daily Feed Rate ($tonnes/m^3$)

Hazardous Waste (tonnes)	Non-Hazardous Waste (tonnes)	Liquid Industrial Waste (m^3)	Other Liquid Waste (m^3)
	540.00		

Change to Operations

☐ No change proposed ☐ Change does not require fundamental design review ☐ Change requires fundamental design review

4.5 Landfill Site – *Complete this information if this facility operates as a landfill site*

Waste Types to be Accepted at the Landfill	Design Capacity		
☐ Hazardous waste or liquid industrial waste	☐ ≤ 40,000 m³	☐ > 40,000 m³ ≤ 3 million m³	☐ > 3 million m³
☐ Waste referred to in item 15 Schedule 4, O. Reg. 363 (uncontaminated tree stumps, leaves, branches, concrete and rocks)	☐ ≤ 40,000 m³	☐ > 40,000 m³ ≤ 3 million m³	☐ > 3 million m³
☐ Waste other than hazardous waste and liquid industrial waste, other than site referred to in item 15, schedule 4, O. Reg. 363	☐ ≤ 40,000 m³	☐ > 40,000 m³ ≤ 3 million m³	☐ > 3 million m³

You are not required to complete section 4.5.

Maximum Landfilling Capacity (m^3)

Hazardous Waste	Non-Hazardous Waste	Liquid Industrial Waste	Other Liquid Waste

Maximum Amount of Waste to be Received

Hazardous Waste (tonnes)		Non-Hazardous Waste (tonnes)		Liquid Industrial Waste (m^3)		Other Liquid Waste (m^3)	
Daily	Annually	Daily	Annually	Daily	Annually	Daily	Annually

Landfill Information

Area to be Landfilled (hectares)	Estimated Date of Closure (y/m/d)	Control Types (select all that apply)
		☐ Leachate Collection ☐ Landfill Gas Collection ☐ None
		☐ Other (describe):

Change to Operations

☐ No change proposed ☐ Change does not require fundamental design review or hydrogeological assessment ☐ Change requires fundamental design review or hydrogeological assessment

Section 5: Regulatory Requirements

Form ID: 1675281

5.1 Environmental Assessment Act (EAA) Requirements

Are the works for which this proposal is made subject to (or exempted from) the requirements of the EAA? ☒ Yes ☐ No

If "Yes," please check one of the following

☐ The works for which this application is made are exempt from the requirements of the EAA under:

☐ Section _____ of Ontario Regulation No. _____ **or**

☐ Declaration/Exemption Order Number _____

If Regulation, Declaration Order or Exemption Order does not refer directly to this facility, state in a covering letter or other document why it does apply to this facility – ***Please provide supporting information***

☐ The works for which this application is made have fulfilled all of the requirements of the EAA through the completion of the requirements of a Class EA process:

Name of Class EA: _____

Schedule/Group/Category (if applicable): _____

If applicable, please submit a copy of the completion documents.

Were Part II Order requests received? ☐ Yes ☐ No *If Yes, please submit a copy of the Minister's decision letter.*

☒ The works for which this application is made have fulfilled all of the requirements for the EAA through:

☐ Completion of an Environmental Screening Process pursuant to O. Reg. 101/07 of the EAA.

Please submit the Statement of Completion, and indicate if any Elevation Request(s) were received.
If Elevation Request(s) were received, please submit a copy of the Director's decision letter.

☒ Completion of an Environmental Assessment

Please submit a copy of the signed Notice of Approval.

5.2 Hearing under the *Environmental Protection Act*

Is this application subject to a requirement for a mandatory hearing under s.30 of the *Environmental Protection Act*?

☐ Yes ☒ No

5.3 Environmental Bill of Rights (EBR) Requirements

Is this a proposal for a prescribed instrument under EBR? ☒ Yes ☐ No

If "Yes", is this proposal exempted from EBR requirements? ☒ Yes ☐ No

If "Yes," please check one of the following

☐ This proposal has been considered in a substantially equivalent process or by a decision of a tribunal. ***Please provide supporting information***

☐ This proposal is for an amendment to or revocation of an existing Certificate of Approval that is not environmentally significant. ***Please provide supporting information***

☐ This proposal is for an emergency situation. ***Please provide supporting information***

☒ This proposal has been subject to or exempted from EAA Requirements. ***Please provide supporting information***

5.4 Additional Public Consultation/Notification

Has any additional public consultation / notification related to the project is in the process of being completed or has previously been completed *(such as public hearings or notification of First Nations)*

☒ Yes ☐ No

If "Yes",
1) describe the public consultation / notification below;
2) attach a separate list describing each of these consultation activities, the results achieved, and planned future consultation activities.

See Attached Public Consultation Report

Section 6: Supporting Information

6.1 Supporting Information Checklist - *This is a list of all supporting information to this application and is subject to the FOIPPA and EBR.*

	Mandatory	Attachment	Attached	Reference	Confidential* (√)
★		Proof of Legal Name of Applicant	☒ Yes ☐ No	Not required for Municipalities; required for Covanta (Attachment 5)	☐
		Copy of NEPDA Permit	☐ Yes ☒ No	not applicable	☐
		Copy of Municipal Planning Approval (ORMCA)	☐ Yes ☒ No	not applicable	☐
★	Yes	Reference Plan	☒ Yes ☐ No	Figure 1 in Attachment 1	☐
★	Yes	Name, Address and Phone Number of the Operating Authority	☒ Yes ☐ No		☐
		Name, Address and consent of land/site owner for the installation/construction and operation of the works/facility	☐ Yes ☒ No	Land owned by Region	☐
★	Yes	Verification of EBR Public Participation Exception	☒ Yes ☐ No	EA - Notice of Approval (Attachment 2)	☐
★		Record of Public Consultation Report	☒ Yes ☐ No	Attachment 3	☐
★		Zoning Confirmation from the Municipality	☒ Yes ☐ No	The Municipality has executed a Host Community Agreement signed February 18 2010 (Attachment 4)	☐
★	Yes	Site Plan/Location Map with Geo-referencing point(s) identified	☒ Yes ☐ No	Figure 1 in Attachment 1	☐
★	Yes	Design and Operations Report	☒ Yes ☐ No	Attachment 1	☐
		Drainage Study	☐ Yes ☒ No	not applicable	☐
		Hydrogeolocial Assessment Report	☐ Yes ☒ No	not applicable	☐
		Waste Comprehensive Requirements 1. *Engineers Report* 2. *Declarations*	☐ Yes ☒ No	not applicable	☐
★		Application Fee	☒ Yes ☐ No		☐
		Financial Assurance/ Financial Assurance Estimates	☐ Yes ☒ No	not applicable	☐
★	Yes	A copy of this application has been sent to the local district office	☒ Yes ☐ No		☐
★		A copy of this application has been sent to the local municipality	☒ Yes ☐ No		☐
★	Yes	*Record of EA Process:* 1. Class EA Completion documents, or 2. *Environmental Screening Process- Statement of Completion, or* 3. *Individual EA – Notice of Approval.*	☒ Yes ☐ No	EA - Notice of Approval (Attachment 2)	☐

Other Attachments

Title	Reference	Confidential* (√)
		☐
		☐
		☐
		☐
		☐
		☐
Are you attaching an additional list of attachments? ☐ Yes ☐ No	If there is not enough space to list all of the attachments included in this application package, please include an additional listing of these attachments.	☐

***Please note:** the release of information contained in application forms and documentation submitted in support of applications for approval is subject to the provisions of the *Freedom of Information and Protection of Privacy Act*. This Act defines what may and may not be disclosed to the public, and is used to assess all requests for information contained in the documents on file with an application for approval. The information submitted with an application for approval may also be subject to the *Environmental Bill of Rights*. In those situations, the application and the associated non-confidential supporting documentation is made available for review by members of the public. The applicants should therefore identify all documents as noted above which are to be considered confidential and must provide detailed evidence in support of this claim. This evidence will be one of the factors the ministry would consider when making a decision regarding disclosure of specific documents on file.

Ontario
Ministry of the Environment

For Office Use Only			
Reference Number	Payment Received $	Date *(y/m/d)*	Initials

Form ID: 1675281

☑ Payment Information: Application for a Provisional Certificate of Approval for a Waste Disposal Site

Please Note:

1. If you are completing this form by hand, you must attach a copy of the form titled "Costs for EPA s.27 (Waste Management) Applications - Supplement to Application for Approval" (PIBS 4186). You do not need to attach the supplemental form if you are filling in this form electronically.
2. If you are completing this form electronically, the fees for this application have been calculated based on the information you have provided. The Ministry may require additional information during the review of your application that could impact the total fee required.
3. All fees should be paid in Canadian funds, payable to the Ontario Minister of Finance.
4. Credit card payments are accepted for payments under $10,000 only.
5. If you are paying by certified cheque or money order, please staple your payment to this page.
6. Do not include this page in the copies of your application that are being provided to the local MOE Office or the local municipality(s).
7. The information collected in this section of the form is considered confidential and will only be used to process your application fee.

Amount Enclosed	Method of Payment		
$ 42,200.00	☒ Certified Cheque	☐ Money Order	☐ Journal Entry
	☐ Visa	☐ MasterCard	☐ American Express

Credit Card Information *(if paying by VISA, MasterCard or American Express)*

Name on Card *(please print)*	Credit Card Number	Expiry Date *(mm/yyyy)*
Cardholder Signature		**Date** *(yyyy/mm/dd)*

If paying by certified cheque or money order, please attach it here.

ATTACHMENT 1

Design and Operations Report

March 2011

DURHAM YORK ENERGY CENTRE

Design and Operations Report in Support of Environmental Protection Act Section 27 Certificate of Approval (Waste) Application

Submitted to:

Ontario Ministry of the Environment
Director Section 27
Environmental Assessment and Approvals Branch
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

REPORT

Report Number: 10-1151-0343 (5000)

Golder Associates

Definitions

“Environmental Assessment” means the document titled Durham/York Residual Waste Study Environmental Assessment Study Document (As amended November 27, 2009).

“Non Hazardous Municipal Solid Waste” means the waste that is generated within the Regional Municipalities of Durham and York and collected at Regional facilities and direct haul from curbside vehicles as part of the proponent’s municipal collection process.

"Processed Waste" means waste that has been sorted, baled, mulched or otherwise handled to allow the waste to be diverted for recycling.

“Proponent” means the Regional Municipality of Durham and the Regional Municipality of York.

“Site” means the 12.1 hectare parcel of land referred to as Clarington 01 in the environmental assessment and is located south of Highway 401 on the west side of Osbourne Road and north of the CN Rail corridor in the Municipality of Clarington.

“Residual Waste” means waste that is destined for final disposal or further processing at an approved waste disposal facility.

“Undertaking” means the construction and operation of a thermal treatment waste management facility on the Site, as set out in the environmental assessment.

“MCR” Maximum Continuous Rating (see Appendix A).

Units of Measure

Mass/Weight

t – Metric tonne

Mg – Mega grams

Kg – kilogram

g – Gram

Mg – milligrams

µg – microgram

Distance

m – metre

Km – kilometre

Power

W – Watt

kW -- kilowatt

MW – megawatt

Area

m^2 – square metre

Volume

L – Litre

mL – millilitre

m^3 – cubic metre

Rm^3 and DSm^3 – dry cubic metre of flue gas corrected to standard conditions (25°C, 101.3kPa, 11% O_2) as defined by MOE APC on Incinerators Policy 01-03-02

Time

s – second

min – minute

hr – hour

wk – week

y – year

Miscellaneous

% – percent

°C – temperature in degrees Celsius

Hz – Hertz

kPa – kilopascals

MPa – Megapascals

KVA – Kilovolts Ampere

ou – odour unit

MJ – Mega joule

GJ – Giga joule

MMBTU – One Million British Thermal Unit

N – Newton

ppmdv – part per million by dry volume

ppmv – part per million by volume

ppm – part per million

V – Volt

Vdc – Volts direct current

Acronyms

AAR – Acoustic Assessment Report

AODA – Accessibility for Ontarians with Disabilities Act

ACC – Air Cooled Condenser

APC – Air Pollution Control

CA – Combustion Air

CEM – Continuous Emission Monitoring

CN – Canadian National

CofA – Certificate of Approval

Covanta – Covanta Energy Corporation

DAS – Data Acquisition System

DCS – Distributed Control System

Durham-York – The Regional Municipalities of Durham and York

EA – Environmental Assessment

EAAB – Environmental Assessment and Approvals Branch

ECP – Emergency & Contingency Plan

ESC – Erosion and Sediment Control

Facility – The proposed Durham York Energy Centre

HHV – Higher Heating Value

HVAC – Heating, Ventilating and Air Conditioning

IC&I – Industrial, Commercial and Institutional

ID – Induced Draft

IGR – Internal Gas Recirculation

I/P – Current-to-pressure

IR – Infrared

LPM – Litres per Minute

MCC – Motor Control Centre

MCTD – Maximum Continuous Turndown

MHSW – Municipal Hazardous and Special Waste

MOE – Ontario Ministry of the Environment

MSW – Municipal Solid Waste

NFe – Non-Ferrous

NO_x – Nitrogen Oxides

NPSH – Net Positive Suction Head

OJT – On the Job Training

O.Reg – Ontario Regulation

POR – Points of Reception

RF – Radiofrequency

RPM – Revolutions per Minute

SNCR – Selective non-Catalytic Reduction

SOP – Standard Operating Procedures

SSO – Source Separated Organic

SWMP – Stormwater Management Pond

TG – Turbine-Generator

TSSA –Technical Standards and Safety Authority

UPS – Uninterruptable Power Supply

VFD – Variable Frequency Drive

VWO – Valves Wide Open

WEEE – Waste Electronics and Electrical Equipment

WHMIS – Workplace Hazardous Materials Information System

WPCP – Water Pollution Control Plant

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Specifications Summary

Proponent:	The Regional Municipalities of Durham and York
Operation Reference:	Durham York Energy Centre
Address:	72 Osbourne Road, Courtice, Ontario, L1E 2R2 Clarington Energy Business Park, Clarington, Ontario
Technology:	Martin GmbH Reverse Reciprocating Stoker Grate
Waste Streams:	Municipal Solid Waste
Site Size:	12.1 hectares
Operating Days:	365 days per year
Hours of Operation:	Operating Hours: 24 hours / day (7 days / week)
Annual Maximum Waste Thermally Treated:	140,000 tonnes

1.0 INTRODUCTION

The Regional Municipalities of Durham and York ("Durham-York") are developing an Energy from Waste Facility (the "Facility") located on the west side of Osbourne Road, south of Highway 401 and north of a Canadian National (CN) Rail Corridor in the Municipality of Clarington (see Figure 1). Covanta Energy ("Covanta") will design, build and operate the Facility. The Facility is a Thermal Treatment Facility, capable of processing post-diversion residual waste and recovering materials and energy to export to the marketplace. Only non-hazardous municipal solid waste (MSW) collected at Regional facilities from municipal collection and direct haul from curbside vehicles within the jurisdictional boundaries of the Regional Municipalities of Durham and York will be accepted at the Facility.

An Environmental Assessment (EA) Study has been completed to address the Durham-York's solid waste needs and long-term disposal requirements. The Ontario Ministry of the Environment (MOE) Notice of Approval to Proceed with the Undertaking was published in November 2010 (Appendix B).

This report is a Design and Operations Report for the Facility and has been prepared in support of the application for a CofA for a thermal treatment Facility under Part V of the *Environmental Protection Act.* It describes the design and operations of the proposed Facility and has been written in accordance with the MOE *Guide for Applying for Approval of Waste Disposal Sites* (September 2010). Table 1 summarizes the MOE Design and Operation Report requirements and their corresponding locations in this document.

Table 1: Design and Operations Report Conformity Summary

Requirement	Report Section
Thermal Treatment Facility	
Site Plan/Location Map	Figure 1
Waste Sources, Types and Quantities	5.5, and Appendix E
Maximum Quantity of each Type of Waste	Appendix E
Description of Thermal Treatment Process	6.0
Description of Thermal Treatment Unit Design	6.0, 7.0, 9.0
Description of all Residual Wastes Generated	8.0
Monitoring and Control Programs A)Noise B)Odour C)Litter D)Dust E)Vermin/Pest	13.0
Emergency Operation and Contingency Plan	12.0
Record Keeping, Reporting, Labelling, Complaint, Monitoring Procedures	15.0
Stormwater Management Plan	11.0
Site and Waste Handling Procedures	5.0, and Appendix D
Site Fencing, Security, Access and Hours of Operation	3.0
Facility Maintenance and Inspection	14.0
Staff Training and Qualifications of Staff	15.1
Noise Impact and Mitigation	13.1
Decommissioning Plan	16.0

All process data and descriptions presented in this report are current to the level of Facility design at this time and will be refined as required or appropriate during completion of the detailed design of the Facility. These changes will not result in material changes to Facility operations.

This Design and Operations Report will evolve with the progression of the Facility. As such, Covanta and Durham-York will periodically review the relevant sections of the Design and Operations Report to ensure it is accurate and effective, and will complete updates, as required. These updates can be submitted to the MOE and added to the CofA for which approval is sought by amending notice.

1.1 Function of Site

The Facility will provide a safe and environmentally acceptable method of waste disposal through thermal waste treatment and will generate electrical power via a steam-turbine generator. The net electricity produced by the Facility will be sent out to the local grid and distributed by HydroOne Inc. The Facility will also have provisions to extract steam from the process to supply heat to a future hot water district heating loop that could service the neighbouring Courtice Water Pollution Control Plant (WPCP) and the surrounding Clarington Energy Park. Additionally, the Facility will recover ferrous and non-ferrous metals from the ash residue stream for recycling.

The Facility will include two mass-burn thermal treatment units; each with a nominal nameplate capacity of 218 tonnes/day (Maximum Continuous Rating (MCR)) designed to annually process up to 140,000 tonnes of waste with an average higher heating value (HHV) of 13.0 MJ/kg. The HHV of 13.0 MJ/kg was determined based on waste characterization studies performed by Durham-York. The thermal treatment units will be designed to process solid waste having an HHV ranging from 8.4 MJ/kg to 15 MJ/kg; therefore, actual waste processing rates will vary based on waste heating value. Each unit incorporates an independent process train with a combustion grate, boiler and air pollution control equipment, which can continue to process MSW if the other process train is not operating (see Figure 2).

It is anticipated that over the 35 year planning period, the maximum design capacity of the Facility could be up to 400,000 tonnes per year. The expansion of the Facility beyond the approved capacity of 140,000 tonnes per year would be subject to environmental screening requirements under Ontario Regulation 101/07, as amended, or the applicable piece of legislation at the time of expansion. In addition, an amended CofA would be required.

Solid waste delivered to the Facility will be received within an enclosed tipping building and discharged into a concrete solid waste storage pit. MSW mixing and handling in the refuse pit, and MSW feeding into the boilers will be handled by two refuse cranes designed to accommodate the increased processing capacity of the first expansion of the Facility.

Once fed into the feed hopper and down the feed chute, the MSW is charged into the furnace by a hydraulic ram feeder and then travels across a Martin reverse reciprocating stoker-grate. The grate runs are independently and variably controlled to thoroughly mix the MSW and promote complete combustion over a range of MSW characteristics and moisture content.

Natural gas will be used as auxiliary fuel for start-up and shutdown and its use will comply with good combustion practices and the Facility's environmental approval limits. Bottom ash and grate siftings collected in the boiler hoppers will be quenched in the ash dischargers. Residue will be drained of free moisture as the ash is discharged onto a vibratory conveyor. The conveyor will transport the material to the ferrous and non-ferrous

metals recovery systems, with the remaining residue discharged to the residue storage building where it will await transport to a licensed disposal facility. Fly ash and reaction products from the scrubber and baghouse hoppers will be transported to the fly ash conditioners by a dedicated enclosed screw and drag chain conveyor system. The fly ash conditioners will thoroughly mix and stabilize the ash and deposit the conditioned material into a dedicated bunker in the residue building. Residue will be loaded into vehicles for transport to a licensed disposal site.

Superheated steam will be generated in the boilers and a steam distribution header will carry the steam to the turbine generator, which will have a nameplate rating of approximately 20 megawatt (MW). The turbine will exhaust to an air-cooled steam condenser.

Flue gases from the boiler will be directed through the air pollution control system consisting of a scrubber in series with a fabric filter (baghouse). The Covanta VLN™ process will be incorporated into the boiler and grate design to control and reduce Nitrogen Oxide (NO_x) emissions. In addition, an ammonia-based Selective Non-Catalytic Reduction (SNCR) system will provide for further NO_x reduction. Refer to section 7.1 for more information pertaining to VLN™ and SNCR. A single stack and flue (common to both thermal treatment units) will be erected according to good engineering practice for safe distribution of the flue gas. The stack shell will be large enough to incorporate an additional flue for the first expansion.

2.0 SITE LOCATION AND LAND-USE

The Facility will be situated on undeveloped land, which is owned by the Region of Durham in the Municipality of Clarington. The site is 12.1 hectares in size and is located in the Clarington Energy Business Park south of Highway 401. The site is located on the west side of Osbourne Road, north of the CN Rail corridor. The closest commercial property is Manheim's Auto Auction, north of the Site, and Coparts Auto Auction, east of the Site, both of which are located within 1 km of the Site. The lands east and west of the Site are mostly undeveloped and are currently used for agricultural purposes. The Courtice WPCP is located directly south of the Site, and the Darlington Nuclear Generating Station is located approximately 1.8 kilometres to the east. The nearest major intersection is Highway 401 and Courtice Road, which is about 1.7 kilometres from the Site. A Site location plan is provided as Figure 1. The legal survey for the Site is shown in Figure 3.

The information provided below outlines the regional and local land use designations and zoning applicable to the site.

The Land Use Designation Plan and Zoning for the Site and surrounding area are provided in Figures 4 through 7. In general, the official plan and zoning designations of this site permits a waste to energy facility. Amendments to the Regional Municipality of Durham Official Plan, the Municipality of Clarington Official Plan (and corresponding Secondary Plan), and the Municipality of Clarington Zoning By-Law 84-63 are not required to permit the proposed municipal Facility. The Regional Municipality of Durham signed a Community Host Agreement with the Municipality of Clarington to host the Facility.

Official Plan of the Regional Municipality of Durham (Figure 4):

Designation: Urban System - Employment Area

Municipality of Clarington Official Plan (Figure 5):

Designation: Employment Areas - Business Park

Clarington Energy Business Park Secondary Plan (Figure 6):

Designation: Light Industrial 1 (north portion of the site) and Light Industrial 2 (southern portion of the Site)

Municipality of Clarington Zoning By-Law 84-63 (Figure 7):

Designation: Energy Park Light Industrial ((H) ML1) Zone and Energy Park General Industrial ((H) ML2) Zone

3.0 SITE LAYOUT

3.1 Overview

The Facility will be located on a 12.1 hectare property in the Clarington Energy Business Park as shown in Site location plan (see Figure 1). An integral part of the site layout is site access/egress, signage, roadways, traffic, landscaping, fencing and security. The scale house will be the controlling point for the Site access.

The overall building location plan is provided in Figures 8 and 9. The main building of the Facility will house the tipping area, MSW storage area, boiler enclosures and the air pollution control equipment in line. On the east side of the main building is the administration building, control and electrical rooms, and turbine building. Located in a separate building to the west of the main building is the grizzly and residue storage building. Near the east corner of the site is the Visitor's Centre.

The air cooled condenser will be located near the turbine-generator (TG) building. The switchyard will be located near to the electrical generation source, which will be coordinated with the location of the air cooled condenser and the aesthetics of the plant.

3.2 Access/Egress

Access and egress will meet or exceed all of the required codes and regulations including the Ontario Building Code, and any codes and ordinances of the Municipality of Clarington. Additionally, access for the disabled will be provided in those areas designated by the local code and in accordance with *Accessibility for Ontarians with Disabilities Act* (AODA).

The Facility will have a dedicated entrance road and entrance for trucks, as well as a public and employee parking lot. There are two proposed routes for refuse trucks to access the Facility. For route 1, trucks will exit Highway 401 at either the Holt Road or Courtice Road onto the South Service Road and then down Osbourne Road to access/leave the Site. For route 2, refuse trucks will use Highway 401, followed by a dedicated service road off of Courtice Road to access the Site. General truck access/egress routes are illustrated in Figures 8 and 9 respectively.

Adequate parking and manoeuvring areas will be provided for both Facility staff and visitors. There will be at least 65 marked parking spaces for employees and visitors, and 2 bus spaces on the north east corner of the Facility in the area adjacent to the Visitor's Centre.

3.3 Hours of Operation

The Facility's operating schedule will be on a continuous basis; 24 hours/day, 7 days/weeks, 365 days/year. MSW will be delivered up to 6 days a week between 7:00am to 7:00pm, except on statutory holidays. The proposed operating schedule may vary depending on demand and Facility needs.

3.4 Staffing

The Facility is expected to operate with an average of approximately 35 employees during normal operations. The employees are categorized into the following groups: management, administration, operations and maintenance. Note that this number does not include visitors, Regional staff, as well as construction and outage personnel.

3.5 Signage

3.5.1 Outdoor

Identification signs, directional signs and traffic controls signs, signals, lane divider markings, and painted pavement marking within the Facility site for disabled persons, and control of vehicles to and on the site will be furnished and installed. In addition to traffic control signage, there will be a sign erected during the construction phase describing the nature of the Facility and authorizing authorities. A permanent sign describing the Facility, approved by Durham-York, and compatible with the architecture of the Facility, will be erected prior to, or upon acceptance of the Facility. In addition, a Facility identification sign will be installed at the main entrance of the Facility, which includes 24-hour contact information to report emergencies or complaints.

The Site signage system will direct all suppliers and visitors to the appropriate areas for their specific business at the Facility.

Moreover, an electronic display board will be located on or near the Visitor's Centre showing the most recent emissions results for key parameters.

3.5.2 Indoor

Signs and graphic designs for identification and directions will be provided. Signage such as Exits, Fire Escape diagrams, building labels, door labels for room use and pipe labels will be employed for safety, ease of operation and direction. The signage system used will provide simple and direct indications using graphics, colour and/or text. Additionally, at the scale house there will be a clear visible notice of prohibited wastes along with a clear warning of potential hauler bans and other penalties for violators.

3.6 Roadways

Traffic patterns have been designed to minimize crossing traffic, as well as maximize views (sight distances) especially at road intersections.

Roadways will either be asphaltic concrete or reinforced concrete designed for the appropriate loading conditions. Asphalt pavement will be either conventional multi-layered system of sub-base, aggregate base, asphalt binder and surface course, or full depth asphalt pavement. The pavement thickness will be appropriately selected based on plant traffic. Covanta will have a dedicated street sweeper on-site to ensure that roads are maintained in a clean condition.

The maintenance road leading to the boiler building is unpaved (refer to Figures 8 and 9). This road is accessed infrequently and only for the purpose of inspecting and maintaining the boilers. Covanta will employ appropriate dust control measures if necessary on this roadway.

Table 2: Preliminary Breakdown of Road Surfaces

Road	Paved	Crushed Stone
Main Entrance/exit and plant periphery	✓	
Residue Building	✓	
Grizzly Building	✓	
Tipping Building and Tipping building ramps	✓	
Parking areas	✓	
Turbine-Generator, and Air Pollution Control	✓	
Switchyard		✓
Fire Water Tanks		✓
Maintenance Road leading to Boiler Building		✓
Continuous Emission Monitoring (CEM) enclosure	✓	
Ammonia tank storage area	✓	
Carbon and lime silos	✓	
Air-cooled condenser		✓

3.7 Fencing and Security

Security of the Facility includes a combination of measures including, personnel, video recording and proper lighting. The entrance gate will be closed and locked when the scale house is not operational and is under camera surveillance at all times. The entire Facility is enclosed with a security fence. A separate security fence with a locked gate will be provided around the switchyard. Security lighting is provided at the exterior of all buildings and in the parking lots. The closed circuit television system will include a TV camera for the entrance.

Sufficient outdoor lighting of roads, walkways and parking areas will be provided to ensure the safety and security of all operations at the Facility, the safe movement of people and vehicles, and adequate security. The exterior of the buildings will also be adequately lit for safe night operations. All doors, both overhead and personnel passage doors, will have artificial lighting for safety.

All parking areas will have artificial lighting that will meet local codes and standards.

All visitors arriving at the Site will be required to sign in and follow the Facility safety procedures. Visitors to the Facility will be escorted by Facility staff at all times in designated areas or appropriately monitored.

3.8 Landscaping

The landscape design will compliment the building's aesthetic theme as well screen some views of the Facility. The location of trees and shrubs will consider safety and sight lines, especially at roadway intersections.

Plants and trees will be native to the local climate and hardy for the adverse conditions that they may encounter at the Site. The local soil conditions and the frequency and intensity of rainfall will be considered in the selection and application of planting materials. Protection of the soils from erosion until suitable ground cover can be established will be considered. Also, lawn and landscaping will be constructed to take full advantage of natural rainwater seepage into the ground. Manicured lawns will be minimized to entrance areas and administration areas. Other grassed areas will be native and/or meadow grasses that require minimal maintenance.

4.0 FACILITY BUILDINGS AND AREAS

The major structures of the Facility comprise the MSW receiving, maneuvering, and tipping area structure, MSW storage structure, boiler structure, maintenance building, control room, turbine building, residue building, air pollution control building, administration building, and Visitors Centre. The vehicle receiving, maneuvering, vehicle loading/unloading and storage areas (i.e. the refuse pit and boiler refuse feed chutes), and the service area (i.e. the control room, maintenance and personnel/administrative areas) and turbine area, will be combined into a common or contiguous, enclosed structure.

The residue building will be equipped with roll-up doors to allow vehicles to drive through. All residue storage areas will be roofed (i.e., protected from rain) and complete with a ventilation system with filtration to control any unexpected dust. The boilers, MSW storage area, residue storage area, air pollution control area and turbine/generator will be fully enclosed.

The breakdown of the major areas of the Facility is as follows:

- The Tipping Area – Trucks enter this area to tip their loads into the refuse pit.
- The MSW Storage Area – This area contains the refuse pit, refuse handling cranes and boiler hoppers.
- The Boiler Enclosure– This area contains the boilers and grates, feedwater equipment and the deaerator.
- The Maintenance Area – This area contains space and tools to service equipment, as well as, provides storage for spare parts.
- The Control Room Block – This building contains the control room, battery room, and electrical equipment for various pieces of equipment.
- The Turbine Enclosure – This area houses the steam-turbine generator, the low pressure feedwater heaters and water treatment equipment.
- The Air Pollution Control Enclosure – This area contains most of the air pollution control equipment.
- The Residue Building – This building contains residue processing equipment, as well as space for residue storage and residue truck loading.
- The Administration Area – This area contains the Facility's administration area, as well as facilities for the plant staff.
- The Visitor's Centre – This building will have Regional offices and provide educational facilities for visitors.

Figures 8 and 9 outline the Site layout, and shows the location of the Facility components. Further, Appendix C includes preliminary architectural drawings showing:

- North and West Elevation of the Facility;
- South and East Elevation of the Facility; and
- Visitors Centre Plan and Elevation.

All major equipment not requiring direct contact with the environment will be enclosed in buildings providing a controlled working environment and process isolation from the environment. All major structures, excluding the

Visitor's Centre and the residue building, will be combined into a common enclosed structure. Preliminary figures of equipment and building layouts, including descriptions, have been provided in their respective sections.

The Facility is designed to prevent transmission of noise and odour between the control room/administration area and the remainder of the Facility.

4.1 Administration Area

Space is provided at the Facility to house administrative and clerical personnel. The administrative building will be provided with full environmental conditioning for temperature and humidity. Filtered, positive pressure outside make-up air systems will be provided to hold down dust penetration. This environmental conditioning will be separate from systems used elsewhere in the plant.

4.2 Maintenance Building

A maintenance building will be furnished and installed at the Facility to allow for maintenance of equipment installed in the Facility and for Facility vehicles, containers, etc. This building will include open floor areas, bench areas, and an area for welding. This environmental conditioning will be separate from systems used elsewhere in the plant.

4.3 Central Control Room

A central control room will be furnished to allow for the efficient controlling, monitoring and supervising of plant operations. The central control room will be provided with full environmental conditioning for temperature and humidity. Filtered, positive pressure outside make-up air systems will be provided to hold down dust penetration. This environmental conditioning will be separate from systems used elsewhere in the plant.

The central control room will be furnished with an individual bathroom, with basin and water closet. Additionally, the control room will also provide sufficient space to accommodate visitors.

The following essential plant systems will be controlled primarily from the control room:

- Solid waste and auxiliary fuel feed to boilers;
- Combustion air and flue gas systems;
- Steam and feedwater systems;
- Turbine-generator and associated auxiliaries;
- Electrical power generation, distribution and utility tie-ins;
- Air pollution control system;
- Plant auxiliary support systems;
- Security systems;
- Safety controls;

- Central communications; and
- Emergency response systems.

5.0 WASTE HANDLING AND RECEIVING

MSW is expected to be delivered to the Facility up to 6 days a week. All MSW deliveries will enter through the gate and scale house. The trucks will proceed to the tipping building where the MSW will be discharged into a concrete solid waste storage pit, the refuse pit. MSW mixing and handling in the refuse pit and MSW feeding into the boilers will be handled by two refuse cranes designed to accommodate the increased processing capacity of the first expansion of the Facility. Refer to Figures 10 and 11 for a process and power generation pictorial, and simplified process flow diagram respectively.

Acceptance and bypass of MSW at the Facility is based on maintaining adequate pit inventory for current and future operating conditions; for instance single boiler operation during a scheduled maintenance outage. Scheduled outages will be coordinated with MSW deliveries to minimize the impact on the Facility's short-term ability to accept waste, in turn, minimizing the need for bypassing MSW due to the lack of pit capacity. In the case of a long-term or unscheduled outage, bypassed MSW will be directed to a licensed disposal facility.

Preliminary Standard Operating Procedures (SOPs) for the handling of rejected and bulky wastes have been developed and provided in Appendix D.

5.1 Mass Balance

The Facility is a zero process wastewater discharge facility and utilization strategy provides for the maximization of water reuse. Process water will not be sent to the storm or sanitary sewer systems or be discharged into the natural environment. Under normal operating conditions, the Facility will operate at a water deficit and require municipal water to maintain enough water for the process.

A complete mass balance is shown in Figure 12 and the corresponding streams are described in Table 3.

Table 3: Preliminary Mass Balance at Normal Operating Conditions

Stream	Description	Flow [(1)] kg/hr or (lpm)
1	Municipal Solid Waste	18,167
2	Boiler Steam Outlet	67300
3	Steam To Soot Blowers	0
4	Steam To Boiler Feedwater Pump Turbine	0
5	Main Steam To Main Steam Desuperheater	0
6	Boiler Steam To STG	67,300
7	Main Steam Bypass To Desuperheater	0
8	Extraction Steam For Export	0
9	Not Used	-
10	Not Used	-

Stream	Description	Flow [(1)] kg/hr or (lpm)
11	Extraction Steam To Deaerator	2,695
12	Extraction Steam To Feedwater Heater No. 2	3,607
13	Extraction Steam To Feedwater Heater No. 1	2,486
14	Drain From Feedwater Heater No.1 To Condensate Receiver	6,093
15	Exhaust Steam To Air Cooled Condenser	55,600
16	Boiler Intermittent Blowdown	0
17	Not Used	-
18	Condensate Pump Suction From Condensate Receiver	63600
19	Conditioned Fly Ash	938
20	Demineralizer Reverse Osmosis Unit Supply	(39)
21	Boiler Makeup Water To Storage Tank	(31)
22	Condensate From Feedwater Heater No. 2 To Deaerator	63,600
23	Demineralized Water From Storage Tank To Boiler Blowdown Heat Exchanger	1,875
24	Demineralized Water From Boiler Blowdown Heat Exchanger To Condensate Receiver	1,875
25	Continuous Boiler Blowdown	1,374
26	Blowdown Tank Flash Steam To Deaerator	529
27	Continuous Blowdown Tank Drain To Boiler Blowdown Heat Exchanger	845
28	Boiler Blowdown Heat Exchanger To Waste Water Holding Tank	845
29	Extraction Steam To Air Heaters	2,893
30	Air Heaters To Deaerator	2,893
31	Deaerator Vent	0
32	Deaerator System Losses	1,030
33	Boiler Feedwater Pump Suction	68,700
34	Feedwater Pump Discharge To Boiler	68,700
35	Feedwater To Main Steam Desuperheater	0
36	Combustion Air To Air Heater Inlet	94,100
37	Combustion Air From Air Heaters To Furnace	94,100
38	Boiler Reverse Osmosis System Reject To Waste Water Storage Tank	(8)

Stream	Description	Flow [1] kg/hr or (lpm)
39	Quench Water To Ash Dischargers	910
40	Residue To Landfill	3,298
41	Slaking / Dilution Water	1,276
42	Condensate to Feedwater Heater No.1	63,600
43	Lime Feed	164
44	Dry Fly Ash (Includes Lime and Carbon)	526
45	Carbon Injection	9
46	Baghouse Air Leakage	3,714
47	Flue Gas To Scrubber System	124,000
48	Facility Potable Water To Sanitary Sewer System	(15)
49	Flue Gas From Chimney	129,000
50	Condensate To Desuperheater	0
51	Desuperheater Exit To Air Cooled Condenser	0
52	Condensate From Air Cooled Condenser To Condensate Receiver	55,600
53	Feedwater Heater No.1 Condensate To Feedwater Heater No. 2	63,600
54	Drain From Feedwater Heater No.2 To Feedwater Heater No. 1	3,607
55	Blowdown To Waste Water Holding Tank	845
56	City Water Makeup To Facility Potable Water	(15)
57	Combustion Air To Boiler	14,020
58	SNCR Inlet	248
59	Waste Water To Waste Water Settling Basin	(7.5)
60	Fly Ash Conditioners	(4)
61	Fire Protection Water Storage Tank Supply	0
62	Irrigation	0
63	Feed Hopper and Transition Piece Cooling	(7.5)
64	Makeup To Waste Water Holding Tank	(11)
65	Service Water and Miscellaneous Uses	(7.5)
66	Not Used	-
67	Plant Makeup	(65)
68	Waste Water Holding Tank To Scrubbers and Basin	(29)

Stream	Description	Flow (1) kg/hr or (lpm)
69	Waste Water Settling Basin To Waste Water Transfer Pumps	(15)
70	Plant Makeup from City Water	(80)
71	Waste Water Transfer Pumps Recirculation	0
72	Not Used	-
73	Pozzolan	95
74	Cement	89
75	Not Used	-

Note: (1) Quantities in parenthesis indicate litre per minute (lpm). Water balance flow rates are for two units at 100 percent MCR.

5.2 Material Storage

MSW delivered to the Facility will be stored in the refuse pit which is sized to provide 7 days of storage capacity. The maximum refuse pit storage capacity is 3,050 tonnes, which is based on a MSW density of 415 kg/m^3 (see Appendix E). The approximate storage volume of the refuse pit is 7,350 m^3. Section 5.9 provides design information pertaining to the refuse pit.

On site waste storage will consist of the following:

- Processible waste stored in the refuse pit;
- Bottom ash; and
- Conditioned Fly ash.

Further, conditioned fly ash and bottom ash is stored in bunkers located in the residue building. The fly ash storage capacity is 36.5 days at normal throughput rates, whereas bottom ash storage capacity is 7 days at normal throughput rates. Refer to section 8.1 for information on layout design and storage in residue building.

The maximum quantity of bottom ash and conditioned fly ash stored in the residue building is approximately 630 tonnes and 700 tonnes respectively. Both values are based on their individual densities, as referenced in the material storage calculations included in Appendix E.

Sorted metals are stored in bunkers, also located in the residue building, with storage capacities of 7 days for both ferrous and non-ferrous metals at normal throughput rates.

Incoming bulky unprocessible waste is stored in 2 roll-off bins located on the tipping floor and then transfer trailers would be loaded in the residue building or containers will be loaded on the tipping floor. Once the waste is loaded into the covered trailers it will be sent to a licensed landfill in New York State, or an alternative approved disposal facility. The length of time that the unprocessible waste will be stored on site is dependent on the time that it takes to accumulate a full transfer trailer load. It is anticipated that the unprocessible waste will be removed on a weekly basis. Refer to Appendix D on SOPs pertaining to the handling of bulk waste.

Table 4 summarizes the approximate maximum quantity of waste to be stored in the refuse pit and the residue building at any given time.

Table 4: Waste Storage Capacities in Reuse Pit and Residue Building

	Storage Capacity (days)	Quantity (tonnes)
Processible Waste (Refuse Pit)	7	3050
Bottom Ash (Residue Building)	7	630
Conditioned Fly Ash (Residue Building)	36.5	700
	Total	4,380

5.3 Truck Traffic

MSW will be delivered to the Facility in standard packer vehicles or fully enclosed transfer trailers with capacities up to 90 m^3.

There are 2 proposed routes for refuse trucks to access the Facility. For route 1, trucks will exit Highway 401 at either the Holt Road or Courtice Road onto the South Service Road and then down Osbourne Road to access/leave the Site. For route 2, refuse trucks will use Highway 401, followed by a dedicated service road off of Courtice Road to access the Site. General truck access/egress routes are illustrated in Figures 8 and 9 respectively.

A large sign will be provided upon arrival to guide trucks through the Facility. Once through the gate, trucks will proceed to the 2 weigh scales located on the south side of the site. Only firms with contracts with Durham or York Region or the lower tier municipalities within Durham or York Region can deliver MSW to the Facility.

Adequate queuing space for refuse vehicles is provided on the entrance roadway, including capacity for the expected increase in incoming traffic resulting from the first expansion.

Based on the annual processing capacity, there will be an average of 31 trucks per day arriving at the Site to drop off waste, and 9 trucks per day taking residual materials from the site. Therefore, an average of approximately 40 trucks is expected daily, excluding delivery trucks.

5.4 Weigh Scale and Scale House

Truck traffic into and out of the Facility is controlled by a scale house and gate. The scale house is equipped with two automated truck scales. The scale house is equipped with a computerized record keeping system to maintain an accurate accounting of all MSW delivered to and all residues, recovered ferrous and non-ferrous metals and unprocessed waste removed from the Facility. One scale is dedicated to weighing the incoming solid waste, while the other scale will be used to weigh outgoing untared vehicles. Each scale will include a digital weigh meter, scoreboard readout, a printer and a personal computer for recording the daily total of the net weight delivered. The system will have the capability of being a completely automatic system. The scale system will include provisions for recording the time and date as well as vehicle gross, net and tare weights. Traffic over

the scales will be controlled by Facility staff. The inbound scale shall be provided with a radiation monitoring and alarm system to detect the presence of radioactive sources in the incoming waste stream. Preliminary SOPs for radiation monitoring and handling have been developed to ensure that no radioactive material is tipped into the refuse pit. Preliminary SOPs for the handling of radioactive waste is provided are Appendix D.

After being weighed, the refuse trucks will proceed directly to the tipping building.

5.5 Wastes Accepted at the Site

The waste to be managed at the Facility will be non-hazardous solid waste from the following sources:

- MSW from residential sources generated within Durham and York Regions remaining following at-source* diversion; and
- A portion of post diversion Industrial, Commercial and Institutional (IC&I) waste traditionally managed by the respective Region at Regional waste management facilities.

*At-source programs refer to those initiatives undertaken at the source of waste generation (e.g., at home or work/business) to eliminate the generation of waste to an appropriate Facility. Both Durham and York have at-source diversion programs, which include:

- Collecting, processing and marketing of blue box recyclables;
- Composting of source separated organic (SSO) waste;
- Composting of leaf and yard waste;
- Operations of depots for the collection of Municipal Hazardous and Special Waste (MHSW);
- Operation of depots for the collection of Waste Electronics and Electrical Equipment (WEEE); and
- Depots for the collection of tires, textiles and construction/demolition materials, and other bulky recyclables.

Therefore, the waste that is brought to the Facility is residual waste that was not captured through these diversion programs, or residual waste that remains following efforts by residents to avail themselves of the diversion programs available.

IC&I waste being delivered to the Facility will generally consist of municipally collected or resident delivered waste from small industrial, commercial, and institutional generators (i.e. downtown central business district) that have access to the same at-source diversion programs as the residential sector. There will be no international waste materials generated from marinas or airports accepted at the Facility.

5.6 Waste Screening Procedures

Waste will only be accepted from approved haulers that have a valid CofA, except for municipal or exempt vehicles as per Section 16(2) (a) of Regulation 347 *General – Waste Management*, made under the *Environmental Protection Act*, R.S.O. 1990.

The following materials (as defined by Regulation 347 *General – Waste Management*) will not be accepted at the Facility:

- hazardous industrial waste;
- acute hazardous waste chemical;
- hazardous waste chemical;
- severely toxic waste;
- ignitable waste;
- corrosive waste;
- reactive waste;
- radioactive waste;
- pathological waste;
- leachate toxic waste;
- PCB waste; and
- liquid industrial waste.

Prior to hauling waste to the Facility, Durham-York employ waste screening procedures to ensure that only appropriate residual waste is sent to the Facility. This includes, but is not limited to:

- Any locations that generate waste that is delivered to the Facility have access to at-source waste diversion programs;
- Durham-York have municipal By-Laws that restrict generators from placing recyclable or hazardous materials in the waste stream;
- Durham-York have By-Law Enforcement Officers that complete curbside checks of the waste; and
- Regional staff or contractors inspect waste being delivered to the transfer stations to ensure that it is acceptable.

All incoming waste vehicles must proceed to a weigh scale to allow the vehicle weight, waste type and source to be recorded. Radiation detection equipment is permanently mounted at the weigh scale in order to measure any potential radiation in incoming or outgoing loads (see Appendix D for SOPs on handling of radioactive wastes). Moreover, trucks will be selected at random and screened for unacceptable waste. At a minimum, one Facility personnel will be present in the tipping area while waste is being unloaded. Both the tipping area personnel and the refuse crane operator check for unacceptable waste that may be inadvertently accepted into the Site.

Loads that contain the following unacceptable materials and thus would be in contravention of the site CofA and pose Health and Safety issues will be refused if detected (refer to section 5.7 for handling of unacceptable materials):

- Hazardous materials (propane cylinders, full paint cans, used motor oil containers, etc);

- Radioactive materials; and
- Bio-medical wastes (sharps, hospital wastes, etc.).

In the unlikely event that unacceptable or prohibited waste is not detected until the waste hauler has left the Site, the waste will be segregated, characterized and managed in accordance with Ontario Regulation 347.

5.7 Handling of Unacceptable and Hazardous Waste

If after the normal screening procedures conducted by Durham-York's waste collection and transfer programs, unacceptable materials are still found in the contents of a truck that has been unloaded in the Tipping area, the contents will be moved to a separate area for loading onto a waste transport vehicle to the appropriate disposal facility (assuming such material is neither leaking nor hazardous). Further, a curbed area will be located on the west side of the tipping hall for temporary storage of materials.

Hazardous material with an immediate threat (e.g. explosives, ruptured drums, etc.) will follow the procedure outlined below:

- Material should be left in place and roped off, if possible;
- Personnel and traffic should be prevented from working in the area;
- Appropriate government agency will be contacted;
- Unidentified and potentially hazardous waste will be sampled and tested at an approved laboratory;
- Specialist contactor will determine status of any suspect waste and provide specific handling procedure, if necessary; and
- Removal of all hazardous materials from the Facility will be accomplished in accordance to provincial and federal procedures and employing only licensed hazardous waste transporters.

Any truck detected to contain radioactive material will be isolated on site for proper investigation and handling by Facility personnel. If a truck contains radioactive material, the entire load will be rejected. The majority of the loads will be returned to the generator or hauler. However, for approved circumstances a truck may be allowed, to be isolated in the tipping area to allow for natural decay of the radioactive isotope, or the generator/hauler will be allowed to hire an outside contractor to sort through the load to remove and isolate the radioactive material. All instances of radiation alarms will be documented and reported.

Other unacceptable waste, such as bulky waste will be placed in containers and disposed of in a proper landfill.

The environmental Emergency and Contingency Plan (ECP) will include a specific step-by-step guide to handle unacceptable waste. Further, the MOE Spill Action Centre, and other relevant agencies and personnel contact information will be included in case of an environmental emergency resulting from unacceptable and hazardous waste.

Preliminary SOPs for handling of radioactive wastes, in addition to rejected and bulky wastes have been developed and provided in Appendix D.

5.8 Tipping Floor

The tipping floor will be totally enclosed with an overhead entrance door and sliding exit door. The entrance door will be approximately 4.9 m wide by 5.5 m high. Trucks will enter on the east side of the building and then back-up toward the refuse pit. The trucks will then exit through an exit door on the west side of the tipping floor. The exit door (11 m wide by 5.5 m high) is designed wider to allow trucks to back into the far tipping bays safely. Refer to Figure 13 and Table 5 for Preliminary Layout of Tipping Area of the Facility design information.

The entire tipping floor will be sloped toward the pit with a 150 mm difference in elevation overall. Storage walls subject to damage through repeated impacts will be constructed of high strength (minimum 41 MPa) concrete.

Four tipping bays will allow simultaneous discharge of MSW from multiple vehicles into the refuse pit. Back-up wheel stops provided at each tipping bay prevent vehicles from backing into the refuse pit, but allow for cleaning of the floor by the front-end loaders. Trucks entering the tipping enclosure are directed to a specific tipping bay by a tipping floor operator and discharge their waste onto the floor for inspection by the tipping floor operators. Any unacceptable waste is removed and placed in a dedicated pile or area within the tipping building for subsequent disposal as indicated in section 5.7. Waste discharged onto the tipping floor would be for inspection purposes only. No waste would be stored on the tipping floor for an extended period of time.

Table 5: Preliminary Layout of Tipping Area of the Facility

Preliminary Tipping Hall Dimensions	30.5m x 25.9m
Number of Tipping Bays	4
Number of 8.25m Openings (2 – 4.12m bays)	2
Opening Height	12.7m

Standard operations and maintenance procedures require both dry and wet cleaning methods of the tipping floor, either using a broom sweeper or by wash down with hoses. When water is used and there is some residual waste remaining on the tipping floor, the resulting wastewater can contain solid debris and suspended solids and this water would not be a practical source of process water. The tipping floor therefore is sloped towards the pit to permit the washdown water to flow into the pit, which is sealed and completely self contained.

Best management practices will be employed to ensure that moisture does not accumulate in the bottom of the refuse pit. The crane operator continually brings the waste from the bottom of the pit to the top and loads this waste into the feed hopper. The small amount of water that enters the refuse pit either with the incoming waste or as a result of tipping floor washdown will not adversely impact waste characteristics and the mixing of waste in the pit will avoid the accumulation of water in the bottom of the pit and prevent any possible negative impact on the Facility.

Odours created from the MSW that is being stored in the refuse pit will be controlled by continuously drawing combustion air for the thermal treatment units from above the refuse pit. The air that is eventually drawn into the thermal treatment units originates from louvers in the tipping enclosure and the truck entrance and exit doors. The doors and louvers are located on the end of the tipping enclosure opposite of the refuse pit and the combustion air fan inlet duct. Locating the refuse pit in between the doors and intake ducts, results in a slightly lower air pressure over the refuse pit than at the entrance and exit doors. Further, locating the refuse pit close to

the intake ducts and away from the entrance and exit doors allows for anticipated dynamic fluctuations in ambient air conditions outside of the enclosure, e.g., gust of wind. This configuration makes it difficult for any odours to escape from the enclosure. In the rare event that all units are offline, doors and louvers will be shut to control odour emanation, and MSW deliveries will be adjusted until the units are back online.

5.9 Refuse Pit

The refuse pit is constructed of reinforced concrete up to the charging floor level on all four sides except above the tipping bays. Pit walls and floor are designed to prevent seepage of water into or out of the pit. The refuse pit enclosure roof elevation includes space for the two overhead, traveling cranes. The structure also includes a concrete charging floor with feed hoppers. The refuse enclosure is separated from the boiler enclosure by a dust wall.

The refuse pit is sized to allow continued operation of the Facility over weekends and on holidays. It will provide storage for approximately 3,050 tonnes or 7 days of MSW with an average density of 415 kg/m^3. The MSW storage volume used in determining the storage capacity includes storage below the tipping floor elevation as well as stacked storage between the tipping floor elevation and the charging floor elevation. Refuse pit design will be in accordance with the Ontario Fire Code. Table 6 outlines the size of the refuse pit.

Table 6: Preliminary Size of Refuse Pit

Size	Base
Length	33.2 m
Width	11.6 m
Depth from Tipping Floor Level	7.6 m
Pit Floor Depth below Grade	5.5 m

5.10 Refuse Cranes

Two overhead travelling bridge cranes with polyp type (orange peel) grapples are provided to mix MSW and transfer it from the refuse pit to the charging hoppers of the boilers. Each refuse crane is designed to handle full capacity operation, keeping the tipping bays cleared and thermal treatment units properly charged. The second crane provides backup and can be used during peak delivery times to assist in refuse pit management. The cranes span the entire length and width of the refuse storage pit, furnace hopper, and charging floor. Power supply for cross travel will be by the festoon cable method. A bucket type grapple will also be provided to assist in cleaning out the bottom of the pit, when necessary.

The refuse cranes are operated remotely from the control room. The vantage point of the crane operators looks over the refuse pit with a view of the tipping floor to the operators' right side. Each crane has a separate control station that will be equipped with television monitors to allow observation into each of the combustion units charging hopper. The stations are also equipped with a communication system that allow the crane operator to

have voice communication with the Facility tipping floor, scale house and the front end loader operator. The cranes have semi automatic controls that raise a loaded grapple and locate it over a pre-selected charging hopper. Loading of the discharge, returning to pit and filling of the grapple will be manual. The operator will have the ability to override the automatic operation at any time. Dimensions of the refuse crane are provided below.

Table 7: Preliminary Dimensions of Refuse Crane

Preliminary Crane Data	
Span Approximation	18.9 m
Runway	42.2 m
Lift	26.5 m
Grapple	Approximately 4.60 m^3

6.0 THERMAL TREATMENT PROCESS

6.1 Refuse Fired Steam Generators

After the MSW is charged into the feed chute hoppers, the MSW is metered into the Refuse Fired Steam Generator from the bottom of the feed chutes by hydraulic feed rams. The feed rams are designed to provide an even distribution of MSW over the entire width of the grate. The proprietary reverse reciprocating action of the Martin Stoker Grate agitates the fuel bed continuously in a manner which causes the MSW to burn from the bottom of the MSW bed, resulting in thorough burnout of combustible matter. The residue is then cooled in a quench bath. A simplified process flow diagram is presented in Figure 11.

The furnace/boiler combustion units will be normally operated at unit MCR; however, they are capable of operating at a Maximum Continuous Turndown (MCTD) point safely and for extended periods, without supplemental fuel firing. Each boiler may be turned down to a minimum of 80% of design heat input while maintaining design steam temperature. Throughput for each stoker can be turned down to 66% of design and still maintain safe operating conditions.

Refuse boilers will consist of the following:

- Single drum, top supported, multiple pass, watertube type units, with integral gas-tight welded waterwall cooled combustion chamber and radiation section, evaporator, superheater and economizer;
- One natural gas auxiliary fuelled Low NO_x burner per boiler, 50% of MCR heat release, approximately 59.5 GJ/hr each. The natural-gas-fired auxiliary burner will be available to maintain flue gas temperature in the furnace region during operating conditions and as required during start-up and shutdown conditions; and
- The feedwater flow through the economizer will be controlled to maintain a constant economizer flue gas exit temperature by using a feedwater water bypass.

Table 8: Steam Generator Nameplate Rating per Train

Design MSW Throughput per day	218 tonnes
Design MSW HHV	13.0 MJ/kg
Refuse Design Unit Heat Input per unit	118 GJ/hr

Preliminary building and equipment layouts of boiler, turbine generator and air cooled condenser area are provided in Figures 14 and 15.

6.1.1 Feed Hopper and Chute

Each thermal treatment unit will be provided with a feed hopper located at the charging elevation of the Facility. Solid waste handling crane operators watch the hoppers and load waste into them as necessary to maintain consistent waste feeding. MSW enters the feed chute from the hopper. The feed hopper opening is approximately 5.5m x 5.0m and will have a sloping side transition to the chute opening.

The solid waste feed chute is a rectangular connection between the feed hopper and the feeder. The chute cross section is approximately 1.5 m x 4.5 m and the unit is approximately 7.5 m long. The chute is inclined 15 degrees from vertical. This chute serves two functions. It provides a continuous supply of solid waste to the feed table and acts as a seal between the furnace and the atmosphere since the induced draft fan maintains the furnace at a slightly negative pressure.

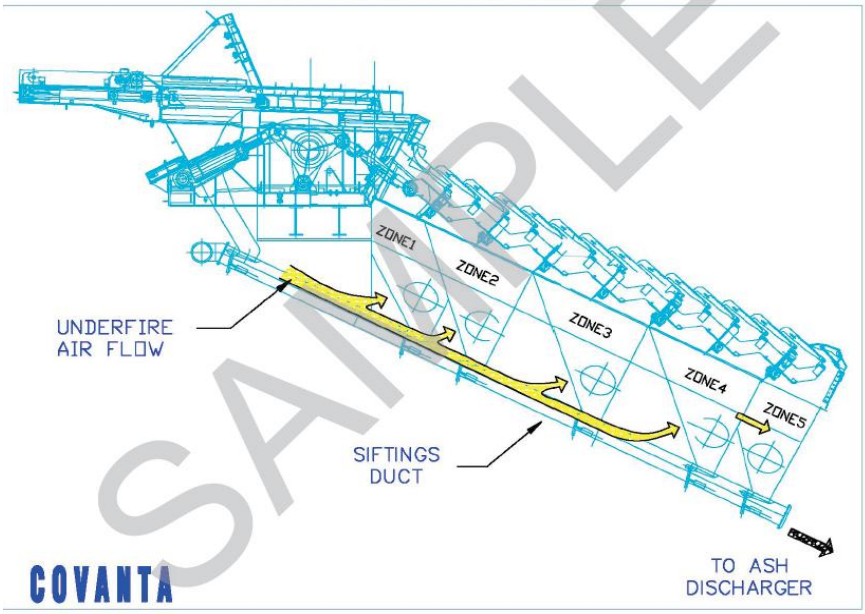
The upper portion of the feed chute includes a shut-off damper to close the feed chute if insufficient quantities of solid waste are in the chute to maintain an adequate seal which minimizes adverse environmental impact during the boiler shutdown process. The lower portion of the feed chute is surrounded by a water jacket which does not come into direct contact with the waste. To the extent hot flue gas contacts the inside of the lower feed chute; the walls are cooled by the water surrounding them.

Jamming and bridging of materials in the solid waste feed chute is minimized by the design of the feed hopper and chute. The slopes and angles incorporated into this design have been developed to provide the least restrictive and clearest flowing path to the ram feeders. Should plugging of the feed chute occur, standard operating procedures to address feed chute plugs have been developed (refer to Appendix D for preliminary SOPs on Feed chute plugs).

6.1.2 Martin Stoker

The stoker grate is comprised of individual grate runs across its width, each grate run having a separate hydraulic feed ram, grate actuation system, residue discharge roller or weir and combustion air distribution system. The number of grate runs is determined by the required system capacity and allowable grate heat release rate. The entire grate system will be inclined downward from the feed end toward the discharge end and consists of alternating rows of fixed and moving grate bars in each run. Exhibit 1 shows a typical stoker design.

Exhibit 1 –Typical Stoker Design



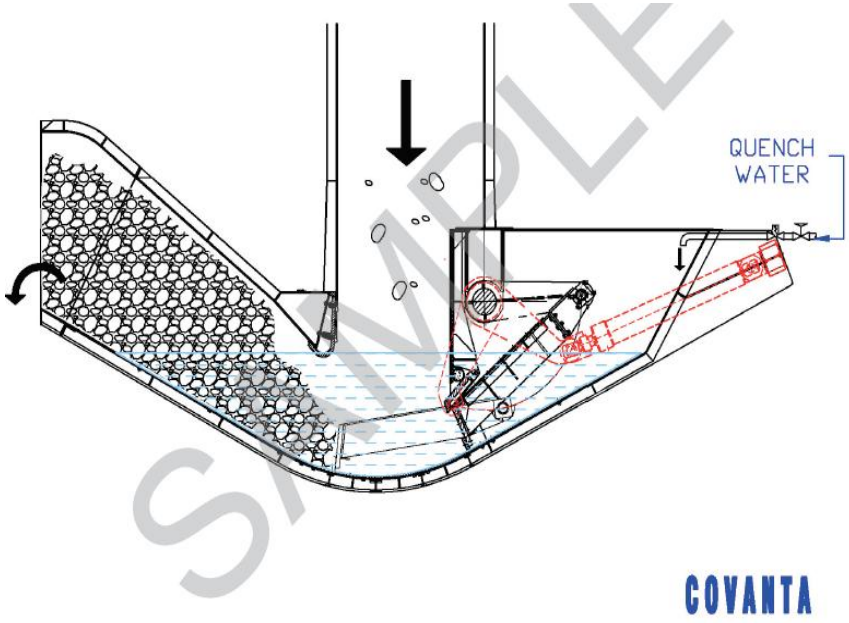
Unlike conventional stoker designs, the moving grate bars push upward at 30 to 50 strokes per hour against the natural gravitational downward movement of the refuse. This stoker action agitates the burning refuse to form an even depth of fuel bed. Burning refuse is pushed back underneath the freshly fed refuse to achieve continuous drying, volatilization, ignition and combustion.

Each stoker is furnished with one Martin residue discharger. The residue discharger receives the burned out material as it falls over the residue discharge roller, cools it in the quench bath and is pushed up the inclined discharge chute by the internal ram. Water is naturally displaced from the residue and flows back down to the water bath as the residue travels up the inclined plate of the discharger. The residue will have an expected water content of between 15 and 25 percent by weight.

The water level will be maintained at a preset level by varying the water added to the ash discharger to make up for losses with discharged ash residue and evaporation. The set point for water level is selected to maintain a seal at the grate that prevents in-leakage of air into the combustion unit.

Each stoker also includes an automatic grate siftings removal system under each grate run which periodically sweeps the undergrate plenums and conveys the siftings to the residue discharger. Exhibit 2 shows a typical Martin Ash Discharger.

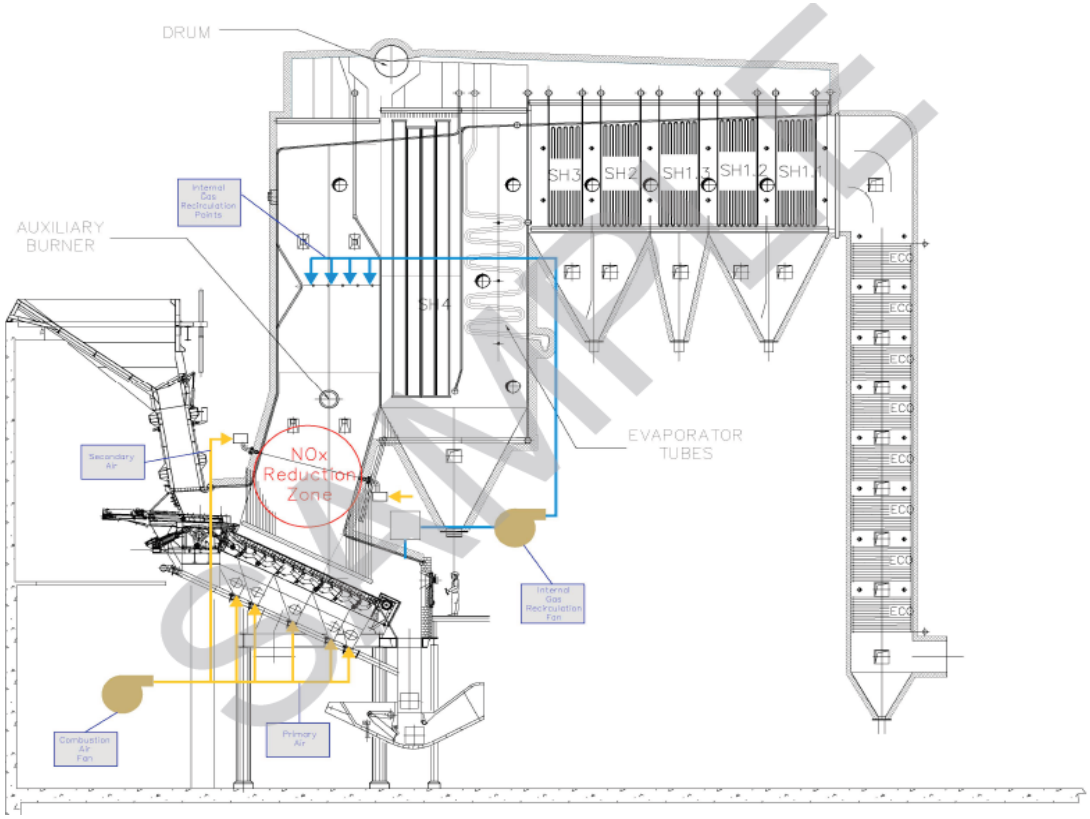
Exhibit 2 - Typical Martin Ash Discharger



6.1.3 Furnace and Boiler

Located above the stoker grate is the boiler furnace/combustion chamber, constructed of gas tight, continuously welded waterwalls down to the grate surface. Refer to Table 8 for boiler design information. Exhibit 3 shows a typical cross-section of a boiler.

Exhibit 3 – Typical Boiler Cross-Section



In the combustion chamber, unburned gases are led back under the rear arch directly into the high temperature combustion zone. This permits the maximum burnout of non aqueous condensable matter and eliminates odours. The combustion chamber exit temperature is sufficiently high to destroy odorous vapours.

At the lower furnace throat, secondary air nozzles provide additional oxygen to combust unburned gases such as carbon monoxide and hydrocarbons and shape the flames. Flue gases are recirculated from above the clinker roll into high velocity flue gas jets located near the boiler's nose on the furnace side walls, causing intense turbulence. This assures maximum combustion of any remaining unburned gases before they pass into the boiler convection section, superheater and economizer.

Following combustion in the furnace, the products of combustion (flue gases) pass through screen tubes at the outlet of the furnace and flow downward through the platen style final superheater section and its membrane water wall enclosure, thereby lowering gas temperature. At the bottom of this pass, the flue gas is turned upward and flows through a convection heat transfer surface and its membrane waterwall enclosure. The flue gas temperature will thus be further reduced as it transfers its heat to the water in these tubes.

The change in direction or flow reversal of the gases at the end of the second pass will be provided to “throw out” the larger fly ash particles in the gas stream, which in turn will to reduce the particulate load on the downstream convective heat transfer surfaces. As the flue gas leaves the convection surface, it enters and flows across the boiler superheater tube surface wherein the boiler steam will be superheated. This transfer of heat continues to lower flue gas temperature. Finally the flue gas passes across the boiler economizer tube surfaces to lower its temperature to the design temperature for entry to the air pollution control system.

The furnace is designed and operated to minimize the concentration of combustion-related pollutants such as carbon monoxide and hydrocarbons. The boiler design incorporates state of the art features including combustion air distribution and control, location and sizing of heating surfaces and appropriate cleaning methods during operations.

Furnace walls above the grate surface are protected from high temperature corrosion by an application of silicon carbide tile, gunnite refractory coating and Inconel.

The boiler design provided is the natural circulation type, wherein the flow of water, water and steam mixture and steam occurs naturally due to differences in densities of water and steam in various boiler sections.

Water is pumped to the boiler drum by the boiler feed pump. Prior to reaching the drum, the water passes through the boiler economizer, wherein the water temperature will be elevated by absorption of heat from the flue gases. Upon reaching the drum, the water flows downward through circulating tubes or pipes that supply water to each of the boiler heating surfaces which include the furnace membrane tube walls, the radiation pass walls, the convection zone and superheater pass membrane enclosures and the convection zone heating surfaces. As all of these surfaces receive heat from the flue gas, the water contained therein will be converted to a water/steam mixture which rises in the tubes and will be released in the steam drum. As the steam and water rises in the circuits, the circuits will be replenished with the denser water from the drum by natural circulation.

In the steam drum, water and steam will be separated by their natural density differences assisted by separating devices installed in the drum. The saturated steam flows to the boiler superheater where it will be heated by the flue gases to the design steam temperatures. Steam flow through the superheater occurs naturally due to the pressure differential between steam drum and superheater outlet.

The superheater is arranged in multiple stages with two stages of water spray attemperation to closely control final superheat temperature as well as interstage temperature. The interstage attemperator will be provided for greater control over final steam temperature.

To minimize erosion, low flue gas velocities will be employed, and fly ash hoppers will be arranged under the boiler and superheater sections to minimize fly ash carryover.

The flue gas leaving the primary superheater will enter the serpentine configuration economizer sections. These sections will be enclosed in a vertical steel casing. The flow of feedwater in the economizer will be counter to the flow of flue gas. The economizer will be constructed from carbon steel tubes, with sufficient clearances between tubes designed to avoid plugging.

Strategically located and automatically sequenced rotary and retractable type sootblowers will be provided to enable gas side cleaning of the boiler, primary superheater and economizer tubes. Retractable sootblowers constructed of suitable alloy material will be used in the high temperature zones.

Boiler drum and superheater outlet safety valves will be provided with silencers. Both continuous and intermittent blowdown systems will be provided. The continuous blowdown system design will be based on maintaining steam purity. The intermittent blowdown system will also function as a collection point for all boiler drains including drum drains, header drains, economizer drains and superheater drains.

Table 9: Preliminary Boiler Design Data

Feedwater temperature	135 ºC
Steam temperature	500 ºC (superheated)
Steam pressure	90.7 bar
Secondary air temperature	9 ºC
Primary (underfire) air temperature	93 ºC
Flue gas boiler exit temperature	165 ºC
Internal Recirculated Gas temperature	150 ºC
Approximate 100% (MCR) steam output guaranteed per unit	33,640 kg/hr
Approximate Aqueous ammonia and carrier water injection rate per unit	125 kg/hr

6.2 Combustion Air System

Each boiler will have its own independent train of combustion air equipment. The combustion air system consists of a combustion air (CA) fan, internal gas recirculation (IGR) fan, air heater and associated ductwork. The combustion air fans shall provide primary air, secondary air, and seal air (see Table 10). The combustion air will be taken from the tipping floor and MSW storage area and directed to the combustion air fan inlets. Combustion air ducts run from the air intake above the refuse pit to the CA fan and from fan and to air heater and to undergrate hoppers and siftings ducts. Secondary air ducts run from the CA fan outlet to the flow element then to the secondary air headers and nozzles, including dampers to balance flow to air injection zones. The recirculated flue gas will be taken from above the stoker's clinker roller/weir and directed to the IGR fan inlet. To ensure maximum burnout of MSW with low heating value and high moisture content, steam heated combustion air heaters will be located at the forced draft outlets to heat the incoming air to 93-150 ºC.

A series of five plenum chambers along the length of each grate run admit primary combustion air at rates precisely controlled to suit the combustion conditions of each burning zone as the MSW moves from feed end to discharge. Dampers control the air rate to the first four zones. The underfire air flow to the fifth zone is from the fourth zone. These dampers will be designed to individually regulate the amount of air fed into the various zones of each grate run.

Table 10: Preliminary Fan Design Conditions

Preliminary CA Fan MCR Conditions	
Mass Flow Rate	54,300 kg/hr
Temperature	26.7ºC
Pressure	4.48 kPa + losses in duct system and air heater at MCR flow
Preliminary IGR Fan MCR Conditions	
Mass Flow Rate	14,000 kg/hr
Temperature	150ºC
Pressure	6.0 kPa (24 in WC) + 100% losses in duct system at MCR flow

7.0 AIR POLLUTION CONTROL SYSTEM

After leaving the boiler, flue gas and any entrained fly ash will enter the APC system for gas cleaning. Each boiler has its own independent train of APC equipment. The system consists of an SNCR system for NO_x reduction (located in the furnace), a powder activated carbon injection system for mercury reduction, flue gas scrubber, fabric filter baghouse**,** induced draft fan, stack and associated ductwork. Refer to Figure 16 for the preliminary flue gas equipment area and APC building layout.

All air pollution control processes are integrated with the Facility's distributed control system (DCS). The DCS includes annunciation to inform operators if a system is not achieving a specific setpoint. This alarm system is designed to enable operator interface to avoid a situation where stack emissions are greater than desired. If an equipment malfunction creates a situation where the concentrations approach the maximum allowable limit, operators and the DCS will implement efforts to remedy the situation before an exceedance of the limit occurs.

7.1 Covanta's VLN™ System and SNCR System – NO_x Control

Two systems will work in conjunction to control NO_x emissions: Covanta's VLN™ system and an aqueous ammonia SNCR system. Combining SNCR with the VLN™ process and integrating the SNCR controls with the VLN™ combustion controls yields the following synergistic effects which enhance the performance of the SNCR system.

7.1.1 VLN™ System

The VLN™ process employs a unique combustion air system design featuring an internal gas recirculation (IGR) injection system located in the upper furnace. IGR is an internal stream drawn from the rear of the combustor, above the burnout zone of the grate. This gas contains an oxygen concentration near that of air, since very little combustion occurs in the burnout zone. A single fan supplies the primary and secondary air streams, while a second hot gas fan is used for the internal IGR stream.

Similar to a conventional energy from waste process, the quantity of primary air in the Covanta VLN™ process is adjusted to minimize excess air during the combustion of the waste on the grate; however, secondary air flow in the VLN™ process is significantly less than that of a conventional energy from waste facility. The distribution of flows between the primary air, secondary air and IGR gas streams is controlled to yield the optimal combustion gas composition and temperature profile to minimize NO_x and control combustion. The control methodology takes into account the heating value of the waste and the fouling condition of the furnace. The flow of IGR is set to achieve complete coverage of the furnace cross-section to ensure good mixing with the combustion gases. IGR ensures high combustion efficiency and yields uniform flue gas temperature and velocity profiles, which improves the performance and reliability of downstream boiler equipment. The IGR nozzles are located on the side waterwalls of the upper furnace; their positioning in the furnace is critical to the VLN™ process performance.

7.1.2 Selective Non-Catalytic Reduction System

A SNCR system will be provided with each of the two units. The system will be designed to maintain continuous compliance with NO_x emission by adjusting the injection rate and location of aqueous ammonia during normal operations. Multiple levels of injection are provided to accommodate flue gas temperatures during varying conditions. The stack NO_x analyzer provides information to the DCS to assure continuous compliance.

Aqueous ammonia in a water solution of approximately 19 % ammonia by weight will be delivered and stored at the Facility. The system consists of an aqueous ammonia storage tank, aqueous ammonia feed pumps, carrier water supply from the boiler make-up water system, a nozzle purge air system, aqueous ammonia injection nozzles and an automatic control system.

7.2 Carbon Injection System

A carbon injection system will be provided to reduce mercuy and dioxin in the fluegas stream. The system will be designed to meet the emission limitations.

A pneumatic feed system, injecting activated carbon directly into the flue gas duct-work downstream of the economizer, shall be provided. Each activated carbon injection train will be fed from a common activated carbon storage silo. The system will include a blower, eductor, surge bin, gravimetric feeder, piping, wiring, process controls and other accessories needed for a complete, operational system. All activated carbon injection equipment shall be located in the skirted area of the carbon storage silo.

The silo will be located adjacent to the APC area and will be sized for 1 ½ truck loads, approximately 85 m^3. The silo will be able to store enough carbon for approximately 84 days of use for the intial Facility.

The injection rate will be adjusted prior to commissioning, during the optimization testing, based upon initial testing and will operate consistent with subsequent stack test results. The activated carbon will be injected into each train at the following approximate rates to reduce mercury emissions.

Table 11: Estimated Carbon Injection Rates per Unit

MCR Throughput (Normal Conditions)	4.5 kg/hr
Design Injection Rate	13.6 kg/hr

A truck fill panel, fill pipe and vent filter will be provided to convey carbon from the bulk delivery truck to the silo using the truck's conveying blower. Self-unloading carbon truck deliveries average approximately 20 tonnes per delivery. During filling, the conveying air will be exhausted from the silo through a silo vent type dust collector. The dust collector will be provided complete with an exhaust fan, sized for approx. of 17.4 Nm^3/min, a differential pressure gauge and switch, and a pulse-jet type of dust collector system. The maximum air-to-cloth ratio will be approximately 1 m/min. Interlocks will be required between the fill connection and the vent filter to start the exhaust fan, alarm on high pressure differential across the dust collector, and start of pulse-jet cleaning as required for proper dust collector cleaning efficiency and operation. The truck unloading operation is expected to take between 2 and 3 hours to complete.

7.3 Dry Recirculation Scrubber

Each combustion unit will be provided with a dedicated dry recirculation scrubber that will be operated independent from the other unit to mitigate acid gases. The two units will be located inside the Facility enclosure and will share a common reagent system for storage of lime and carbon. The storage silos for lime, carbon and recirculated residue will be located inside the Facility enclosure.

A dry scrubbing reactor, one per boiler unit, will be located between the economizer outlet and the baghouse. Hydrated lime will be injected directly into the flue gas duct. The hot flue gas will react with the lime and concurrently dry the reaction products. Acid gas removal performance will be controlled by adjusting the quantity of lime injected. Additionally, a portion of the fly ash and lime collected in the baghouse will be re-injected into the duct to utilize unreacted lime and decrease lime consumption.

7.3.1 Reagent Feed System

Each combustion unit will be provided with a dedicated dry recirculation scrubber that will be operated independent from the other unit. The two units will be located inside the Facility enclosure and will share a common reagent system for storage of lime and carbon. The storage silos for lime will be located inside the Facility enclosure. The carbon silo will be located adjacent to the APC building.

Each dry recirculation scrubber will include a reactor for injecting fresh lime and carbon and recirculated residue from the baghouse and/or residue storage silo. The flue gas temperature will be reduced through the evaporation of water which will be injected directly via nozzle atomization or with the recirculated residue or both. The injection rate of water will be controlled through a dedicated process control system. The injection rate of fresh lime will be adjusted to maintain a preset stack concentration with carbon being injected at a constant rate.

The treated and cooled flue gas then flows to the high efficiency baghouse where the fly ash particulate, scrubber reaction products and unreacted lime will be collected and removed from the gas. The filter cake, which accumulates on the fabric filters also provides a substrate of unreacted lime carried over from the scrubber, allowing additional reaction with acid gases and further reduction of acid emissions.

7.4 Fabric Filters (Baghouse)

Solid phase particulate, fly ash particulate, carbon, scrubber reaction products and unreacted lime will be collected and removed from the flue gas by the baghouse. A baghouse will be provided for each combustion/steam generator/acid gas scrubber in the Facility.

A pulse-jet type baghouse will be provided downstream of the dry recirculation scrubber to control particulate matter emissions. The filter cake which accumulates on the fabric filters also provides a substrate for gaseous reactants carried over from the dry scrubber, further reducing acid gas and other pollutant emissions. Each fabric filter consists of steel casing compartments with inlet and outlet manifolds, isolation dampers, dampers, and filter bags.

The selection of bag material and fabric coatings will be optimized for the basis for the intended service. The CEM opacity system will be used as the filter bag leak detection system to monitor bag condition. The baghouse will be insulated with design considerations to prevent corrosion, buildup of fly ash and spent salts, and erosion.

Special attention will be given to the design to avoid cold spots at structural supports and other penetrations through the insulation barrier. Hopper accessories will include hopper heaters, vibrators, and high level alarms. Hoppers will be provided with knife gate isolation valves. Baghouse collection screw conveyors will have rotary valves to provide a seal for bag house hoppers. Hoppers will be sufficiently sized and sloped at an angle to prevent buildup of fly ash. Adequate poke holes and other means will be provided to aid clearing of a bridged hopper.

Gas normally flows across the filter bags from the outside to the inside, and results in the deposition of particulates on the bags' external surface. Bags are cleaned by isolating a module and pulsing a volume of compressed air into each bag to create a “wave” down the length of the bag, dislodging just the right amount of filter cake to attain the ideal pressure drop and still maintain enough filter cake to facilitate reactions with gaseous reactants. Each module is equipped with a gas tight fly ash hopper system to collect fly ash that is dislodged from the filter bags and is directly connected to the enclosed fly ash conveying system.

Baghouses, one per boiler unit, will be designed for indoor installation. It will contain isolatable modules (arranged in 2 parallel rows), all operating in parallel and each with its own hopper. The number of modules will ensure that taking a compartment out for cleaning and having another compartment out for maintenance will not result in excessive pressure drops across the remaining compartments, unit curtailment because of limited induced draft (ID) fan capacity or the inability to keep the bags clean.

Baghouses are designed for variations of temperature and pressure due to failure of other components in the system, such as quench malfunction, loss of an ID or CA fan or the malfunction of a flue gas damper. The operating temperature of the baghouses will range from 135ºC to 145ºC, while the design temperature is expected be approximately 260ºC.

7.5 Induced Draft Fans

After passing through the fabric filter, the cleaned flue gases from the thermal treatment unit will be vented through a flue by means of an induced draft fan located at the base of the fabric filter. A dedicated ID fan will be provided for each thermal treatment unit with a Variable Frequency Drive (VFD), having backward curved blades and a split housing. Fans will be provided with vibration switches. Table 12 outlines the ID Fan preliminary design.

Table 12: ID Fans Preliminary MCR Data

Mass Flow Rate	64,700 kg/hr
Temperature	135°C
Static Pressure	3.5 kPa
Inlet Pressure	-3.25 kPa

7.6 Stack

The cleaned flue gas from the thermal treatment units will be vented up through a common steel flue. The common flue will be supported by a carbon steel chimney shell that is designed to hold both the initial common flue and an independent future flue for the first expansion unit. Refer to Table 13 for stack design.

Table 13: Stack Design

Chimney height	87.6 m (from elevation 0.0 m)
Initial Flue ID	1.71 m at exit
Chimney Shell ID	6 m

7.7 Continuous Emissions Monitoring

The CEM systems for of the two combustion units provide continuous monitoring of the following parameters:

- Baghouse outlet: opacity, moisture, O_2, NOx, SO_2, HCl, HF, NH_3 & THC (as methane); and
- Economizer outlet: O_2, SO_2, CO.

Further, a long-term continuous sampling device will also be installed to monitor dioxin and furan emissions over a fixed period of time.

The dedicated CEM system is based upon separate flue gas sample and transport systems for the economizer and ID fan inlet sample points, each of which will transport the sample to a free-standing CEM enclosure.

A computerized data acquisition system (DAS) will be used for monitoring the output from the CEM system, data correction and averaging and report development. The DAS will include a computer console with printer and keyboard with software required for reporting requirements. The CEM system will be equipped with communication devices and software to enable transmission of CEM data to remote locations, if required. Additional information on Facility's emissions monitoring system can be found in the companion Section 9 Application for Approval (Air and Noise).

7.7.1 Continuous Operations Reporting System

As part of the Facility operations, the following operational monitoring equipment is also provided to provide feedback on the combustion units operations;

- Temperature measurement device for combustion zone or a surrogate;
- Long-term Integrated continuous dioxins sampling device;
- Flue gas stack exit temperature;
- Temperature and pressure of the steam for each boiler; and
- Mass flow rate of steam for each boiler.

8.0 ASH HANDLING AND ASSOCIATED SYSTEM

Ash management and storage occurs in the fully enclosed residue building. All residue mixing and/or handling areas are fully enclosed, well ventilated and sufficiently protected from extreme weather conditions (e.g. freezing conditions, etc.). In addition, all areas are designed to facilitate cleanup and good housekeeping. In accordance with Best Management Practices, the residue building is periodically washed down. The floor is sloped toward the residue piles that absorb any washdown water. All conveyors handling residue that are located outside are fully enclosed.

The residue storage building is not connected to any other structure to prevent dust from infiltrating other parts of the Facility. To minimize any dust escaping to the environment during the conveying, separating, and truck loading process, the residue building is totally enclosed and has a filtered ventilation system. The ventilation system also draws air from the grizzly area and along the enclosed conveyor gallery.

Residue and metals are deposited and temporarily stored in the fully enclosed residue building to await transport to an appropriate landfill or recycling centre. Each residue stream has dedicated bunker(s) for storage of 7 days (with the exception of conditioned fly ash which has storage capacity for 36.5 days) of MCR Facility operations based on storage of ash stacked by front end loaders in bunkers with a 45º angle of repose.

Residue containers or trucks are also loaded in the fully enclosed residue storage building. Residue containers are enclosed so as not to present a hazard to either plant personnel or the general public while residue is being loaded and transported to the landfill. In general, all residue loading and unloading systems are designed to be dust free through the following procedures:

- Residue is loaded inside the building with the doors closed;
- The building is fully ventilated to a dust collection system; and
- The ash has a moisture content of 15-25% thus reducing potential for dust.

No visible emission of dust from any doorway, window, vent, louver or other opening is allowed under normal operating conditions.

8.1 Residue Building

The Facility's bottom and fly ash handling and associated systems are sized for a processing capability of the expanded Facility. Conveyors are used inside of the buildings to transport residue from each unit to the residue building.

Only a single train of bottom ash equipment is provided. The bottom ash will be transported via front end loader if a system component must be taken out of service (refer to section 8.2).

The fly ash handling system will separately collect air pollution control residue (fly ash and spent salts of reaction) and boiler fly ash. The fly ash will be mixed with Portland cement, pozzolan and water for micro encapsulation (chelation) prior to truck loading and subsequent transportation (refer to section 8.3).

Residue will be stored in bunkers located in the residue building. The storage area will be divided into eleven compartments with inside dimensions summarized Table 14. Design dimensions are based on MCR. Refer to Figures 17 and 18 for the preliminary residue storage building layout.

The fly ash storage capacity is of 36.5 days at normal throughput rates, whereas bottom ash storage capacities are of 7 days at normal throughput rates. Both ferrous and non-ferrous metals storage capacities are 7 days at normal throughput rates.

The residue building will be fully enclosed and equipped with a filtered ventilation system for dust control.

Table 14: Storage area within the Residue Building

Compartment	Quantity	Dimensions
Building Size	-	41.5 X 24.8 m
Ferrous metal bunker[1]	1	7.0 X 4.6 m
Non-Ferous metal Bunker	1	3.1 X 4.6 m
Residue Bunker	2	7.0 X 10.4 m
Conditioned Fly ash Bunker	7	6.95 X 4.6 m

1 Ferrous metals bunker will also accomodate ferrous from the grizzly overs

The design density of ash that will be used for sizing is provided is as follows:

- Bottom Ash Bays – normal mass rate with 1280 kg/m^3 density
- Conditioned Fly Ash Bay – normal mass rate with 1300 kg/m^3 density
- Ferrous Metals Bay – normal mass rate with 720 kg/m^3 density
- Non-Ferrous Metals Bay – normal mass rate with 1200 kg/m^3 density

8.2 Bottom Ash

The bottom ash handling system is sized such that items able to pass through the refuse feed chute will be able to be passed by the bottom ash handling system. The bulk residue from the boiler grate is discharged into a water-filled ash discharger. The ash dischargers, one per boiler, feed the ash onto a main vibrating conveyor with integral grizzly scalper, which runs across the boiler building. The grizzly scalper, located at the end of the vibrating conveyor, then extracts pieces larger than 200 mm from the main residue stream. Oversized pieces are transported to the residue building via front end loader. Undersized pieces are fed onto an inclined belt conveyor for transport to the residue building where they are subjected to magnetic separation of ferrous material followed by separation of nonferrous metals via an eddy current magnetic separator.

The vibrating pan and belt conveyors used will be heavy duty construction, sized to handle the type of residue typical of solid waste.

In accordance with Regulation 347, incinerator ash (bottom ash), as defined, resulting from the incineration of waste that is neither hazardous waste nor liquid industrial waste is not a hazardous waste and may be disposed of at a site that is approved to receive solid non-hazardous waste.

The bottom ash will be transported off site in covered transfer trailers to an appropriately licensed disposal facility. Bottom ash residue trucks will drive right into the building to be loaded. The bottom ash may be used as daily cover material at a landfill and the Covanta Research and Development group are continually investigating new and more beneficial uses for this material.

8.3 Fly Ash

In accordance with Regulation 347, fly ash will be collected and stabilized separately from bottom ash.

The fly ash handling system transports fly ash from the scrubber hopper, the baghouse hoppers, and the economizer and superheater hoppers to the residue building. Transportation of the fly ash from the various hoppers shall be via a series of horizontal and inclined screw conveyors and drag chains. A separate fly ash handling system is required for each combustion unit, although main transport conveyors will be common. The drag chain and screw conveyors will be dust-tight to prevent leakage of fly ash.

Facility design is based on conditioning of fly ash with pozzolan and cement. Once in the residue building, the fly ash conveyors deposit the fly ash into one of two surge bins. The surge bins allow for fluctuations in the fly ash transport system and consistent fly ash conditioning. The surge bins are designed to hold 2 hours of fly ash generated at the expanded Facility rate.

8.3.1 Fly Ash Conditioning System

The primary purpose of the fly ash conditioning system is to adequately mix the fly ash with water, pozzolan and Portland cement and deposit it directly to a fly ash bunker in the residue building. 2 redundant fly ash conditioning systems will be installed, each sized for the expanded Facility. From the surge bins, the fly ash is fed to the conditioners via rotary valves, and combined with Portland cement, pozzolan and water at appropriate rates. The properly mixed ash is then discharged into the first fly ash bay. After 3 days, the stabilized mixture is broken up and moved to a second storage bay to continue curing. After 3 more days, the mixture is broken up and moved to the third bin. This process continues for a total of 21 days (3 days - 7 storage bays). After 21 days, the ash is stabilized and ready for transport to an appropriately licensed disposal facility.

The treated fly ash from the Facility will be tested in accordance with the provisions of Regulation 347 (Toxicity Characteristic Leaching Procedure) to confirm that it is non-hazardous. Refer to Appendix D for preliminary SOPs pertaining to conditioned fly ash characterization and testing. This includes a protocol for sampling (frequency and methodology) and analysis. More detailed SOPs for conditioned fly ash characterization will be developed prior to commencement of operations at the Facility, as required.

Preliminary mass flow rates of Portland cement and pozzolan are shown in Table 15.

Table 15: Preliminary Mass flow rates of Portland cement and Pozzolan

Portland Cement	90 kg/hr
Pozzolan	95 kg/hr

8.4 Metals Recovery

After the bottom ash has been screened by the grizzly, the smaller residue that has been separated out will be conveyed to the residue building where it will be screened for both ferrous and non-ferrous metals.

Materials recovered at the Facility will be sold to the marketplace as recovered recylable materials through contracts established once the Facility is under construction. Sorted metals will also be stored in bins located in the residue building. Both ferrous and non-ferrous metals storage capacities are 7 days at normal throughput rates.

8.4.1 Ferrous Recovery

The ferrous recovery system will be designed to remove 80 % of ferrous metals. The system will consist of the following:

- Rotary drum magnet located above the feeder conveyor to recover the magnetic ferrous material;
- Vibrating screen to agitate and remove loose dirt and scale;
- The vibratory screen follows the magnet to ensure that recovered ferrous is of good quality; and
- All necessary chute work and product distribution conveyors.

8.4.2 Non-Ferrous Metal Recovery

A non-ferrous metal recovery system is designed to remove 60 % of the non-ferrous metals that are in the bottom ash stream.

- The system consists of the following equipment:
- Vibratory screen to separate the residue into two streams;
- A vibratory feeder to ensure an even and uniform flow of residue onto the eddy current separator;
- An eddy current separator; and
- All necessary chute work and associated diverter gates.

Non-ferrous and ferrous metals recovered at the Facility will be sold to the marketplace.

8.5 Reagent Storage

The following reagents will be stored at the Facility:

- Carbon used for dry recirculation system;
- Lime used for dry recirculation system;
- Pozzolan used for fly ash conditioning;
- Cement used for fly ash conditioning; and
- Ammonia used for SNCR system.

Refer to Figures 8 and 9 for the approximate locations of the reagents stored at the Facility.

To control emissions to the atmosphere during the transfer of reagents from trucks into storage units at the Facility, carbon, pozzolan, cement, and lime will have a bin-vent type dust collector. Ammonia will vent back into the truck. In addition, the ammonia tanks will be dyked to contain any potential spillage and any spillage from the dry reagents will be clean-up.

Silos will be designed to prevent bridging and rat-holing of the reagent for consistent operation.

Storage silos for dry material will be designed such that a delivery truck mounted blower will be capable of unloading the reagent directly into the silo by means of a positive pressure conveying system through a fill pipe to the top of the silo. The conveying air will be exhausted from the bin through a silo vent type dust collector. The dust collector will be provided complete with an exhaust fan, sized for approximately 17.4 Nm^3/min, a differential pressure gauge and switch, and a pulse-jet type of dust collector system. The maximum air-to-cloth ratio will be approximately 1 m/min.

8.5.1 Carbon Storage

Activated carbon will be stored in a silo. A pneumatic feed system injecting activated carbon directly into the flue gas duct-work, downstream of the economizer will be fed from a common activated carbon storage silo.

The silo will be located adjacent to the APC area and will be sized for 1 ½ truck loads, approximately 85 m^3. The silo will be able to store enough carbon for approximately 84 days of use for the intial Facility.

A truck fill panel, fill pipe and vent filter will be provided to convey carbon from the bulk delivery truck to the silo using the truck's conveying blower. Self-unloading carbon truck deliveries average approximately 20 tonnes per delivery. During filling, the conveying air will be exhausted from the silo through a silo vent type dust collector. The truck unloading operation is expected to take between 2 and 3 hours to complete.

8.5.2 Lime Storage

The storage silo size for the lime has an approximate volume of 85 m^3, and will store approximately 40 tonnes of hydrated lime.

Lime for the APC system will be delivered to the Facility in self-unloading trucks and stored in a storage silo. The truck unloading operation is expected to take between 2 and 3 hours to complete. Self unloading lime truck deliveries average approximately 20 tonnes per delivery.

8.5.3 Pozzolan and Cement Storage

Silos will be located outside of the residue building near the ash conditioning system.

Storage silo size for the Portland cement and pozzolan will store approximately 35 tonnes of each reagent. Silo sizes for Portland cement and pozzolan are approximately 25 m^3 and 45 m^3 respectively.

The silo is designed such that the delivery truck mounted blower will be capable of unloading the cement or pozzolan directly into the silo by means of a positive pressure conveying system through a fill pipe to the top of the silo. The conveying air will be exhausted from the bin through a silo vent type dust collector.

8.5.4 Ammonia Storage

Ammonia will be stored in a 36 m^3 storage tank located southeast of the APC building. The ammonia storage tank installation will be in accordance with *Guidelines for Environmental Protection Measures at Chemical and Waste Storage Facilities* (May, 2007) and other applicable requirements. Secondary containment will constructed with a contained volume of impoundment equal to 110 % of the volume of the tank, and such that the horizontal trajectory of a potential leak from the tank will confined within the impoundment.

Aqueous ammonia solution will be delivered to the Facility in tank trucks with carrying capacity of approximately 22.7 m^3. Trucks will be unloaded using truck mounted transfer pumps, and vapour displaced from the receiving tank will vent back to the truck to prevent the release of ammonia vapour during the unloading process.

9.0 POWER GENERATION

Steam produced by the thermal treatment units' boilers will be routed to a steam turbine generator set. Exhaust steam from the turbine will be condensed in an air-cooled surface condenser. The condensate is then pumped through 2 feedwater heaters to the deaerator, from which it is pumped back to the boilers for steam production. The air cooled condenser will also serve as a bypass condenser to allow for continued operation of the thermal treatment units for periods of time that the turbine generator is off-line for maintenance. All piping, valves and fittings associated with the power cycle will be sized to support plant operations at peak capacity. Design and construction will be in accordance with applicable standards.

All steam piping will be furnished with low point drains to continuously or intermittently remove accumulated condensate. Condensate piping will be provided with high point vents and low point drains. The turbine extraction system will be designed to prevent water induction to steam turbines.

Specific design information pertaining to power generation is provided in the sections below. Further a mass and energy balance diagram is provided in Figure 12.

9.1 Main Steam System

The main steam system will be designed to deliver full steam production from the initial thermal treatment units' boilers to the steam generator. It also provides steam to the steam jet air ejector equipment, and the boiler soot blowers (on an intermittent basis). The main steam system may deliver steam to a full capacity boiler feed pump turbine driver, if the motor driven pumps are not available. A bypass line will be provided to direct full steam production to the condenser while bypassing the turbine. Isolation valves at the turbine exhaust allow maintenance to be performed on the turbine generator while continuing to burn municipal solid waste, condensing the steam and thereby avoiding depletion of boiler feedwater inventory.

A line from the main steam header, including an automatic pressure-reducing and desuperheating spray station, provides steam to the extraction steam system, as backup to the medium pressure turbine extraction line. The associated spray water will be supplied from the boiler feedwater pump discharge. Safety requirements regarding boiler over-pressurization are met with automatic safety release valves.

9.2 Extraction Steam System

The extraction steam system is designed to provide the required steam from uncontrolled turbine extraction points to the 2 low-pressure feedwater heaters, a deaerator and the steam jet air ejectors.

Steam from the first extraction point will be supplied to the air heater and steam jet air ejectors (and future hot water district heating loop). Steam from the second will be supplied to the deaerator. The third and fourth extraction points (lower pressure) will be supplied to the low-pressure feedwater heaters.

Exhaust steam from the boiler feed pump turbine drive will be discharged to the medium pressure extraction header for use in the deaerator.

The steam turbine will have provision to extract steam for future district heating for the Clarington Energy Park and Courtice WPCP.

9.3 Condensate System

Steam exhausted from the turbine will be routed to the air-cooled condenser. Condensate is removed from the condensate receiver by one of the two 100 percent capacity condensate pumps.

The condensate pump discharge provides cooling for the steam jet air ejector condenser and the turbine gland steam condenser. Condensate is then directed to 2 low-pressure shell and tube heat exchangers. The condensate is then directed to the deaerator.

Make-up water to the system is directed from the boiler make-up water storage tank through the boiler continuous blowdown heat exchanger (to cool blowdown and recover heat) and to the condensate receiver. A control valve is provided to regulate condensate flow rate and maintain a condensate receiver level.

A control valve locate downstream of the gland steam condenser directs flow to a recirculation line which is routed back to the makeup water holding tank to the deaerator to maintain deaerator level.

Table 16: Preliminary Design Conditions for Condensate Pump Sizing

Flow per pump[1]	
MCR	1,066 l/min
Rated (Based upon turbine bypass operation)	1,577 l/min
Net Total Head (not finalized)	94.5 m

1 Includes makeup to condensate receiver

9.4 Feedwater System

Condensate will be supplied to the feedwater pumps from the deaerator storage tank. 2 motor-operated pumps rated at 50 % initial Facility capacity, or 1 turbine driven pump rated at 100 % initial Facility capacity will be in service. The steam turbine driven feed pump will be used as a backup for the motor-driven pump in the event that electrical power is not available. Each pump discharge line has a recirculation line back to the deaerator to prevent the pumps from overheating during low flow operation. The boiler feed pumps will feed the boilers through the economizers. This will provide additional heating of the feedwater prior to entering the boiler steam drum, thus increasing the thermodynamic efficiency of the system, and lowering the flue gas temperature to a level appropriate for entering the air pollution control system. The amount of feedwater entering the economizer will be controlled to maintain a constant flue gas exit temperature.

9.5 Boiler Make-Up Water Treatment System

The boiler make-up water treatment system provides makeup water of appropriate quality for the boiler to compensate for losses due to: boiler blowdown, deaerator venting, leakage, and sootblowing steam.

The reverse osmosis pre-treatment system will include two trains, each consisting of two, 100 percent capacity multimedia filters to treat the incoming feed water and remove suspended solids above 10μ. The reverse osmosis system design capacity is 61 litres per minute. The captured suspended solids will be processed at the Facility.

9.6 Feedwater and Boiler Chemical System

The chemical feed system minimizes corrosion, scaling, and deposition in the boiler, and corrosion of the condensate and feedwater systems. Chemical feed packages will be provided to scavenge oxygen, control pH and control the development of corrosive or scaling conditions.

9.7 Boiler Blowdown System

A complete boiler blowdown system designed according to good engineering practice for industrial power plant design will be provided with each thermal treatment unit. The system consists of a continuous blowdown flash tank with vent to deaerator, blowdown heat exchanger, wastewater holding tank with atmospheric exhaust in a safe area, and all necessary piping, valving and controls. The system will be capable of completely draining a single boiler/economizer into the wastewater holding tank in approximately 4 hours.

9.8 Steam Turbine Generator

The Facility consists of 2 waste steam generators and 1 steam turbine generator with a maximum gross output of approximately 20 MW. The turbine generator set will be designed to generate 72,000 kg/hr of steam

The air heater extraction port on the turbine will be sized to provide steam to an onsite heat exchanger for the closed loop hot water district heating for the Clarington Energy Park and Courtice WPCP.

Table 17: Preliminary Design Conditions of the Turbine Generators

Steam Flow	
Valves Wide Open (VWO)	72,000 kg/hr
Normal Operation (MCR)	67,285 kg/hr
Voltage	13,800 V, 60Hz, 3 phase
Power factor	0.85 lagging – unity
Rated Capacity (approximate) at VWO Steam Flow	20.0 MW, 23530 KVA

9.8.1 Air Cooled Condenser for Turbine Generator

A description of operating conditions of the air cooled condenser is provided in Table 18.

Direct air cooled condenser package including condenser complete with duct from turbine, isolation valves, blanking plate, steam jet air ejectors, relief valves and other required accessories.

The Condenser is designed to accept full turbine bypass flow and must be isolatable from the turbine under this mode of operation. Note that in turbine bypass mode, the main steam pressure must be controlled by a backpressure control valve.

Table 18: Air Cooled Condenser (operating conditions) for Turbine-Generator

Normal Operation (MCR)	
Steam to Condense	55,265 kg/hr
Temperature of steam	57ºC
Design dry bulb temperature (5 % summer value)	29.4ºC
Turbine Bypass Operation (MCR)	
Throttle Steam to condense (at boiler outlet conditions)	81,985 kg/hr
Temperature of steam (after desuperheat)	87.8ºC
Pressure of steam (after letdown)	345 mbar
Minimum Condensate Receiver Total Volume	14,000 litres

9.9 Closed Cooling Water System

The system will be provided to ensure an adequate supply of cooling water to various operating plant equipment. Two 100 percent capacity cooling water pumps and an air cooled heat exchanger are provided. The air cooled heat exchanger will be located outside near the air cooled condenser. A surge tank is provided with sufficient capacity to accommodate maximum expansion of the system water and to ensure adequate net positive suction head for the cooling water pumps.

- Cooling water is circulated to the following pieces of plant equipment:
- Instrument and Service Air Compressors;
- Generator Air Coolers;
- Turbine Lube and Control Oil Coolers;
- Boiler Feedwater Pump Bearings; and
- Boiler Blowdown and Steam Sample Coolers.

Table 19: Closed Cooling Water System using an Air Cooled Heat Exchanger Design Conditions

Heat Load	6.1 GJ/hr
Cooling Water	2,214 L/min
Design Dry Bulb	29.4^0C
Approach to Dry Bulb	5.5^0C

10.0 POTABLE, PROCESS AND WASTEWATER

The Facility water and waste water system is designed to provide suitable quality water to each process use. The Facility is designed to be a “zero wastewater discharge” Facility, with the exception of the Facility’s sanitary uses.

The Facility water supply will be from the Region of Durham’s municipal water system.

10.1 Water Consumption

The Facility is planned as a “zero (process) wastewater discharge” Facility. The water utilization strategy provides for the maximization of water reuse. Equipment water discharges within the Facility are cascaded to those water uses that can use poorer quality make-up water there by reducing the amount high quality municipal water used.

The Facility is estimated to consume less than 100 litres per minute (lpm) of water under normal operating conditions. A water balance was developed for MCR conditions (see Figure 19) and is described below.

Major water consuming equipment is as follows:

- boiler steam generator salt removal via blowdown;
- boiler makeup water treatment system losses;
- steam losses due to deaerator and other miscellaneous vents;
- flue gas spray water (for flue gas quench);
- residue quench and fly ash conditioning;
- plant washings; and
- potable and sanitary uses.

The water uses have been comingled such that initial process water waste streams, such as process blowdowns, are collected and directed to evaporative end uses, such as flue gas scrubber and an ash quenching tank. The potable water system will be used by plant employees as a once-through system to sanitary waste discharge and will not be intermixed with process waste water. For example, potable water uses include drinking water, employee sanitary uses, showers and wash water. Potable water will also be utilized as the supply to the fire protection system and irrigation.

The water used within the process will either evaporate or be captured within the wastewater holding tank or settling tank and re-used. Water from The Regional Municipality of Durham will be used as the only source of water for the Facility. Municipal water will be used directly for the potable water supply within the Facility, fire protection water, irrigation, feed hopper and transition piece cooling, and service water for washdown and maintenance purposes. Service water can be potable and/or is of sufficient quality which can be used in the plant processes such as washdown and scrubbing. Water used for transition piece cooling and within the flue gas scrubber will evaporate.

Boiler makeup water is needed to replenish water that has evaporated during de-aeration or has been blowndown to help keep the boiler water clean. The boiler make-up water treatment system provides makeup water of appropriate quality for the boiler to compensate for losses due to: boiler blowdown, deaerator venting, leakage and soot blowing steam. The municipal water used for boiler make-up water will be demineralised using reverse osmosis; the demineralised water is used within the boiler to produce steam to run the turbine and carry the ammonia for the SNCR system.

10.2 Sanitary Wastewater

Sanitary wastewater originates from domestic use of water supply in sinks, toilets and showers. These facilities are discharged through internal plumbing to the Clarington Municipal sanitary sewer system. Applicable local sanitary sewer connection permits will be obtained prior to commencement of operation. The Energy Park will be serviced, taking into account the needs of this Facility. The sanitary sewer connection will be sized for domestic use only and will not be connected to any process water or floor drain systems.

10.3 Process Wastewater

This Facility will be a zero process water discharge facility.

Primary wastewater sources will be handled as follows:

- The continuous reject water flow from the boiler make-up water treatment system, as well as boiler blowdown, will be directed to the waste water holding tank where it will be reused as flue gas quench water, as water supply for fly ash conditioning and makeup for the settling basin.
- Any process wastewater containing solids, such as floor drains, ash discharger overflow and drain water, boiler and turbine-generator washdown water and APC area washdown water, will drain via grey water drains and trenches to the Waste Water Settling Basin located just south east of the APC building. No other drains shall be connected to this settling basin/sump. Water drawn from the settling basin is used to quench the bottom ash and provide moisture content for dust control. Water from the settling basin shall also be directed to hose stations on the tipping floor for refuse pit dust control. The basin will not be provided with an overflow connection to the municipal sewer system or site storm water system. To maintain an adequate supply of quench water, water from the wastewater holding tank will be pumped into the wastewater settling basin.
- Washdown from the tipping hall, if necessary, will be directed to the refuse pit where it will be absorbed by the waste. Any washdown from residue handling areas is directed to the residue storage piles.

Any processes that utilize reused water will be supplemented by municipal water cascading down from the wastewater holding tank.

Where spillage, leakage or concentrations of oil may occur from equipment and/or storage areas, a floor curb will be built around such equipment and/or storage areas with a trapped floor drain to prevent oil from being entrained in the waste water and drains/trenches.

No process materials or waste will be kept outside of the main Facility buildings. Stormwater from the Site is expected to be of comparable quality to typical runoff from rooftops, roads and parking areas because it will not be exposed to process materials. Refer to Figure 20 for a schematic of the settling basin, which outlines its design.

10.4 Plumbing

The plumbing system design will meet the requirements of all local plumbing codes. References to the local plumbing code mean the plumbing code/standard that is invoked by the authorities having jurisdiction in the locality where the plant is being built.

11.0 STORMWATER MANAGEMENT

The Site is approximately 12.1 ha and consists of 4 fields with hedgerows around each field. Under existing conditions, approximately 50 % of the Site is ploughed and the remaining 50 % is fallow fields (Jacques Witford (JW), July 2009). The surrounding land use consists of agricultural land to the east and west, industry lots (Auto Auctions with parking lots) to the north and west and Courtice Water Pollution Control Plant to the south.

A small portion of the Site in the south east corner has been cleared to allow for an access road which runs westward from Osbourne Road to the centre of the Site and then turns south towards the CN Rail property boundary. A small grass swale was constructed along the portion of the access road which heads south to provide flow direction to the south property boundary.

The existing runoff from the Site flows overland and most likely ponds in the southwest corner of the property. Overflow from this low point onsite discharges to the CN Rail swale which runs parallel with the south border of the Site. The swale is heavily vegetated and is relatively small with an estimated capacity of approximately 0.14 m^3/s (JW, July 2009). According to JW (July 2009) the CN rail swale capacity increases significantly approximately 300 m west of the site with a depth of over 1 m at bankfull conditions. The estimated conveyance capacity of the swale approximately 300 m west of the site is approximately 2.3 m^3/s which is greater than the 100 yr 24 hr peak flow storm event from the site, which is approximately 0.5 m^3/s. Flow within the CN rail swale is intermittent and is likely seasonal (JW, July 2009).

A tributary of Tooley Creek joins the CN rail swale approximately 580 m northwest of the site and continues to drain northwest along the CN rail line until it confluences with Tooley Creek. The Tooley Creek tributary is the conveyance channel for the property north of the Site (i.e. the Auto Auction site).

Tooley Creek is a warm water creek in the northern reaches and has been noted to have cold water springs north of Highway 401 as reported by the Central Lake Ontario Conservation Authority (JW, July 2009). Tooley Creek is a permanently flowing creek; however there is no stream gauge present on the creek. Jacques Whitford completed a water balance for Tooley Creek to estimate the average annual flow which was estimated to be approximately 0.12 m^3/s. At the confluence of the CN rail swale and Tooley Creek there is a culvert which conveys the creek under the railway towards Lake Ontario.

The Facility will obtain water from the Region of Durham which will be the only source of water for the Facility. This Facility will be a zero process water discharge facility; as such no water from the process will be sent to the sanitary sewer system or be discharged into the natural environment. Under normal operating conditions the Facility operates at a water deficit and requires municipal water to maintain enough water for the process.

A separate application has been submitted to the MOE Environmental Assessment and Approvals Branch (EAAB) for an industrial sewage works approval for stormwater works under Section 53 of the *Ontario Water Resources Act*. That application addresses stormwater containment within the site to maintain pre-development peak flows up to the 100 year storm event and to treat storm water runoff to reduce suspended solids.

The current Stormwater Management Pond (SWMP) design provides the same, or better, level of stormwater management (quantity and quality) as the preliminary design described in the EA documents. Using the EA values for the SWMP volume, based on the commitment to contain the entire 100-year post-development storm, and given the modified real estate constraints for Energy Park Drive and the area along the south side of the property which will be used for a planned stormwater drainage swale, the current design, therefore, utilizes a dual SWMP approach, with one pond located in the original location (southwest area of the site) that is capable

of containing approximately 40 % of both the 100-year flow and Erosion and Sediment Control (ESC) requirements, and one pond located in the southeast corner of the site capable of containing the balance of the 100-year storm and ESC requirements. This dual pond approach has the added benefit of providing better overland gravity flow to these ponds when the permanent storm water conveyance system capacity is exceeded during a flood event in excess of the 100 year storm. The permanent pond volume is oversized for the post-development design based on the governing size required for sediment and erosion control during construction.

12.0 ENVIRONMENTAL EMERGENCY AND CONTINGENCY PLAN

Emergency and Contingency planning is required to ensure that disruptions in the planned operations (e.g., power outages, labour disputes, etc.) can be accommodated in a safe and efficient manner. Covanta will train all employees in the appropriate contingency measures to be followed in the event of emergencies or an interruption to normal operating procedures.

A detailed ECP, specifically prepared for the Facility, will be completed pending receipt of operating approvals. The ECP will be submitted, as required by EA Notice of Approval condition 17, a minimum of 60 days prior to the receipt of non-hazardous MSW at the site or such other date as agreed to in writing by the Director.

A Table of Contents for a typical ECP is included in Appendix F.

Development of the ECP will consider the requirements of both the Ontario Fire Code and legislated occupational health and safety requirements.

The ECP will be kept up-to-date and a copy retained in a central location at the Facility and will be accessible to all staff at all times. The ECP will deal with the prevention of, preparedness for, response to and recovery from an environmental emergencies. It will be reviewed with the Clarington Fire Services prior to commencement of operations at the Facility.

The ECP will include, but will not be limited to:

- Emergency response procedures, including notification procedures in case of a spill, fires, explosions or other disruptions to the operations of the Facility;
- Cell and business phone number and work locations for all person(s) responsible for the management of the Site;
- Emergency phone numbers for the local ministry office, the ministry's Spills Action Centre, and the Clarington Fire Services;
- Measures to prevent spills, fires and explosions;
- Procedures in the event of a fire;
- Details regarding equipment for spill clean-up and all control and safety devices;
- Shut down procedures for all operations associated with the undertaking including alternative waste disposal site locations;
- Maintenance and testing program for spill clean-up equipment and firefighting equipment;
- Training for site operators and emergency response personnel; and
- A plan, identifying the location and nature of wastes on site.

The Facility will have an emergency evacuation and notification plan in the event that a fire cannot be easily extinguished with available fire extinguishers and fire suppression equipment, and evacuation/notification is warranted.

In the event that a disruption to operations occurs such that the Facility cannot process waste, incoming waste can be temporarily stored in the refuse pit until the maximum capacity is reached. Best Management Practices will be followed to ensure that odours are not problematic, such as closing doors and louvers. If the processing disruption will be extended such that the maximum pit capacity may be exceeded, waste will no longer be accepted at the Facility, and on-site wastes may transferred to another approved disposal facility. The Facility has arrangements to deliver bypass waste to Covanta's other locations depending on their own waste inventory. These facilities are located in Upstate New York and other nearby states. Further, Covanta has good working relationships with other waste disposal companies and can therefore make arrangements to use their disposal facilities, if necessary.

The ECP will be reviewed, modified or expanded on an annual basis or following a significant event. This will ensure that the plans are kept current, and that Facility staff understand and are trained in their responsibilities. The plans will be maintained at the Facility in a readily available or conspicuous location.

12.1 Fire

The fire protection systems, interior sprinkler systems and exterior fire main system will meet the requirement and standards of Ontario Fire Code. In addition, the fire protection system will meet the requirements and standards of the insurance underwriter. Further, maintenance and testing program for firefighting equipment will be included in the ECP as indicated in condition 17.3 of the EA Notice of Approval.

The fire protection system will include all piping, water cannons, valves, fire extinguishers, sprinklers, hydrants, hose cabinets, hose, pumps, fittings and accessories, both underground and above ground, inside buildings, by the boiler and air pollution control equipment, and special items. In addition to a dry pipe sprinkler system located over the tipping hall pit and charging hopper parapet, water cannons arranged for local operation are to be provided. These cannons will be strategically located and arranged to avoid inadvertent impact by the crane grapple. Large emergency smoke relief hatches (solenoid release operated) will be provided in the roof above the parapet-pit area.

Two 9,650 lpm fire pumps will be provided. One of these pumps will be redundant to the other and isolated in a fireproof enclosure. Both pumps will be provided with diesel drives.

12.2 Power Disruptions

The Facility includes the following design components for power disruption prevention and mitigation:

- The Facility is equipped to continue processing waste for a period of time when disconnected from the grid. The turbine generator will be designed to generate power for in house load only, while bypassing the balance of the steam to the Air Cooled Condenser (ACC);
- The Facility has a purchase agreement to buy electricity from Hydro One;
- A steam driven boiler feedwater pump will be maintained on standby for use during emergency conditions, in the event of an electrical power failure;

- In case of a station blackout, a standby 250 kW diesel generator is provided to power the auxiliaries necessary to assure an orderly shutdown of the plant in the event of a total loss of station power. The stand-by diesel generator is located on the west side of Facility (Figures 8 and 9). A double walled fuel tank will supply the diesel generator and will provide approximately 12 hours full-load operation. The fuel tank is equipped with level control and indication and low-level alarm. In the case of a station blackout in excess of 12 hours, the tank will be refilled from a mobile fuel tank, thus allowing indefinite operation of the standby generator. The fuel tank in double walled to ensure spill containment and compliance with *Technical Standards and Safety Authority (TSSA) Liquid Fuels Handling Code* (2007) requirements. The diesel driven, synchronous generator is connected to a standby motor control centre. Essential loads for shutdown will be grouped on to the standby motor control centre. Upon loss of normal power, the diesel generator will start automatically and come up to speed, and an automatic transfer switch will transfer power to the standby motor control centre long enough to safely shut down the plant (Refer to Appendix D for SOPs pertaining to back-up power – standby diesel generator); and
- A 125 Vdc battery distribution system will be provided to supply critical equipment and protective devices for a minimum of 4 hours following a complete loss of normal power. Typically, battery loads would include medium and low voltage switchgear breaker controls, the uninterruptible power supply system, annunciator(s), various critical control circuits, emergency lube oil pump; emergency seal oil pump, control room emergency lighting, etc. At the end of the 4-hour duration, the batteries will have capacity to close all circuit breakers required to re-energize the battery charger.

During start-up of thermal treatment process, natural gas shall be used for one (1) auxiliary burner in each furnace to raise the temperature in the furnace to above 1000°C. This process (Phase 1 – Start-up) will take about 6 hours prior to MSW being fed into the system. Each burner will have a maximum thermal input rating of 56 MMBtu/hr and will meet the NO_x limits of MOE *A-9 Guideline - NO_x Emissions from Boilers and Heaters* of 46.9 ppmv at 3% O_2 for natural gas fired heaters above 10 MMBTU/hr. Further, the burners will be run for less than 500 hrs per year and would be exempt from MOE Guideline A-9. Phase 2 of start-up is the transition period when MSW (60% of heat input) is initially charged to the grate and auxiliary burners (natural gas 40% of heat input) are in operation until stable steady state combustion is achieved.

During shutdown, MSW charged to the feeding grate will be discontinued. Further natural gas from the auxiliary burner will supplement the shutdown process to ensure complete burnout of MSW.

13.0 NUISANCE CONTROL

Fugitive dust, odour, noise and debris emissions will be minimized in the Facility. The MSW will not be handled, received or stored in its unprocessed, as-delivered state at any location in the Facility, other than inside the tipping enclosure and MSW storage area. Refer to section 14.0 of this report for Facility maintenance, inspection and monitoring.

13.1 Noise Control

Noise control is primarily a function of proper plant design and equipment selection. An Acoustic Assessment Report is presented in the supporting documentation for the *Environmental Protection Act* R.S.O. 1990 Section 9 Application for Approval (Air & Noise), which has also been submitted to the MOE for this project. The Acoustic Assessment Report (AAR) has been completed in accordance with MOE Publication NPC-233, *Information to be Submitted for Approval of Stationary Sources of Sound* (October, 1995). Sound level limits for the Facility operations on neighbouring Point(s) of Receptions ("POR(s)") were established in accordance with MOE guidelines. The AAR demonstrated that sound levels from the Facility at identified PORs are at or below the applicable noise limits during the predictable worst case hour of Facility operation and during the periodic testing of the standby diesel generator or diesel fire pumps with both potential entrances.

13.2 Dust Control

As a means of dust control it will be the normal routine that all doors to all buildings throughout the Facility site will be kept closed except when being used. The Facility will be equipped with a dedicated street sweeper to maintain good housekeeping and control dust on the paved Facility surfaces.

Dust control in the main building will be further achieved by drawing boiler combustion air from the tipping hall. The combustion air fans inlet ducts are located near the refuse pit enclosure roof in the area above the refuse feed hoppers. Thus air-borne dust will be carried into the incineration process with the combustion air. In the unlikely event the unit is down, the tipping floor area door will be kept closed, except when refuse trucks are being received.

Fugitive dust emissions from bottom dry ash residues are controlled by handling ash in a totally enclosed system integral to the furnace. The quenched bottom ash, upon exiting the furnace via the ash discharger, has a moisture content of 15 to 25 percent, which aids in preventing the escape of fugitive dust emissions as the residue is conveyed from the main building to the residue storage building. Further, the outdoor portions of all conveyors will be enclosed. The residue material, both the bottom ash and treated fly ash will be loaded into covered trailers inside the residue building. Since all residue loading operations take place inside the residue building, fugitive emissions will be minimal.

As the on-site roads are paved, there are minimal fugitive road emissions. The Facility will have a dedicated street sweeper on-site to clean the on-site roads. Furthermore, gravel surfaces may be watered as required, to control dust.

13.3 Odour Control

All waste handling activities take place in enclosed buildings. The refuse pit is segregated from the tipping hall by a wall open to the tipping hall only through the tipping bays.

Under normal operating conditions both trains will be on line. The tipping hall and refuse pit will continue to be maintained under negative pressure by drawing primary combustion air from these areas. Potential odorous air will be drawn into the furnace and destroyed. The primary air will be introduced into the furnaces thereby subjecting these pollutants to direct flame, high temperature oxidation.

In addition, the louvers on the outside wall will be closed during truck deliveries. The truck entrance and exit doors will be closed when trucks are not delivering MSW. This effectively creates an enclosed area from which to draw combustion air. All MSW trucks are enclosed which reduces the potential for off-site odour.

A potential odour emission scenario could occur if both units are off-line for an extended period of time and the pit contains MSW. This would be an outage condition but all doors and louvers would be closed. Under this scenario, the ID fans could still be in operation, drawing odour air through the units and releasing the uncombusted odourous air into the atmosphere from the 87.6 m stack.

Potential odour emissions from the Facility were assessed following the MOE *Technical Bulletin Methodology for Modelling Assessments of Contaminants with 10-minute Average Standards and Guidelines under O. Reg 419/05 (April 2008)*. The odour scenario assumed that both combustion units were off-line. The Induced Draft fans would continue to operate and draw air from the tipping floor through the system and release the odours from the top of the stack. Odour samples from the Covanta Onondaga facility in Syracuse, New York were used to represent odours at the Facility during normal full load operating conditions. The maximum 10 min odour concentration was calculated to be 0.11 ou/m^3, which is an order of magnitude less than the guideline value of 1 ou/m^3. Refer to the Section 9 Application for Approval (Air & Noise), which has also been submitted to the MOE for more information.

An Odour Management and Mitigation Plan will be developed in consultation with the Ministry and Durham-York. The Plan will include at a minimum:

- Standard operating and shut down procedures;
- Maintenance schedules;
- Ongoing monitoring for and reporting of odour;
- Corrective action measures and other best management practices for ongoing odour control and for potential operational malfunction;
- A schedule for odour testing at sensitive receptors; and
- A section that specifically addresses odour control measures should operation of the Facility be disrupted or ceased.

Odour Management and Mitigation reports will be prepared and submitted to the Regional director annually.

13.4 Litter Control

Litter control throughout the site will be routinely conducted on a daily basis. In addition, the access roads, parking facilities and other paved areas and unpaved areas of the site including fences will be policed as needed. Various areas within the buildings themselves will be policed by the operating or maintenance group who utilizes or is assigned responsibility for them. Janitorial services in the administrative areas will be provided.

13.5 Pest Control

Pest/vector control for the Facility will be subcontracted to a qualified local company. Selection of the contractor will be based on qualifications and experience with similar types of plants and/or large industrial or commercial facilities having significant pest/vector control requirements. The program will be closely monitored by the designated safety coordinator and will be adjusted, as required, to seasonal changes, throughput variations, or simply the actual effectiveness of the program.

14.0 FACILITY MAINTENANCE, INSPECTION AND MONITORING

14.1 Facility Maintenance and Inspection

As part of the plant Final Design, Start-up and Commissioning, all necessary plans and procedures will be developed. A specific Facility and Inspection plan will be assembled based on the Facility specific design and equipment provided to ensure safe reliable environmentally sound operations at all times.

The Facility Maintenance and Inspection Plan will include the following tasks:

- Training Facility employees regarding the plan;
- Recording and maintaining inspection records;
- Reviewing and updating the plan annually;
- Retaining the services of outside services as needed for any maintenance beyond the capabilities of plant personnel;
- Five year Facility and equipment maintenance plan;
- Life cycle replacements of equipment, as applicable; and
- Preventative maintenance plan, which includes a critical spare parts inventory.

Critical spare parts that are identified on the inventory will be kept on site at all times to ensure timely repairs of critical components of the process.

Daily site inspections will be conducted to ensure that the Site is secure, Facility operations are not causing any nuisance impact and/or causing adverse effects on the environment, only non-hazardous waste is being received at the Site, and the Facility is compliant with all regulatory approval requirements.

A designated competent operator will complete a Daily Site Inspection Report, which will include the date and time of the inspection, and the name, title and signature of trained personnel supervising the inspection. If any problems are identified, the corrective action that is completed or planned, will be noted in the inspection report.

The Daily Site Inspection Report will include answers to the following:

- Is the entrance to the site clean of litter and dust?
- Is the fence line, inside and outside, clean of litter?
- Are the fence and gates in good condition?
- Is the yard clean of litter and scrap?
- Are there any unacceptable odours?
- Is there good surface water drainage in the yard?
- Is the exit to the Facility clean of litter and dirt?
- Are the access roads to and from the Facility free of litter?

- Is the amount of storage of waste within the allowed maximum weight limits

Copies of the Daily Site Inspection Reports will be kept on file at the Facility as indicated in section 15.3. A Table of Contents for a typical Facility Maintenance and Inspection Plan is included in Appendix G.

14.2 Facility Monitoring

Further, the Facility will undergo a third party audit by qualified, independent professional engineer to ensure compliance of the undertaking, as prescribed in Condition 16 of the EA.

The following monitoring and reporting plans are required, as prescribed in the EA Notice of Approval:

- Ambient Air Monitoring and Reporting Plan;
- Air Emissions Monitoring and Reporting Plan;
- Noise Monitoring and Reporting Plan;
- Odour Management and Mitigation Monitoring and Reporting Plan; and
- Groundwater and Surface Water Monitoring and Reporting Plan.

15.0 STAFF TRAINING, REPORTING, AND RECORD KEEPING

15.1 Staff Training

To prepare Covanta personnel for operations and maintenance positions in the Facility, a comprehensive training program is implemented. The program combines classroom instruction, computer based training, and on the job training (OJT).

Initial training will provide new employees with all necessary information pertaining to company history, policies and procedures training. Initial training also covers safety procedures, Workplace Hazardous Materials Information System (WHMIS), Facility systems and equipment trainings and environmental affairs training which includes applicable regulatory overview and Facility permit review. Components of the training are summarized below:

- Introduction to Covanta and the Facility;
- Employee Handbook;
- Personnel Safety;
- WHMIS;
- Introduction to Facility Safety Procedures
  - Lock-out/Tag-out
  - Confined Space
  - Respiratory Protection
  - Electrical Safety
  - Tipping Floor Safety
  - Working at High Elevations
  - Ash Discharger Safety
  - Ash Hopper Safety
  - Emission Compliance
- Occupational health and safety concerns pertaining to the processes and wastes to be handled;
- Management procedures including the use and operation of equipment for the processes and wastes to be handled;
- Environmental emergency and contingency procedures for the processes and wastes to be handled;
- Use and operation of the equipment to be used by the operator;
- Procedures for the refusal of unacceptable loads;
- Procedures for handling ash;

- Site specific written procedures for the control of nuisance conditions;
- Odour recognition training;
- Record keeping procedures; and
- The CofA and other regulatory requirements.

A manual including the aforementioned training will be given to each employee during training. Covanta will maintain a written record of employee training, including the date of training, the name and signature of the employee and a description of the training provided.

15.2 Complaint Procedure

A Complaint Protocol for the Design and Construction and Operation of this Undertaking has been developed to meet Condition 6 of the EA Notice of Approval to proceed, and to ensure that complaints are investigated and dealt with in a timely manner. Additionally, this Complaint Protocol outlines how Durham-York will respond to inquiries, complaints and concerns received during the design, and construction and operation of this Undertaking.

A copy of the Complaint Protocol is included in Appendix H, which includes the following:

- General process for receiving complaints or concerns;
- Measures used to inform the public about the complaint process;
- Procedures for recording/logging complaints;
- Roles and responsibilities of the various stakeholders;
- Action/Response; and
- Quality Assurance.

When a complaint is received, a Record of Complaint (RoC) is completed. The RoC includes the following information:

- Name and contact information of the complainant;
- Tracking number;
- Nature of the complaint or concern;
- Action taken to address or respond to the issue;
- Response provided to the Originator; and
- Resolution of complaint.

The RoC will be entered into a complaint management software database. The database will log the issue, track process and record the action plan and resolution of an issue. This provides a record to allow all appropriate levels of managers to be kept apprised of issues.

Lastly, as per Condition 8 of the EA Notice of Approval to proceed, an advisory committee has been set up to ensure that the concerns about design, construction and operation of this undertaking are considered and mitigated. This committee will include the members and stakeholders prescribed in Condition 8.

15.3 Record Keeping

The following records will be maintained at the Facility in electronic and/or hardcopy format:

a) Up-to-date site plans for all major Facility elements including the building, road network, sewer and drainage systems;

b) Up-to-date Emergency and Contingency Plan;

c) Daily record of waste received including type, date, time of arrival, quantity and source of non-hazardous MSW received;

d) Quantity of unprocessed, processed and residual non-hazardous MSW on the Site;

e) Quantities and destination of each type of residual material shipped from the Site;

f) Daily record of any waste loads rejected, including amounts, reason for refusal and action taken;

g) Daily Site Inspection Reports;

h) Complaint Logs;

i) Employee training records; and

j) An incident report for any fires, spills, accidents on-site or other emergencies on-site.

15.4 MOE Reporting

An annual report will be submitted to the MOE District Office documenting the operation of the Site for the previous calendar year. The report will include the following information:

Monthly summary of the type and quantity of all wastes received at the Site;

k) Monthly summary of the type and quantity of all wastes shipped from the Site and the location to which it was shipped;

l) A description of any material operational issues encountered;

m) Any recommendations for operational changes;

n) Amount of recovered recyclables shipped to market;

o) Amount of residual waste shipped to landfill;

p) Average daily amount of waste received and shipped;

q) Maximum amount of waste that was received in one day in the past year;

r) Amount of waste stored on-site as of date of preparation of Annual Report;

s) Any modifications that were made to the Facility under the operational flexibility afforded by the Comprehensive CofA for the site;

t) Annual water quantity usage;

u) Annual compliance reporting;

v) A summary of the complaints that were received regarding the Facility operation; and

w) Annual Odour Management and Mitigation Monitoring Reports (refer to section 13.3).

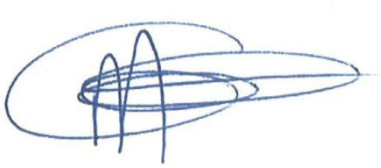
16.0 SITE CLOSURE PLAN

Post-closure use of the Site is likely to be of an industrial nature since the Site would likely be part of a fully developed energy park and will still be zoned industrial. At the time of closure and decommissioning, an appropriate plan will be developed, considering:

- Current regulatory requirements;
- Best-practices with respect to equipment and materials salvage;
- Best-practices with respect to hazardous materials management;
- Best use of materials including reuse and recycling of Facility components; and
- Applicable impact management measures identified in the Environmental Assessment.

Report Signature Page

GOLDER ASSOCIATES LTD.



Michael Cant, Associate
Canadian Waste Sector Leader

Pamela Russell, P.Eng.
Associate, Senior Waste Engineer

Anthony Ciccone, Ph.D., P.Eng.
Principal

MK/PR/mk/ms

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REFERENCES

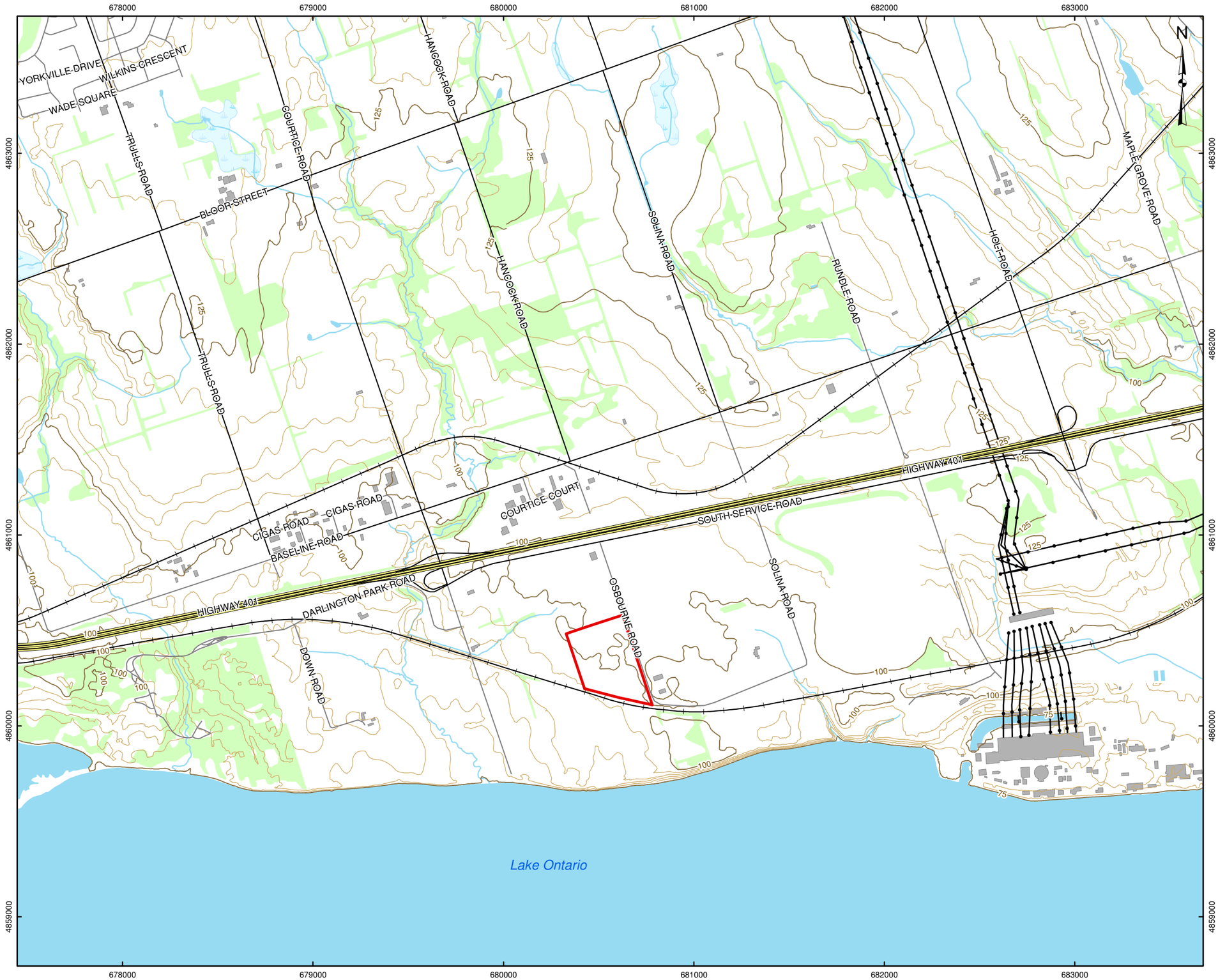
Jacques Whitford, *Surface Water and Groundwater Assessment – Technical Study* Report, Durham York Residual Waste EA Study, Report No. 1009497, July 31, 2009.

Ontario Ministry of the Environment, *Guide for Applying for Approval of a Waste Disposal Site*, September 2010.

Ontario Ministry of the Environment, *Notice of Approval to Proceed with the Undertaking – Environmental Assessment Act* Section 9, EA File no. 04-EA-02-08, October 21, 2010.

Stantec, *Environmental Assessment Study Document, Durham York Residual Waste EA Study*, Report No. 1009497, November 27, 2009. <www.durhamyorkwaste.ca>

FIGURES



LEGEND

- Major Contour (25 m)
- Minor Contour (5 m)
- Expressway
- Highway
- Major Road
- Local Road
- Railway
- Utility Line
- Watercourse
- Waterbody
- Wetland
- Woodlot
- Building Footprint
- Approximate Site Boundary

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
Produced by Golder Associates Ltd under licence from
Ontario Ministry of Natural Resources, © Queens Printer 2008
Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17N

0.5 0.25 0 0.5 1
SCALE 1:20,000 KILOMETERS

PROJECT
DURHAM YORK ENERGY CENTRE

TITLE
SITE LOCATION PLAN

Golder Associates
Mississauga, Ontario

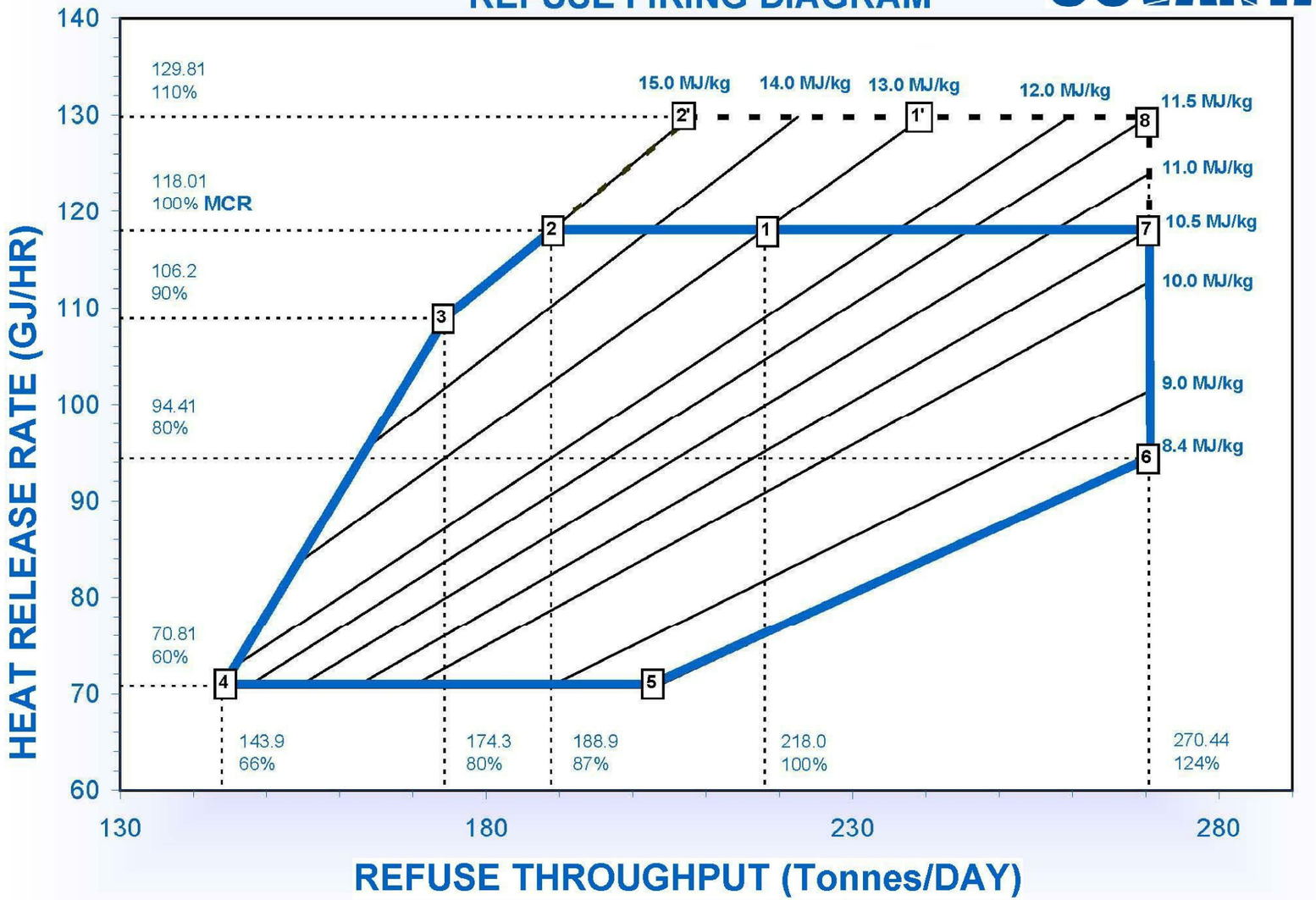
PROJECT NO. 10-1151-0343			SCALE AS SHOWN	REV. 0.0
DESIGN	PRM	25 Aug. 2010		
GIS	PRM	2 Feb. 2011		
CHECK	MK	2 Feb. 2011		
REVIEW	PR	2 Feb. 2011		

FIGURE: 1

G:\Projects\2010\10-1151-0343_Covanta\GIS\MXDs\Reporting\Cof\AWaste\Site_Location_Plan.mxd

REFUSE FIRING DIAGRAM

COVANTA



REFERENCE

Base plan provided by Covanta Energy Inc.

PROJECT	Durham York Energy Centre
TITLE	REFUSE FIRING DIAGRAM

Golder Associates

PROJECT No. 10-1151-0343			FILE No.		AA08
DESIGN			SCALE	NTS	REV.
CADD	JLJM	Jan. 2011	FIGURE 2		
CHECK	MK	Feb. 2011			
REVIEW	MK	Feb. 2011			

Drawing file: N:\CAD_PROJECTS\2010\10-1151-0343 (Covanta, Durham-York)\-AA-EFW Facility\1011510343AA08.dwg Feb 17, 2011 - 10:46am

I REQUIRE THIS PLAN TO BE DEPOSITED UNDER THE LAND TITLES ACT.

DATE Dec. 1, 2010

G.C. Laframboise

G.C. LAFRAMBOISE
ONTARIO LAND SURVEYOR

PLAN 40R-26782

RECEIVED AND DEPOSITED

DATE Dec. 1/10

"P. Johnstone" AOLR

LAND REGISTRAR FOR THE LAND TITLES DIVISION OF DURHAM (No 40)

SCHEDULE

PART	PART OF LOT	CONCESSION	ALL OF PIN	AREA ha.
1	27	BROKEN FRONT CONCESSION	26605-0082	13.220

PLAN OF SURVEY OF

PART OF LOT 27
BROKEN FRONT CONCESSION
(GEOGRAPHIC TOWNSHIP OF DARLINGTON)
NOW IN THE
MUNICIPALITY OF CLARINGTON
REGIONAL MUNICIPALITY OF DURHAM

SCALE 1 : 1000

0 20 40 60 metres

J. D. BARNES LIMITED

METRIC DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

NOTES

BEARINGS ARE GRID, DERIVED FROM SPECIFIED CONTROL POINTS (SCPs) 00891860597 AND 00891860598, UTM ZONE 17, NAD83 (ORIGINAL).

DISTANCES ON THIS PLAN ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.9999155.

INTEGRATION DATA

SPECIFIED CONTROL POINTS (SCPs) UTM ZONE 17, NAD83 (ORIGINAL).

COORDINATE VALUES ARE TO AN URBAN ACCURACY IN ACCORDANCE WITH SECTION 14 (2) OF O.REG 216/10.

POINT ID	EASTING	NORTHING
SCP 00891860597	680 826.940	4 861 038.345
SCP 00891860598	681 188.771	4 861 114.772

COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.

■	DENOTES	SURVEY MONUMENT FOUND
□	DENOTES	SURVEY MONUMENT SET
△	DENOTES	CONTROL MONUMENT FOUND
SIB	DENOTES	STANDARD IRON BAR
IB	DENOTES	IRON BAR
SCP	DENOTES	SPECIFIED CONTROL POINT
WIT	DENOTES	WITNESS
MEAS	DENOTES	MEASURED
J50	DENOTES	J.D. BARNES LIMITED
I790	DENOTES	A.V. ILIM, O.L.S.
C8F	DENOTES	COUTTS & FLIM SURVEYING INC., O.L.S.
P1	DENOTES	PLAN 40R-19984
P2	DENOTES	PLAN 40R-2067
P3	DENOTES	PLAN 40R-20094
P4	DENOTES	PLAN 40R-20055
P5	DENOTES	PLAN 40R-26342
P6	DENOTES	PLAN OF SURVEY BY COUTTS & FLIM SURVEYING INC. DATED APRIL 28, 2010.
P7	DENOTES	PLAN 40R-20362

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON NOVEMBER 23, 2010.

DATE Nov. 26, 2010

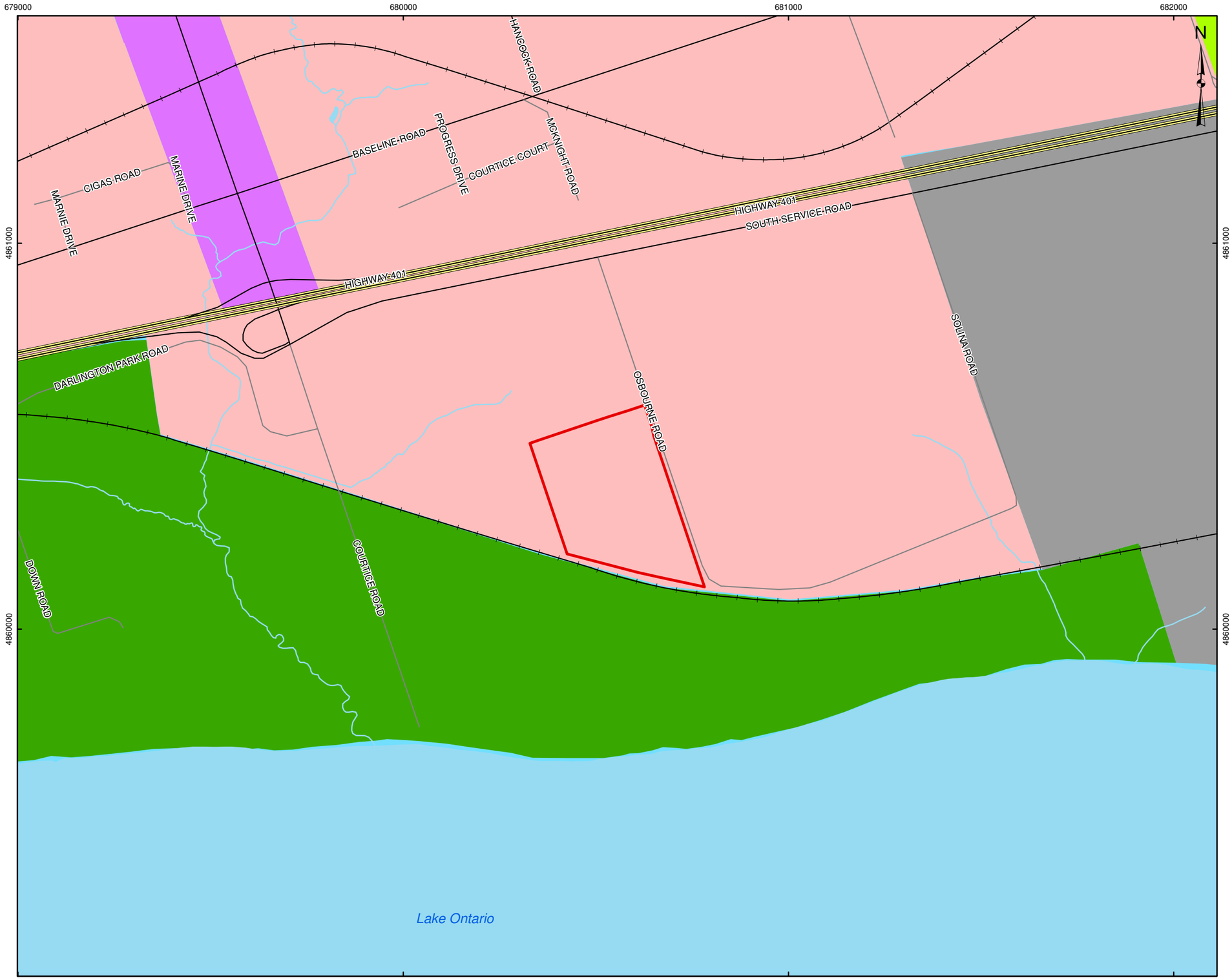
G.C. Laframboise

G.C. LAFRAMBOISE
ONTARIO LAND SURVEYOR

J.D. BARNES LIMITED
SURVEYING PLANNING MAPPING GIS
LAND INFORMATION SPECIALISTS
110 SCOTIA COURT, #40 WHITBY, ON L1N 8Y7
T: (905) 723-1212 F: (905) 723-4314 www.jdbarnes.com

DRAWN BY:	CHECKED BY:	REFERENCE NO.:
F.B.J.	G.C.L.	07-25-015-08
FILE: g:/72501508/72501508-rpl.dgn		DATED: NOVEMBER 26, 2010

PLOTTED: 01 DEC 2010



LEGEND

- Expressway
- Highway
- Major Road
- Local Road
- Railway
- Watercourse
- Waterbody
- Approximate Site Boundary

Durham Region Land Use

- Employment Areas
- Regional Corridor
- Major Open Space Area
- Waterfront Areas
- Darlington Nuclear Generating Station

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
Land Use - Durham Region (June 2009)
Produced by Golder Associates Ltd under licence from
Ontario Ministry of Natural Resources, © Queens Printer 2008
Landuse data from Durham/York Residual Waste Study
Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17N

250 125 0 250 500
SCALE 1:10,000 METRES

PROJECT
DURHAM YORK ENERGY CENTRE

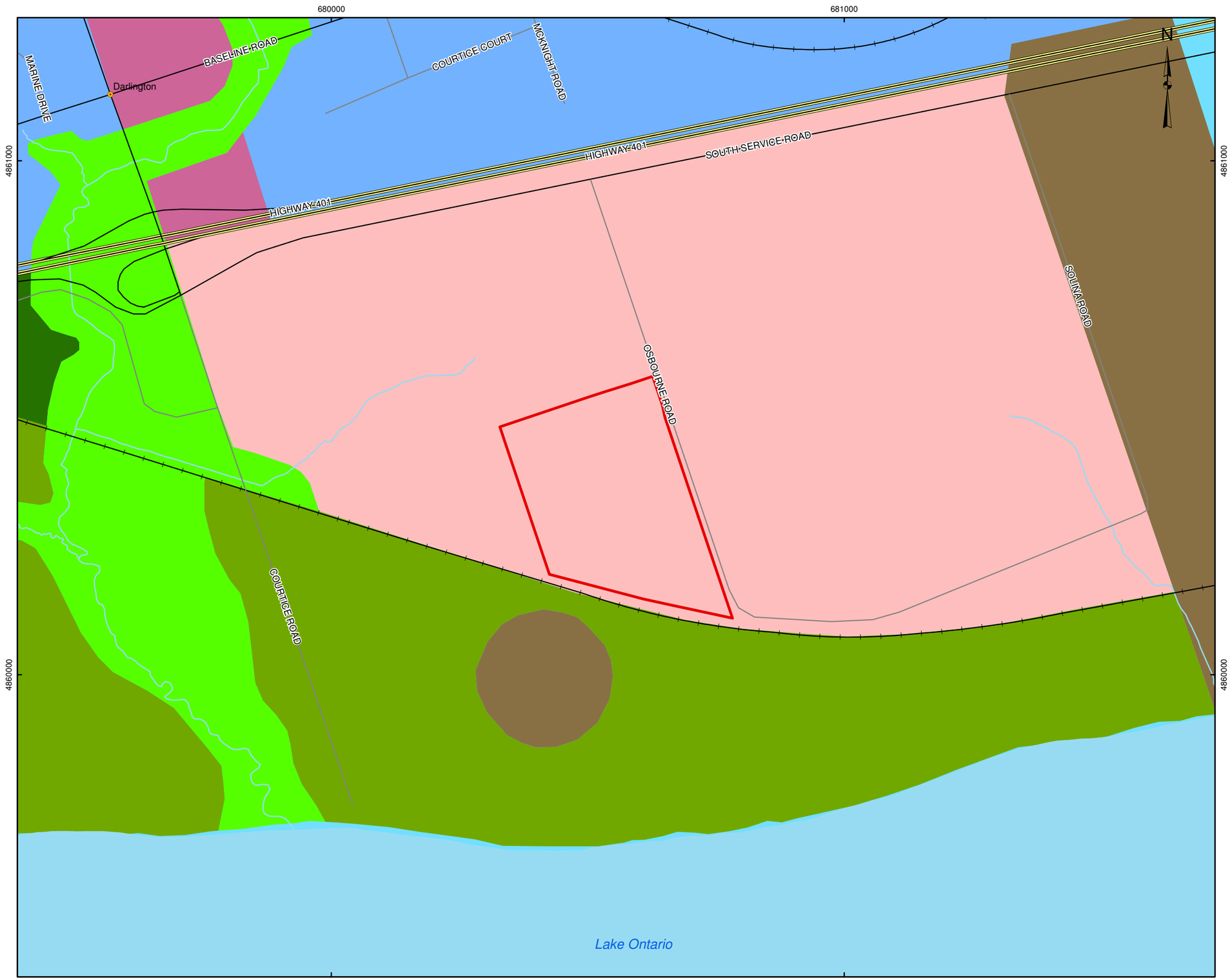
TITLE
DURHAM REGION OFFICIAL PLAN LAND USE

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1151-0343			SCALE AS SHOWN	REV. 0.0
DESIGN	PRM	25 Aug. 2010		
GIS	PRM	2 Feb. 2011		
CHECK	MK	2 Feb. 2011		
REVIEW	PN	2 Feb. 2011		

FIGURE: 4

G:\Projects\2010\10-1151-0343_Covanta\GIS\MXDs\Reporting\Cof\AlWaste\DurhamOfficialPlanLanduse.mxd



LEGEND

- Expressway
- Highway
- Major Road
- Local Road
- Railway
- Watercourse
- Waterbody
- Approximate Site Boundary

Municipality of Clarington Land Use

- Business Park
- Enivronmental Protection
- General Agriculture
- General Industrial
- Green Space
- Light Industrial
- Prestige Employment
- Utility
- Waterfront Greenway

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
Landuse - Municipality of Clarington Official Plan - Map A2 (January 2010)
Produced by Golder Associates Ltd under licence from
Ontario Ministry of Natural Resources, © Queens Printer 2008
Landuse data from Durham/York Residual Waste Study
Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17N

200 100 0 200 400
SCALE 1:7,500 METRES

PROJECT

DURHAM YORK ENERGY CENTRE

TITLE

MUNICIPALITY OF CLARINGTON OFFICIAL PLAN LAND USE

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1151-0343			SCALE AS SHOWN	REV. 0.0
DESIGN	PRM	25 Aug. 2010		
GIS	PRM	2 Feb. 2011		
CHECK	MK	2 Feb. 2011		
REVIEW	PN	2 Feb. 2011		

FIGURE: 5

G:\Projects\2010\10-1151-0343_Covanta\GIS\MXDs\Reporting\CofA\Waste\ClaringtonOfficialPlanLanduse.mxd

680000
681000
4861000
4860000
N
BASELINE ROAD
COURTICE COURT
MCKNIGHT ROAD
HIGHWAY 401
HIGHWAY 401
SOUTH SERVICE ROAD
SOLINA ROAD
OSBOURNE ROAD
COURTICE ROAD
Lake Ontario

LEGEND

- Expressway
- Highway
- Major Road
- Local Road
- Railway
- Watercourse
- Waterbody
- Approximate Site Boundary

Clarington Energy Business Park Land Use

- Environmental Protection Area
- Light Industrial 1
- Light Industrial 2
- Open Space
- Prestige Employment Cooridor
- Prestige Employment Node

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
Land Use - Municipality of Clarington (January 2010)
Produced by Golder Associates Ltd under licence from
Ontario Ministry of Natural Resources, © Queens Printer 2008
Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17N

150 75 0 150 300
SCALE 1:7,000 METRES

PROJECT
DURHAM YORK ENERGY CENTRE

TITLE
CLARINGTON ENERGY BUSINESS PARK SECONDARY PLAN LANDUSE

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1151-0343			SCALE AS SHOWN	REV. 0.0
DESIGN	PRM	25 Aug. 2010		
GIS	PRM	2 Feb. 2011		
CHECK	MK	2 Feb. 2011		
REVIEW	PN	2 Feb. 2011		

FIGURE: 6

G:\Projects\2010\10-1151-0343_Covanta\GIS\MXDs\Reporting\Cof\AWaste\ClaringtonEnergyBusinessPark.mxd

679000 680000 681000 682000

4862000 4861000 4860000 4859000

(H)A-73
A
EP
A -77
(H)A-77
A-7
A
EP
A-19
(H)M2-14
M2
M1
EP
M2
M1-9
M1
A
M2
M2-5
A
(H)MO1
(H)MO2-1
(H)MO2
(H)M1
A
(H)M1
EP
(H)M1
(H)ML1
(H)ML1
(H)ML1
(H)M2
(H)M2
EP
(H)M2
(H)ML2
(H)ML2-1
(H)ML2
A
A
EP
A
EP
EP
Lake Ontario

N

LEGEND

- Highway
- Major Road
- Local Road
- Railway
- Utility Line
- Watercourse
- Waterbody
- Building Footprint
- Approximate Site Boundary
- Zoning
  - A - Agricultural
  - M1 - Light Industrial
  - M2 - Eeneral Industrial
  - MO1 - Energy Park Office
  - MO2 - Energy Park Prestige
  - ML1 - Energy Park Light Industrial
  - ML2 - Energy Park General Industrial
  - EP - Environmental Protection

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
Zoning - The Town of Newcastle Zoning By-Law 84-63
Produced by Golder Associates Ltd under licence from
Ontario Ministry of Natural Resources, © Queens Printer 2008
Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17N

0.25 0 0.25 0.5 0.75
SCALE 1:15,000 KILOMETERS

PROJECT
DURHAM YORK ENERGY CENTRE

TITLE
MUNICIPALITY OF CLARINGTON ZONING BY-LAW

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1151-0343			SCALE AS SHOWN	REV. 0.0
DESIGN	PRM	25 Aug. 2010	FIGURE: 7	
GIS	PRM	2 Feb. 2011		
CHECK	MK	2 Feb. 2011		
REVIEW	PN	2 Feb. 2011		

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LEGEND

- Stack
- Truck Access/ Egress Route
- Site Road (Gravel)
- Site Road (Paved)
- Railway
- Roof Plan
- Approximate Site Boundary

ID	Description
A	Carbon Silo
B	Pozzolan Silo
C	Portland Cement Silo
D	Lime Silo
E	Diesel Generator
F	Ammonia Storage Tank

ID	Building	Height (m)
1	Tipping Building	15.0
2	Refuse Building	35.1
3	Admin Building	5.3
4	Boiler Building	35.1
5	Turbine Building	19.0
6	Scrubber Building	35.1
7	Baghouse Building	25.0
8	Maintenance and Storage Building	12.1
9	Control Room	24.2
10	Air Cooled Condensers	24.7
11	Visitor Centre	11.3
12	Electrical Building	5.0
13	Residue Storage Building	17.2
14	Fire Water Pump House	10.0
15	Fire Water Tank	8.0
16	Grizzly Building	6.0
17	Diesel Genset	2.5
18	Scale House	-

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
Imagery: Firstbase Solutions, obtained on December 16, 2010, 20 cm resolution.
Produced by Golder Associates Ltd under licence from
Ontario Ministry of Natural Resources, © Queens Printer 2008
Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17N

50 25 0 50 100
SCALE 1:2,000 METERS

PROJECT
DURHAM YORK ENERGY CENTRE

TITLE
BUILDING LOCATION PLAN
(ROUTE 1 - OSBOURNE ROAD ENTRANCE)

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1151-0343			SCALE AS SHOWN	REV. 0.0
DESIGN	PRM	25 Aug. 2010	FIGURE: 8	
GIS	PRM	2 Feb. 2011		
CHECK	MK	2 Feb. 2011		
REVIEW	PN	2 Feb. 2011		

G:\Projects\2010\10-1151-0343_Covanta\GIS\MXDs\Reporting\Cof\AWaste\Building_Location_Plan_Route1.mxd

680250 680500 680750

4860500 4860250

ENERGY PARK DRIVE

OSBOURNE ROAD

N

LEGEND

- Stack
- Truck Access/ Egress Route
- Site Road (Paved)
- Site Road (Gravel)
- Railway
- Roof Plan
- Approximate Site Boundary

ID	Description
A	Carbon Silo
B	Pozzolan Silo
C	Portland Cement Silo
D	Lime Silo
E	Diesel Generator
F	Ammonia Storage Tank

ID	Building	Height (m)
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4	Boiler Building	35.1
5	Turbine Building	19.0
6	Scrubber Building	35.1
7	Baghouse Building	25.0
8	Maintenance and Storage Building	12.1
9	Control Room	24.2
10	Air Cooled Condensers	24.7
11	Visitor Centre	11.3
12	Electrical Building	5.0
13	Residue Storage Building	17.2
14	Fire Water Pump House	10.0
15	Fire Water Tank	8.0
16	Grizzly Building	6.0
17	Diesel Genset	2.5
18	Scale House	-

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
Imagery: Firstbase Solutions, obtained on December 16, 2010, 20 cm resolution.
Produced by Golder Associates Ltd under licence from
Ontario Ministry of Natural Resources, © Queens Printer 2008
Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17N

50 25 0 50 100
SCALE 1:2,000 METERS

PROJECT

DURHAM YORK ENERGY CENTRE

TITLE

BUILDING LOCATION PLAN (ROUTE 2 - COURTICE ROAD ENTRANCE)

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1151-0343			SCALE AS SHOWN	REV. 0.0
DESIGN	PRM	25 Aug. 2010	FIGURE: 9	
GIS	PRM	2 Feb. 2011		
CHECK	MK	2 Feb. 2011		
REVIEW	PN	2 Feb. 2011		

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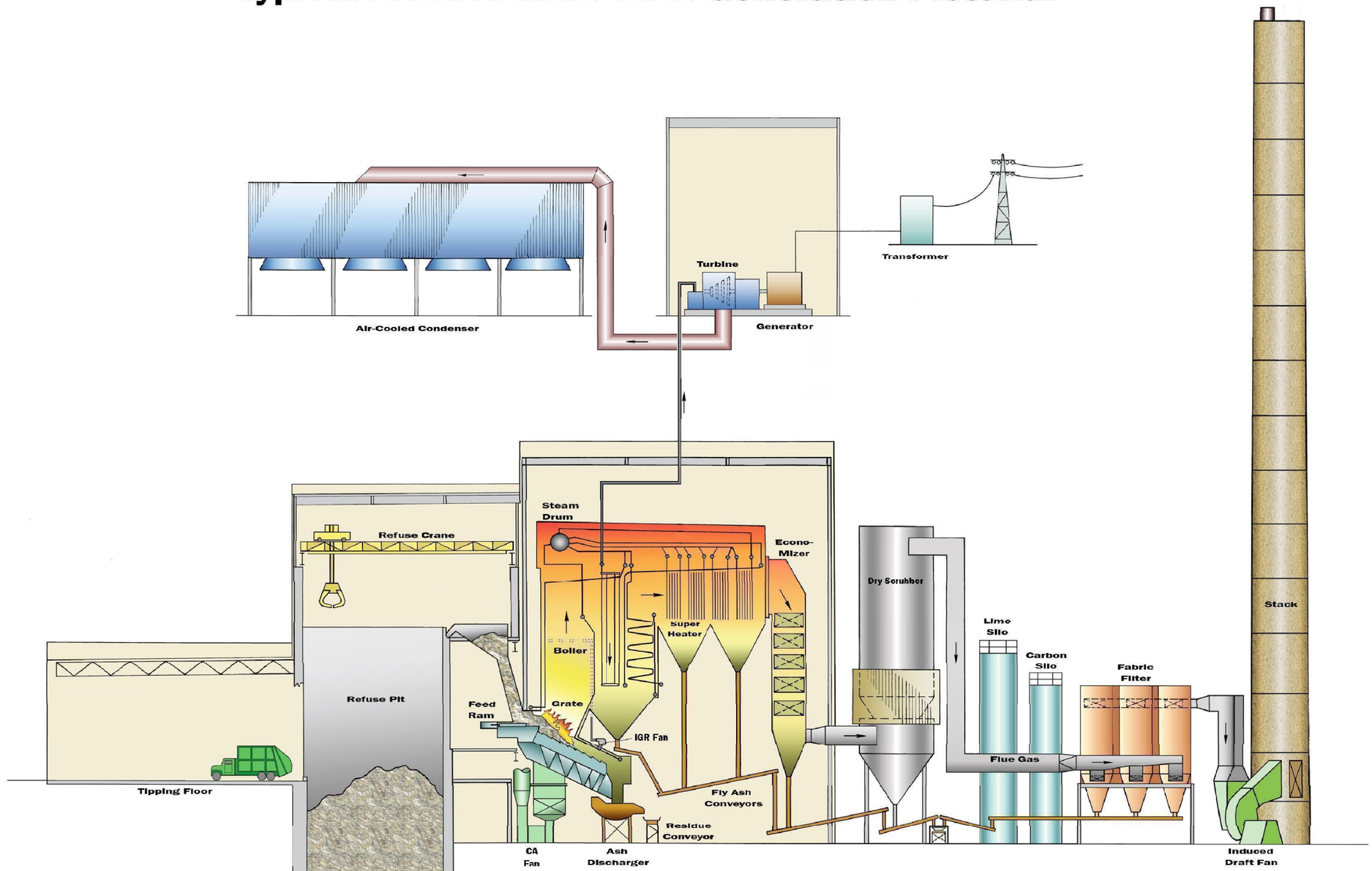
Typical Process and Power Generation Pictorial



REFERENCE

Process and Power Generation Pictorial provided by Covanta Energy Inc.

PROJECT

DURHAM YORK ENERGY CENTRE

TITLE

PROCESS AND POWER GENERATION PICTORIAL

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1151-0343			SCALE AS SHOWN	REV. 0.0
DESIGN	PRM	13 Jan. 2011		
GIS	PRM	2 Feb. 2011		
CHECK	MK	2 Feb. 2011		
REVIEW	PN	2 Feb. 2011		

FIGURE: 10

G:\Projects\2010\10-1151-0343_Covanta\GIS\MXDs\Reporting\CofA\Waste\Process_and_Power_Generation_Pictorial.mxd

High Pressure Steam Out

Feedwater In

In–Plant Steam

Electric Power Out

Turbine Generator

Future District Heating Extraction

Air Cooled Condenser

SNCR

Solid Waste In

Boiler–Stoker

Air Pollution Control

Dirty Flue Gas In

Clean Gas Out

Scrubber Water

Stack

Internal Recirulcation Gas Fan

Air In

Air Heaters & Misc.

Combustion Air Fan

Boiler Blowdown Water

Bottom Ash

To WWHT

Quench Water

Fly Ash

Induced Draft Fan

Make–up Water

Boiler Feedwater Heating

Over Sized

Grizzly

Portland Cement

Pozzolan

Fly Ash Conditioner

Non–Ferrous Metals

Metals Recovery

Bottom Ash

Bottom Ash Storage

Fly Ash Storage

Reverse Osmosis System

To Scrubber

To Ash Discharger

Waste Water Holding Tank (WWHT)

Boiler Blowdown Water

Ferrous Metals

To Bottom Ash Residue Trucks

To Fly Ash Residue Trucks

Water Supply

PROJECT

DURHAM YORK ENERGY CENTRE

TITLE

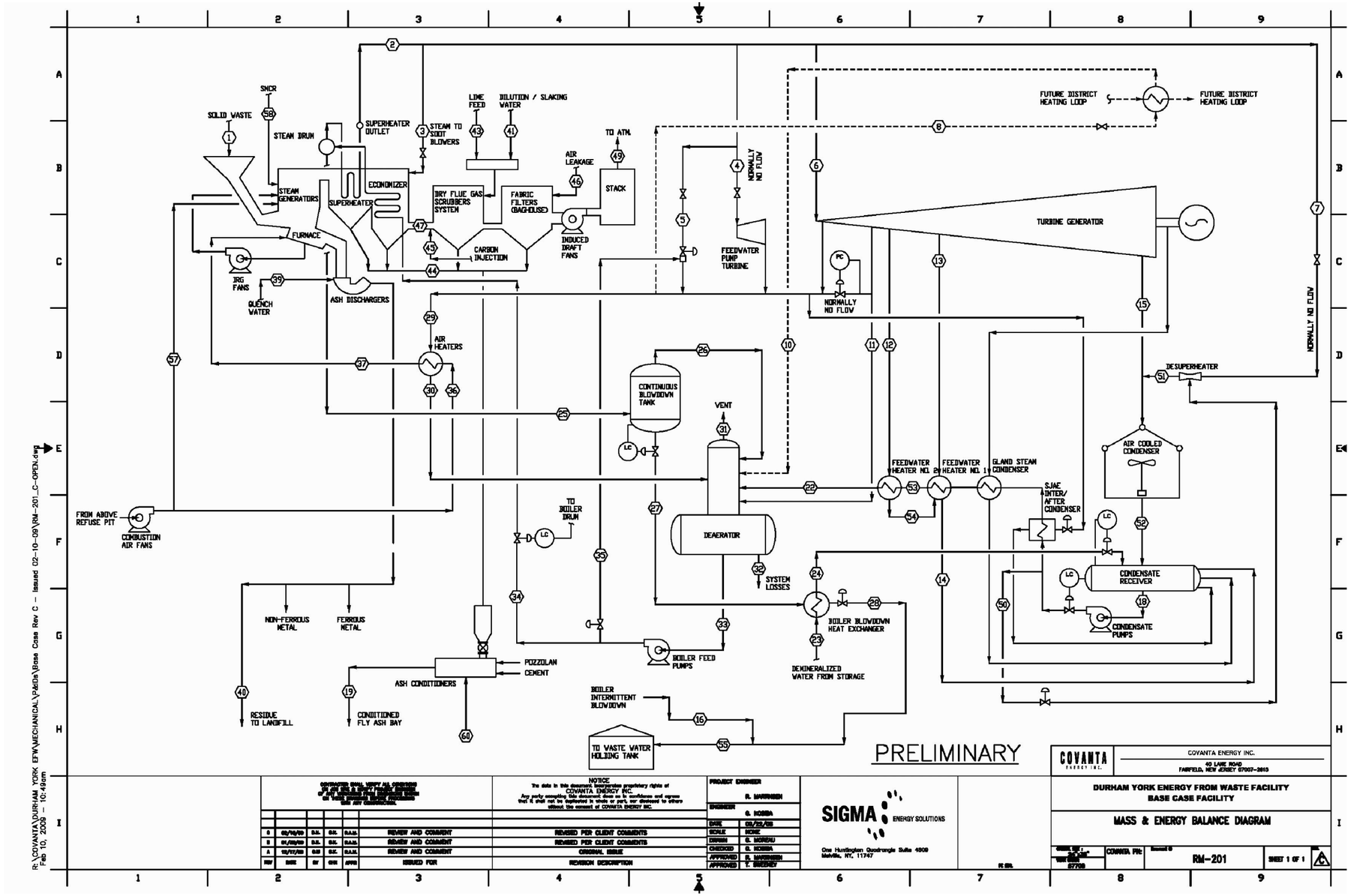
SIMPLIFIED PROCESS FLOW DIAGRAM

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1151-0343			SCALE AS SHOWN	REV. 0.0
DESIGN	PRM	13 Jan. 2011		
GIS	PRM	14 Feb. 2011		
CHECK	MK	14 Feb. 2011		
REVIEW	PN	14 Feb. 2011		

FIGURE: 11

G:\Projects\2010\10-1151-0343_Covanta\GIS\MXDs\Reporting\CofA\Waste\Simplified_Process_Flow_Diagram.mxd



REFERENCE

Base plan provided by Covanta Energy Inc.

PROJECT	Durham York Energy Centre		
TITLE	MASS AND ENERGY BALANCE DIAGRAM		
Golder Associates	PROJECT No. 10-1151-0343	FILE No.	AA12
	DESIGN	SCALE AS SHOWN	REV.
	CADD PJV Jan. 2011	FIGURE 12	
	CHECK MK Feb. 2011		
	REVIEW MK Feb. 2011		

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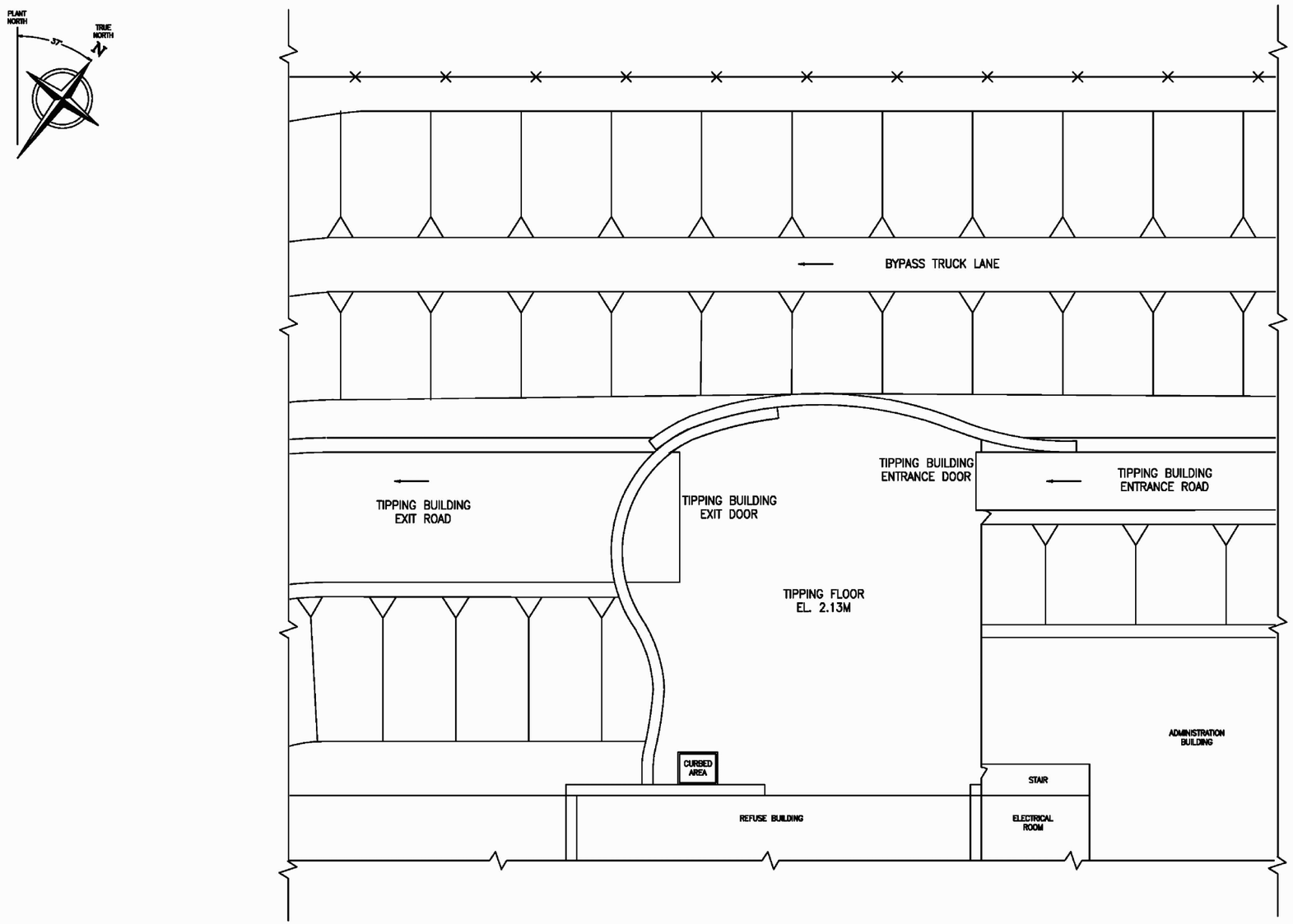


REFERENCE

Base plan provided by Covanta Energy Inc.

PROJECT

Durham York Energy Centre

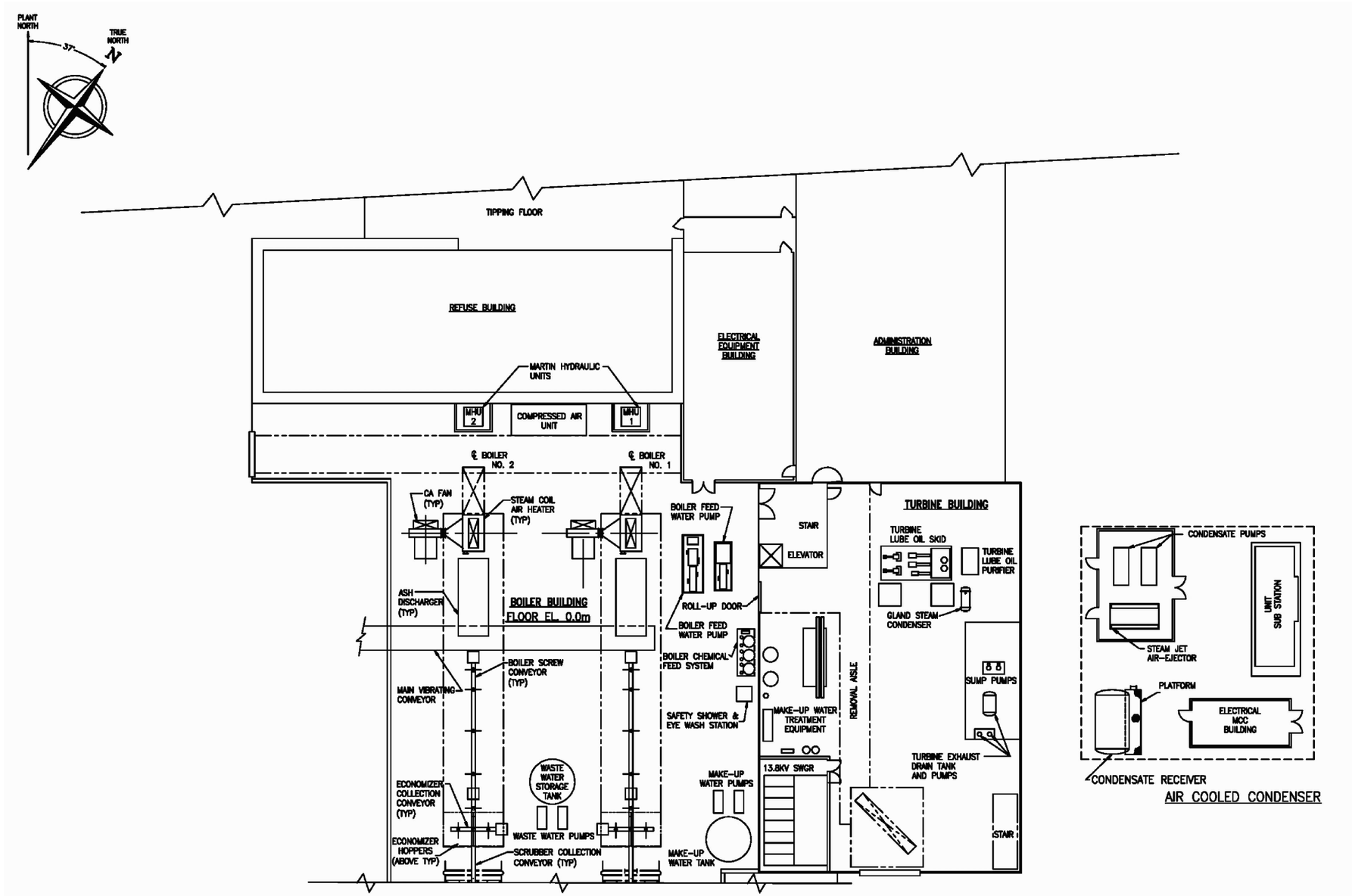
TITLE

PRELIMINARY GENERAL ARRANGEMENT TIPPING FLOOR AREA LAYOUT

Golder Associates

PROJECT No. 10-1151-0343			FILE No.		AA13
DESIGN			SCALE	N.T.S.	REV.
CADD	PJV	Feb. 2011	**FIGURE 13**		
CHECK	MK	Feb. 2011			
REVIEW	MK	Feb. 2011			

Drawing file: N:\CAD_PROJECTS\2010\10-1151-0343 (Covanta, Durham-York)\-AA-EFW Facility\10115103443AA13.dwg Feb 17, 2011 - 10:48am



REFERENCE

Base plan provided by Covanta Energy Inc.

PROJECT

Durham York Energy Centre

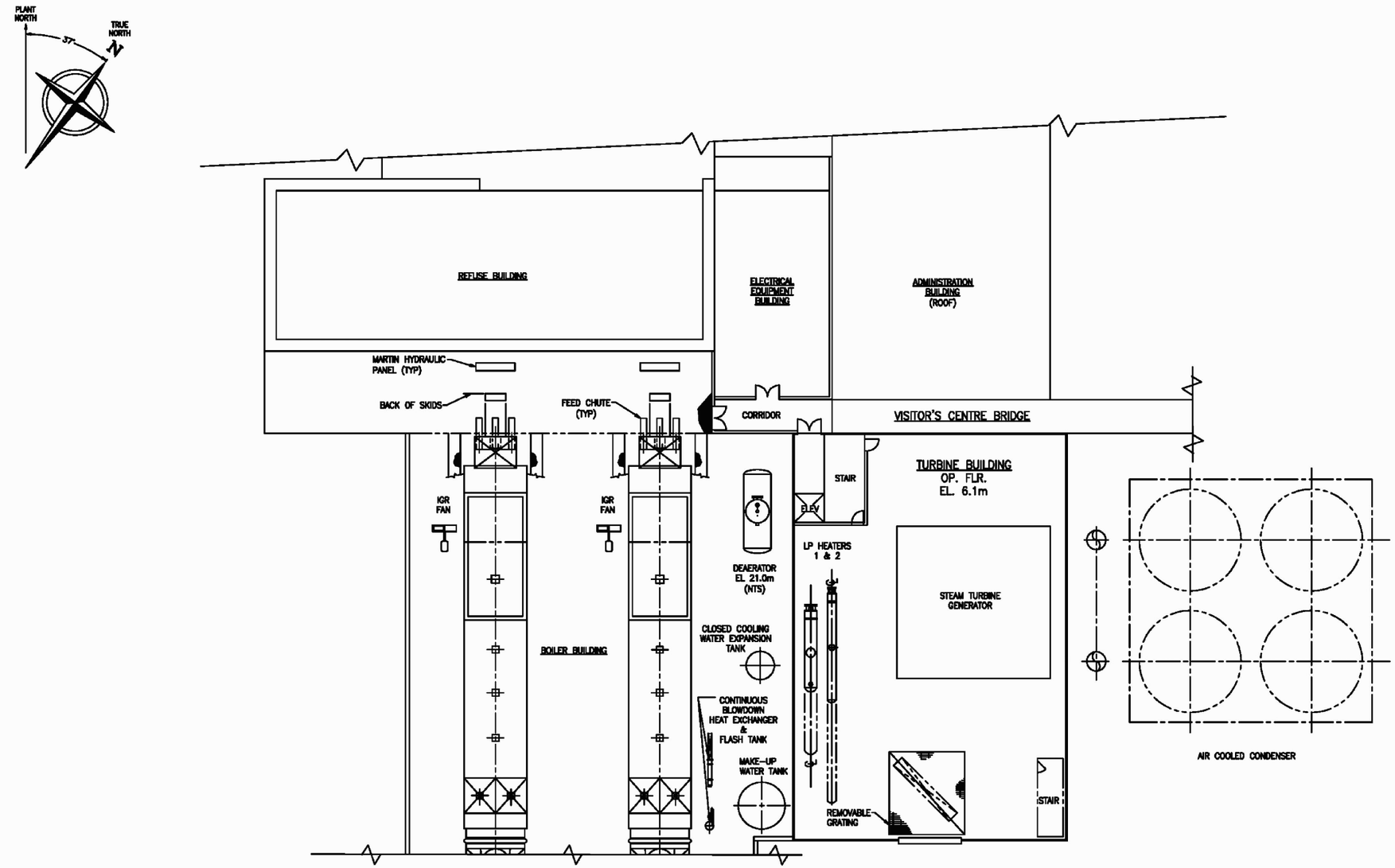
TITLE

PRELIMINARY GENERAL ARRANGEMENT BOILER, TURBINE GENERATOR AND AIR COOLED CONDENSER AREA (EL. 0.0 m)

Golder Associates

PROJECT No. 10-1151-0343			FILE No.		AA14
DESIGN			SCALE	N.T.S.	REV.
CADD	PJV	Feb. 2011			
CHECK	MK	Feb. 2011			
REVIEW	MK	Feb. 2011			

FIGURE 14



REFERENCE

Base plan provided by Covanta Energy Inc.

PROJECT

Durham York Energy Centre

TITLE

PRELIMINARY GENERAL ARRANGEMENT BOILER, TURBINE GENERATOR AND AIR COOLED CONDENSER AREA (EL. 6.1 m)

Golder Associates

PROJECT No. 10-1151-0343			FILE No.		AA15
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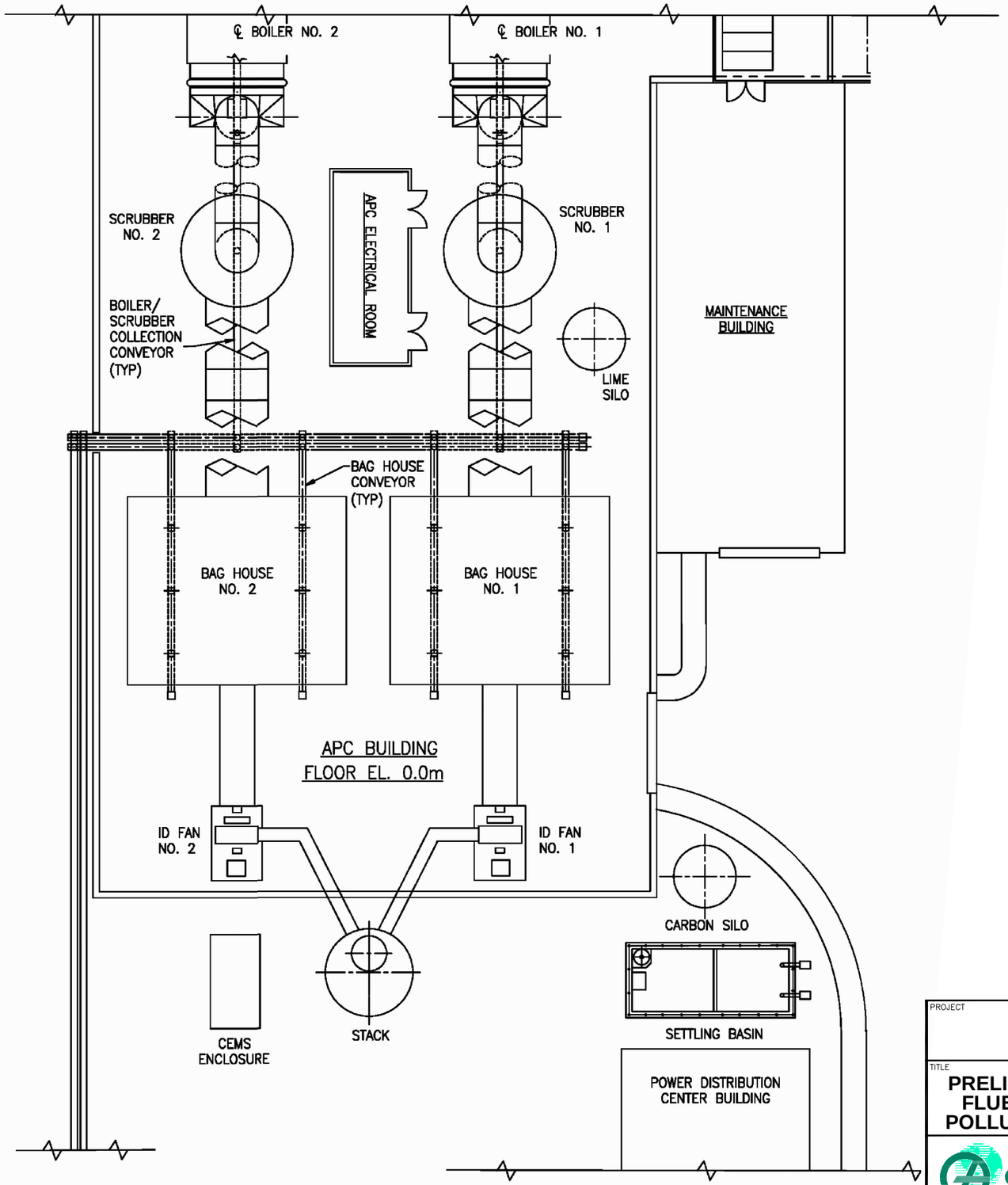
CHECK	MK	Feb. 2011			
REVIEW	MK	Feb. 2011			

FIGURE 15



REFERENCE

Base plan provided by Covanta Energy Inc.

PROJECT

Durham York Energy Centre

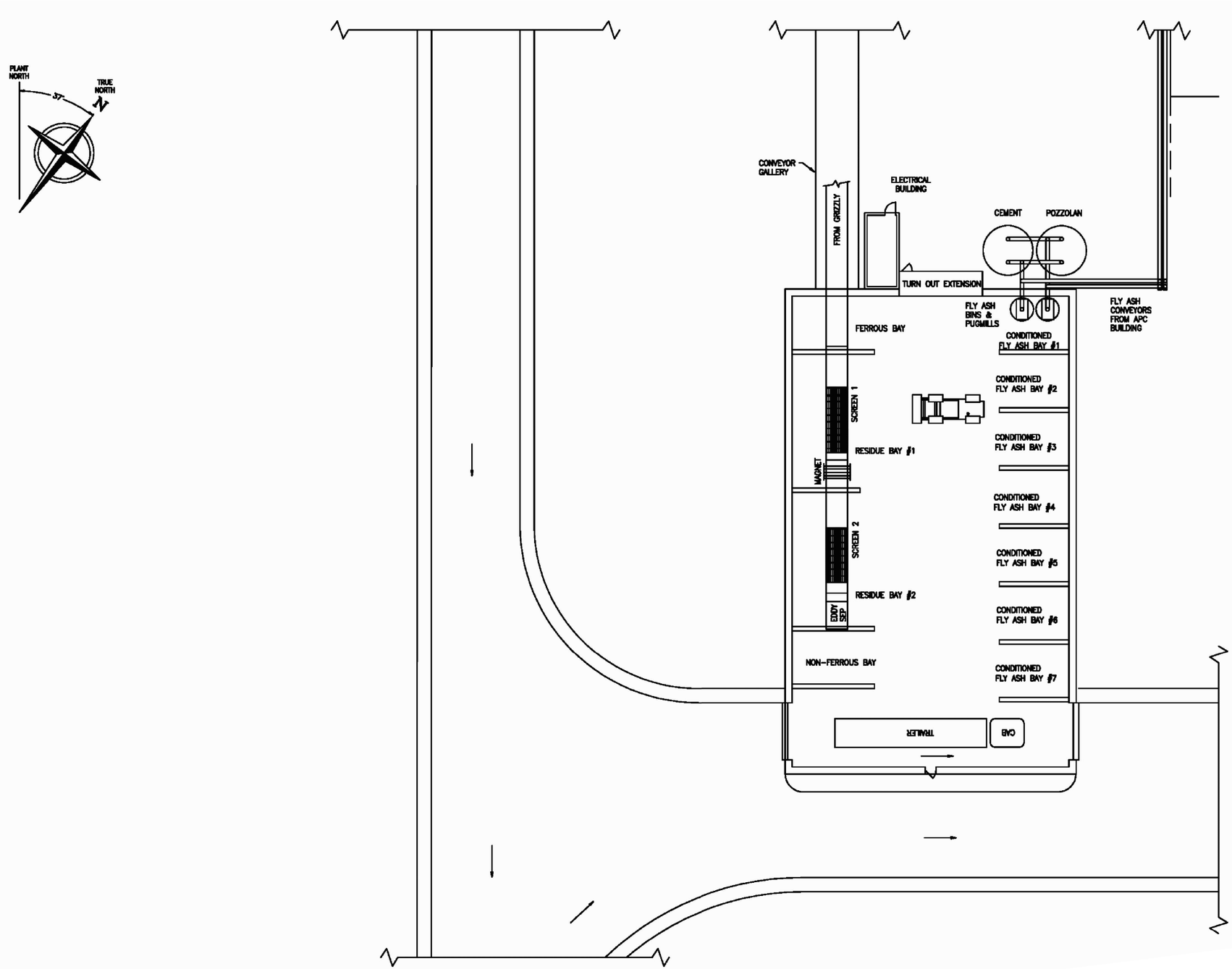
TITLE

PRELIMINARY GENERAL ARRANGEMENT FLUE GAS EQUIPMENT AREA AND AIR POLLUTION CONTROL BUILDING LAYOUT

Golder Associates

PROJECT No. 10-1151-0343			FILE No.	AA16
DESIGN			SCALE N.T.S.	REV.
CADD	PJV	Feb. 2011		
CHECK	MK	Feb. 2011		
REVIEW	MK	Feb. 2011		

FIGURE 16



REFERENCE

Base plan provided by Covanta Energy Inc.

PROJECT

Durham York Energy Centre

TITLE

PRELIMINARY GENERAL ARRANGEMENT RESIDUE BUILDING LAYOUT (ROUTE 1 - OSBOURNE ROAD ENTRANCE)

Golder Associates

PROJECT No. 10-1151-0343			FILE No.		AA17
DESIGN			SCALE	N.T.S.	REV.
CADD	PJV	Feb. 2011	**FIGURE 17**		
CHECK	MK	Feb. 2011			
REVIEW	MK	Feb. 2011			

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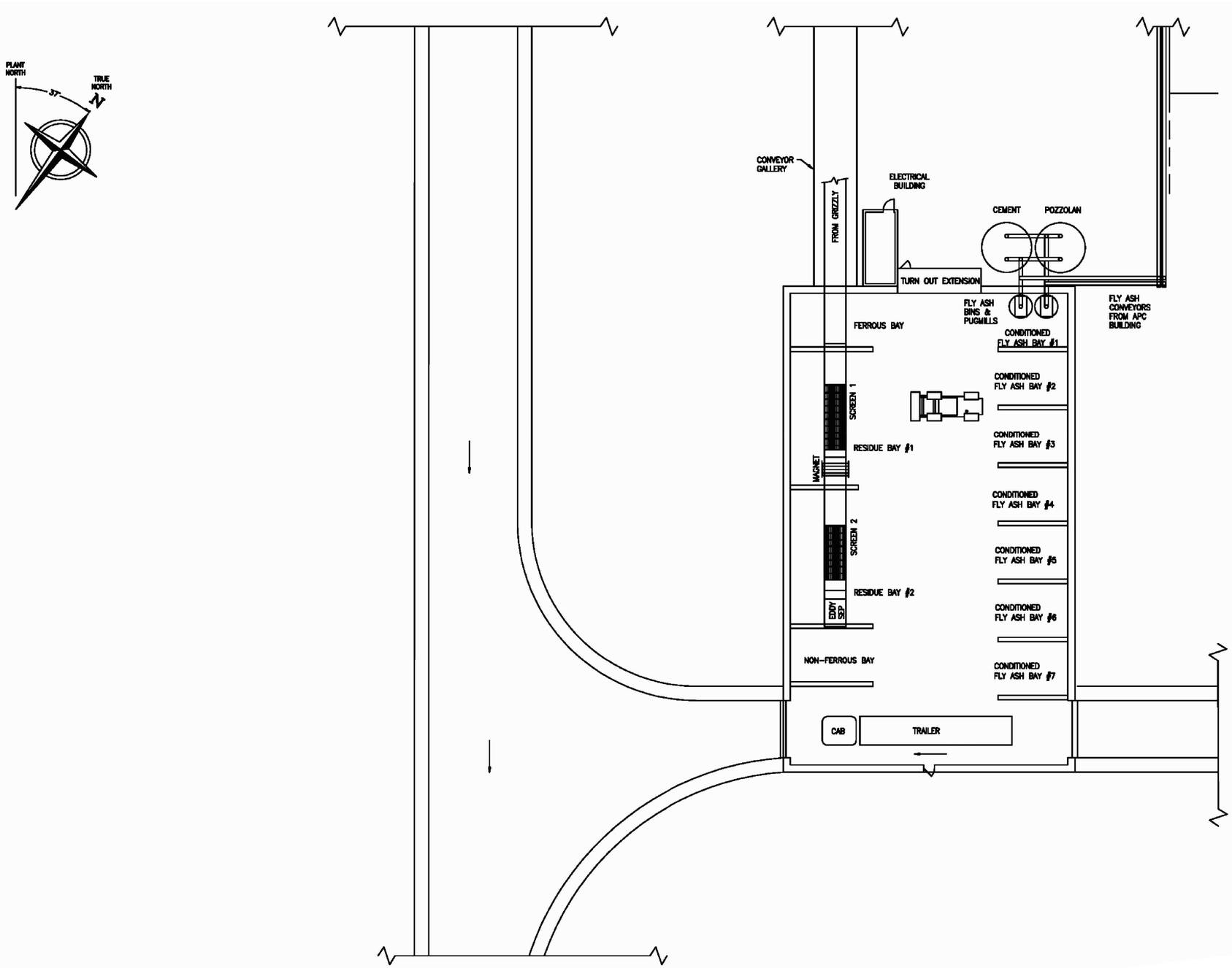


REFERENCE

Base plan provided by Covanta Energy Inc.

PROJECT

Durham York Energy Centre

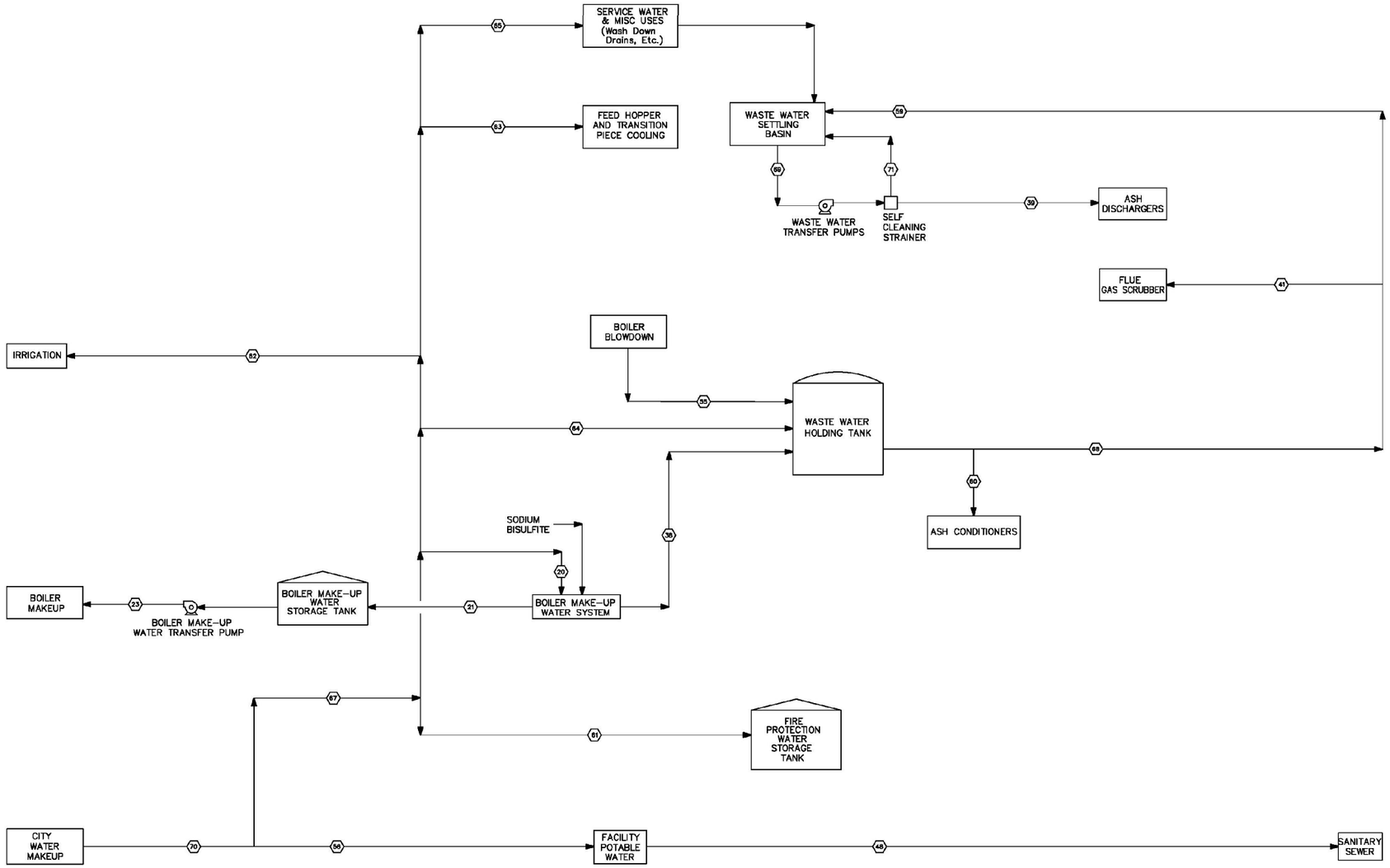
TITLE

PRELIMINARY GENERAL ARRANGEMENT RESIDUE BUILDING LAYOUT (ROUTE 2 - COURTICE ROAD ENTRANCE)

Golder Associates

PROJECT No. 10-1151-0343			FILE No.		AA18
DESIGN			SCALE	N.T.S.	REV.
CADD	PJV	Feb. 2011	**FIGURE 18**		
CHECK	MK	Feb. 2011			
REVIEW	MK	Feb. 2011			

Drawing file: N:\CAD_PROJECTS\2010\10-1151-0343 (Covanta, Durham-York)\-AA-EFW Facility\10115103343AA18.dwg Feb 17, 2011 - 10:53am



REFERENCE

Base plan provided by Covanta Energy Inc.

PROJECT

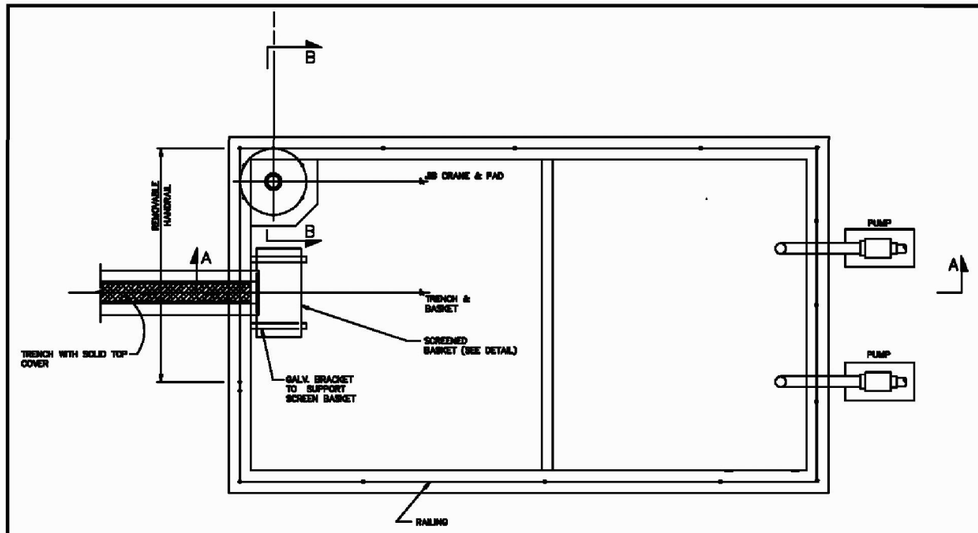
Durham York Energy Centre

TITLE

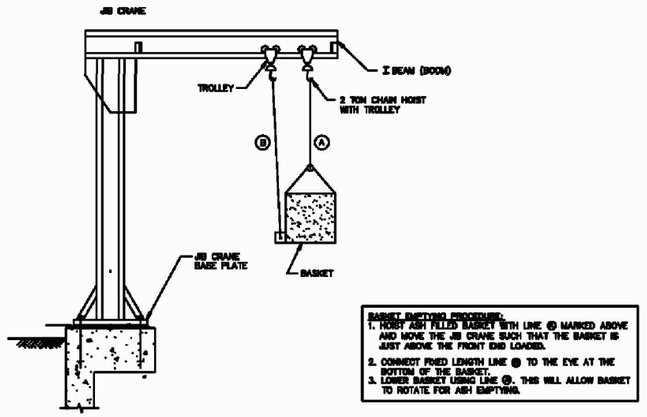
WATER BALANCE DIAGRAM

Golder Associates	PROJECT No. 10-1151-0343		FILE No.		AA19
	DESIGN			SCALE NTS	REV.
	CADD	PJV	Jan. 2011		
	CHECK	MK	Feb. 2011	**FIGURE 19**	
	REVIEW	MK	Feb. 2011		

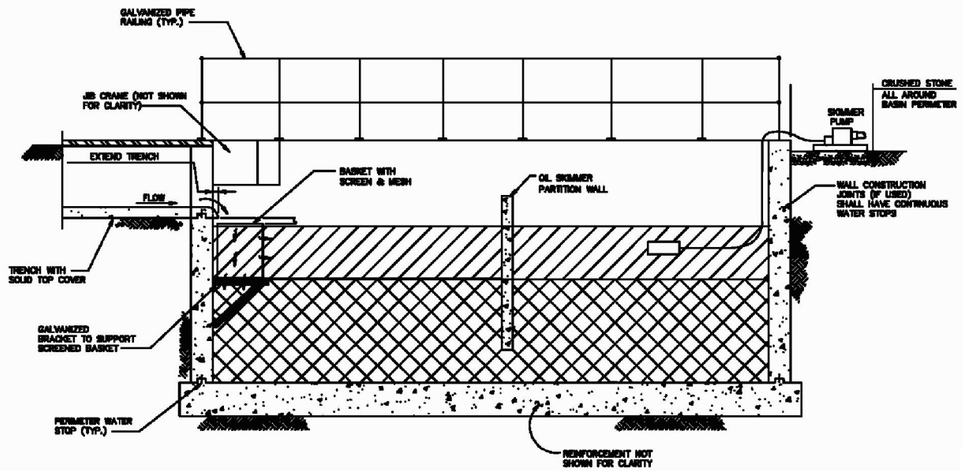
Drawing file: N:\CAD_PROJECTS\2010\10-1151-0343 (Covanta, Durham-York)\-AA-EFW Facility\10115103443AA19.dwg Feb 18, 2011 - 9:55am



SETTLING BASIN – PLAN



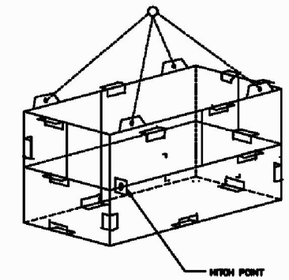
SECTION B–B
JIB CRANE



SECTION A–A

TOTAL USABLE CAPACITY

TOTAL SURGE CAPACITY



ALL STEEL SHALL BE GALVANIZED.

LEGEND:

ORIENTATION OF THE ANGLES

SCREENED BASKET DETAIL

REFERENCE

Base plan provided by Covanta Energy Inc.

PROJECT

Durham York Energy Centre

TITLE

SETTLING BASIN SCHEMATIC

Golder Associates

PROJECT No. 10–1151–0343			FILE No.	AA20
DESIGN			SCALE N.T.S.	REV.
CADD	PJV	Feb. 2011	**FIGURE 20**	
CHECK	MK	Feb. 2011		
REVIEW	MK	Feb. 2011		

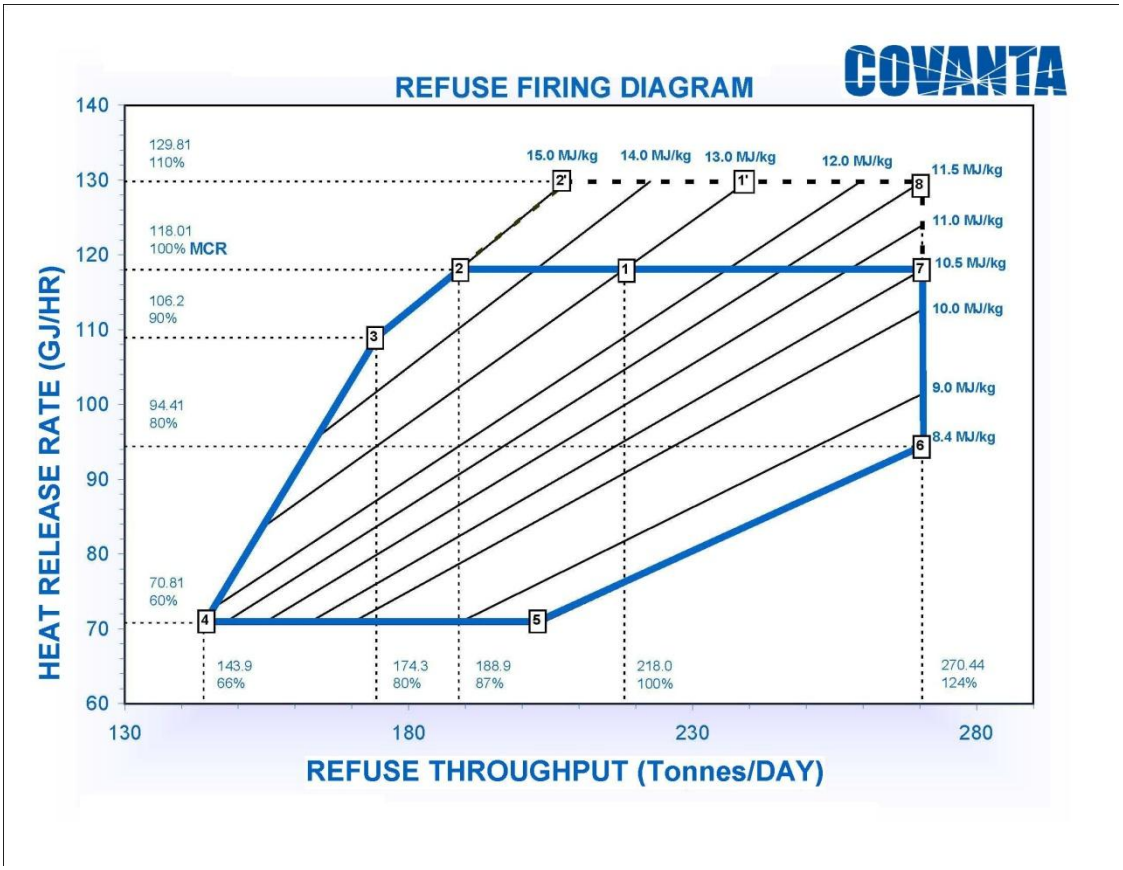
Drawing file: N:\CAD_PROJECTS\2010\10-1151-0343 (Covanta, Durham-York)\-AA-EFW Facility\101151034 3AA20.dwg Feb 22, 2011 - 3:29pm

APPENDIX A

Maximum Continuous Rating (MCR)

Maximum Continuous Rating (MCR)

The grate is designed for a specific heat input and mass loading of refuse. The design heat input of a thermal treatment unit is the product of a specific flow of refuse with a specific energy content or heating value. These conditions set the Maximum Continuous Rating of a unit. The Facility's thermal treatment units are designed to process a nominal 218 tonnes/day with a nominal HHV of 13MJ/kg which amounts to a total heat release of approximately 118 GJ/hr. Since the refuse will have continuously varying characteristics, the grate's control system adjusts throughput to maintain the heat release necessary to attain a target steam production rate. The mass and heat input range of the grate is represented in the Solid Waste Refuse Firing Diagram below. The thermal treatment unit is designed for solid waste with higher heating values ranging from 8.4 MJ/kg to 15 MJ/kg as represented in the firing diagram. The "envelope" (Area 4-5-6-8-2'-3-4) is the rated continuous operating range of a thermal treatment unit. 100% of the MCR heat input is represented by any operating condition with heat input of 118 GJ/hr (e.g. points 2, 1 and 7); 110% of the MCR heat input is represented by any operating condition with heat input of 130 GJ/hr (e.g. points 2', 1' and 8); and 60% of the MCR heat input is represented by any operating condition with heat input of 71 GJ/hr (e.g. points 4 and 5).



APPENDIX B

Environmental Assessment – Notice of Approval

ENVIRONMENTAL ASSESSMENT ACT

SECTION 9

NOTICE OF APPROVAL TO PROCEED WITH THE UNDERTAKING

RE: The Amended Environmental Assessment for Durham and York Residual Waste Study

Proponent: The Regional Municipalities of Durham and York

EA File No.: 04-EA-02-08

TAKE NOTICE that the period for requiring a hearing, provided for in the Notice of Completion of the Review for the above-noted undertaking, expired on April 2, 2010. I received 185 submissions requesting a hearing by the Environmental Review Tribunal before the expiration date.

I consider a hearing to be unnecessary in this case. Having considered the purpose of the *Environmental Assessment Act*, the approved terms of reference, the environmental assessment, the ministry Review of the environmental assessment and submissions received, I hereby give approval to proceed with the undertaking, subject to the conditions set out below.

REASONS

My reasons for giving approval are:

(1) The proponent has complied with the requirements of the *Environmental Assessment Act*.

(2) The environmental assessment has been prepared in accordance with the approved Terms of Reference.

(3) On the basis of the proponent's environmental assessment and the ministry Review, the proponent's conclusion that, on balance, the advantages of this undertaking outweigh its disadvantages appears to be valid.

(4) No other beneficial alternative method of implementing the undertaking was identified.

(5) The proponent has demonstrated that the environmental effects of the undertaking can be appropriately prevented, changed, mitigated or remedied.

(6) On the basis of the proponent's environmental assessment, the ministry Review and the conditions of approval, the construction, operation and maintenance of the undertaking will be consistent with the purpose of the *Environmental Assessment Act* (section 2).

(7) The ministry's review of: the government, public and Aboriginal community submissions on the environmental assessment; the environmental assessment; and the ministry Review has indicated no outstanding concerns that have not been addressed or that cannot be addressed through commitments made during the environmental assessment process, through the conditions set out below or through future approvals that will be required.

(8) The submissions received after the Notice of Completion of ministry Review was published are being addressed through commitments made during the environmental assessment process, through the conditions set out below or through future approvals that will be required, where appropriate. I am not aware of any significant outstanding issues with respect to this undertaking which suggest that a hearing should be required.

CONDITIONS

The approval is subject to the following conditions:

1. Definitions

For the purposes of these conditions:

"advisory committee" means the committee established pursuant to Condition 8 of this Notice of Approval.

"CEM" means an air emissions monitoring system which continually monitors concentrations of certain contaminants emitted by the facility.

"date of approval" means the date on which the Order in Council was approved by the Lieutenant Governor in Council.

"Director" means the Director of the Environmental Assessment and Approvals Branch.

"District Manager" means the Manager of the Ministry of the Environment's York-Durham Office.

"EAAB" means the Environmental Assessment and Approvals Branch of the Ministry of the Environment.

"environmental assessment" means the document titled Durham/York Residual Waste Study Environmental Assessment Study Document (As Amended November 27, 2009).

"ministry" means the Ontario Ministry of the Environment, or successor, unless specific reference is made to another Ministry.

"non-hazardous municipal solid waste" means the waste that is generated within the municipalities of Durham and York and collected as part of the proponents municipal collection process.

"proponent" means the Regional Municipality of Durham and the Regional Municipality of York.

"Qualified, Independent Professional Engineer" means a person who holds a licence, limited licence or temporary licence under the *Professional Engineers Act* who is not an employee of the Regional Municipality of Durham, the Regional Municipality of York, the operator of the undertaking, or the ministry, who has not been involved in the design of the undertaking or preparation of documentation as part of an application for approval of the undertaking but who is knowledgeable about the *Environmental Protection Act*, Regulation 347 and Ontario Regulation 419/05, ministry guidelines affecting thermal treatment facilities, any other ministry approval issued for the undertaking as well as being experienced at assessing compliance with environmental legislation and requirements of certificates of approval issued under the *Environmental Protection Act*.

"receipt" means the arrival and acceptance of waste at the site, whether remaining in the vehicles used to transport the waste to the site or unloaded from the vehicles used to transport the waste to the site.

"Regional Director" means the Director of the ministry's Central Regional Office.

"site" means the 12.1 hectare parcel of land referred to as Clarington 01 in the environmental assessment and is located south of Highway 401 on the west side of Osbourne Road and north of the CN Rail corridor in the Municipality of Clarington.

"start of construction" means physical construction activities including, site preparation works, but does not include the tendering of contracts.

"undertaking" means the construction and operation of a thermal treatment waste management facility on the site, as set out in the environmental assessment.

2. General Requirements

2.1 The proponent shall comply with the provisions in the environmental assessment which are hereby incorporated in this Notice of Approval by reference except as provided in these conditions and as provided in any other approval or permit that may be issued for the site or the undertaking.

2.2 These conditions do not prevent more restrictive conditions being imposed under other statutes.

2.3 A statement must accompany the submission of any documents, reporting requirements or written notices required by this Notice of Approval to be submitted to the Director or Regional Director identifying which conditions the submission is intended to address in this Notice of Approval.

3. Public Record

3.1 Where a document, plan or report is required to be submitted to the ministry, the proponent shall provide two copies of the final document, plan or report to the Director: a copy for filing in the specific public record file maintained for the undertaking and a copy for staff use.

3.2 The proponent shall provide additional copies of the documents required for the public record file to the following for access by the public:

a) Regional Director;

b) District Manager;

c) Clerks of the Regional Municipality of Durham, the Regional Municipality of York, and the Municipality of Clarington; and,

d) Advisory Committee (as required in Condition 8 of this Notice of Approval).

3.3 The EAAB file number EA-08-02 shall be quoted on all documents submitted by the proponent pursuant to this Condition.

4. Compliance Monitoring Program

4.1 The proponent shall prepare and submit to the Director a Compliance Monitoring Program outlining how it will comply with conditions in the Notice of Approval and other commitments made in the environmental assessment.

4.2 A statement shall accompany the submission of the Compliance Monitoring Program indicating that the submission is intended to fulfil Condition 4 of this Notice of Approval.

4.3 The Compliance Monitoring Program shall be submitted within one year from the date of approval, or a minimum of 60 days prior to the start of construction, whichever is earlier.

4.4 The Compliance Monitoring Program shall describe how the proponent will monitor its fulfilment of the provisions of the environmental assessment pertaining to mitigation measures, public consultation, and additional studies and work to be carried out; the fulfilment of all other commitments made by the proponent during the environmental assessment process; and the conditions included in this Notice of Approval.

4.5 The Compliance Monitoring Program shall contain an implementation schedule.

4.6 The Director may require amendments to the Compliance Monitoring Program, including the implementation schedule. If any amendments are required by the Director, the Director will notify the proponent of the required amendments in writing.

4.7 The proponent shall implement the Compliance Monitoring Program, as it may be amended by the Director.

4.8 The proponent shall make the documentation pertaining to the Compliance Monitoring Program available to the ministry or its designate in a timely manner when requested to do so by the ministry.

5. Compliance Reporting

5.1 The proponent shall prepare an annual Compliance Report which describes its compliance with the conditions of approval set out in this Notice of Approval and which describes the results of the proponent's environmental assessment Compliance Monitoring Program required by Condition 4.

5.2 The annual Compliance Report shall be submitted to the Director within one year from the date of approval, with the first report being due in 2011, and shall cover all activities of the previous 12 month period.

5.3 Subsequent compliance reports shall be submitted to the Director on or before the anniversary of the date of approval each year thereafter. Each Compliance Report shall cover all activities of the previous 12 month period.

5.4 The proponent shall submit annual Compliance Reports until all conditions in this Notice of Approval and the commitments in the environmental assessment are satisfied.

5.5 Once all conditions in this Notice of Approval have been satisfied, or have been incorporated into any other ministry approval, the proponent shall indicate in its annual Compliance Report that the Compliance Report is its final Compliance Report and that all conditions in this Notice of Approval have been satisfied.

5.6 The proponent shall retain either on site or in another location approved by the Director, a copy of each of the annual Compliance Reports and any associated documentation of compliance monitoring activities.

5.7 The proponent shall make the Compliance Reports and associated documentation available to the ministry or its designate in a timely manner when requested to do so by the ministry.

6. Complaint Protocol

6.1 The proponent shall prepare and implement a Complaint Protocol setting out how it will deal with and respond to inquiries and complaints received during the design, construction and operation of the undertaking.

6.2 The Complaint Protocol shall be provided to the advisory committee for review prior to submission to the Director.

6.3 The proponent shall submit the Complaint Protocol to the Director within one year from the date of approval or a minimum of 60 days prior to the start of construction, whichever is earlier.

6.4 The Director may require the proponent to amend the Complaint Protocol at any time. Should an amendment be required, the Director will notify the proponent in writing of the required amendment and date by which the amendment must be completed.

6.5 The proponent shall submit the amended Complaint Protocol to the Director within the time period specified by the Director in the notice.

7. Community Involvement

7.1 The proponent shall prepare and implement a Community Communications Plan. The plan shall be prepared, in consultation with the EAAB and to the satisfaction of the Director.

7.2 The proponent shall finalize and submit the Community Communications Plan to the Director prior to the initial receipt of non-hazardous municipal solid waste at the site.

7.3 The Community Communications Plan shall include at a minimum details on:

a) How the proponent plans to disseminate information to interested members of the public and any Aboriginal communities;

b) How interested members of the public and any Aboriginal communities will be notified and kept informed about site operations; and,

c) The procedures for keeping interested members of the public and Aboriginal communities informed about information on documents related to the undertaking, and when and how the information will be made available.

7.4 The proponent shall give notice of and provide information about the undertaking to interested members of the public and Aboriginal communities through an internet web site and by other means. Such information shall include:

a) Activities that are part of the undertaking, including monitoring activities;

b) Reports and records related to the undertaking that are required to be submitted under this Notice of Approval or under any other ministry approvals that apply to the undertaking; and,

c) Information on the Complaint Protocol required by Condition 6 of this Notice of Approval.

7.5 The proponent shall hold public meetings to discuss the design, construction and operation of the undertaking, including, but not limited to:

a) At least one meeting prior to the start of construction;

b) At least one meeting prior to the receipt of non-hazardous municipal solid waste on site; and,

c) At least one meeting a minimum of six months but not later than 12 months after the initial receipt of non-hazardous municipal solid waste on the site.

7.6 The proponent shall provide notice of the public meetings a minimum of 15 days prior to the meeting.

7.7 The proponent shall give the Director written notice of the time, date and location of each of the required community meetings a minimum of 15 days prior to the meeting.

8. Advisory Committee

8.1 The proponent shall establish an advisory committee to ensure that concerns about the design, construction and operation of the undertaking are considered and mitigation measures are implemented where appropriate.

8.2 The proponent shall provide administrative support for the advisory committee including, at a minimum:

a) Providing a meeting space for advisory committee meetings;

b) Recording and distributing minutes of each meeting;

c) Preparing and distributing meeting notices; and,

d) Preparing an annual report about the advisory committee's activities to be submitted as part of the Compliance Reports required by Condition 5 of this Notice of Approval.

8.3 The proponent shall invite one representative from each of the following to participate on the advisory committee:

a) Each of the lower tier municipalities in the Regional Municipality of Durham; and,

b) Each of the lower tier municipalities in the Regional Municipality of York.

8.4 The proponent shall invite one representative from Central Lake Ontario Conservation Authority, and any other local conservation authorities that may have an interest in the undertaking to participate on the advisory committee.

8.5 The proponent shall invite one representative from each of the following local community groups to participate on the advisory committee:

a) DurhamCLEAR;

b) Durham Environmental Watch; and,

c) Zero Waste 4 Zero Burning.

8.6 The proponent may also invite other stakeholders to participate in the advisory committee, including, but not limited to, interested members of the public, Aboriginal communities, and other federal or provincial agencies.

8.7 A representative from the ministry shall be invited to attend meetings as an observer.

8.8 The advisory committee shall be provided with a copy of the documents listed below for information and may review the documents as appropriate and provide comments to the proponent about the documents, including the:

a) Compliance Monitoring Program required by Condition 4;

b) Annual Compliance Report required by Condition 5;

c) Complaint Protocol required by Condition 6;

d) Community Communications Plan required by Condition 7;

e) The annual reports required by Condition 10;

f) Ambient Air Monitoring and Reporting Plan and the results of the ambient air monitoring program required by Condition 11;

g) Air Emissions Monitoring Plan required by Condition 12;

h) Written report prepared and signed by the qualified professional required by Condition 16.5;

i) Spill Contingency and Emergency Response Plan required by Condition 17;

j) Odour Management and Mitigation Plan and the Odour Management and Mitigation Monitoring Reports required by Condition 18;

k) Noise Monitoring and Reporting Plan as required by Condition 19;

l) Groundwater and Surface Water Monitoring Plan, the results of the groundwater and surface water monitoring program, and the annual report on the results of the groundwater and surface water monitoring program required by Condition 20; and,

m) Notice in writing of the date that municipal solid waste is first received as required by Condition 23.

8.9 The proponent shall hold the first advisory committee meeting within three months of the date of approval. At the first meeting, the advisory committee shall develop a Terms of Reference outlining the governance and function of the advisory committee.

8.10 The Terms of Reference shall, at a minimum, include:

a) Roles and responsibilities of the advisory committee members;

b) Frequency of meetings;

c) Member code of conduct;

d) Protocol for dissemination and review of information including timing; and,

e) Protocol for dissolution of the advisory committee.

8.11 The proponent shall submit the advisory committee's Terms of Reference to the Director and Regional Director.

9. Consultation With Aboriginal Communities

9.1 The proponent shall continue to consult with any interested Aboriginal communities during the detailed design and implementation of the undertaking.

10. Waste Diversion

10.1 The proponent shall make a reasonable effort to work cooperatively with all lower tier municipalities to ensure that waste diversion programs, policies and targets set by the Regional Municipalities are being met.

10.2 The proponent shall prepare and implement a Waste Diversion Program Monitoring Plan.

10.3 The Waste Diversion Program Monitoring Plan shall provide a description of monitoring and reporting which shall at minimum include:

a) Results of at source diversion programs and policies to determine the waste diversion rates and practices at both the regional and lower tier municipal level within the Regional Municipalities of Durham and York.

b) Progress in the diversion programs, policies, practices and targets described in the environmental assessment, at both the regional and lower tier municipal level within the Regional Municipalities of Durham and York.

c) Monitoring results for any additional diversion programs, policies, practices and targets carried out within the Regional Municipalities of Durham and York, which are not described in the environmental assessment.

10.4 The proponent shall prepare and submit to the Director and Regional Director, commencing one year after the approval of the undertaking, annual reports detailing the results of the Waste Diversion Program Monitoring Plan.

10.5 The proponent shall post the Waste Diversion Program Monitoring Plan and the annual reports required on the proponent's web site for the undertaking.

11. Ambient Air Monitoring and Reporting

11.1 The proponent shall prepare, in consultation with the ministry's Central Region Office and to the satisfaction of the Regional Director, an Ambient Air Monitoring and Reporting Plan for the undertaking.

11.2 The proponent shall submit the Ambient Air Monitoring and Reporting Plan to the Director and Regional Director a minimum of nine months prior to the start of construction or by such other date as agreed to in writing by the Regional Director.

11.3 The proponent shall establish a working group that will provide advice on the development of the Ambient Air Monitoring and Reporting Plan. The Regions will, at a minimum, extend an invitation to Health Canada, the Durham Region Health Department, York Region Public Health Services, one participant from the advisory committee, and any other relevant federal or provincial government agencies including the ministry.

11.4 The Ambient Air Monitoring and Reporting Plan shall include at minimum:

a) An ambient air monitoring program which includes an appropriate number of sampling locations. Siting of the sampling locations shall be done in accordance with the Ministry of the Environment's Operations Manual for Air Quality Monitoring in Ontario, March 2008, as amended from time to time;

b) The proposed start date for and frequency of the ambient air monitoring and reporting to be carried out;

c) The contaminants that shall be monitored as part of the Ambient Air Monitoring and Reporting Plan; and,

d) At least one meeting on an annual basis between the proponent and the Regional Director to discuss the plan, the results of the ambient air monitoring program and any changes that are required to be made to the plan by the Regional Director.

11.5 The proponent shall implement the ambient air monitoring program prior to the receipt of non-hazardous municipal solid waste on the site or at such other time that may be determined by the Regional Director and communicated to the proponent in writing and shall continue the monitoring until such time as the Regional Director notifies the proponent in writing that the Ambient Air Monitoring Program is no longer required.

11.6 The Regional Director may require changes to be made to the Ambient Air Monitoring and Reporting Plan and the proponents shall implement the plan in accordance with the required changes.

11.7 The proponent shall report the results of the ambient air monitoring program to the Regional Director in accordance with the Ambient Air Monitoring and Reporting Plan.

11.8 Audits will be conducted by the ministry, as outlined in the Ministry of the Environment's Audit Manual for Air Quality Monitoring in Ontario, March 2008 to confirm that siting and performance criteria outlined in the Operations Manual are met. The proponent shall implement any recommendations set out in the audit report regarding siting of the sampling locations and performance criteria. The proponent shall implement the recommendations in the audit report within three months of the receipt of an audit report from the ministry.

11.9 The proponent shall post the Ambient Air Monitoring and Reporting Plan and the results of the ambient air monitoring program on the proponent's web site for the undertaking upon submission of the plan or results of the program to the ministry.

12. Emissions Monitoring

12.1 The proponent shall install, operate and maintain air emissions monitoring systems that will record the concentrations of the contaminants arising from the incineration of waste.

12.2 The air emissions monitoring systems shall be installed and operational prior to the receipt of non-hazardous municipal solid waste at the site.

12.3 The proponent shall prepare and implement an Air Emissions Monitoring Plan. The Plan shall be prepared, in consultation with the ministry and to the satisfaction of the Director.

12.4 The Air Emissions Monitoring Plan shall include, at a minimum:

a) Identification of all sources of air emissions at the site to be monitored;

b) Identification of which contaminants will be monitored by continuous emissions monitoring and which by stack testing;

c) The proposed start date for and frequency of air emissions monitoring;

d) The frequency of and format for reporting the results of air emissions monitoring;

e) The contaminants that shall be monitored, which shall include at a minimum those contaminants set out in Schedule 1 to this Notice of Approval; and,

f) A notification, investigation and reporting protocol to be used in the event that the concentration(s) of one or more of the contaminants released from an emission source that requires approval under Section 9 of the *Environmental Protection Act* exceed the relevant limits.

12.5 The proponent shall submit the Air Emissions Monitoring Plan to the Director, a minimum of six months prior to the start of construction or by such other date as agreed to in writing by the Director

12.6 The proponent shall implement the Air Emissions Monitoring Plan such that the monitoring commences when the first discharges are emitted from the facility to the air or at such other time as the Director may agree to in writing and shall continue until such time as the Director notifies the proponent in writing that the Air Emissions Monitoring Plan is no longer required.

12.7 The proponent shall post the reports of the air emissions monitoring systems on the proponent's web site for the undertaking.

12.8 For those contaminants that are monitored on a continuous basis, the proponent shall post on the proponent's website for the undertaking the results of the monitoring for each of those contaminants in real time.

13. Air Emissions Operational Requirements

13.1 The proponent is expected to operate the undertaking in accordance with Schedule 1 of this Notice of Approval. If the facility is not operating in accordance with Schedule 1, the operator is required to take steps to bring the facility back within these operational requirements.

13.2 Schedule 1 sets out the operational requirements the ministry expects the facility to meet during the normal operating conditions of the facility when operating under a steady state but does not include start up, shut down, or malfunction.

13.3 The timing and frequency of monitoring for a contaminant in Schedule 1 shall be as required by the approval granted to the facility under the *Environmental Protection Act*, should approval be granted.

14. Daily Site Inspection

14.1 The proponent shall conduct a daily inspection of the site including the non-hazardous municipal solid waste received at the site, each day the undertaking is in operation to confirm that:

a) The site is secure;

b) The operation of the undertaking is not causing any nuisance impacts;

c) The operation of the undertaking is not causing any adverse effects on the environment;

d) The undertaking is being operated in compliance with the conditions in this Notice of Approval and any other ministry approvals issued for the undertaking; and,

e) Only non-hazardous waste is being received at the site.

14.2 If, as a result of the daily inspection, any deficiencies are noted by the employee in regard to the factors set out in Condition 14.1 above, the deficiency shall be remedied immediately by the proponent. If necessary to remedy the deficiency, the proponent shall cease operations at the site until the deficiency has been remedied.

14.3 A record of the daily inspections shall be kept in the daily log book required in Condition 15. The information below must be recorded in the daily log book by the person completing the inspection and includes the following information:

a) The name and signature of the person that conducted the daily inspection;

b) The date and time of the daily inspection;

c) A list of any deficiencies discovered during the daily inspection;

d) Any recommendations for action; and,

e) The date, time and description of actions taken.

14.4 The proponent shall retain either on site or in another location approved by the District Manager, a copy of the daily log book and any associated documentation regarding the daily site inspections.

15. Daily Record Keeping

15.1 The proponent shall maintain a written daily log which shall include the following information:

a) Date;

b) Types, quantities and source of non-hazardous municipal solid waste received;

c) Quantity of unprocessed, processed and residual non-hazardous municipal solid waste on the site;

d) Quantities and destination of each type of residual material shipped from the site;

e) The record of daily site inspections required to be maintained by Condition 14.3;

f) A record of any spills or process upsets at the site, the nature of the spill or process upset and the action taken for the clean up or correction of the spill or process upset, the time and date of the spill or process upset, and for spills, the time that the ministry and other persons were notified of the spill pursuant to the reporting requirements of the *Environmental Protection Act*;

g) A record of any waste that was refused at the site, including: amounts, reasons for refusal and actions taken; and,

h) The name and signature of the person completing the report.

15.2 The proponent shall retain, either on site or in another location approved by the District Manager, a copy of the daily log book and any associated documentation.

15.3 The proponent shall make the daily log book and any associated documentation available to the ministry or its designate in a timely manner when requested to do so by the ministry.

16. Third Party Audits

16.1 The proponent shall retain the services of a Qualified, Independent Professional Engineer to carry out an independent audit of the undertaking.

16.2 Within six months from the date of approval or other such date as agreed to in writing by the Regional Director, the proponent shall submit to the Director and the Regional Director, the name of the Qualified, Independent Professional Engineer and the name of the company where he/she is employed.

16.3 The proponent shall submit an audit plan to the satisfaction of the Regional Director that sets out the timing of and frequency for the audits, as well as the manner in which the audits are to be carried out.

16.4 The audit shall include, at a minimum, the following:

a) A detailed walkthrough of the entire site;

b) A review of all operations used in connection with the undertaking; and,

c) A detailed review of all records required to be kept by this Notice of Approval or under any other ministry approvals for the undertaking.

d) The proponent shall obtain from the Qualified, Independent Professional Engineer, a written report of the audit prepared and signed by the Qualified, Independent Professional Engineer that summarizes the results of the audit.

16.5 The proponent shall submit the written report summarizing the result of the audit to the Regional Director no later than 10 business days following the completion of the audit.

16.6 The proponent shall retain either on site or in another location approved by the Regional Director, a copy of the written audit report and any associated documentation.

16.7 The proponent shall make the written audit report and any associated documentation available to the ministry or its designate in a timely manner when requested to do so by the ministry.

16.8 The proponent shall post the written audit report on the proponent's web site for the undertaking following submission of the report to the ministry.

17. Spill Contingency and Emergency Response Plan

17.1 The proponent shall prepare and implement a Spill Contingency and Emergency Response Plan.

17.2 The proponent shall submit to the Director, the Spill Contingency and Emergency Response Plan a minimum of 60 days prior to the receipt of non-hazardous municipal solid waste at the site or such other date as agreed to in writing by the Director.

17.3 The Spill Contingency and Emergency Response Plan shall include, but is not limited to:

a) Emergency response procedures, including notification procedures in case of a spill, fires, explosions or other disruptions to the operations of the facility;

b) Cell and business phone numbers and work locations for all person(s) responsible for the management of the site;

c) Emergency phone numbers for the local ministry office, the ministry's Spills Action Centre, and the local Fire Department;

d) Measures to prevent spills, fires and explosions;

e) Procedures for use in the event of a fire;

f) Details regarding equipment for spill clean-up and all control and safety devices;

g) Shut down procedures for all operations associated with the undertaking including alternative waste disposal site locations;

h) Maintenance and testing program for spill clean-up equipment and fire fighting equipment;

i) Training for site operators and emergency response personnel; and,

j) A plan, identifying the location and nature of wastes on site.

17.4 The proponent shall provide the Spill Contingency and Emergency Response Plan to the District Manager, the local Municipality of Clarington and the local Municipality of Clarington Fire Department a minimum of 30 days prior to the initial receipt of non-hazardous municipal solid waste at the site or such other date as agreed to in writing by the Director.

17.5 The proponent shall take all necessary steps to contain and clean up a spill on the site. A spill or upset shall be reported immediately to the ministry's Spills Action Centre at (416) 325-3000 or 1-800-268-6060.

18. Odour Management and Mitigation

18.1 The proponent shall prepare, in consultation with the ministry's Central Region Office and to the satisfaction of the Regional Director, and implement an Odour Management and Mitigation Plan for the undertaking.

18.2 The proponent shall submit the Odour Management and Mitigation Plan to the Regional Director a minimum of six months prior to the start of construction or at such other time as agreed to in writing by the Regional Director.

18.3 The Odour Management and Mitigation Plan shall include at a minimum:

a) Standard operating and shut down procedures;

b) Maintenance schedules;

c) Ongoing monitoring for and reporting of odour;

d) Corrective action measures and other best management practices for ongoing odour control and for potential operational malfunctions;

e) A schedule for odour testing at sensitive receptors; and,

f) A section that specifically addresses odour control measures should operation of the undertaking be disrupted or cease.

18.4 The proponent shall prepare and submit the Odour Management and Mitigation Monitoring Reports annually to the Regional Director with the first report submitted beginning six months following the initial receipt of non-hazardous municipal solid waste at the site or such other date as agreed to in writing by the Regional Director.

18.5 The Odour Management and Mitigation Monitoring Reports shall be submitted every 12 months from the date of the submission of the first report or until such time as the Regional Director notifies the proponent in writing that the Odour Management and Mitigation Monitoring Reports are no longer required.

18.6 The proponent shall post the Odour Management and Mitigation Monitoring Reports on the proponent's web site for the undertaking following submission of the reports to the Regional Director.

19. Noise Monitoring and Reporting

19.1 The proponent shall prepare and implement a Noise Monitoring and Reporting Plan for the undertaking.

19.2 The proponent shall submit the Noise Monitoring and Reporting Plan to the Director a minimum of 90 days prior to the start of construction or such other date as agreed to in writing by the Director.

19.3 The Noise Monitoring and Reporting Plan shall include a protocol to ensure that the noise emissions from the facility comply with the limits set out in the Ministry of the Environment's Publication NPC-205 "Sound Level Limits for Stationary Sources in Class 1 & 2 Areas (Urban)", October 1995, as amended from time to time.

19.4 The proponent shall post the Noise Monitoring and Reporting Plan and on the proponent's web site for the undertaking following submission of the plan to the Director.

20. Groundwater and Surface Water Monitoring and Reporting

20.1 Prior to the start of construction, the proponent shall identify any areas where the undertaking may affect groundwater or surface water. For those areas, the proponent shall prepare and implement, in consultation with the ministry's

Central Region Office and to the satisfaction of the Regional Director, a Groundwater and Surface Water Monitoring Plan.

20.2 The proponent shall provide the Groundwater and Surface Water Monitoring Plan to other any government agencies for review and comment, as may be appropriate.

20.3 The Groundwater and Surface Water Monitoring Plan shall include at a minimum:

a) A groundwater and surface water monitoring program;

b) The proposed start date and frequency of groundwater and surface water monitoring;

c) The contaminants that shall be monitored as part of the groundwater and surface water monitoring program; and,

d) At least one meeting each year between the proponent and the Regional Director to discuss the plan, the results of the monitoring program and any changes that are required to be made to plan by the Regional Director.

20.4 The proponent shall submit the Groundwater and Surface Water Monitoring Plan to the Regional Director a minimum of 90 days prior to the start of construction or such other date as agreed to in writing by the Regional Director.

20.5 The Regional Director may require changes to be made to the Groundwater and Surface Water Monitoring Plan and the proponent shall implement the plan in accordance with the required changes.

20.6 The groundwater and surface water monitoring program shall commence prior to the receipt of non-hazardous municipal solid waste at the site or such other time as agreed to in writing by the Regional Director, and shall continue until such time as the Regional Director notifies the proponent in writing that the groundwater and surface water monitoring program is no longer required.

20.7 Thirty days after waste is first received on site, the proponent shall prepare and submit to the Director and Regional Director, a report containing all of the results of the groundwater and surface water monitoring program.

20.8 The proponent shall prepare and submit to the Director and Regional Director, an annual report containing the results of the groundwater and surface water monitoring program. The first report shall be submitted 12 months from the start of the monitoring program and every year thereafter.

20.9 The proponent shall prepare and submit to the Director and Regional Director, a report containing the results of the groundwater and surface water monitoring program within 30 days of any of the following events:

a) A spill occurs on site;

b) A fire or explosion occurs on site;

c) A process upset; or

d) Any disruption to normal operations that may directly or indirectly have an impact on groundwater or surface water.

20.10 The proponent shall post the Groundwater and Surface Water Monitoring Plan and all reports required by this condition on the proponent's web site for the undertaking following submission of the plan and reports to the ministry.

21. Types of Waste and Service Area

21.1 Only non-hazardous municipal solid waste from municipal collection within the jurisdictional boundaries of the Regional Municipality of Durham and the Regional Municipality of York may be accepted at the site.

21.2 Materials which have been source separated for the purposes of diversion shall not be accepted at this site. This prohibition does not apply to the non-recyclable residual waste remaining after the separation of the recyclable materials from the non-recyclable materials at a materials recycling facility or other processing facility.

21.3 The proponent shall ensure that all incoming waste is inspected prior to being accepted at the site to ensure that only non-hazardous municipal solid waste is being accepted.

21.4 If any materials other than non-hazardous municipal solid waste are found during inspection or operation, the proponent shall ensure that management and disposal of the material is consistent with ministry guidelines and legislation.

22. Amount of Waste

22.1 The maximum amount of non-hazardous municipal solid waste that may be processed at the site is 140,000 tonnes per year.

23. Notice of the Date Waste First Received

23.1 Within 15 days of the receipt of the first shipment of waste on site, the proponent shall give the Director and Regional Director written notice that the waste has been received.

24. Construction and Operation Contracts

24.1 In carrying out the undertaking, the proponent shall require that its contractors, subcontractors and employees:

a) fulfil the commitments made by the proponent in the environmental assessment process, including those made in the environmental assessment and in the proponent's responses to comments received during the environmental assessment comment periods;

b) meet applicable regulatory standards, regarding the construction and operation of the undertaking;

c) obtain any necessary approvals, permits or licenses; and,

d) have the appropriate training to perform the requirements of their position.

25. Amending procedures

25.1 Prior to implementing any proposed changes to the undertaking, the proponent shall determine what *Environmental Assessment Act* requirements are applicable to the proposed changes and shall fulfill those *Environmental Assessment Act* requirements.

Dated the 21ST day of October 2010 at TORONTO.

Minister of the Environment
77 Wellesley Street West
11th Floor, Ferguson Block
Toronto, Ontario
M7A 2T5

Approved by O.C. No. 1514/2010

Date O.C. Approved NOVEMBER 3, 2010

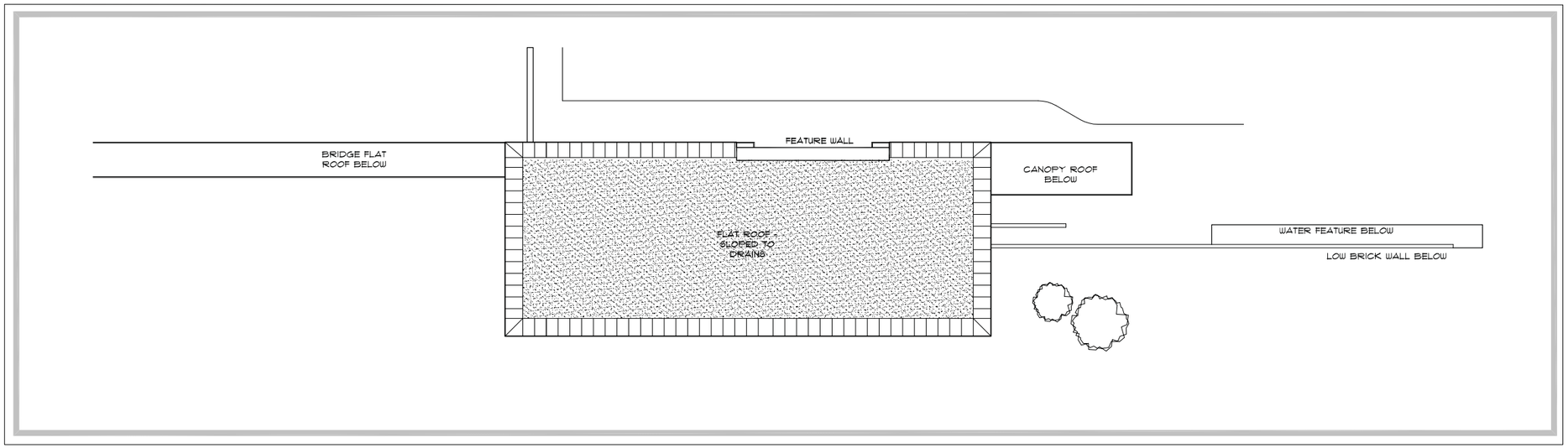
Schedule 1 –Air Emissions Operational Requirements

Item	Contaminant	Operational Requirements
1.	Particulate Matter	9 mg/Rm3
2.	Cadmium	7 ug/Rm3
3.	Lead	50 ug/Rm3
4.	Mercury	15 ug/Rm3
5.	Dioxins & Furans	60 pg/Rm3
6.	Hydrogen Chloride	9 mg/Rm3
7.	Sulphur Dioxide	35 mg/Rm3
8.	Nitrogen Oxides	121 mg/Rm3
9.	Organic Matter .	50 ppmdv (33 mg/Rm3)
10.	Carbon Monoxide	35 ppmdv (40 mg/Rm3)
11.	Opacity	5% (2-hour average) 10% (6-minute average)

Notes:
mg/Rm^3-milligrams per reference cubic metre; µg/Rm^3-micrograms per reference cubic metre; pg/Rm^3-picograms per reference cubic metre; ppmdv-parts per million by dry volume

APPENDIX C

Preliminary Architectural Drawings



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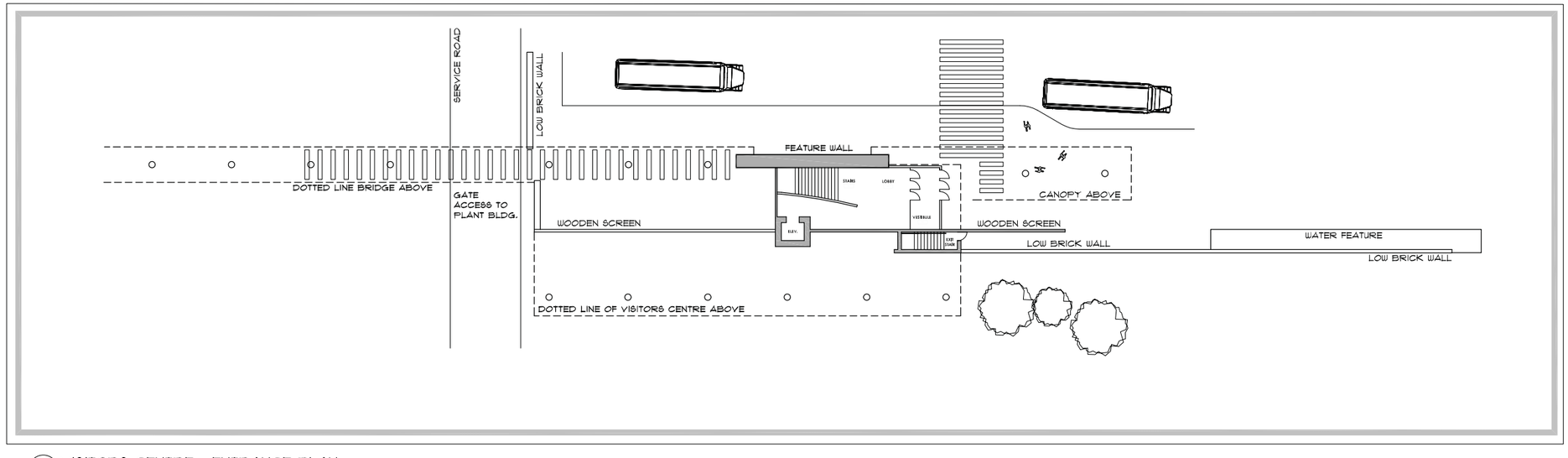
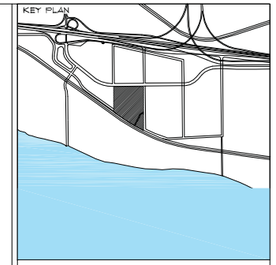


3 A102 VISITORS CENTRE - ENTRANCE PLAN 1:200

KEY PLAN



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4	ISSUED FOR FINAL EIA	PM	2010-DEC-03
3	ISSUED FOR FINAL PRICING	PM	2010-NOV-22
2	REVISED GRID DESIGNATIONS	PM	2010-AUG-18
1	ISSUED FOR INTERNAL PRICING	PM	2010-AUG-16

COVANTA ENERGY

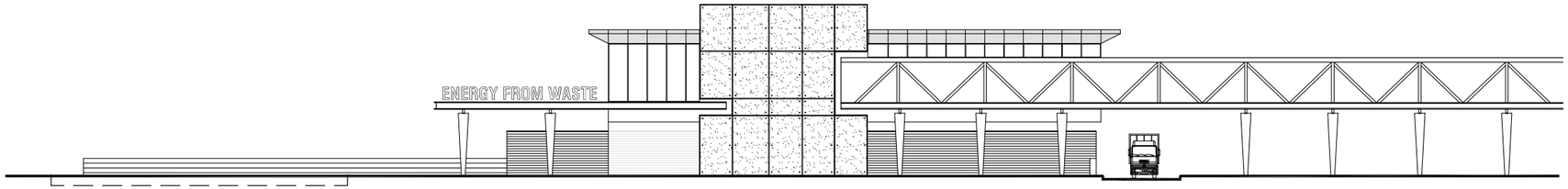
DURHAM REGION York Region

DURHAM - YORK ENERGY FROM WASTE FACILITY CONCEPT Z [R1]

VISITORS CENTRE PLANS

DRAWN BY: L.A./P.D.	CONTRACT No.
CHECKED BY: P.M./J.S.	FILE No.
DATE: 2010-AUG-16	DRAWING No. **A-102**
SCALE	SHEET 2 OF 5
CADD FILE: A-102.dwg	

RWA - 2005A.dwg



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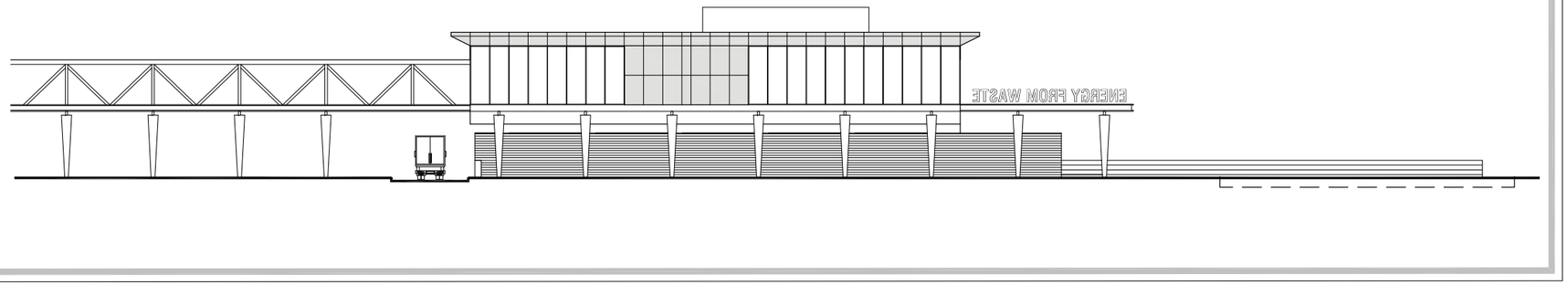

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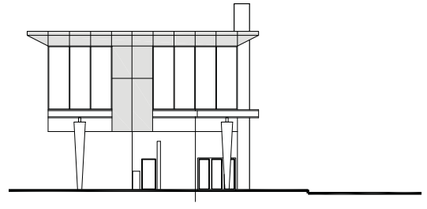

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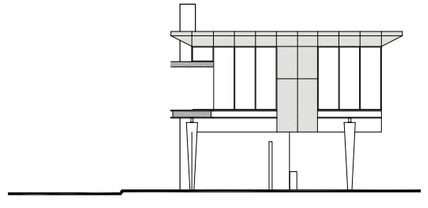

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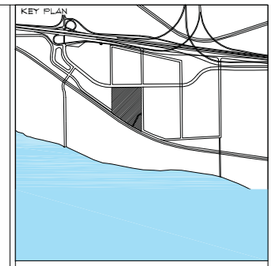

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4	ISSUED FOR FINAL EIA	PM	2010-DEC-03
3	ISSUED FOR FINAL PRICING	PM	2010-NOV-22
2	REVISED GRID DESIGNATIONS	PM	2010-AUG-18
1	ISSUED FOR INTERNAL PRICING	PM	2010-AUG-16

COVANTA ENERGY

DURHAM REGION York Region

DURHAM - YORK ENERGY FROM WASTE FACILITY CONCEPT Z [R1]

VISITORS CENTRE ELEVATIONS

PROJECT NORTH

DRAWN BY: L.A./P.D.	CONTRACT No.
CHECKED BY: P.M./J.S.	FILE No.
DATE: 2010-AUG-16	DRAWING No. **A-103**
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CADD FILE: A-103.dwg	

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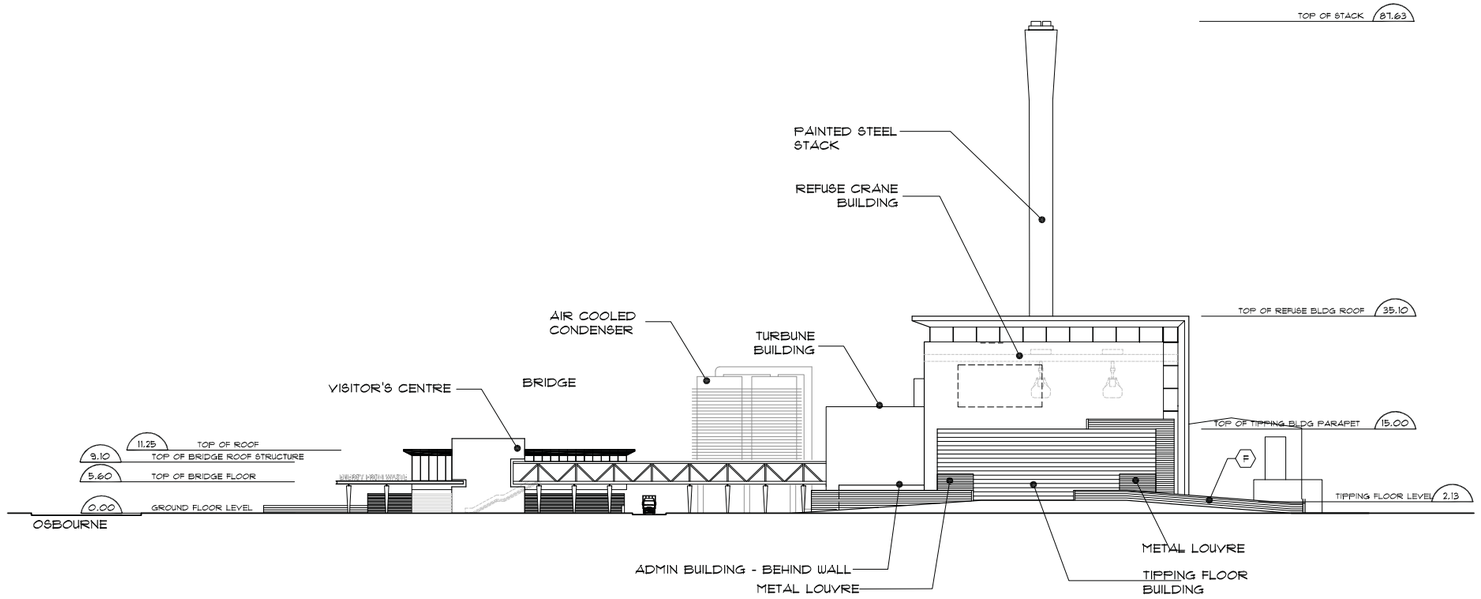

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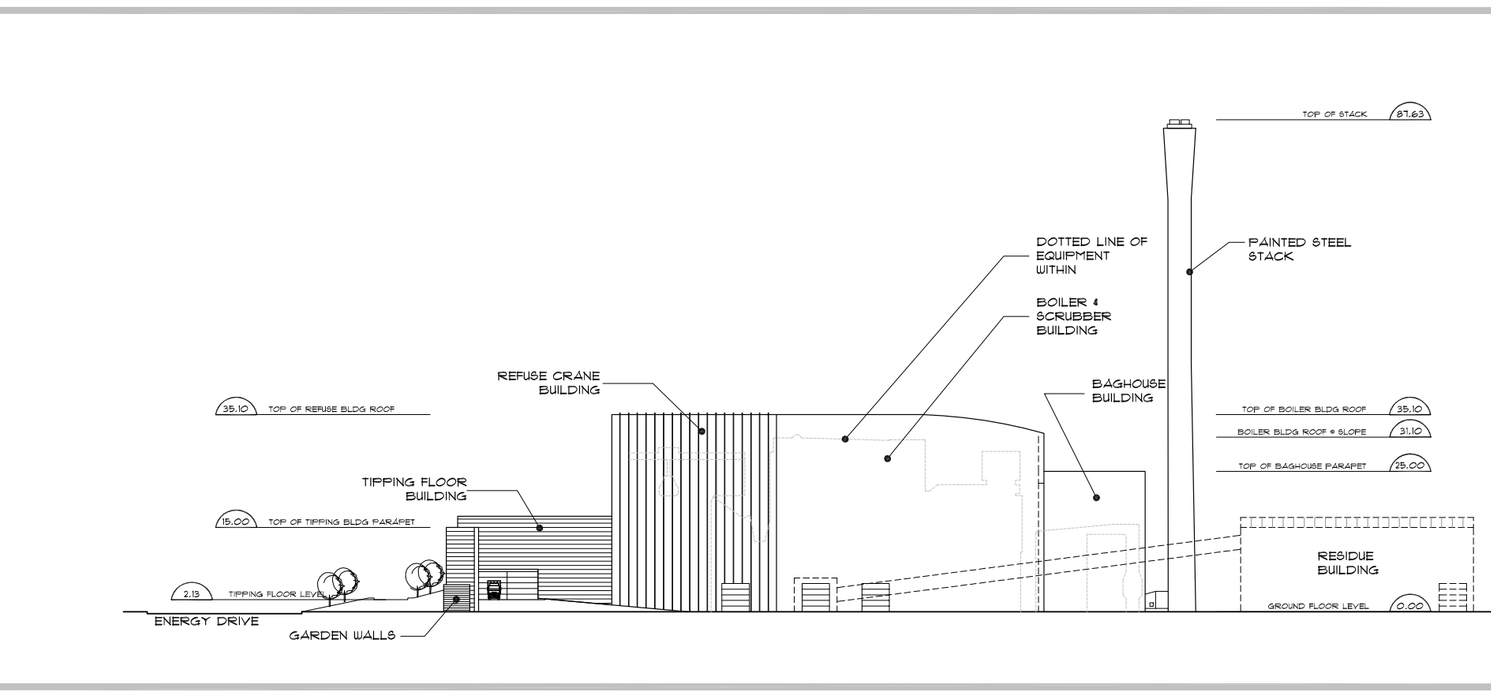

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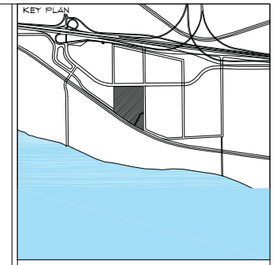

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7	ISSUED FOR FINAL PRICING	PM	2010-NOV-22
6	REVISED GRID DESIGNATIONS	PM	2010-AUG-18
5	ISSUED FOR INTERNAL PRICING	PM	2010-AUG-16
4	FOR INTERNAL AECON REVIEW	PM	2010-AUG-09
3	ISSUED FOR INTERNAL PRICING	PM	2010-JUL-29
2	ISSUED FOR INTERNAL PRICING	PM	2010-JUL-08
1	ISSUED FOR INTERNAL PRICING	PM	2010-JUN-29

COVANTA ENERGY

DURHAM REGION York Region

DURHAM - YORK ENERGY FROM WASTE FACILITY CONCEPT Z [R1]

NORTH & WEST ELEVATION

DRAWN BY: L.A./P.D.	CONTRACT No.
CHECKED BY: P.M./J.S.	FILE No.
DATE: 2010-AUG-16	DRAWING No. **A-201**
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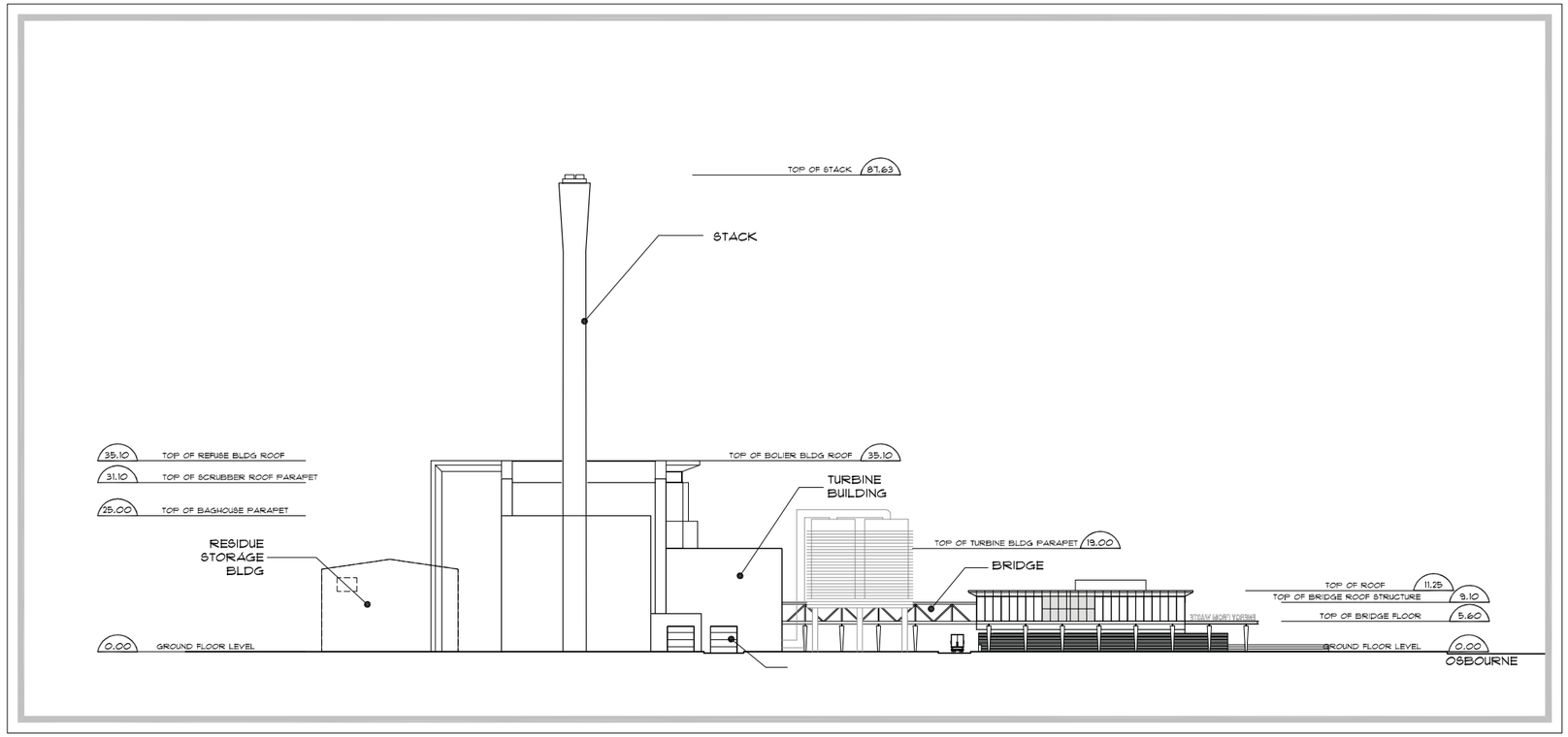

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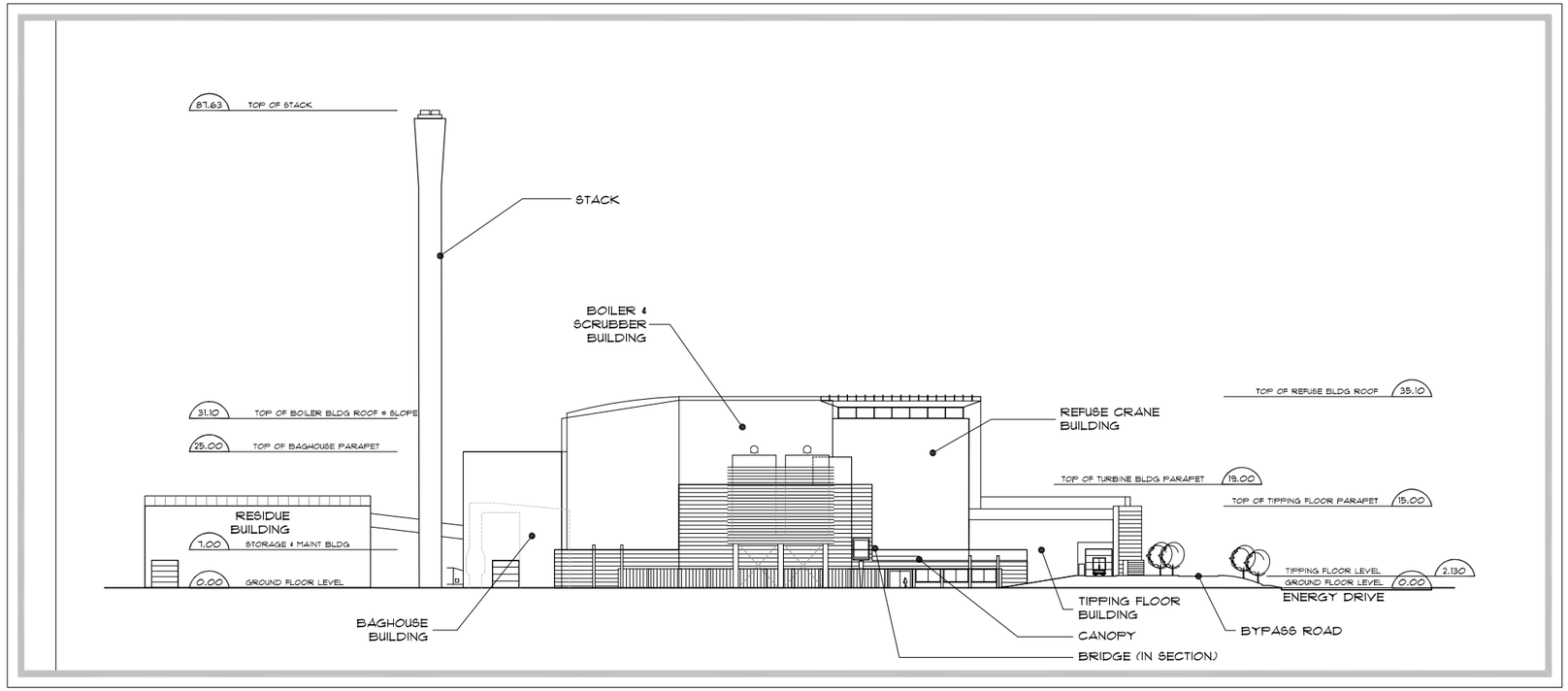

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RWL-2005A.dwg

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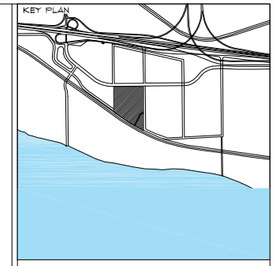

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4	FOR INTERNAL AECON REVIEW	PM	2010-AUG-09
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2	ISSUED FOR INTERNAL PRICING	PM	2010-JUL-08
1	ISSUED FOR INTERNAL PRICING	PM	2010-JUN-29

COVANTA ENERGY

DURHAM REGION | York Region

DURHAM - YORK ENERGY FROM WASTE FACILITY CONCEPT Z [R1]

SOUTH & EAST ELEVATION

DRAWN BY: L.A./P.D.	CONTRACT No.
CHECKED BY: P.M./J.S.	FILE No.
DATE: 2010-AUG-16	DRAWING No. **A-202**
SCALE	SHEET 5 OF 5
CADD FILE: A-202.dwg	

APPENDIX D

Standard Operating Procedures

Preliminary Standard Operating Procedures (SOPs)

Durham York Energy Centre

Table of Contents

1 SOPs for Handling of Radioactive Wastes

1.1 General Information

The Durham York Energy Centre will be equipped with radiation detection equipment located on the inbound scales and monitored at the Scalehouse. This is to ensure that no radioactive material is tipped into the Refuse Bunker.

If the radiation detectors signal an alarm, the Scalehouse operator will note the level from the monitor and contact the Control Room with the results.

A procedure to confirm the presence of radioactive material in the truck will be instituted. All other trucks are prohibited to enter the scale area until the radiation readings are completed and the action for the vehicle is determined.

1.2 Procedures

Scalehouse

A. The Control Room is immediately notified of the radioactive waste alarm and actions taken.

B. Alarm is verified (not background) by having the driver pull forward and back again.

C. Driver is told to stay in the truck and directed to a designated location off the scale.

D. A hand held radiation monitor is passed along the truck (about 2" from the surface) to confirm the detection and to determine the approximate location and level of the radiation source.

E. Truck license is noted. Additional information is documented (example: generator, hauler, contact information, radiation reading, location of the highest reading on the truck, etc.).

F. Driver may be asked to return to the generator or transfer station facility, as applicable.

Under approved circumstances the truck will be allowed to be isolated on site to allow for natural decay of the radioactive isotope, or the generator/hauler will be allowed to hire an outside contractor to sort through the load to remove and isolate the radioactive material at the tipping hall floor. All instances of radiation alarms will be documented and reported.

2 SOPs for Handling of Rejection Material and Bulk Waste

2.1 General

Durham York Energy Centre will receive and treat only household waste, non-hazardous commercial waste, and solid waste specifically authorized by the Ontario Ministry of the Environment.

The Facility will prevent untreatable and unacceptable waste from entering the Facility through implementation of a multi-layered plan that starts at the refuse producing households or businesses, continues through the collection process, and ends with the ultimate disposal of refuse at the Facility.

The Facility is completely fenced, providing a single entry and exit point for vehicles delivering waste to the Facility. After operating hours, the exit/entry point gates are closed, with entry and exit from the Facility controlled by the Shift Supervisor.

Refer to SOPs for handling of radioactive waste.

2.2 Identification of Untreatable and Unacceptable Waste

Plant personnel visually inspect waste loads on a regular basis to see if any untreatable or unacceptable wastes are contained on the trucks being inspected.

Periodically, the content of the truck is unloaded on the tipping floor for visual inspection. The inspections are conducted at a location on the tipping floor that will least interfere with on-going operations. Upon completion of the visual inspection, a portion of the waste load is further spread out by use of a front-end loader and re-examined for untreatable and unacceptable waste.

If untreatable or unacceptable waste is identified during the load inspection, the waste is either immediately placed back on the truck for proper disposal or, in the case of bulky waste, is separated manually or by use of a front-end loader and placed in a bulky storage pile, or a container bin, on site. The bulky waste is transferred to the residue building for storage until transportation off-site for disposal.

If suspected hazardous waste is received, it is separated from the acceptable waste and placed in the designated unacceptable waste area. The Plant environmental personnel will be notified that suspected hazardous waste has been brought on site. Once the nature of the contents has been determined, arrangements will be made for the suspected hazardous waste to be properly disposed. The suspected hazardous waste will be stored in a secure location while waiting final disposition.

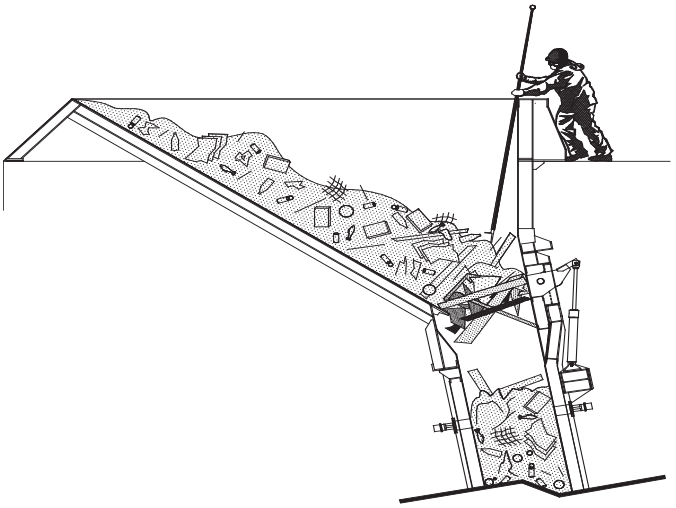
Unacceptable wastes include, but are not limited to, the following:

Type of Waste	Examples and/or Definition
BATTERIES	dry cells, mercury batteries, and vehicle batteries.
BULKY ITEMS	refrigerators, freezers, stoves, dishwashers, washers, and dryers.
WHITE GOODS	mattresses and box springs; hot water heaters and storage tanks; tires; air conditioners; oil storage tanks; propane tanks; gas barbecues; swing sets; vehicle frame parts; engines; crank cases; transmissions; lawn equipment; snow blowers; bicycles; file cabinets; furniture; rolled carpets; metal piping; fuel containers; construction and demolition debris; and logs larger than 2 inches in diameter or 4 feet long.
REGULATED MEDICAL WASTE	Any waste generated in the diagnosis, treatment, or immunization of humans or animals. It includes pathological waste (human tissue, body parts, and specimens); blood waste (liquid or dried blood and blood-saturated products); animal carcasses; and sharps (used or unused hypodermic needles, suture needles, syringes, scalpel blades, and pipettes).

3 SOPs for Feedchute Plugging (Martin Stoker System)

3.1 Description

Refuse plugging at the feedchute throat can occur due to the feedchute's design, with its inclined face giving way to the narrower feedchute, creating a bottleneck. This limits the size of material admitted to the stoker. When refuse becomes lodged in this throat, the fuel level underneath continues to fall as the feedrams push fuel onto the grates. The fuel level above the plug along the inclined face remains stationary. It is blocked from entrance to the throat by this "bridge" of refuse.



3.2 Causes

Feedchute plugs form in several ways. A common cause is a bulky item accidentally loaded to the feedchute. They tend to compress upon themselves as they descend into the feedchute throat. Plugs also occur if too much of a certain material, such as long boards, piping, or wooden pallets, is loaded at one time. These types of material cause a "logjam" affect as they descend into the feedchute throat.

3.3 Prevention

The best way to avoid feedchute plugs is for an alert crane operator to observe carefully the fuel as the operator mixes it in the pit. Separate and reject any bulky items that will not burn or cannot be broken up. Break up and scatter items or quantities of wooden pallets, boards, and piping.

3.4 Recognition

Despite the best efforts of the crane operator, feedchute plugs will occur. Early recognition and reaction decreases the time and effort necessary to clear these plugs.

3.5 Correction

When a feedchute plug occurs, it is to be addressed without delay. The feedchute will be unplugged using the following procedure:

1. Immediately inform the control room operator of the plug's nature, location, and extent.
2. Following proper safety procedures, an operator uses gaff pole to clear any obstructions
3. If the plug cannot be cleared within the first few minutes, the supervisor is to be notified for additional help
4. Control room operator to cycle the feedchute damper closed, then open. Frequently, the movement and/or the compression of the feedchute damper against the plug may cause it to collapse.
5. If the plug is caused by a bulky item, it may be necessary to lower grappling hooks by cables to seize the item. Attach the cables to the overhead crane and remove the item.
6. If the plug cannot be cleared using one of, or combination of, the procedures discussed above, the unit will be shut down so that qualified persons can enter the feedchute from above to clear the plug.

4 SOP for Conditioned Fly Ash Characterization and Testing

4.1 Purpose

Fly ash from the Durham York Energy Centre will be conditioned on site through an on-site process. The purpose of the Characterization Protocol is to identify field sample procedures and sample test scope to enable characterization of the fly ash residue.

4.2 Field Sampling

The sampling and analysis protocol is based upon the following references:

- Environmental Protection Agency, "Manual SW-846 - Test Methods for Evaluating Solid Waste - Physical/Chemical Methods," March 1992. Chapter nine “Sampling Plan” Rev 0 Sept 1986.
- Environmental Protection Agency EPA 530-R-95-036, "Guidance for the Sampling and Analysis of Municipal Waste Combustion Ash for the Toxicity Characteristic," June 1995.

The ash sampling program consists of a minimum of seven days of sampling (2 shifts/day; 1 composite sample/shift; 14 composite samples total). Additional days may be sampled and analyzed for the purpose of extending the initial characterization period. Field sampling is intended to provide material for characterization testing that is representative of the material as it is sent to the disposal site. Sampling will occur at a location that enables personnel to secure a representative sample in a safe and non-interruptible manner.

4.3 Characterization Scope

The scope characterization testing is based on the toxicity characteristic with the analytical scope of the initial characterization program being defined by Table 1. The laboratory selected for this program will be qualified by Covanta to perform EPA *Method 1311 Toxicity Characteristic Leaching Procedure* or equivalent laboratory analysis. The Toxicity Characteristic Leaching Procedure (TCLP) will be performed in accordance with Method 1311 as detailed in the Environmental Protection Agency Manual SW-846 - Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, and conform to applicable Ontario Regulations. Table 1 identifies the analytical test procedures used in analyzing the TCLP extract from each aliquot.

Table 1

ANALYTICAL TEST PROCEDURES

PARAMETER	EPA ANALYTICAL METHOD
1.0 TCLP[1]	
1.1 TCLP Metals	
Arsenic	6010 (ICP)
Barium	6010 (ICP)
Cadmium	6010 (ICP)
Chromium	6010 (ICP)
Lead	6010 (ICP)
Selenium	6010 (ICP)
Silver	6010 (ICP)
Mercury	7470 (CVVA)
2.0 Moisture	2540-G

[1]EPA Method 1311, Toxic Characterization Leaching Procedure.

ICP - Inductively Coupled Plasma Spectroscopy

CVVA - Cold Vapor Atomic Absorption

The toxicity limits used to characterize the residue are defined in Schedule 4 of R.R.O. 1990, Regulation 347. The ash residue characteristics will be determined by comparing the regulatory toxicity limits with the 80 % upper confidence interval from all representative samples.

5 SOPs for Back-up Power (Standby Diesel Generator)

The Facility will be equipped with approximately 250KW standby diesel generator. In case of a station blackout, a standby diesel generator is provided to power the auxiliaries necessary to assure an orderly shutdown of the plant in the event of a total loss of station AC power. The diesel generator would be utilized in an event of a power failure from the in-plant turbine/generator and failure to draw electricity from the electric grid (Hydro One).

In the highly unlikely event, the standby diesel generator would be sufficient to provide energy to the following preliminary list of equipment:

- Main lube oil pumps (for Turbine & Generator)
- Turning gear (to protect the Turbine shaft)
- Turbine driven lube oil pumps
- Electrical room air handling units
- Battery room exhaust fan
- Passenger/Freight elevator
- Battery chargers
- Control room air conditioning unit
- Stack lighting
- Power and lighting panels

APPENDIX E

Waste Storage Calculations and Waste Quantities

March 2011
Report No. 10-1151-0343 **(5000)**

Golder Associates

SITE STORAGE DESIGN CALCULATIONS

Maximum annual intake of MSW = 140,000 Tonnes

Refuse Pit Storage Capacity

- Daily intake of MSW = 436 Tonnes
- Density of MSW = 415 kg/m^3
- Storage Capacity of Refuse Pit = 7 days

Refuse Pit Size

(7 days) * (436 Tonnes/day) / (415 kg/m^3) =

Approximately 7354 m^3

Maximum Refuse Pit Storage Capacity Calculation, based on density of 415 kg/m^3

(436 Tonnes / day) * (7 days) =

Approximately 3050 Tonnes at any given time

Conditioned Fly Ash Storage Capacity in Residue Building

- Number of Fly Ash Bays = 7
- Design Conditioned Fly Ash Density = 1300 kg/m^3
- Conditioned Fly Ash Storage Volume needed per Bay = 75.91 m^3

Maximum Conditioned Fly Ash Storage Capacity Calculation

(1300 kg/m^3) * (75.91 m^3/bay) * (7 bay) = 690781 kg

Approximately 700 Tonnes at any given time

Bottom Ash Storage Capacity in Residue Building

- Number of Bottom Ash Bays = 2
- Design Bottom Ash Density = 1280 kg/m^3
- Bottom Storage Volume needed per Bay = 244.75 m^3

Maximum Bottom Ash Storage Capacity Calculation

(1280 kg/m^3) * (244.75 m^3/bay) * (2 bays) = 626560 kg

Approximately 630 Tonnes at any given time

SOLID WASTE QUANTITIES

Maximum Residual of Final Disposal

- Daily Maximum Residual of Final Disposal = 400 tonnes
- Annual Maximum Residual of Final Disposal = 56,000 tonnes

Rational: The Maximum Residual for Final Disposal is estimated to be 400 tonnes/day and 56,000 tonnes annually. This rate takes into account the maximum residual production rate of the Facility, the residue disposal schedule and worst case scenario of disruptions that may occur. The maximum estimated residual production of the Facility is the product of the maximum mass throughput of the grates, approximately 540 tonnes per day and the maximum estimated percentage of inert material (i.e. ash or residue) contained in the municipal waste. The residual production rate will also include any reagents, such as lime, carbon, pozzolan or cement, utilized in the balance of the Facility operations. The residue removal schedule takes into account a 5 day workweek removal rate with a margin for fluctuations based on holidays, weather, truck availability and disposal site availability. Note that estimated normal disposal tonnage is expected to be significantly less than the maximum quantities.

Maximum Waste Received Daily

- Daily Maximum Waste Received = 1520 tonnes

Rational: The Maximum Waste Received Daily is the maximum amount of MSW that may enter the Facility on a given day, whether or not it will be processed by the thermal treatment units. The Maximum Waste Received Daily takes into account the maximum receiving capability of the Facility to allow for fluctuations in refuse availability and the refuse delivery schedule and worst case scenario disruptions that may occur. The receiving capacity of the Facility is significantly greater than the thermal processing capacity due to future considerations of accommodating an expansion of the Facility. To mitigate for worst case scenarios (e.g. weather, labor strikes, holidays or truck availability), the Facility can accept twice the tonnage per day for which it was designed. This ensures continuous operation of the Facility operation. Thus, the expected Maximum Waste Received Daily is 1520 tonnes per day.

Maximum Daily Feed Rate

- Maximum Daily Feed Rate for the Facility = 540 tonnes

Rational: The estimated Maximum Daily Feed Rate for the Facility is 540 tonnes/day. This feed rate is based on the design grate capacity. The actual processing rate will vary according to the HHV of the municipal waste as identified by Figure 2 – Refuse Diagram which identifies the expected operating boundaries as municipal waste characteristics change.

APPENDIX F

Emergency Operation and Contingency Plan

March 2011
Report No. 10-1151-0343 **(5000)**

Golder Associates

Durham York Energy Centre

Environmental Emergency and Contingency Plan

Covanta Energy Inc.

ENVIRONMENTAL EMERGENCY AND CONTINGENCY PLAN

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APPENDIX G

Facility Monitoring and Inspection Plan

March 2011
Report No. 10-1151-0343 **(5000)**

Golder Associates

Durham York Energy Centre

Facility Maintenance and Inspection Plan

Covanta Energy Inc.

FACILITY MAINTENANCE AND INSPECTION PLAN

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APPENDIX H

Complaint Protocol

March 2011
Report No. 10-1151-0343 **(5000)**

Golder Associates

Durham/York Energy from Waste Complaint Protocol for Design, Construction & Operations

Date: 2011-01-31

This document has been reviewed by the EFW Advisory Committee and edited appropriately as required by EA Condition 6.2.

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Introduction

The Minister of the Environment granted approval on November 3, 2010 of the Individual Environmental Assessment for the Energy from Waste (EFW) facility. One of the conditions of approval was the establishment of a detailed protocol to address concerns received from the public during design, construction and operation activities. Specifically, the Minister's Condition for the Complaint Protocol states that:

- 6.1 The proponent shall prepare and implement a Complaint Protocol setting out how it will deal with and respond to inquiries and complaints received during the design, construction and operation of the undertaking.
- 6.2 The Complaint Protocol shall be provided to the advisory committee for review prior to submission to the Director.
- 6.3 The proponent shall submit the Complaint Protocol to the Director within one year from the date of approval or a minimum of 60 days prior to the start of construction, whichever is earlier.
- 6.4 The Director may require the proponent to amend the Complaint Protocol at any time. Should an amendment be required, the Director will notify the proponent in writing of the required amendment and date by which the amendment must be completed.
- 6.5 The proponent shall submit the amended Complaint Protocol to the Director within the time period specified by the Director in the notice.

This document outlines the protocol on how Durham and York Regions will deal with and respond to inquiries, complaints and concerns received during the design, construction and operation of the Undertaking. The document will be posted on the EFW project website at www.durhamyorkwaste.ca.

Due to the nature of this Undertaking being a Design-Build-Operate project, for practical purposes the Complaint Protocol has been split into two phases:

Phase 1 – Design & Construction Phase

For the purposes of this document, inquiries, complaints or concerns from the public for the design and construction work is considered Phase 1 of the Complaint Protocol roll out. It is anticipated the majority of complaints or concerns arising during this phase will be related to EA follow-up, detailed design, early site investigation work, soil and groundwater investigations, heavy construction activity and project schedule. These inquiries will flow through the intake process as described in this document and be managed and directed as outlined in Section 2 and summarized in Figure 1.

Phase 2 – Operation Phase

Phase 2 of the Complaint Protocol will begin once the project moves from construction to the Operation Phase of the Undertaking. The Operation Phase commences after the facility is commissioned and operating as a Waste Management Facility. At that time it is anticipated the majority of complaints or concerns will be directed to facility personnel and follow the flow chart in Figure 2 of this document. Phase 2 Complaint Protocol will develop more fully as the project progresses and be amended as required to meet the future needs.

1. Complaints Received on the Energy from Waste (EFW) Project

1.1 General Process for Receiving Complaints or Concerns

Public comments, complaints and concerns will be directed to Durham Region and York Region through one or more of the following means: email (direct or via project website), telephone, letter or fax. It is recognized that inquiries of this nature could be received by local municipalities, the York Durham District office of the Ministry of the Environment (MOE) and the MOE Spills Action Centre. Appropriate staff at these organizations will be instructed to route these inquiries to the EFW phone number or email address for response and action.

The Complaint Protocol is to be fully implemented with staff (known as First Responders) who will be trained to respond to queries and the prescribed Complaint Protocol process. The First Responder is the initial point of contact for the person registering a complaint or concern and is responsible for starting the record of complaint process and determining the nature of the complaint. **Direct contact between the public and the Design-Build-Operator (DBO) contractor will be discouraged in order to promote direct contact between the Regions and the public. The First Responder will be responsible for directing the RoC to the appropriate individual for response.**

The following means will be available for the public to make complaints and concerns known during the design and construction phase of the project to the EFW Project Team:

- Email: info@durhamyorkwaste.ca
- Telephone (during business hours) – toll free 1-800-667-5671
- Telephone (during after hours) – toll free project number 1-800-667-5671 to be answered by an automated system which will direct the caller appropriately if it is an Emergency or request that the caller leave the pertinent information which will be immediately transferred as a voice recording to dedicated email addresses of the EFW Project Team.

- Mail:

  The Regional Municipality of Durham
  c/o EFW Project Team
  605 Rossland Road
  Whitby, ON L1N 6A3

  OR

  The Regional Municipality of York
  c/o EFW Project Team
  17250 Yonge St.
  Newmarket, ON L3Y 6Z1

- Comment form from the project website: www.durhamyorkwaste.ca
- Fax: Durham 905-666-6206
  York 905-830-6927

Note: The Municipality of Clarington and the Durham Works Depot and York Operations Centre may receive calls or emails directly related to the EFW project. In this event, these concerns or complaints will be forwarded to the EFW phone number or email address.

1.2 Informing the Public of the Complaint Process

Durham and York Regions have committed in the IEA to undertake a comprehensive communications program to inform the public on the various ways of providing feedback, complaints or concerns regarding design, construction and operations activities. A Communications Plan will be prepared that will include some or all of the following methods of informing the public on how to communicate with the EFW Project Team:

- Project sign boards at the construction site compound will list the toll free project number and project website
- The EFW project website will include a Complaint Form and information on the toll free project number, project addresses and contacts, fax numbers and email addresses for Durham and York Regions
- Personalized letters may be sent to the project mailing list providing details on the toll free project number, project addresses and contacts, fax numbers and email addresses for Durham and York Regions
- EFW project newsletters will be used at various stages of the preconstruction and construction phases to inform the public on design and construction activities and include information on how to contact the project team as outlined in Section 2.1

- Electronic notifications to subscribers of the EFW dedicated email and other relevant social media accounts

2. General Description of Complaint Management Process during Phase 1, Design and Construction

- The Complaint Protocol Process for the Design and Construction Phase is shown in Figure 1.
- All complaints received from residents and stakeholders will be centralized into a 'one window' complaint system managed by the Durham and York Region EFW Project Team.
- All complaints received will be assigned a Tracking Number.
- Phone complaints or concerns will be received during daytime operation hours (Monday to Friday 8:00 to 5:00) by a live operator at the Region of Durham Waste Management Call Centre (Call Centre) who will record details and log the Originators concerns before directing all EFW related complaints or concerns to an EFW Project Team member (First Responder).
- After hours calls received on the Call Centre voicemail will ask the caller to leave a detailed message with a call back number. This message will be recorded and logged into a software database and directed to dedicated email addresses of EFW Project Team Members the next business day. Emergency calls will be redirected using touch tone options to a live operator.
- Complaints and concerns submitted via email or via the comment form on the project website will receive an automated response to acknowledge receipt of the comment.
- Complaints and concerns received via correspondence (not phone or email) shall be acknowledged within one business day by the First Responder provided that contact information for the Originator is included.
- Investigation of complaints and concerns will be conducted in a timely manner, as quickly as is reasonable considering the particular situation surrounding the complaint or concern. This may include meeting with the Originator as required to investigate the background and/or origin of the issue.

- An appropriate software package will be used to manage the information related to the Record of Complaint (RoC) including key information such as:
    - Name, address and contact information (confidentiality will be protected in the event the Originator wishes to remain anonymous)
    - Tracking number
    - Nature of the complaint or concern
    - Action taken to address or respond to the issue
    - Response provided to the Originator (if received via a municipality the municipality will be notified of the response)
    - Resolution of complaint
- A quality Assurance review of the Complaint Management Process will be undertaken annually by Durham and York Regions and modified where appropriate to ensure a high level of service to the public and stakeholders on complaints and concerns.
- A summary of issues and issue resolutions will be presented as a standing item on the EFW Advisory Committee meeting agenda.

3. General Description of Complaint Management Process during Phase 2, Operations

After major construction is complete and the facility is commissioned, the DBO will become more involved as a First responder. Complaints or concerns received via the receptors indicated in Section 1.1 above will be handled in the same manner. Durham and York Region staff will direct Facility Operational complaints or concerns to the EFW Plant via the process outlined in Section 2 above. Once the Facility is operational the DBO will have direct access to the computer software database to record, track and log all complaints so the DBO can also add complaints received at the Facility into the 'one window' system. The centralized system will be monitored by Durham and York Region.

3.1 Covanta Protocol for Complaint Management

3.1.1 Emergency Situations

Should the complaint relate to an emergency requiring immediate reaction or response, the compliant will be relayed to the Supervisor on Shift via telephone. Upon his/her assessment and verification, immediate actions will take place in accordance with Facility Emergency Action Plan. This plan covers the plant specific plans, appropriate notifications and additional actions beyond resolution of the emergency situation. The actual emergency action plan will be one of many plant specific safety procedures developed as part of the plant commissioning. It will be

developed based on plant specific conditions in accordance with a guidance document (reference tool) developed and managed by Covanta's Corporate Resources. A sample/example Table of Contents is attached.

3.1.2 Non-Emergency Situations

Non-emergency complaints will be routed through the Facility Manager and/or Business Manager, documented and assigned for evaluation and resolution to the appropriate facility management team member. Operational issues will be addressed by the Chief Engineer or his designee, Maintenance issues by the Facility Maintenance manager, and Health and Safety issues addressed by the Facility Environmental Engineer and/or Safety Coordinator. This will include follow-up communication with the compliant originator as appropriate. The results/resolution of the compliant will be directed through facility management as part of final resolution/close out of the complaint.

4. Record of Complaint (RoC)

The RoC will be entered into a complaint management software database. The software database will log the issue, track process and record the action plan and resolution of an issue. The intent of this document is to have real time information logged about the complaint or concern, status and resolution. This provides a record to allow all interested/appropriate levels of managers to be kept apprised of issues.

The RoC is maintained throughout the complaint resolution process and supports accurate data collection, timely and appropriate action and supports quality assurance and monitoring for reporting purposes. A typical RoC would include entry of the following information:

- Step 1: Nature of complaint/concern
  Length of time (if applicable) of occurrence
  Pertinent details – ie location of complaint
  Assign Tracking Number
- Step 2: The Originator's contact information
  Date/time for reporting the complaint/concern
  Date/time of incident complaint/concern
- Step 3: Actions taken Owner of DBO
- Step 4: Outcome/resolution of issue and timing of completion
  Recommendations for future if appropriate
  Confirmation that originator has been advised as to the outcome (date/time) to ensure that calls have been

tracked to completion and calls are then considered closed

5. First Responder Roles and Responsibilities

First Responders will typically be Durham and York Region EFW Project Team members during Phase 1. When required they will direct the DBO staff to respond as First Responders - predominantly during Phase 1 construction activities and then fully transitioned by Phase 2 operations of the facility.

For clarity, First Responders are the EFW Project Team staff that will handle all complaints and they are the first point of contact, except in the case of phone calls received on the Regions Waste Call Centre 1- 800 number where they will be logged, provided a tracking number and then transferred directly to the First Responder.

5.1 Description Overview

- The First Responder(s) will be trained to have a high level of project knowledge (part of the EFW Project Team) and generally be familiar with the project status.
- The First Responder(s) reports directly to the Regional Project Manager, who is accountable to Durham and York Regions.
- The Regional Project Manager co-ordinates the First Responder(s) to ensure coverage during regular business hours and the after hours process.
- The First Responder(s) is the person who receives the complaint or concern.
- The First Responder(s) assesses and assigns the complaint to one of the Complaint Resolution Teams:
    - Construction Contractor (DBO)
    - Durham/York Regions (EFW Project Team member)
    - Subject Matter Experts
- The First Responder(s) reviews the progress of the actions of the Complaints Resolution Team to ensure that issues are being resolved and that the Originator is being apprised of the action(s) taken.
- The First Responder(s) tracks the resolution of complaints or concerns and provides reports on the management of complaints or concerns in accordance with the Complaint Protocol; these reports are compiled and assessed as part of the Service Level Performance procedure

5.2 Receipt of Complaint

- The First Responder is the initial point of contact for the person registering the complaint or concern, responsible for starting the RoC process and determining the nature of the complaint. (except for complaints or concerns via telephone which will be first processed through the Call Centre toll free number)
- The RoC will be set up using a computer complaint management system with standardized questions to ensure adequate information concerning the complaint or concern is recorded to assess and determine the initial plan of action.
- The First Responder will determine if additional information is needed to assess an appropriate action or response concerning the complaint or concern. Additional information concerning the complaint or concern may necessitate further calls to the Originator or a field investigation.
- The First Responder will have communication with the job site via telephone and email.

5.3 Issue Identification & Triage

- The First Responder will initially determine if the complaint or concern is an Emergency or can be managed under a planned response.
- The Emergency Response Protocol will follow the Standard Operation Procedure (SOP) currently established by the Emergency Management Offices of Durham and York Regions or the Covanta Emergency Response Team. The First Responder will determine the appropriate emergency response to initiate based on information collected from the Originator.
- For non-emergency complaints or concerns, the First Responder will initiate the appropriate planned Action/Response steps which involves assigning the resolution of the complaint to one of the Complaint Resolution Teams
- The Ministry of Environment will be informed of all complaints that may constitute a potential adverse effect.

6. Action/Response

6.1 Description

- Action/Response refers to the steps taken to address and/or resolve the Originator's complaint or concern.
- Following assessment of the complaint or concern by the First Responder, all non-emergency complaints would be referred to one or more of the following complaint resolution teams:

- *Durham Region Works Department*: For complaints or concerns that are directly related to Durham Regions integrated waste management plan, the First Responder will direct the issue to an appropriate party in the Waste Management Division for response under the current standard operating procedures. These would include issues related to blue box recycling or green bin organics programs, curbside collection issues, or any other waste related issues under the Region of Durham's jurisdiction and not directly related to the EFW facility.
- *York Region Environmental Services Department*: For complaints or concerns that are directly related to York Regions integrated waste management plan, the First Responder will direct the issue to an appropriate party in the Waste Management Program Planning & Policy Division for response. These would include issues related to blue box recycling or green bin organics programs, curbside collection issues, or any other waste related issues under the Region of York's jurisdiction and not directly related to the EFW facility.
- *EFW Project Team*: complaints or concern of a specific nature may require the Proponent's to involve a Subject Matter Expert.
    - Durham Region Hydrogeologist
        - Complaints or concerns related to private wells will be handled through the standard Well Interference Complaint Protocol
        - Complaints or concerns related to surface water and ground water issues
    - HDR Inc.
        - Complaints or Concerns related to Project Oversight
    - DBO - Covanta
        - Complaints or concerns related to detailed EFW design issues
    - Stantec or Covanta:
        - Complaints or concerns related to ambient air monitoring
        - Complaints or concerns related to Health Risk Assessment issue
    - Health Department:

- Complaints or concerns related to ambient air monitoring
- Complaints or concerns related to Health Risk Assessment issue

- Construction Contract Issues:
  - For complaints or concerns that are directly related to the contractor's construction operations, the First Responder will contact the DBO Construction Project Administrator. The contract conditions include "good construction practices" to manage complaints relating to annoyance issues such as dust control, noise and vibration issues. In the event of a "health and safety" issue that may impact the public, the Contractor will be directed to immediate action to resolve these types of complaints or concerns, such as general site housekeeping, traffic control and speed, idling of vehicles, hours of operation and worker conduct/courtesy.

6.2 Examples of Non-Emergency Complaints or Concerns

	Complaint Example 1	Typical Response Time	Complaint Example 2	Typical Response Time
Issue	Dirt on road from construction vehicles near project site		Well Water complaint	
Step 1 **First Responder**	First Responder assigns resolution to DBO Construction Administrator. Cause identified as wheel wash out of service.	Typical investigation time 3 - 5 hours	First Responder assigns resolution to hydrogeological expert	Typical assignment to hydrogeological expert is immediate
Step 2 **Resolution Team Action and Resolution**	Parts ordered for back in service within one week. Alternative mitigation measures implemented to have street sweeper clean affected areas daily.	Final resolution (typically within week to replace parts and put system back in service) Interim solution (immediate action to initiate street sweeper to road cleaning)	Hydrogeological expert investigates; using previously established Well Mitigation process	Subject Matter Expert to investigate. Hydrogeological expert to investigate existing well records, contact property owner and carry out site investigation. Typical investigation 1 – 2 days.
Step 3 **Monitoring, Reporting and Communications**	EFW Project Team monitoring the site conditions daily. Weekly updates to be provided by Complaint Resolution Team to the Originator.	Initial communication to Originator within 24 hours of initial complaint. Weekly updates on progress of final solution.	Weekly updates to be provided by Complaint Resolution Team (hydrogeological expert) to the Originator	Initial communications to Originator at end of site investigation – typically 1 – 2 days. Weekly updates on progress of final solution.

7. Quality Assurance

7.1 Description

Quality assurance is a management function. It is the activity that checks to determine if the process which has been set out and agreed upon has been followed. Quality assurance is performed by senior management through regular review, audits and analysis using software and dialogue with team members. In addition, during the long term Operating Phase the DBO is contractually responsible for registering and complying with ISO 14001 Environmental Management System. ISO compliance requires internal and external communications protocols and regular 3rd party audits to ensure quality assurance is maintained. In addition, the Regions will assess the DBO contractors' complaints performance as part of the Service Level Performance Incentive Program.

7.2 Process

- A regular review of the Complaint Protocol will be undertaken to determine if any changes or revisions are required. Weekly reviews will be conducted during the start up month of construction and thereafter the Complaint Protocol will be reviewed quarterly, or as required.
- The type and frequency of complaints or concerns will be reviewed weekly during the start up month of construction, and thereafter quarterly or as required to determine the need for changes to construction practices.
- High level summaries on types, time to respond, frequency charts, etc., can be provided to senior management of Durham and York Regions to confirm the effectiveness of the Complaint Management Protocol.
- EFW Advisory Committee will be provided regular summaries at each meeting on complaint resolutions.

Appendix A

Complaint Form

Date Received:

Received by:

Concern received by: Email ☐ Telephone ☐ Office Visit ☐ Facility Visit ☐ Other (please specify) ☐ Referral from ☐ (individual/agency) _____

Complainant Contact Information (information required if a response is requested)

Name:

Address:

Telephone #:

Email address:

Complaint Details/Description:

EFW First Responder to respond or redirect complaint/concern to appropriate party for response as per Complaint Protocol	
Response/remedial action:	
Is the concerned party satisfied with the response and follow-up? Yes ☐ No ☐	
If NO, please provide reason(s):	
First Responder's Signature: _____ ***Project Manager's Signature:*** _____	***Date (dd-mm-yyyy):*** _____ ***Date (dd-mm-yyyy):*** _____
WHEN COMPLETE, PLEASE FORWARD THIS FORM AND RELATED DOCUMENTATION TO THE (To Be Determined) FOR FILING.	

Appendix B

Complaint Log

To be developed once appropriate software is determined

Figure 1 – Design & Construction Phase

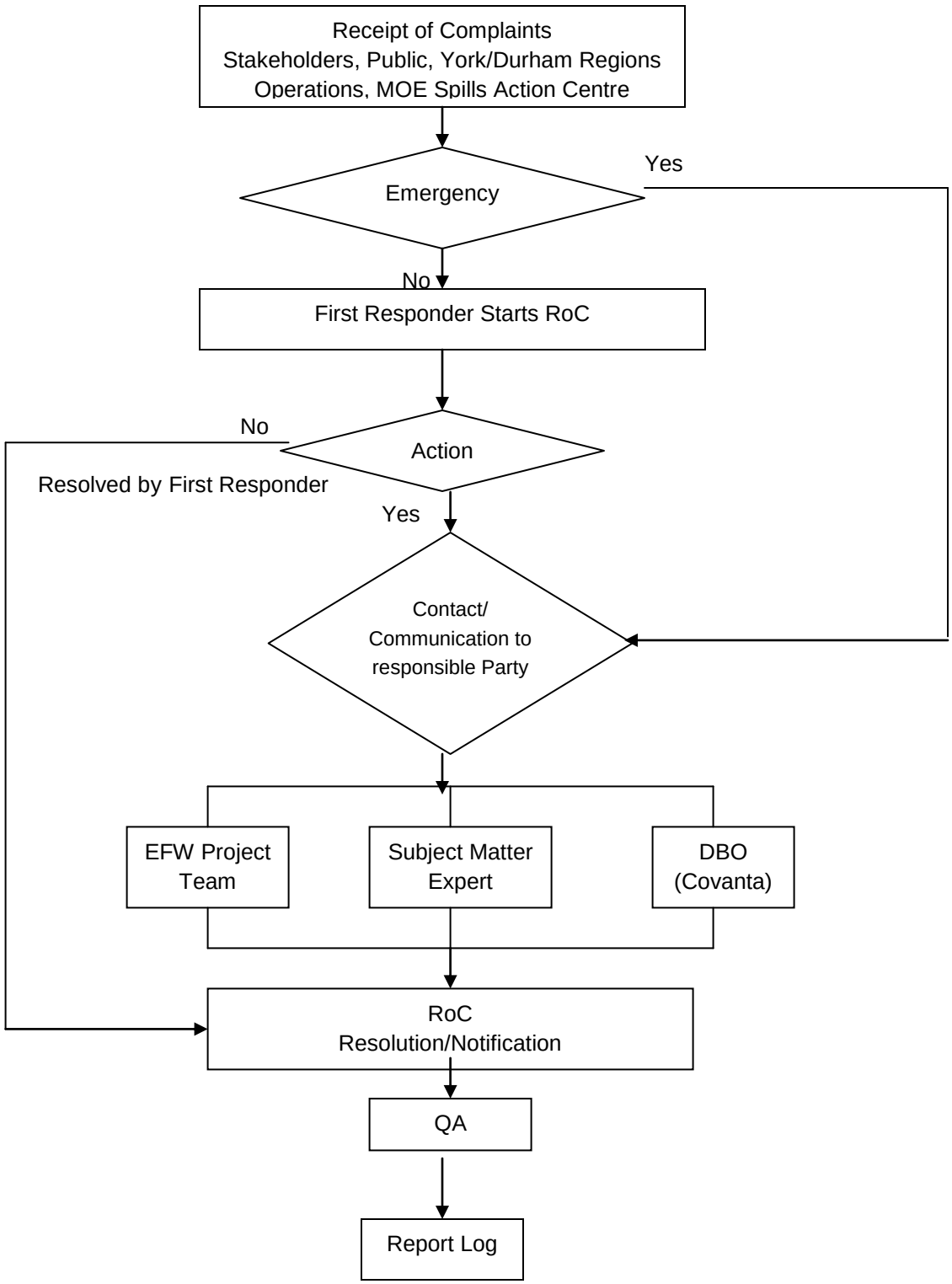
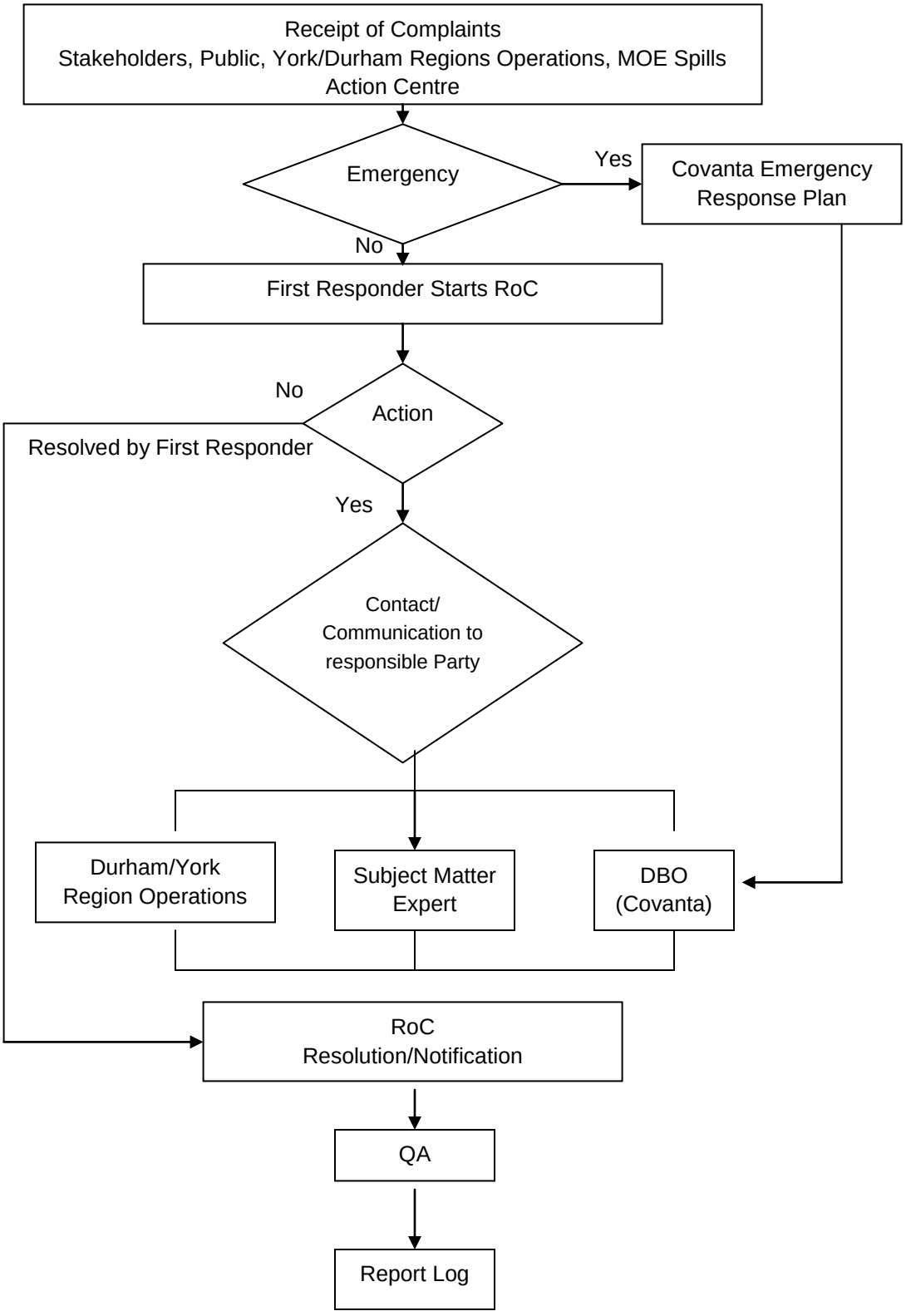


Figure 2 – Operations Phase



Appendix C

COVANTA
ENERGY

COVANTA – EMERGENCY ACTION PLAN REFERENCE TOOL
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ATTACHMENT 2

Environmental Assessment – Notice of Approval

ENVIRONMENTAL ASSESSMENT ACT

SECTION 9

NOTICE OF APPROVAL TO PROCEED WITH THE UNDERTAKING

RE: The Amended Environmental Assessment for Durham and York Residual Waste Study

Proponent: The Regional Municipalities of Durham and York

EA File No.: 04-EA-02-08

TAKE NOTICE that the period for requiring a hearing, provided for in the Notice of Completion of the Review for the above-noted undertaking, expired on April 2, 2010. I received 185 submissions requesting a hearing by the Environmental Review Tribunal before the expiration date.

I consider a hearing to be unnecessary in this case. Having considered the purpose of the *Environmental Assessment Act*, the approved terms of reference, the environmental assessment, the ministry Review of the environmental assessment and submissions received, I hereby give approval to proceed with the undertaking, subject to the conditions set out below.

REASONS

My reasons for giving approval are:

(1) The proponent has complied with the requirements of the *Environmental Assessment Act*.

(2) The environmental assessment has been prepared in accordance with the approved Terms of Reference.

(3) On the basis of the proponent's environmental assessment and the ministry Review, the proponent's conclusion that, on balance, the advantages of this undertaking outweigh its disadvantages appears to be valid.

(4) No other beneficial alternative method of implementing the undertaking was identified.

(5) The proponent has demonstrated that the environmental effects of the undertaking can be appropriately prevented, changed, mitigated or remedied.

(6) On the basis of the proponent's environmental assessment, the ministry Review and the conditions of approval, the construction, operation and maintenance of the undertaking will be consistent with the purpose of the *Environmental Assessment Act* (section 2).

(7) The ministry's review of: the government, public and Aboriginal community submissions on the environmental assessment; the environmental assessment; and the ministry Review has indicated no outstanding concerns that have not been addressed or that cannot be addressed through commitments made during the environmental assessment process, through the conditions set out below or through future approvals that will be required.

(8) The submissions received after the Notice of Completion of ministry Review was published are being addressed through commitments made during the environmental assessment process, through the conditions set out below or through future approvals that will be required, where appropriate. I am not aware of any significant outstanding issues with respect to this undertaking which suggest that a hearing should be required.

CONDITIONS

The approval is subject to the following conditions:

1. Definitions

For the purposes of these conditions:

"advisory committee" means the committee established pursuant to Condition 8 of this Notice of Approval.

"CEM" means an air emissions monitoring system which continually monitors concentrations of certain contaminants emitted by the facility.

"date of approval" means the date on which the Order in Council was approved by the Lieutenant Governor in Council.

"Director" means the Director of the Environmental Assessment and Approvals Branch.

"District Manager" means the Manager of the Ministry of the Environment's York-Durham Office.

"EAAB" means the Environmental Assessment and Approvals Branch of the Ministry of the Environment.

"environmental assessment" means the document titled Durham/York Residual Waste Study Environmental Assessment Study Document (As Amended November 27, 2009).

"ministry" means the Ontario Ministry of the Environment, or successor, unless specific reference is made to another Ministry.

"non-hazardous municipal solid waste" means the waste that is generated within the municipalities of Durham and York and collected as part of the proponents municipal collection process.

"proponent" means the Regional Municipality of Durham and the Regional Municipality of York.

"Qualified, Independent Professional Engineer" means a person who holds a licence, limited licence or temporary licence under the *Professional Engineers Act* who is not an employee of the Regional Municipality of Durham, the Regional Municipality of York, the operator of the undertaking, or the ministry, who has not been involved in the design of the undertaking or preparation of documentation as part of an application for approval of the undertaking but who is knowledgeable about the *Environmental Protection Act*, Regulation 347 and Ontario Regulation 419/05, ministry guidelines affecting thermal treatment facilities, any other ministry approval issued for the undertaking as well as being experienced at assessing compliance with environmental legislation and requirements of certificates of approval issued under the *Environmental Protection Act*.

"receipt" means the arrival and acceptance of waste at the site, whether remaining in the vehicles used to transport the waste to the site or unloaded from the vehicles used to transport the waste to the site.

"Regional Director" means the Director of the ministry's Central Regional Office.

"site" means the 12.1 hectare parcel of land referred to as Clarington 01 in the environmental assessment and is located south of Highway 401 on the west side of Osbourne Road and north of the CN Rail corridor in the Municipality of Clarington.

"start of construction" means physical construction activities including, site preparation works, but does not include the tendering of contracts.

"undertaking" means the construction and operation of a thermal treatment waste management facility on the site, as set out in the environmental assessment.

2. General Requirements

2.1 The proponent shall comply with the provisions in the environmental assessment which are hereby incorporated in this Notice of Approval by reference except as provided in these conditions and as provided in any other approval or permit that may be issued for the site or the undertaking.

2.2 These conditions do not prevent more restrictive conditions being imposed under other statutes.

2.3 A statement must accompany the submission of any documents, reporting requirements or written notices required by this Notice of Approval to be submitted to the Director or Regional Director identifying which conditions the submission is intended to address in this Notice of Approval.

3. Public Record

3.1 Where a document, plan or report is required to be submitted to the ministry, the proponent shall provide two copies of the final document, plan or report to the Director: a copy for filing in the specific public record file maintained for the undertaking and a copy for staff use.

3.2 The proponent shall provide additional copies of the documents required for the public record file to the following for access by the public:

a) Regional Director;

b) District Manager;

c) Clerks of the Regional Municipality of Durham, the Regional Municipality of York, and the Municipality of Clarington; and,

d) Advisory Committee (as required in Condition 8 of this Notice of Approval).

3.3 The EAAB file number EA-08-02 shall be quoted on all documents submitted by the proponent pursuant to this Condition.

4. Compliance Monitoring Program

4.1 The proponent shall prepare and submit to the Director a Compliance Monitoring Program outlining how it will comply with conditions in the Notice of Approval and other commitments made in the environmental assessment.

4.2 A statement shall accompany the submission of the Compliance Monitoring Program indicating that the submission is intended to fulfil Condition 4 of this Notice of Approval.

4.3 The Compliance Monitoring Program shall be submitted within one year from the date of approval, or a minimum of 60 days prior to the start of construction, whichever is earlier.

4.4 The Compliance Monitoring Program shall describe how the proponent will monitor its fulfilment of the provisions of the environmental assessment pertaining to mitigation measures, public consultation, and additional studies and work to be carried out; the fulfilment of all other commitments made by the proponent during the environmental assessment process; and the conditions included in this Notice of Approval.

4.5 The Compliance Monitoring Program shall contain an implementation schedule.

4.6 The Director may require amendments to the Compliance Monitoring Program, including the implementation schedule. If any amendments are required by the Director, the Director will notify the proponent of the required amendments in writing.

4.7 The proponent shall implement the Compliance Monitoring Program, as it may be amended by the Director.

4.8 The proponent shall make the documentation pertaining to the Compliance Monitoring Program available to the ministry or its designate in a timely manner when requested to do so by the ministry.

5. Compliance Reporting

5.1 The proponent shall prepare an annual Compliance Report which describes its compliance with the conditions of approval set out in this Notice of Approval and which describes the results of the proponent's environmental assessment Compliance Monitoring Program required by Condition 4.

5.2 The annual Compliance Report shall be submitted to the Director within one year from the date of approval, with the first report being due in 2011, and shall cover all activities of the previous 12 month period.

5.3 Subsequent compliance reports shall be submitted to the Director on or before the anniversary of the date of approval each year thereafter. Each Compliance Report shall cover all activities of the previous 12 month period.

5.4 The proponent shall submit annual Compliance Reports until all conditions in this Notice of Approval and the commitments in the environmental assessment are satisfied.

5.5 Once all conditions in this Notice of Approval have been satisfied, or have been incorporated into any other ministry approval, the proponent shall indicate in its annual Compliance Report that the Compliance Report is its final Compliance Report and that all conditions in this Notice of Approval have been satisfied.

5.6 The proponent shall retain either on site or in another location approved by the Director, a copy of each of the annual Compliance Reports and any associated documentation of compliance monitoring activities.

5.7 The proponent shall make the Compliance Reports and associated documentation available to the ministry or its designate in a timely manner when requested to do so by the ministry.

6. Complaint Protocol

6.1 The proponent shall prepare and implement a Complaint Protocol setting out how it will deal with and respond to inquiries and complaints received during the design, construction and operation of the undertaking.

6.2 The Complaint Protocol shall be provided to the advisory committee for review prior to submission to the Director.

6.3 The proponent shall submit the Complaint Protocol to the Director within one year from the date of approval or a minimum of 60 days prior to the start of construction, whichever is earlier.

6.4 The Director may require the proponent to amend the Complaint Protocol at any time. Should an amendment be required, the Director will notify the proponent in writing of the required amendment and date by which the amendment must be completed.

6.5 The proponent shall submit the amended Complaint Protocol to the Director within the time period specified by the Director in the notice.

7. Community Involvement

7.1 The proponent shall prepare and implement a Community Communications Plan. The plan shall be prepared, in consultation with the EAAB and to the satisfaction of the Director.

7.2 The proponent shall finalize and submit the Community Communications Plan to the Director prior to the initial receipt of non-hazardous municipal solid waste at the site.

7.3 The Community Communications Plan shall include at a minimum details on:

a) How the proponent plans to disseminate information to interested members of the public and any Aboriginal communities;

b) How interested members of the public and any Aboriginal communities will be notified and kept informed about site operations; and,

c) The procedures for keeping interested members of the public and Aboriginal communities informed about information on documents related to the undertaking, and when and how the information will be made available.

7.4 The proponent shall give notice of and provide information about the undertaking to interested members of the public and Aboriginal communities through an internet web site and by other means. Such information shall include:

a) Activities that are part of the undertaking, including monitoring activities;

b) Reports and records related to the undertaking that are required to be submitted under this Notice of Approval or under any other ministry approvals that apply to the undertaking; and,

c) Information on the Complaint Protocol required by Condition 6 of this Notice of Approval.

7.5 The proponent shall hold public meetings to discuss the design, construction and operation of the undertaking, including, but not limited to:

a) At least one meeting prior to the start of construction;

b) At least one meeting prior to the receipt of non-hazardous municipal solid waste on site; and,

c) At least one meeting a minimum of six months but not later than 12 months after the initial receipt of non-hazardous municipal solid waste on the site.

7.6 The proponent shall provide notice of the public meetings a minimum of 15 days prior to the meeting.

7.7 The proponent shall give the Director written notice of the time, date and location of each of the required community meetings a minimum of 15 days prior to the meeting.

8. Advisory Committee

8.1 The proponent shall establish an advisory committee to ensure that concerns about the design, construction and operation of the undertaking are considered and mitigation measures are implemented where appropriate.

8.2 The proponent shall provide administrative support for the advisory committee including, at a minimum:

a) Providing a meeting space for advisory committee meetings;

b) Recording and distributing minutes of each meeting;

c) Preparing and distributing meeting notices; and,

d) Preparing an annual report about the advisory committee's activities to be submitted as part of the Compliance Reports required by Condition 5 of this Notice of Approval.

8.3 The proponent shall invite one representative from each of the following to participate on the advisory committee:

a) Each of the lower tier municipalities in the Regional Municipality of Durham; and,

b) Each of the lower tier municipalities in the Regional Municipality of York.

8.4 The proponent shall invite one representative from Central Lake Ontario Conservation Authority, and any other local conservation authorities that may have an interest in the undertaking to participate on the advisory committee.

8.5 The proponent shall invite one representative from each of the following local community groups to participate on the advisory committee:

a) DurhamCLEAR;

b) Durham Environmental Watch; and,

c) Zero Waste 4 Zero Burning.

8.6 The proponent may also invite other stakeholders to participate in the advisory committee, including, but not limited to, interested members of the public, Aboriginal communities, and other federal or provincial agencies.

8.7 A representative from the ministry shall be invited to attend meetings as an observer.

8.8 The advisory committee shall be provided with a copy of the documents listed below for information and may review the documents as appropriate and provide comments to the proponent about the documents, including the:

a) Compliance Monitoring Program required by Condition 4;

b) Annual Compliance Report required by Condition 5;

c) Complaint Protocol required by Condition 6;

d) Community Communications Plan required by Condition 7;

e) The annual reports required by Condition 10;

f) Ambient Air Monitoring and Reporting Plan and the results of the ambient air monitoring program required by Condition 11;

g) Air Emissions Monitoring Plan required by Condition 12;

h) Written report prepared and signed by the qualified professional required by Condition 16.5;

i) Spill Contingency and Emergency Response Plan required by Condition 17;

j) Odour Management and Mitigation Plan and the Odour Management and Mitigation Monitoring Reports required by Condition 18;

k) Noise Monitoring and Reporting Plan as required by Condition 19;

l) Groundwater and Surface Water Monitoring Plan, the results of the groundwater and surface water monitoring program, and the annual report on the results of the groundwater and surface water monitoring program required by Condition 20; and,

m) Notice in writing of the date that municipal solid waste is first received as required by Condition 23.

8.9 The proponent shall hold the first advisory committee meeting within three months of the date of approval. At the first meeting, the advisory committee shall develop a Terms of Reference outlining the governance and function of the advisory committee.

8.10 The Terms of Reference shall, at a minimum, include:

a) Roles and responsibilities of the advisory committee members;

b) Frequency of meetings;

c) Member code of conduct;

d) Protocol for dissemination and review of information including timing; and,

e) Protocol for dissolution of the advisory committee.

8.11 The proponent shall submit the advisory committee's Terms of Reference to the Director and Regional Director.

9. Consultation With Aboriginal Communities

9.1 The proponent shall continue to consult with any interested Aboriginal communities during the detailed design and implementation of the undertaking.

10. Waste Diversion

10.1 The proponent shall make a reasonable effort to work cooperatively with all lower tier municipalities to ensure that waste diversion programs, policies and targets set by the Regional Municipalities are being met.

10.2 The proponent shall prepare and implement a Waste Diversion Program Monitoring Plan.

10.3 The Waste Diversion Program Monitoring Plan shall provide a description of monitoring and reporting which shall at minimum include:

a) Results of at source diversion programs and policies to determine the waste diversion rates and practices at both the regional and lower tier municipal level within the Regional Municipalities of Durham and York.

b) Progress in the diversion programs, policies, practices and targets described in the environmental assessment, at both the regional and lower tier municipal level within the Regional Municipalities of Durham and York.

c) Monitoring results for any additional diversion programs, policies, practices and targets carried out within the Regional Municipalities of Durham and York, which are not described in the environmental assessment.

10.4 The proponent shall prepare and submit to the Director and Regional Director, commencing one year after the approval of the undertaking, annual reports detailing the results of the Waste Diversion Program Monitoring Plan.

10.5 The proponent shall post the Waste Diversion Program Monitoring Plan and the annual reports required on the proponent's web site for the undertaking.

11. Ambient Air Monitoring and Reporting

11.1 The proponent shall prepare, in consultation with the ministry's Central Region Office and to the satisfaction of the Regional Director, an Ambient Air Monitoring and Reporting Plan for the undertaking.

11.2 The proponent shall submit the Ambient Air Monitoring and Reporting Plan to the Director and Regional Director a minimum of nine months prior to the start of construction or by such other date as agreed to in writing by the Regional Director.

11.3 The proponent shall establish a working group that will provide advice on the development of the Ambient Air Monitoring and Reporting Plan. The Regions will, at a minimum, extend an invitation to Health Canada, the Durham Region Health Department, York Region Public Health Services, one participant from the advisory committee, and any other relevant federal or provincial government agencies including the ministry.

11.4 The Ambient Air Monitoring and Reporting Plan shall include at minimum:

a) An ambient air monitoring program which includes an appropriate number of sampling locations. Siting of the sampling locations shall be done in accordance with the Ministry of the Environment's Operations Manual for Air Quality Monitoring in Ontario, March 2008, as amended from time to time;

b) The proposed start date for and frequency of the ambient air monitoring and reporting to be carried out;

c) The contaminants that shall be monitored as part of the Ambient Air Monitoring and Reporting Plan; and,

d) At least one meeting on an annual basis between the proponent and the Regional Director to discuss the plan, the results of the ambient air monitoring program and any changes that are required to be made to the plan by the Regional Director.

11.5 The proponent shall implement the ambient air monitoring program prior to the receipt of non-hazardous municipal solid waste on the site or at such other time that may be determined by the Regional Director and communicated to the proponent in writing and shall continue the monitoring until such time as the Regional Director notifies the proponent in writing that the Ambient Air Monitoring Program is no longer required.

11.6 The Regional Director may require changes to be made to the Ambient Air Monitoring and Reporting Plan and the proponents shall implement the plan in accordance with the required changes.

11.7 The proponent shall report the results of the ambient air monitoring program to the Regional Director in accordance with the Ambient Air Monitoring and Reporting Plan.

11.8 Audits will be conducted by the ministry, as outlined in the Ministry of the Environment's Audit Manual for Air Quality Monitoring in Ontario, March 2008 to confirm that siting and performance criteria outlined in the Operations Manual are met. The proponent shall implement any recommendations set out in the audit report regarding siting of the sampling locations and performance criteria. The proponent shall implement the recommendations in the audit report within three months of the receipt of an audit report from the ministry.

11.9 The proponent shall post the Ambient Air Monitoring and Reporting Plan and the results of the ambient air monitoring program on the proponent's web site for the undertaking upon submission of the plan or results of the program to the ministry.

12. Emissions Monitoring

12.1 The proponent shall install, operate and maintain air emissions monitoring systems that will record the concentrations of the contaminants arising from the incineration of waste.

12.2 The air emissions monitoring systems shall be installed and operational prior to the receipt of non-hazardous municipal solid waste at the site.

12.3 The proponent shall prepare and implement an Air Emissions Monitoring Plan. The Plan shall be prepared, in consultation with the ministry and to the satisfaction of the Director.

12.4 The Air Emissions Monitoring Plan shall include, at a minimum:

a) Identification of all sources of air emissions at the site to be monitored;

b) Identification of which contaminants will be monitored by continuous emissions monitoring and which by stack testing;

c) The proposed start date for and frequency of air emissions monitoring;

d) The frequency of and format for reporting the results of air emissions monitoring;

e) The contaminants that shall be monitored, which shall include at a minimum those contaminants set out in Schedule 1 to this Notice of Approval; and,

f) A notification, investigation and reporting protocol to be used in the event that the concentration(s) of one or more of the contaminants released from an emission source that requires approval under Section 9 of the *Environmental Protection Act* exceed the relevant limits.

12.5 The proponent shall submit the Air Emissions Monitoring Plan to the Director, a minimum of six months prior to the start of construction or by such other date as agreed to in writing by the Director

12.6 The proponent shall implement the Air Emissions Monitoring Plan such that the monitoring commences when the first discharges are emitted from the facility to the air or at such other time as the Director may agree to in writing and shall continue until such time as the Director notifies the proponent in writing that the Air Emissions Monitoring Plan is no longer required.

12.7 The proponent shall post the reports of the air emissions monitoring systems on the proponent's web site for the undertaking.

12.8 For those contaminants that are monitored on a continuous basis, the proponent shall post on the proponent's website for the undertaking the results of the monitoring for each of those contaminants in real time.

13. Air Emissions Operational Requirements

13.1 The proponent is expected to operate the undertaking in accordance with Schedule 1 of this Notice of Approval. If the facility is not operating in accordance with Schedule 1, the operator is required to take steps to bring the facility back within these operational requirements.

13.2 Schedule 1 sets out the operational requirements the ministry expects the facility to meet during the normal operating conditions of the facility when operating under a steady state but does not include start up, shut down, or malfunction.

13.3 The timing and frequency of monitoring for a contaminant in Schedule 1 shall be as required by the approval granted to the facility under the *Environmental Protection Act*, should approval be granted.

14. Daily Site Inspection

14.1 The proponent shall conduct a daily inspection of the site including the non-hazardous municipal solid waste received at the site, each day the undertaking is in operation to confirm that:

a) The site is secure;

b) The operation of the undertaking is not causing any nuisance impacts;

c) The operation of the undertaking is not causing any adverse effects on the environment;

d) The undertaking is being operated in compliance with the conditions in this Notice of Approval and any other ministry approvals issued for the undertaking; and,

e) Only non-hazardous waste is being received at the site.

14.2 If, as a result of the daily inspection, any deficiencies are noted by the employee in regard to the factors set out in Condition 14.1 above, the deficiency shall be remedied immediately by the proponent. If necessary to remedy the deficiency, the proponent shall cease operations at the site until the deficiency has been remedied.

14.3 A record of the daily inspections shall be kept in the daily log book required in Condition 15. The information below must be recorded in the daily log book by the person completing the inspection and includes the following information:

a) The name and signature of the person that conducted the daily inspection;

b) The date and time of the daily inspection;

c) A list of any deficiencies discovered during the daily inspection;

d) Any recommendations for action; and,

e) The date, time and description of actions taken.

14.4 The proponent shall retain either on site or in another location approved by the District Manager, a copy of the daily log book and any associated documentation regarding the daily site inspections.

15. Daily Record Keeping

15.1 The proponent shall maintain a written daily log which shall include the following information:

a) Date;

b) Types, quantities and source of non-hazardous municipal solid waste received;

c) Quantity of unprocessed, processed and residual non-hazardous municipal solid waste on the site;

d) Quantities and destination of each type of residual material shipped from the site;

e) The record of daily site inspections required to be maintained by Condition 14.3;

f) A record of any spills or process upsets at the site, the nature of the spill or process upset and the action taken for the clean up or correction of the spill or process upset, the time and date of the spill or process upset, and for spills, the time that the ministry and other persons were notified of the spill pursuant to the reporting requirements of the *Environmental Protection Act*;

g) A record of any waste that was refused at the site, including: amounts, reasons for refusal and actions taken; and,

h) The name and signature of the person completing the report.

15.2 The proponent shall retain, either on site or in another location approved by the District Manager, a copy of the daily log book and any associated documentation.

15.3 The proponent shall make the daily log book and any associated documentation available to the ministry or its designate in a timely manner when requested to do so by the ministry.

16. Third Party Audits

16.1 The proponent shall retain the services of a Qualified, Independent Professional Engineer to carry out an independent audit of the undertaking.

16.2 Within six months from the date of approval or other such date as agreed to in writing by the Regional Director, the proponent shall submit to the Director and the Regional Director, the name of the Qualified, Independent Professional Engineer and the name of the company where he/she is employed.

16.3 The proponent shall submit an audit plan to the satisfaction of the Regional Director that sets out the timing of and frequency for the audits, as well as the manner in which the audits are to be carried out.

16.4 The audit shall include, at a minimum, the following:

a) A detailed walkthrough of the entire site;

b) A review of all operations used in connection with the undertaking; and,

c) A detailed review of all records required to be kept by this Notice of Approval or under any other ministry approvals for the undertaking.

d) The proponent shall obtain from the Qualified, Independent Professional Engineer, a written report of the audit prepared and signed by the Qualified, Independent Professional Engineer that summarizes the results of the audit.

16.5 The proponent shall submit the written report summarizing the result of the audit to the Regional Director no later than 10 business days following the completion of the audit.

16.6 The proponent shall retain either on site or in another location approved by the Regional Director, a copy of the written audit report and any associated documentation.

16.7 The proponent shall make the written audit report and any associated documentation available to the ministry or its designate in a timely manner when requested to do so by the ministry.

16.8 The proponent shall post the written audit report on the proponent's web site for the undertaking following submission of the report to the ministry.

17. Spill Contingency and Emergency Response Plan

17.1 The proponent shall prepare and implement a Spill Contingency and Emergency Response Plan.

17.2 The proponent shall submit to the Director, the Spill Contingency and Emergency Response Plan a minimum of 60 days prior to the receipt of non-hazardous municipal solid waste at the site or such other date as agreed to in writing by the Director.

17.3 The Spill Contingency and Emergency Response Plan shall include, but is not limited to:

a) Emergency response procedures, including notification procedures in case of a spill, fires, explosions or other disruptions to the operations of the facility;

b) Cell and business phone numbers and work locations for all person(s) responsible for the management of the site;

c) Emergency phone numbers for the local ministry office, the ministry's Spills Action Centre, and the local Fire Department;

d) Measures to prevent spills, fires and explosions;

e) Procedures for use in the event of a fire;

f) Details regarding equipment for spill clean-up and all control and safety devices;

g) Shut down procedures for all operations associated with the undertaking including alternative waste disposal site locations;

h) Maintenance and testing program for spill clean-up equipment and fire fighting equipment;

i) Training for site operators and emergency response personnel; and,

j) A plan, identifying the location and nature of wastes on site.

17.4 The proponent shall provide the Spill Contingency and Emergency Response Plan to the District Manager, the local Municipality of Clarington and the local Municipality of Clarington Fire Department a minimum of 30 days prior to the initial receipt of non-hazardous municipal solid waste at the site or such other date as agreed to in writing by the Director.

17.5 The proponent shall take all necessary steps to contain and clean up a spill on the site. A spill or upset shall be reported immediately to the ministry's Spills Action Centre at (416) 325-3000 or 1-800-268-6060.

18. Odour Management and Mitigation

18.1 The proponent shall prepare, in consultation with the ministry's Central Region Office and to the satisfaction of the Regional Director, and implement an Odour Management and Mitigation Plan for the undertaking.

18.2 The proponent shall submit the Odour Management and Mitigation Plan to the Regional Director a minimum of six months prior to the start of construction or at such other time as agreed to in writing by the Regional Director.

18.3 The Odour Management and Mitigation Plan shall include at a minimum:

a) Standard operating and shut down procedures;

b) Maintenance schedules;

c) Ongoing monitoring for and reporting of odour;

d) Corrective action measures and other best management practices for ongoing odour control and for potential operational malfunctions;

e) A schedule for odour testing at sensitive receptors; and,

f) A section that specifically addresses odour control measures should operation of the undertaking be disrupted or cease.

18.4 The proponent shall prepare and submit the Odour Management and Mitigation Monitoring Reports annually to the Regional Director with the first report submitted beginning six months following the initial receipt of non-hazardous municipal solid waste at the site or such other date as agreed to in writing by the Regional Director.

18.5 The Odour Management and Mitigation Monitoring Reports shall be submitted every 12 months from the date of the submission of the first report or until such time as the Regional Director notifies the proponent in writing that the Odour Management and Mitigation Monitoring Reports are no longer required.

18.6 The proponent shall post the Odour Management and Mitigation Monitoring Reports on the proponent's web site for the undertaking following submission of the reports to the Regional Director.

19. Noise Monitoring and Reporting

19.1 The proponent shall prepare and implement a Noise Monitoring and Reporting Plan for the undertaking.

19.2 The proponent shall submit the Noise Monitoring and Reporting Plan to the Director a minimum of 90 days prior to the start of construction or such other date as agreed to in writing by the Director.

19.3 The Noise Monitoring and Reporting Plan shall include a protocol to ensure that the noise emissions from the facility comply with the limits set out in the Ministry of the Environment's Publication NPC-205 "Sound Level Limits for Stationary Sources in Class 1 & 2 Areas (Urban)", October 1995, as amended from time to time.

19.4 The proponent shall post the Noise Monitoring and Reporting Plan and on the proponent's web site for the undertaking following submission of the plan to the Director.

20. Groundwater and Surface Water Monitoring and Reporting

20.1 Prior to the start of construction, the proponent shall identify any areas where the undertaking may affect groundwater or surface water. For those areas, the proponent shall prepare and implement, in consultation with the ministry's

Central Region Office and to the satisfaction of the Regional Director, a Groundwater and Surface Water Monitoring Plan.

20.2 The proponent shall provide the Groundwater and Surface Water Monitoring Plan to other any government agencies for review and comment, as may be appropriate.

20.3 The Groundwater and Surface Water Monitoring Plan shall include at a minimum:

a) A groundwater and surface water monitoring program;

b) The proposed start date and frequency of groundwater and surface water monitoring;

c) The contaminants that shall be monitored as part of the groundwater and surface water monitoring program; and,

d) At least one meeting each year between the proponent and the Regional Director to discuss the plan, the results of the monitoring program and any changes that are required to be made to plan by the Regional Director.

20.4 The proponent shall submit the Groundwater and Surface Water Monitoring Plan to the Regional Director a minimum of 90 days prior to the start of construction or such other date as agreed to in writing by the Regional Director.

20.5 The Regional Director may require changes to be made to the Groundwater and Surface Water Monitoring Plan and the proponent shall implement the plan in accordance with the required changes.

20.6 The groundwater and surface water monitoring program shall commence prior to the receipt of non-hazardous municipal solid waste at the site or such other time as agreed to in writing by the Regional Director, and shall continue until such time as the Regional Director notifies the proponent in writing that the groundwater and surface water monitoring program is no longer required.

20.7 Thirty days after waste is first received on site, the proponent shall prepare and submit to the Director and Regional Director, a report containing all of the results of the groundwater and surface water monitoring program.

20.8 The proponent shall prepare and submit to the Director and Regional Director, an annual report containing the results of the groundwater and surface water monitoring program. The first report shall be submitted 12 months from the start of the monitoring program and every year thereafter.

20.9 The proponent shall prepare and submit to the Director and Regional Director, a report containing the results of the groundwater and surface water monitoring program within 30 days of any of the following events:

a) A spill occurs on site;

b) A fire or explosion occurs on site;

c) A process upset; or

d) Any disruption to normal operations that may directly or indirectly have an impact on groundwater or surface water.

20.10 The proponent shall post the Groundwater and Surface Water Monitoring Plan and all reports required by this condition on the proponent's web site for the undertaking following submission of the plan and reports to the ministry.

21. Types of Waste and Service Area

21.1 Only non-hazardous municipal solid waste from municipal collection within the jurisdictional boundaries of the Regional Municipality of Durham and the Regional Municipality of York may be accepted at the site.

21.2 Materials which have been source separated for the purposes of diversion shall not be accepted at this site. This prohibition does not apply to the non-recyclable residual waste remaining after the separation of the recyclable materials from the non-recyclable materials at a materials recycling facility or other processing facility.

21.3 The proponent shall ensure that all incoming waste is inspected prior to being accepted at the site to ensure that only non-hazardous municipal solid waste is being accepted.

21.4 If any materials other than non-hazardous municipal solid waste are found during inspection or operation, the proponent shall ensure that management and disposal of the material is consistent with ministry guidelines and legislation.

22. Amount of Waste

22.1 The maximum amount of non-hazardous municipal solid waste that may be processed at the site is 140,000 tonnes per year.

23. Notice of the Date Waste First Received

23.1 Within 15 days of the receipt of the first shipment of waste on site, the proponent shall give the Director and Regional Director written notice that the waste has been received.

24. Construction and Operation Contracts

24.1 In carrying out the undertaking, the proponent shall require that its contractors, subcontractors and employees:

a) fulfil the commitments made by the proponent in the environmental assessment process, including those made in the environmental assessment and in the proponent's responses to comments received during the environmental assessment comment periods;

b) meet applicable regulatory standards, regarding the construction and operation of the undertaking;

c) obtain any necessary approvals, permits or licenses; and,

d) have the appropriate training to perform the requirements of their position.

25. Amending procedures

25.1 Prior to implementing any proposed changes to the undertaking, the proponent shall determine what *Environmental Assessment Act* requirements are applicable to the proposed changes and shall fulfill those *Environmental Assessment Act* requirements.

Dated the 21ST day of October 2010 at TORONTO.

Minister of the Environment
77 Wellesley Street West
11th Floor, Ferguson Block
Toronto, Ontario
M7A 2T5

Approved by O.C. No. 1514/2010

Date O.C. Approved NOVEMBER 3, 2010

Schedule 1 –Air Emissions Operational Requirements

Item	Contaminant	Operational Requirements
1.	Particulate Matter	9 mg/Rm3
2.	Cadmium	7 ug/Rm3
3.	Lead	50 ug/Rm3
4.	Mercury	15 ug/Rm3
5.	Dioxins & Furans	60 pg/Rm3
6.	Hydrogen Chloride	9 mg/Rm3
7.	Sulphur Dioxide	35 mg/Rm3
8.	Nitrogen Oxides	121 mg/Rm3
9.	Organic Matter .	50 ppmdv (33 mg/Rm3)
10.	Carbon Monoxide	35 ppmdv (40 mg/Rm3)
11.	Opacity	5% (2-hour average) 10% (6-minute average)

Notes:
mg/Rm^3-milligrams per reference cubic metre; µg/Rm^3-micrograms per reference cubic metre; pg/Rm^3-picograms per reference cubic metre; ppmdv-parts per million by dry volume

ATTACHMENT 3

Public Consultation Report

Memorandum

To:
From:
Cc:
Date: January 30, 2011
Re: **Durham York Energy Centre**
Application for a Certificate of Approval Waste Disposal Site
Section 5.4 – Additional Public Consultation/Notification

1.0 INTRODUCTION

The following memorandum has been prepared to document the communications and consultation activities undertaken by the Regions of Durham and York as part of the development of Certificates of Approval required for the operation of the Durham York Energy Centre.

2.0 Consultation Background

On November 19, 2010, the Regions of Durham and York received approval under the Environmental Assessment Act to implement the Durham/York Residual Waste Study EFW undertaking. Throughout the EA process, a considerable level of effort has been expended on consultation. The EA consultation summary (Section 16 of the Approved EA Study Document[1]) provides an overview of all consultation activities undertaken during the EA Study. It documents the consultation activities conducted during the EA process, in accordance with the requirements of the EAA, the Approved Terms of Reference, and the Consultation Code of Practice. Consultation completed as part of the EA process includes input received from interested parties including the general public, government agencies, nongovernmental organizations (NGOs) and First Nations, all of which have provided feedback that has been, and will continue to be, considered as the Project continues forward.

As part of the Communications Strategy developed by the Regions, consultation was undertaken through the development of public liaison committees such as the Joint Waste Management Group and the Site Liaison Committee, consultation with Government Agencies, First Nations, the public and other interested parties (e.g., non-governmental organizations).

Notification and dissemination of information was undertaken through newspaper, radio and TV advertising, a mailing list, and an EA Study website (www.durhamyorkwaste.ca) maintained throughout the course of the EA Study. Consultation included public polling, consultation events such as public information centres, and opportunities for delegations at Regional Committee and Council meetings.

Although opportunities for public input were available throughout the EA Study, consultation events typically took place during major milestones such as upon the identification of the preferred technology, Short-list of sites, and the preferred site; and for the results of the draft EA Study document and draft site-specific studies.

These consultation events have been summarized in the EA Study document, and are described in more detail in the Record of Consultation (RoC). The RoC has been submitted as a separate document to the EA Study.

[1] Durham/York Residual Waste Study, Environmental Assessment Study Document (As Amended November 27, 2009).

In the Notice of Approval to Proceed with the Undertaking, the Minster of the Environment praised the EA Study for its completeness and transparency stating in the accompanying cover letter:

> *"The Regions have evaluated a sufficient range of alternatives, using criteria that consider the Environmental Assessment Act's (EAA) broad definition of the environment (e.g. including natural, socio-economic, and cultural environments), while taking into consideration the purpose of the proposed undertaking (problem or opportunity being addressed). The amended EA assessed the potential environmental effects of the alternatives and the proposed undertaking, and provided sufficient mitigation and monitoring measures to ensure that the potential negative environmental impacts will be appropriately managed and minimized. I have also concluded that there was sufficient time and opportunities for interested members of the public, the government agencies and Aboriginal communities to comment during the EA process."*

3.0 Pre-Application Submission Consultation

Following receipt of EAA approval, the Regions and their project partner Covanta Energy Corporation initiated pre-application submission consultation. This consultation included dialogue between the Applicant, the Ministry, and other stakeholders in advance of the submission of the applications for Certificates of Approval. This pre-application consultation was completed to assist the applicants in determining what would be required to ensure the acceptability of the application to the Ministry upon submission.

3.1 Consultation with the MOE

A significant amount of consultation has been undertaken with MOE representatives both from the EAAB as well as local and district offices. Given, that this application is relatively unique, it was thought important by all parties, to ensure that the each component of the applications, and the level of detail to be included, was clearly understood.

Discussions with MOE staff included:

- Consultation requirements and expectations;
- Level of design and operating detail to be included in the applications;
- Specific requirements with respect to air emission limits, monitoring requirements, etc.;
- Concordance with commitments and conditions of the approved EA; and,
- Schedule.

3.2 Consultation with Local Municipality

On February 18, 2010 the Regions of Durham and York and the Municipality of Clarington entered into a Host Community Agreement (HCA). The HCA defined, among other things, Clarington's opportunity for input and the matters on which they would be consulted. The HCA also confirmed that no Official Plan amendments or Re-zoning would be required to develop the proposed facility.

Since EA approval has been granted, the Regions have continued consultation with Clarington, in accordance with the HCA. Topics for consultation and discussion have included:

- Facility Architectural Design;
- Site Servicing; and,
- Aspects related to site plan, including roadways, stormwater management, etc.

The Municipality of Clarington has also been provided a seat on the newly formed EA Advisory Committee to provide an additional opportunity for their input to the process.

3.3 Consultation with Other Agencies

Consultation with other agencies where additional approvals or authorizations will be required, such as stormwater clearance from the Central Lake Ontario Conservation Authority has also been initiated.

3.4 Consultation/Communications with Public Stakeholders and Representatives

The following describes public consultation and communications activities, categorized by medium, that have occurred post EA approval and in advance of the submission of the applications for Certificates of Approval.

Media

The following media activity has occurred since the EA approval:

- Public announcements propagated by corporate and works communications on EA approval and conditions. Picked up by newspapers, radio and TV news.
- Newspaper interviews on EFW and the way ahead.
- EFW rated as Durham new item of the year by "Metroland"
- CHEX TV - 5 part series on Durham Region Integrated Waste Management System
- Ask Katherine: Questions and Answers – on EFW

Meetings open to the Public

The following meetings have been held, open to the public for both observation and delegation, since the EA approval:

A. Regional Committee and Council:
    a. Durham Region: February 3rd and 16th, 2011. Topics for discussion included: EFW updates; Project Agreement; EA conditions implementation; Co-owners agreement; Architectural Concepts; and, Advisory committees. These meetings included several delegations from the public on EFW
    b. York Region: December 16th, 2010 and January 19th and 27th, 2011. Topics for discussion included: EFW updates; Project Agreement; EA conditions implementation; Co-owners agreement; Architectural Concepts; and, Advisory committees.
B. Area Municipalities: Committees and Councils
C. Area Municipalities Waste Director Meetings with EFW updates
D. Specific meetings with Clarington staff and councillors. A series of meetings have been held and will continue for the main issues such as architectural concept, HCA obligations, site servicing, permits and advisory committee Terms of Reference.
E. EFW Advisory Committee (pursuant to EA Approval Condition 8): First meeting January 20, 2011 in Durham with subsequent meetings to be scheduled.
F. Integrated Waste Management Advisory Committee: The draft Terms of Reference presented to Durham Region Works Committee and Council February 3rd and 16th, 2011. The Terms of Reference has also been forwarded to Clarington for approval.

Website

The study website http://www.durhamyorkwaste.ca/ remains active and will continue to remain active in the future. The CofA applications will be posted on the website once officially submitted to the MOE. Formal comments on the application will not be solicited, however, any interested party will have the opportunity to review these applications and provide comment to the project team.

Committees

The technical aspect of the Certificate of Approval application has created the requirement to institute an EFW Advisory Committee composed primarily of staff representatives. An Integrated Waste Management Advisory Committee will also be established and will be composed primarily of public representatives as it will review a broader suite of local issues. The documents reviewed and minutes of meetings for these committees will be posted on the EFW website.

Special Events

The following special events will also be utilized to communicate and consult on the project:

- Region of Durham Waste Fair: March 5, 2011 will include EFW displays and staff available to answer questions; and,
- Home and Garden Shows: March 2011, Pickering and Oshawa: Waste Booth with EFW displays and comment sheets provided by Region of Durham.

Public Presentations

In accordance with the EA conditions of approval, public presentations will be given:

- Prior to start of construction;
- Prior to the receipt of non-hazardous municipal solid waste; and,
- During operations (between 6 to 12 months from start of operations).

In accordance with the Host Community Agreement:

> "*Durham shall make a presentation to Clarington Council and shall hold one community information meeting before the Site Liaison Committee regarding the terms of the Certificate of Approval for the EFW Facility subsequent to its issuance.*"[2]

Conferences

Several EFW presentations at technical conferences and seminars are being planned by York and Durham and their consultants, including:

- February 2011: MOE professional development day;
- March 2011: Canadian Institute conference in Toronto;
- May 2011: NAWTEC: Philadelphia, PA; and,
- August 2011: SWANA: Nashville, TN.

Aboriginal Consultation

The Métis Nation of Ontario (MNO) have contacted project staff and a meeting is being scheduled for February 2011 to discuss the project and how best the MNO can continue their engagement and involvement.

First Nations groups identified in the EA are also in the process of being contacted to determine their interest in being consulted through the facility design and operation process.

4.0 Future Consultation and Communications Related Activities

[2] Durham Region, York Region and Municipality of Clarington Host Community Agreement, February 18, 2010.

The Regions and Covanta are in the process of developing the appropriate long-term communications and consultation plans to facilitate ongoing communication with interested stakeholders throughout the duration of the facility operation. The plans are being prepared in accordance with:

- The EA Conditions of Approval;
- The Host Community Agreement;
- Direction from Regional Councils; and,
- Recommendations from the established Advisory Committees.

Specific to the EA conditions of approval, a Complaints Protocol is currently being developed pursuant to EA Condition 6 and has been circulated to the EA Advisory Committee for review and comment. As well, a call centre is being established as part of the protocol to respond to, or forward requests to, the appropriate staff.

The Regions' will continue to utilize multi-media approaches for public service announcements at major project milestones. Public meetings will be held as specified in the EA Approval Conditions prior to: construction, receipt of waste and during initial operation. In addition, a waste fair will be held in Clarington on March 5, 2011 and in accordance with the HCA, a presentation will be made to Clarington Council and the Integrated Waste Management advisory committee regarding the terms of the Certificate of Approval subsequent to its issuance.

A specific consultation plan is in the process of being developed, in consultation with and to address, the consultation requirements of aboriginal communities.

ATTACHMENT 4

Host Community Agreement

'10FEB19 PM 4:28:08

February 19, 2010

Ms. Patti Barrie
Clerk
Municipality of Clarington
40 Temperance Street
Bowmanville, Ontario
L1C 3A6

The Regional Municipality of Durham

Office of the C.A.O.

605 ROSSLAND ROAD E.
PO BOX 623
WHITBY ON L1N 6A3
CANADA
905-668-7711
1-800-372-1102
Fax: 905-668-1567
Email: garry.cubitt@durham.ca

www.durham.ca

Garry H. Cubitt, M.S.W., C.S.W.
Chief Administrative Officer

Dear Ms. Barrie:

Re: Host Community Agreement

As the official record keeper for the Municipality of Clarington, I am forwarding to you one original signed copy of the Host Community Agreement between the Municipality of Clarington and the Regional Municipality of Durham for your records and files.

Yours truly,

Garry H. Cubitt, M.S.W.
Chief Administrative Officer

Attachment

c: F. Wu, Chief Administrative Officer, Municipality of Clarington

DISTRIBUTION
REVIEWED BY BB
ORIGINAL TO:
☐ COUNCIL DIRECTION ☐ COUNCIL INFORMATION ☐ FILE
COPY TO:
☐ MAYOR ☐ MEMBERS OF COUNCIL ☐ CAO
☐ COMMUNITY SERVICES ☐ CORPORATE SERVICES ☐ EMERGENCY SERVICES
☐ ENGINEERING SERVICES ☐ MUNICIPAL CLERK'S ☐ OPERATIONS
☐ PLANNING SERVICES ☐ SOLICITOR ☐ TREASURY
☐ OTHER
MUNICIPAL CLERK'S FILE L04 RE

This Host Community Agreement dated the 18th, day of February, 2010 is made,

BETWEEN:

THE REGIONAL MUNICIPALITY OF DURHAM

("Durham")

-and-

THE CORPORATION OF THE MUNICIPALITY OF CLARINGTON

("Clarington")

WHEREAS:

(a) Durham jointly with The Regional Municipality of York, is in the midst of a procurement process designed to identify a preferred vendor capable of designing, building and operating an energy from waste ("EFW Facility") sufficient to meet their needs, as identified through an individual environmental assessment (the "EA") undertaken to identify a preferred method of processing post-diversion waste;

(b) The EA process has resulted in the approval by Durham Regional Council of a preferred site for the EFW Facility within the Municipality of Clarington ("Clarington'), more particularly described in Schedule "A" hereto.

(c) Durham is completing its requirements to finalize the EA for submission to the Minister of the Environment and to make application under the Environmental Protection Act for one or more Certificates of Approval.

(d) Clarington will be the host community of the EFW Facility to the benefit of communities in Durham, York, the industrial/commercial/institutional sector, and potentially municipal waste from other municipalities identified in the EA.

(e) Durham and Clarington wish to enter into this agreement in order to set forth their respective rights, duties, obligations and commitments regarding the development, construction and operation of the EFW Facility.

NOW THEREFORE the parties agree as follows:

1. Term

1.1 This agreement shall commence upon the date that it is last signed and shall last for the operational lifespan of the EFW Facility.

1.2 In the event that the facility is expanded beyond 400,000 tonnes per year and the expanded portions of the EFW Facility have a twenty five (25) year operating period, Durham and Clarington either shall extend the term of this agreement or enter into a new Host Community Agreement.

2. Community Consultation and Communications

2.1 Durham shall support the development and operation of an EFW Site Liaison Committee (SLC) for the purpose of facilitating input from the community and the distribution of relevant information in regards to the construction, operation and monitoring of the EFW facility.

2.2 The scope for a Terms of Reference for a new SLC shall be agreed upon by Durham and Clarington at the conclusion of the mandate of the initial SLC, which terms shall otherwise be generally analogous to the current committee.

2.3 Durham shall present to Clarington Council and hold one community information meeting prior to the submission of the final EA documentation to the Ministry of the Environment for approval. In addition, Durham shall make a presentation to Clarington Council and shall hold one community information meeting before the Site Liaison Committee regarding the terms of the Certificate of Approval for the EFW Facility subsequent to its issuance.

3. Protection of Human Health and the Environment

3.1 Durham shall ensure that the EFW Facility incorporates and utilizes modern, state of the art, emission control technologies that meet or exceed the Ontario A7 air emission guidelines and European Union standards as identified below:

THE REGIONS' AIR EMISSION CRITERIA BASED UPON THE PROVINCE OF ONTARIO AND EUROPEAN UNION AIR EMISSION REQUIREMENTS

Total Particulate Matter	mg/Rm3	9	(2)
Sulphur Dioxide (SO2)	mg/Rm3	35	(3)
Hydrogen Chloride (HCl)	mg/Rm3	9	(4)
Hydrogen Flouride (HF)	mg/Rm3	0.92	(4)
Nitrogen Oxides (NOx)	mg/Rm3	180	(4)
Carbon Monoxide (CO)	mg/Rm3	45	(4)
Mercury (Hg)	µγ/Pµ3	15	(2)
Cadmium (Cd)	µγ/Pµ3	7	(2)
Cadmium + Thallium (Cd + Th)	µγ/Pµ3	46	(2)
Lead (Pb)	µγ/Pµ3	50	(2)
Sum of (As, Ni, Co, Pb, Cr, Cu, V, Mn,	µγ/Pµ3	460	(2)
Dioxins	pg/Rm3	60	(2)
Organic Matter (as CH4)	mg/Rm3	49	(2)

NOTES:

(1) = All units corrected to 11% O2 and adjusted to Reference Temperature and Pressure

mg/Rm3 = Milligrams per Reference Cubic Metre (25oC, 101.3 kPa)

*g/Rm3 = Micrograms per Reference Cubic Metre (25°C, 101.3 kPa)

pg/Rm3 = Picograms per Reference Cubic Metre (25oC, 101.3 kPa)

(2) Calculated as the arithmetic average of 3 stack tests conducted in accordance with standard methods

(3) Calculated as the geometric average of 24 hours of data from a continuous emission monitoring syster

(4) Calculated as the arithmetic average of 24 hours of data from a continuous emission monitoring syster

3.2 Durham shall ensure that the EFW Facility utilizes maximum achievable control technology (MACT) for emissions control and monitoring systems. Durham and the operator shall seek to achieve normal operating levels significantly better than the emission limits identified in Section 3.1.

3.3 Durham shall ensure that, where technically possible, the EFW Facility utilizes 24/7 monitoring systems for such parameters as are deemed appropriate by the Ministry of the Environment. The results of such monitoring systems shall be made accessible to the public on a website or programmable display board designed for such purpose. In addition, Durham shall ensure that the operator monitors the ambient air in the immediate vicinity of the EFW Facility for a three year term commencing upon the commencement of operations.

4. Facility Size

4.1 Durham is seeking approval from the Ministry of the Environment to construct and operate an EFW Facility with a total processing capacity of up to 400,000 tonnes per year of municipal solid waste.

4.2 The parties hereto acknowledge and agree that EFW Facility will not immediately be constructed to the ultimate capacity. Durham will be seeking an initial Certificate of Approval for the construction and operation of a facility for approximately 140,000 tonnes per year. The capacity of the EFW Facility may be expanded, as required by Durham and York, up to the maximum permissible capacity set forth by the Ministry of the Environment in the Certificate of Approval which may be amended from time to time. The EFW Facility may not be expanded in excess of 400,000 tonnes per year.

4.3 At the time of any expansion, Durham will give consideration to improvements to the emission control system to meet the then current MACT standards and shall apply for a new or amended Certificate of Approval if required by the Province of Ontario.

4.4 Durham will not construct a transfer station for ICI waste in Clarington without the agreement of Clarington.

5. Architectural/Site Plan Considerations

5.1 Clarington shall be consulted with respect to the architectural and site plan requirements section(s) of the Request for Proposals.

5.2 Clarington and Durham shall negotiate in good faith the terms of a site plan agreement for the development of the EFW Facility site which shall include the lands required for the private truck access lane referred to in paragraph 9.5. Durham shall comply with normal site plan and building code permit requirements and shall construct Energy Drive through their lands identified on Schedule "A".

5.3 Durham shall incorporate a cash allowance of no less than Nine Million Dollars ($9,000,000) in the Request for Proposals ("RFP") for the provision of architectural treatments and upgrades to the EFW Facility. Durham shall consult with Clarington on the proposed architectural treatments received from the preferred bidder and prior to submitting their site plan application to Clarington for approval.

5.4 At the time of any expansion, Durham will include similar and consistent architectural treatments and upgrades to any new portions of the EFW Facility. Durham shall consult with Clarington on the proposed architectural treatments during the finalization of the arrangements with the Operator for the expansion and prior to submitting their site plan application to Clarington for approval of the expansion.

6. Commitment to a Comprehensive Waste Management Strategy

6.1 Durham shall continue to implement and support an aggressive residual waste diversion and recycling program to achieve and/or exceed a 70% diversion recycling rate for the entire Region.

6.2 Durham shall establish a hazardous waste depot to serve the residents of Clarington within one (1) year of commissioning of the EFW Facility.

7. EFW Facility Waste Sources

7.1 Durham shall ensure that the source of the waste processed at the EFW Facility is consistent with that identified in the EA Terms of Reference and supporting documentation.

7.2 The Parties agree that Industrial, Commercial and Institutional ("ICI") Waste, with a similar composition to municipal solid waste, may be processed at the EFW Facility provided that said ICI Waste is first screened at a transfer station to ensure the removal of any undesirable and hazardous materials.

7.3 The EFW Facility may be utilized to process biosolid wastes generated from water pollution control plants located within Durham Region on an emergency basis in order to support Durham's other operations provided that biosolid wastes do not comprise more than 10% of the total annual tonnage of waste processed at the EFW Facility in a calendar year.

7.4 Notwithstanding the provisions of 7.1 hereof, in the event that the source of waste processed at the EFW Facility at any subsequent time includes the City of Toronto, then Clarington shall be paid the sum of Ten Dollars ($10.00) per tonne for each tonne of waste from that source.

8. Payments in Lieu of Taxes

8.1 Durham shall not structure the ownership of the EFW Facility in any way designed to attain tax exempt status or to avoid the Payments in Lieu of Taxes (PIL's).

8.2 Durham acknowledges that the PIL will be in the vicinity of $650,000 per year. However Durham cannot guarantee the exact amount as that is a matter outside of its direct control.

9. Economic Development

9.1 Durham shall acquire title by way of agreement or expropriation to the properties described in Schedule "B". Upon the properties described in Schedule "B" being determined by Durham Regional Council to be surplus to the present or future requirements of the Regional Municipality of Durham, then Durham shall convey, at nominal consideration, some part of the lands described in Schedule "B" to The Municipality of Clarington.

9.2 Prior to the commissioning of the EFW Facility, Durham shall complete construction of Energy Drive from Courtice Road to Osbourne Road as a Type "C" Arterial road, complete with

all applicable services including: sanitary sewerage, watermains, storm drainage, district heating, and street lighting and shall dedicate Energy Drive to Clarington as a public highway.

9.3 Durham shall construct a storm water management facility of a sufficient size to accommodate development of the Energy Park and Clarington shall execute a front-ending agreement in order to receive and reimburse Durham for the proportional costs of same from any benefiting landowners within the Energy Park. Provided approval to cross the CN Railway line with the necessary drainage works can be reasonably obtained from the Canadian National Railway, then Durham shall construct the storm water management facility on the lands described in 9.7 hereof.

9.4 Durham shall commence an environmental assessment process to support the provision of municipal services to the east Bowmanville science park which is located north of Highway 401.

9.5 Durham shall construct a private truck access lane with landscaping or other screening on its lands on the north side of the Canadian National Railway line connecting with Courtice Road to be utilized, where possible, for all deliveries of waste to the EFW Facility.

9.7 Durham shall convey to Clarington at a nominal cost the lands on the west side of Courtice Road identified in Schedule "C".

9.8 Concurrent with the construction of the EFW Facility, Durham shall construct a segment of a paved asphalt waterfront trail on a mutually agreed upon alignment from Courtice Road to the eastern limits of Durham's lands south of the Courtice Water Pollution Control Plant.

10. Operational Issues

10.1 Durham shall require the operator of the EFW Facility (the "Operator") to have the EFW Facility compliant with the International Standards Organization 14001:2004 Environmental Management Standard (ISO 14001) within thirty six (36) months of its commencing operations and to maintain such compliance thereafter.

10.2 Durham shall ensure that the Operator prepares, maintains and adheres to an Emergency Management Plan (including spills) for the EFW Facility which Plan shall be reviewed and approved by the Clarington Emergency and Fire Services Department.

10.3 Deleted

10.4 Durham shall ensure that the bottom and fly ash generated at the EFW Facility are dealt with in a manner which complies with all applicable legal and regulatory requirements and approvals. Bottom ash can be stored outside if fully screened. Fly ash shall be stored internally in a building until the time of transfer to a disposal site. No bottom ash or fly ash shall be disposed of in a landfill site in Clarington.

10.5 Durham will require the Operator of the EFW Facility to provide a certificate of insurance showing the Municipality of Clarington as an additional insured thereon.

10.6 Durham hereby agrees to indemnify and hold Clarington harmless from all manner of actions, causes of action, suits, demands, and claims whatsoever in connection with any and all injuries up to and including death, or damages to its property, which may occur as a result of the design, construction or operation of the EFW Facility save and except when such injury, loss or

damage is occasioned by the negligent acts or omissions or willful misconduct of Clarington, or those for whom it is at law responsible..

10.7 Durham shall ensure that all waste haulage vehicles accessing and egressing the EFW Facility site will use the truck access routes.

10.8 In addition to all public information, the Operator shall on or before March 31st in each calendar year provide the Clerk of Clarington with a report related to the emissions output from the EFW Facility for the previous calendar year.

11. End Use Plan

11.1 Durham shall decommission and dismantle the EFW Facility within five (5) years of its ceasing of operations to a standard suitable for re-use as an industrial/commercial site.

12. Issue Resolution

12.1 In the event of any dispute, disagreement, or claim arising under or in connection with this Agreement, then the parties hereto shall, upon written notice from either party, meet as soon as reasonably possible in order to resolve said dispute.

12.2 In the event that informal discussions are not effective in resolving any disputes or differences of opinion arising between the parties which concern or touch upon the validity, construction, meaning, performance or effect of this Agreement, then said dispute shall first be mediated within a sixty (60) day time period prior to any dispute proceeding to arbitration. The parties shall determine a mutually agreeable location for the mediation to occur. The parties shall make all reasonable efforts to resolve their disputes by amicable negotiations and agree to provide, without prejudice, frank, candid, and timely disclosure of relevant facts, information, and documents to facilitate these negotiations. Any resolution of the dispute in mediation shall be kept confidential by all parties.

12.3 By giving a notice in writing to the other party, not later than ten (10) working days after the date of termination of the mediated negotiations, all matters remaining in difference between the parties in relation to this Agreement shall then be referred to the arbitration of a single arbitrator, if the parties agree upon one, otherwise to three arbitrators, one to be appointed by each party and a third to be chosen by the first two named before they enter upon the business of arbitration. The award and determination of the arbitrator or arbitrators or two of the three arbitrators shall be binding upon the parties and their respective heirs, executors, successors, administrators and assigns.

13. Clarington's Commitments

13.1 Clarington agrees, in consideration of the aforementioned commitments on the part of Durham, to be a willing host to the EFW Facility and to acknowledge that willingness as follows:

.1 It shall not oppose the development or operation of the EFW Facility;

.2 It acknowledges that, provided that there is public ownership of the EFW Facility and the site by one or more municipalities, it will be considered a "public use" for the purposes of the Zoning By-law and that is not necessary to amend the Clarington Official Plan or Zoning By-law;

.3 It shall expedite the review of all applications for approval submitted by, or on behalf of, the Operator or Durham related to the construction, maintenance and operation of the EFW Facility; and,

.4 Should the existing South Service Road ever be deemed to be surplus due to the construction of Energy Park Drive, the South Service Road shall be closed and conveyed to Durham for nominal consideration; and,

.5 It shall strongly encourage and promote development within the Clarington Energy Business Park and other areas of Clarington to utilize district heating and cooling provided by the EFW Facility.

14. Miscellaneous

14.1 This agreement is entered into solely between Durham and Clarington and is not intended or designed, and in fact it explicitly excludes the creation of any rights or beneficial interests in any third party save and except the Regional Municipality of York in so far as its interest exists in the EFW Facility, from time to time.

15. Further Assurances

The parties hereby covenant and agree, after a request in writing by one party to the other parties, to forthwith execute and provide all further documents, instruments and assurances as may be necessary or required in order to carry out (and give effect to) the true intent of this Agreement, and to effect the registration against and release from title to the lands subject to this Agreement of such notices or other instruments in accordance with the provision of this Agreement.

16. Enurement

This Agreement shall enure to the benefit of and bind the parties hereto and their respective successors and assigns.

IN WITNESS WHEREOF Durham and Clarington have executed this Host Community Agreement.

THE REGIONAL MUNICIPALITY OF DURHAM

Per: _____
Roger Anderson, Regional Chair - FCEO

Per: _____
Pat Madill, Regional Clerk

THE CORPORATION OF THE MUNICIPALITY OF CLARINGTON

Per: _____
Jim Abernethy, Mayor

Per: _____
Patti L. Barrie, Clerk

Schedule "A"

Legal Description of Proposed Site of EFW Facility

Part of Lot 27, Concession Broken Front, Darlington, designated as Parts 1 and 2 on 40R-19984, save and except Parts 1 and 2 on 40R-20362, Municipality of Clarington, Regional Municipality of Durham, being all of PIN 26605-0082(LT)

Schedule "B"

Legal Description of Lands Proposed to be acquired

FIRSTLY: PT LTS 27 & 28 BROKEN FRONT CONCESSION, DARLINGTON, AS IN N41298 SAVE & EXCEPT PART 1 PL 40R21517 NORTH OF THE CANADIAN NATIONAL RAILWAY; MUNICIPALITY OF CLARINGTON, REGIONAL MUNICIPALITY OF DURHAM, being all of PIN 26605-0086 (LT)

SECONDLY: PT LT 28 BROKEN FRONT CONCESSION, DARLINGTON BEING PTS 2 & 3 on 10R2689; MUNICIPALITY OF CLARINGTON, REGIONAL MUNICIPALITY OF DURHAM, being all of PIN 26605-0030 (LT)

THIRDLY: PT LT 28 BROKEN FRONT CONCESSION, DARLINGTON being PT 1, 10R2689; MUNICIPALITY OF CLARINGTON, REGIONAL MUNICIPALITY OF DURHAM, being all of PIN 26605–0031 (LT)

Schedule "C"

Legal Description of Lands to be Transferred to Clarington

FIRSTLY: PT LT 29 AND 30 BROKEN FRONT CONCESSION, DARLINGTON being PTS 1, 2, AND 3, 40R20750; MUNICIPALITY OF CLARINGTON, REGIONAL MUNICIPALITY OF DURHAM, being all of PIN 26604-0017 (LT)

SECONDLY: PT LT 29 BROKEN FRONT CONCESSION, DARLINGTON being PT 1 on 10R571; MUNICIPALITY OF CLARINGTON, REGIONAL MUNICIPALITY OF DURHAM, being all of PIN 26604-0016 (LT)

ATTACHMENT 5

Proof of Legal Name

Nova Scotia

CERTIFICATE OF REGISTRATION

Limited Partnerships Act

Registry Number

3246299

Name of Registration

COVANTA DURHAM YORK RENEWABLE ENERGY LIMITED PARTNERSHIP

I hereby certify that the above-mentioned limited partnership is registered under the provisions of the Limited Partnerships Act.

Registrar of Joint Stock Companies

June 7, 2010

Date of Registration

CERTIFICATE OF LIMITED PARTNERSHIP

Pursuant to the *Limited Partnerships Act*, R.S.N.S. 1989, c.259, as amended

A. Name:

Covanta Durham York Renewable Energy Limited Partnership

B. Nature of Business:

The Partnership will carry on the business of operating energy from waste facilities, including, without limitation, owning, developing, financing, managing, leasing and selling in whole or in part, the energy produced therefrom.

C. Name and Place of Residence of Each Partner:

(i) Limited Partner: Covanta Burnaby Renewable Energy, Inc., c/o Covanta Energy Corporation, 40 Lane Road, Fairfield, New Jersey, USA 07004

(ii) General Partner: TransRiver Canada Incorporated, c/o Covanta Energy Corporation, 40 Lane Road, Fairfield, New Jersey, USA 07004

D. Term of Limited Partnership:

The Limited Partnership is to continue until dissolved by agreement of both Partners in accordance with any written agreement, including a partnership agreement, which may be entered into between the partners either before or after the execution of this Certificate.

E. Amount of Cash and Nature and Fair Value of Other Property, if any, Contributed by Each Limited Partner:

To subscribe for units in the Limited Partnership, a Partner must acquire at least one (1) investment unit at $0.01 each. The Partner shall pay $0.01 per unit upon the signing of a subscription for a unit and the Limited Partnership shall be entitled to the said subscription price on the date of acceptance of the subscription by the General Partner.

The following cash or property in lieu of cash has been contributed to date:

Name	# of Units	Paid by Cash	Property at Fair Market Value
TransRiver Canada Incorporated	1	$0.01	N/A
Covanta Burnaby Renewable Energy, Inc.	99	$0.99	N/A

F. Amount of Additional Contributions, if any, Agreed to be Made by Each Limited Partner and the Times at which or Events or the Happening of Which an Additional Contribution Needs to be Made:

There is no requirement for an existing Limited Partner to make additional contributions or purchase additional Units. The General Partner may issue additional units to raise additional capital only if the same is agreed to in writing by the parties hereto.

G. Time When Contributions Will be Returned to Members:

Capital contributions shall be returned upon dissolution; however, the General Partner, in its sole discretion, may determine when capital may be returned in whole or in part to the Limited Partners.

H. The Share of the Profits or Other Compensation by Way of Income Which Each Limited Partner is Entitled to by Reason of his Contribution:

Allocations of the net income and net loss are made on the basis of one percent (1%) to the General Partner and ninety-nine percent (99%) to the Limited Partner.

I. Can the Interest of a Limited Partner be Assigned:

The interest of a Limited Partner can be assigned only with the consent of the General Partner, which may not be unreasonably withheld.

J. Can Additional Limited Partners be Admitted:

Additional Limited Partners can be admitted only with the prior consent of the General Partner and all Limited Partners at the time.

K. Priorities, If Any, on Return of Contributions or Income to Limited Partners:

No unit shall have a preference or right over any other unit.

L. Right of General Partner to Continue Business:

A corporate successor to the General Partner may continue the business of the Limited Partnership.

M. Other Right, If Any, of Limited Partner to Receive Property Other Than Cash in Return for its Contribution:

A Limited Partner is not entitled to receive property other than cash in return for its contribution.

DATED this 20th day of May, 2010.

TRANSRIVER CANADA INCORPORATED

Per: Kirkland J. Bily
Kirkland J. Bily,
Ass't Secretary

COVANTA BURNABY RENEWABLE ENERGY, INC.

Per: Kirkland J. Bily
Kirkland J. Bily
Ass't Secretary

At Golder Associates we strive to be the most respected global company providing consulting, design, and construction services in earth, environment, and related areas of energy. Employee owned since our formation in 1960, our focus, unique culture and operating environment offer opportunities and the freedom to excel, which attracts the leading specialists in our fields. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees who operate from offices located throughout Africa, Asia, Australasia, Europe, North America, and South America.

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