EXECUTIVE SUMMARY

INTRODUCTION

The Circular enerG Facility is a proposed renewable energy project (the "Project") proposed to be constructed on a site (the "Project Site") in the Town of Romulus, at the former Seneca Army Depot (the "Depot"), on part of tax map parcel number 8-1-03.5, bounded northerly by E. Kendaia Road, and westerly by Fayette Road. Circular enerG, LLC (the "Applicant") intends to develop approximately 48 acres of the former Depot into a sustainable waste-to-energy facility ("Facility"), where municipal solid waste would be combusted and converted to renewable energy. ***See* Appendix 0.A.**, Site Plans.

The Circular enerG Facility will be a sustainable project, utilizing solid waste as a resource rather than just burying it, while minimizing the emission of greenhouse gases. The Project will be consistent with the concept of a Circular Economy, which is a regenerative system in which resource input and waste, emission, and energy leakage are minimized by closing and narrowing material and energy loops.

The Project will be fully compliant with applicable solid waste, air, and other environmental regulations administered by the New York State Department of Environmental Conservation ("NYSDEC") and federal agencies. The Applicant will be submitting necessary applications to NYSDEC and other agencies to permit the Facility.

The Town of Romulus has already determined that a waste-to-energy facility constitutes "Renewable Energy Production," per the Town's Zoning Ordinance, and is allowed by Special Use Permit. ***See* Appendix 17.B**. Thus, the Applicant has submitted a Special Use Permit Application, with the required Public Notification Form, and a Full Environmental Assessment Form ("FEAF"). The Applicant has also submitted a request to subdivide, per the Town of Romulus Subdivision Regulations, the Project Site from tax map parcel number 8-1-03.5. The Applicant will also seek a variance for the maximum building height, which will be applied for at a later date.

The following additional information, consisting of a narrative, exhibits and reports, is being provided to involved agencies to assist them in review of the Project pursuant to State Environmental Quality Review Act ("SEQRA"). This document supplements the information provided in Part 1 of the Full Environmental Assessment Form. The Part 1 FEAF immediately follows this Executive Summary. To assist in the SEQRA review, this Executive Summary follows the sections of Part 2 of the FEAF. Each section is reviewed and a brief summary of the Project's potential effect in each area is provided. Where appropriate, the summary provides references to the section of the FEAF that contains the supporting information and/or documentation. The summary is qualified in its entirety by reference to the supporting information and documents, including all materials constituting Appendices, and all materials incorporated by reference. This summary is not a complete summary of those materials, but is provided in order to facilitate review.

The Project

The Applicant will construct and operate a waste-to-energy facility at the Project Site, at the former Depot in the Town of Romulus, Seneca County. The Facility will combust municipal solid waste (MSW) and the combustible fraction of construction and demolition debris (C&D) to generate electrical power for sale in the New York market. Residual materials will be recycled, including ferrous and non-ferrous metals, which will be diverted from the waste stream, and/or recovered after combustion.

The New York State Solid Waste Management Plan and State Solid Waste Management Policy, set forth at Environmental Conservation Law ("ECL") §27-0106, prescribe a hierarchy ("Hierarchy") for solid waste management whereby landfilling is the last resort, and energy recovery prior to landfilling is preferred. This Project seeks to execute the policy set forth in the Hierarchy, by constructing and operating a state-of-the-art waste-to-energy facility. At present, waste management in Seneca County and all of NYSDEC Region 8 is inconsistent with this Hierarchy by depending on landfilling almost exclusively. The Facility will improve environmental quality and reduce the carbon footprint from waste generation by utilizing the more preferred option of waste-to-energy. As discussed in Section 6, this will result in a savings of about 168,485 tons per year of carbon dioxide equivalent compared to landfilling.

Waste-to-energy facilities provide a sustainable method of producing energy. The differences between the energy methods and their relative fossil fuel emissions is substantial; with waste-to-energy being the cleanest of all.

Air Emissions of Waste-To-Energy and Fossil Fuel Power Plants
(Pounds per Megawatt Hour)

Facility Type	Carbon Dioxide	Sulfur Dioxide	Nitrogen Oxides
Coal	2,249	13	6
Oil	1,672	12	4
Natural Gas	1,135	0.1	1.7
Waste-To-Energy	837	0.8	5.4

Source: "Comparison of Air Emissions from Waste-to-Energy Facilities to Fossil Fuel Power Plants." 2005, SWANA Applied Research Foundation, by Jeremy O'Brien.

http://www.mcilvainecompany.com/industryforecast/incinerators/overview/IWSA_2007_Directory2.pdf

The Project Site will consist of a main processing building and a number of outparcel buildings. The main processing building contains the majority of the components required for the waste-to-energy process. ***See*** **Appendix 0.B** for a detailed overview of the proposed Facility. MSW and C&D waste will be delivered to the main processing building by a combination of road transfer trailers and rail cars within sealed containers designed specifically for waste transport.

The Project is planned to be comprised of two phases. Construction of Phase 1 is estimated to begin in about December 2019. By about December 2021, when construction of Phase 1 is complete, the Facility can begin accepting, on average, 1,320 tons per day ("tpd") (1,200 metric

ton per day ("mtpd"), and producing less than 25 megawatts ("MW") of energy. During Phase 2, slated to be completed by December 2023, waste acceptance can increase, on average, to 2,640 tpd (2,400 mtpd) per day, and the Applicant may elect to increase electric generating capacity to 50 MW of energy.

The anticipated permits and approvals required for the Facility include the following:

Government Entity	Anticipated Permit or Approval	Projected Application Date
Romulus Planning Board	Special Use Permit	November 6, 2017
Romulus Planning Board	Subdivision	November 6, 2017
Romulus ZBA	Area Variance(s)	Fall 2017
Romulus Town Board	Host Community Agreement and/or PILOT Agreement	Fall 2017
Seneca County Sewer District #2	Connection to Sewer Plant	Fall 2017
Seneca County Water District #1	Water Supply	Fall 2017
Seneca County IDA	Host Community Agreement and/or PILOT Agreement	Fall 2017
Romulus Central School District	Host Community Agreement and/or PILOT Agreement	Fall 2017
NYSDEC	6 NYCRR Part 360 Solid Waste Management Facility Permit- Part 362-1 Combustion Facilities and Thermal Treatment Facilities	Fall 2017
NYSDEC	6 NYCRR Part 601 Water Withdrawal Permit	Fall 2018
NYSDEC	SPDES General Permit for Stormwater Discharges from Construction Activity	Fall 2018
NYSDEC	SPDES Multi Sector General Permit for Stormwater Discharges from Industrial	Fall 2018
NYSDEC/ USACE	Joint Application for Federal Wetland Disturbance	January 2018
NYSDEC	6 NYCRR 613 Control of the Bulk Storage of Petroleum	Winter 2018
NYSDEC	Article 19 Environmental Conservation Law – 6 NYCRR Parts 201-6 Title V Facility Permits, and 231 New Source Review for New and Modified Facilities	Winter 2018
NYSDEC	6 NYCRR Part 608, Water Quality Certification	Winter 2018
NYSDEC	Article 17 Environmental Conservation Law – 6 NYCRR Part 750 –SPDES Permit	Winter 2018
NYSDOH	Cooling Tower Registry	Fall 2018
USEPA	Title V Clean Air Act Permit	Fall 2018
USACE	404 Wetland Permit	January 2018

The Applicant also anticipates that if the electric capacity is proposed to be increased in Phase 2 to 25 MW or greater, permission will be required by the New York State Board on Electric Generation Siting and the Environment pursuant to Article 10 of the Public Service Law.

Seneca Army Depot

The Depot is a 10,587-acre military facility located in Seneca County, in the Town of Varick and Romulus. The former military facility was owned by the U.S. Government and operated by the Army between 1941 and approximately 2000, when the Depot military mission ceased. Depot's historic military mission included receipt, storage, distribution, maintenance, and demilitarization of conventional ammunition, explosives and special weapons.

The peak civilian employment at the Depot was reached in July 1943 when 2511 people from 60 different communities were employed there. On July 14, 1989, the United States Environmental Protection Agency ("USEPA") proposed the Depot for inclusion on the National Priorities List ("NPL"). The USEPA recommendation was approved and finalized on August 30, 1990, when the Depot was listed in Group 14 of the Federal Facilities portion of the NPL. Once the Depot was listed on the NPL, the Army, the USEPA, and NYSDEC identified 57 solid waste management units ("SWMUs") where historic data or information suggested, or evidence existed to support, that hazardous materials or hazardous wastes had been handled and may have been released and migrated into the environment. This list of SWMUs was subsequently expanded to include 72 sites. The Depot was a hazardous waste Generator and Treatment, Storage and Disposal Facility and thus, subject to regulation under the Resource Conservation and Recovery Act. Under this permit system, corrective action is required at all SWMUs, as needed.

In 1995, the Depot was designated for closure under the Department of Defense Base Realignment and Closure ("BRAC") process. With the Depot's inclusion on the BRAC list, the Army's emphasis expanded from expediting necessary investigations and remedial actions at prioritized sites to include the release of non-affected portions of the Depot to the surrounding community for their reuse for non-military purposes (i.e., industrial, municipal, and residential). The contamination at the Depot is currently being managed by the United State Army Corps of Engineers ("USACE"), and the Depot is listed on the New York State Registry of Inactive Hazardous Waste Disposal Sites (State Superfund List), as a Class 2 Site, Site No. 850006. Through the BRAC process, the U.S. Army issued a Finding of Suitability to Transfer portions of the Depot to Seneca County Industrial Development Agency ("SCIDA"), which it did in 2005 and 2011. Seneca Depot, LLC, the current owner of the Project Site, then purchased roughly 1,000 acres of the Depot from the SCIDA on November 4, 2014. The Applicant intends to purchase or lease the Project Site, following subdivision from the 1,000-acre holdings of Seneca Depot, LLC.

SECTION 1 - LAND

Section 1 of Part 2 of the Full Environmental Assessment Form asks whether the Project may involve construction on, or physical alteration of, the land surface of the Project Site. Although the Project will involve construction and alteration of land, it will not result in a significant adverse impact on land.

Currently, the Project Site contains abandoned buildings, parking lots and areas of shrubs and dense vegetation. The Project Site is located on a glacial till plain in the eastern lake section of the Central Lowland Physiographic Province. This glacial till consists of a highly heterogeneous mixture of silts, clay, sand, and minor gravel. The glacial till is underlain by bedrock from the Devonian age Hamilton Group. While four separate formations comprise this group, the Project Site is dominated by Moscow Shale. Moscow Shale is gray, calcareous shale that is friable and less calcareous in the upper third grading to more calcareous and fossiliferous in the lower two-thirds of its approximate 140-foot (43 m) thickness. Joint openings are prevalent throughout the entire formation.

Bedrock is relatively shallow within the Project Site. The Project Site is generally flat (0%-5% slope). To accommodate the tipping floor with sufficient waste storage for efficient operations, the Facility design requires a substantial change in elevation which can be accomplished either below or above ground, or a combination of both. Due to the shallow bedrock, subgrade Facility components may be cost-prohibitive. In addition to the shallow bedrock, groundwater is also shallow in the target location. Groundwater is believed to be between 2.0 feet (0.6 m) and 5.0 feet (1.5 m) below ground surface. Special construction and design approaches must be utilized to protect underground structures. All construction will be performed pursuant to the standards and requirements of the Town, including hours of operation.

The Project is utilizing land that is deed restricted, and only suitable for commercial or industrial uses. In fact, the Project Site is within an area where paint had allegedly been disposed of, and near the area of two former deactivation furnaces. These areas required excavation of contaminated soil, and require continued groundwater monitoring. These areas cannot be used for residential purposes. The Project will not interfere with the on-going groundwater monitoring. The Project seeks to turn these contaminated lands into a beneficial use for the community.

To alleviate impacts to the land from the Project, the Project will implement an Integrated Pest Management Plan ("IPM"), which will significantly reduce herbicide and pesticide in runoff. While the Project Site is not located within an agricultural area, the Applicant is sensitive to the fact the surrounding areas are agricultural in nature, and the Project's proximity to Seneca Lake. An IPM Plan is defined by the Food and Agriculture Organization of the United Nations as follows:

> Integrated Pest Management (IPM) means the careful consideration of all available pest control techniques and subsequent integration of appropriate measures that discourage the development of pest populations and keep pesticides and other interventions to levels that are economically justified and reduce or minimize risks to human health and the environment. IPM emphasizes the growth of a healthy crop with the least possible disruption to agro-ecosystems and encourages natural pest

control mechanisms.

Through the use of this methodology, herbicide and pesticide contaminants in post-construction stormwater discharges will be minimized.

Therefore, the Project will not result in any significant adverse impacts on land.

SECTION 2 – GEOLOGICAL FEATURES

Section 2 of Part 2 of the Full Environmental Assessment Form asks whether the Project may result in the modification or destruction of, or inhibit access to, any unique or unusual land forms on the site (e.g., cliffs, dunes, minerals, fossils, caves). The Project will not, and thus will not result in a significant adverse impact on geological features.

The New York State Environmental Resource Mapper was utilized to determine that there are no Unique Land or Geologic Features on the Project Site. The Project Site is located within the former Depot, and has been substantially disturbed since the 1940's. ***See*** **Appendix 2.A**, USGS Map.

Therefore, no unique or unusual land forms were found on or adjacent to the Project Site that would be impacted by the Project.

SECTION 3 – SURFACE WATER

Section 3 of Part 2 of the Full Environmental Assessment Form asks whether the Project may affect one or more wetlands or other surface waterbodies (e.g., streams, rivers, ponds or lakes). Impacts of the Project on wetlands or other surface water bodies will not be significant adverse impacts.

Wetlands

Daigler Engineering, PC ("DE") performed a wetland delineation within the Project Site area on July 10-11, 19-20, and 26, 2017. The wetland delineation was conducted in accordance with the January 1987 *Corps of Engineers Wetland Delineation Manual*, and the January 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (Version 2). The results of this wetland delineation are presented in a report entitled *Wetland Delineation Report: Green Energy Facility*, dated August 2017. ***See*** **Appendix 3.A**. The wetland delineation report identified 25 wetland areas totaling 7 acres.

The wetland delineation report was submitted to NYSDEC and USACE for review with a request for a wetland boundary confirmation, and a field visit. USACE conducted the wetland boundary confirmation, and field visit with DE on October 24, 2017. The USACE field visit resulted in the removal of one wetland area from the delineated wetland areas, and a revision to the boundary of two wetland areas. One wetland area was slightly increased in size, while the other was significantly decreased, so the updated total wetland area is approximately 5.51 acres. The USACE determined that five wetlands were connected to waters of the United States, totaling

approximately 1.21 acres. Four other wetland areas were suspected to be connected to waters of the United States. ***See*** **Appendix 3.B.**, for Revised Wetland Delineation Map.

The USACE requested the August 2017 Wetland Delineation Report be revised to include the site topography, and a detailed description of the nearest conveyance for each wetland to complete their jurisdictional determination. DE will revise the August 2017 Wetland Delineation Report as requested, and seek a preliminary jurisdictional determination for the jurisdictional wetlands, and an approved jurisdictional determination for the isolated non-jurisdictional wetlands.

The design of the Facility will minimize impacts to the preliminary jurisdictional wetlands, but it will not be feasible to avoid all impacts. Out of the 5.51 acres of presumed wetlands, the Project will only disturb 0.63 acres. Regardless, these wetlands are highly disturbed and contain invasive species, so mitigation efforts can be accomplished easily. Any permanent disturbances to preliminary jurisdictional wetlands, if in excess of 0.1 acres, will be mitigated at an off-site location using an area ratio greater than 1:1. The Applicant will seek a federal 404 Permit as necessary for construction.

Stormwater Pollution Prevention Plan

The Applicant has prepared a Stormwater Pollution Prevention Plan ("SWPPP") pursuant to NYSDEC regulations. ***See*** **Appendix 3.C**. The Applicant will obtain coverage under the SPDES General Permit for Stormwater Discharges from Construction Activity, NYS GP-0-15-002.

The Project's SWPPP complies with NYSDEC regulations, and provides a design ensuring that both construction and post-construction operations will not result in increased erosion. The SWPPP provides for the construction and post-construction practices necessary to address the stormwater runoff condition from the Project Site. Stormwater runoff will flow, by gravity, to on-site catch basins, swales and ditches routed to stormwater management facilities. The stormwater management facilities will be designed to provide initial stormwater treatment. Stormwater runoff that does not exceed the design storm event will be reserved on-site for treatment in the raw water treatment system and be used as make-up process water. This method of stormwater management is beneficial to meet stormwater permit requirements and to reduce the raw water withdrawal from Seneca Lake.

The Project will not result in an increase in the peak rate of runoff from the Project Site, and it will maintain existing flow paths throughout the Project Site. The implementation of the construction erosion control portion of the SWPPP will provide for on-site control of sediment and silt runoff, and will protect waters from silt accumulation. The Applicant also will implement an IPM Plan, which will significantly reduce the runoff of stormwater containing pesticides and herbicides.

Water Supply Demand

Attached as **Appendix 3.D.** Engineering Report, prepared by Costich Engineering, D.P.C.,

which details water supply demand. The freshwater requirements include high purity boiler feed water, makeup water for boilers and cooling, water for fire protection and potable water for domestic use. The Facility will have a raw water demand of approximately 445,000 gallons per day (gpd) (1,685m^3/d), which will be withdrawn from Seneca Lake, about 3.75 miles (6.0 km) west of the Project Site, from an existing water intake formerly utilized by the Depot. Required improvements include relining an abandoned 8-inch (20 cm) pipe, and installing a new pump in the existing wet well. Raw water will be tested during the final design stage to identify the specific treatment processes and equipment that will be required.

However, a municipal water supply is available from the Village of Waterloo Water Department and can be used for domestic water flow and to feed the fire hydrants on site. A dedicated fire service will serve the site for emergency use only. This service is for emergency, fire protection use only and will not be metered by the municipality. Hydrant flow tests at the Project Site indicate a significant pressure drop between the static and residual flow. Therefore, the fire hydrants will be separated from the process/fire protection water that will be used to pressurize the building sprinkler system.

Domestic water, for use in the Facility lavatories, laboratories and kitchens, will also be obtained from the Village of Waterloo municipal water supply. Domestic wastewater will discharge to the nearby 10 inch (25 cm) and 12 inch (30 cm) diameter clay tile sanitary sewer. This sanitary sewer flows to Seneca County Wastewater Treatment Plant #4, located on West Romulus Road, approximately 1,000 feet (0.3 km) east of Fayette Road.

Wastewater Discharges

The Project Engineering Report also details wastewater discharges, and is attached as **Appendix 3.D.** The Applicant proposes that leachate generated from the MSW will be discharged to Wastewater Treatment Plant #4, operated by Seneca County Water and Sewer Department. Preliminary discussions with the Department indicate that they likely would be willing to work with the Applicant to upgrade Wastewater Treatment Plant #4 to allow raw leachate as influent. Such an improvement would be a major benefit to the community, and is the preferred approach to wastewater management.

However, as an alternative, the Applicant could treat all leachate emanating from the Facility. A new SPDES Individual Wastewater Permit would be required. A perennial stream is not available on-site, so it is anticipated that the NYSDEC State Pollutant Discharge Elimination System ("SPDES") Permit would be required for a discharge to the nearby Reeder Creek. The leachate treatment system would consist of a 1,374,000 gallon equalization tank with leak detection and secondary containment, two 315,000 gallon anaerobic digesters and a 456,000 gallon sludge tank. In addition to these processes, a bio-membrane and nitrification-denitrification sequencing batch reactor and a nano-filtration treatment system would be added to the Facility. Sludge formed as a byproduct from the treatment plant would be directed to the municipal waste combustor as needed for the waste combustion process. Methane generation could occur as part of the anaerobic digestion process. The methane would be routed to the waste combustor to be used as fuel. Operations would be enclosed so noise and odor levels from the system would be controlled. The leachate treatment system would be located outside of wetland impacts. The

connection of a leachate forcemain from the waste pit or effluent discharge pipe may require temporary construction work in the wetlands, but any disruption would be very minor and would be mitigated.

Therefore, the Project will not have any significant adverse impacts on surface waters.

SECTION 4 – GROUNDWATER

Section 4 of Part 2 of the Full Environmental Assessment Form asks whether the Project may result in new or additional use of groundwater, or may have the potential to introduce contaminants to groundwater or an aquifer. The Project will not utilize groundwater, and will not result in any significant adverse impact on groundwater.

The Project Site is encumbered by two environmental easements granted to NYSDEC by the predecessor in title: Instrument Number 2008-00000893, Liber 767/318, dated January 31, 2008, recorded on March 4, 2008, and Instrument Number 2011-00006718, Liber 835/119, dated February 14, 2011, recorded on June 10, 2011. . These easements restricts groundwater use on the Project Site, by forbidding groundwater use without the prior written approval of the USEPA and U.S. Department of the Army. This restriction was imposed due to the contamination from former operations at the Depot. The Project does not call for the use of groundwater.

However, the Project will protect groundwater from further degradation. As discussed above, the Project will implement an IPM Plan, thus minimizing the potential effects of pesticide and herbicide applications upon groundwater resources. Further, any below grade storage of MSW will be accomplished inside a leak-proof concrete structure with secondary containment and leak detection if required by NYSDEC.

The Project calls for the impoundment of liquids, but will take measures to ensure that further degradation does not result. The impoundments will store leachate, boiler feed water, fire suppression water, stormwater, fuel, and chemical. The water for the boiler feed and fire suppression supply will be drawn from Seneca Lake. The approximate size and dimensions of the proposed tanks and impoundments are as follows:

Leachate Tank	Two 52 ft x 23 ft x 10 ft, 90,000 gallon tanks
Boiler Feed Water	200,000 gallons, 43ft (l) x 40ft (w) x 16ft (d)
Fire Suppression	200,000 gallons, 43ft (l) x 40ft (w) x 16ft (d)
Stormwater Management	Four Stormwater Management ponds totaling 2.9 million gallons, dimensions vary
Fuel Storage	4,000 gallons, 24ft (l) x 5.3ft (w) x 5.3ft (h)

The leachate tank will concrete tanks with secondary containment with leak detection. The boiler feed water and fire suppression impoundment structures will be reinforced concrete tanks. The stormwater management structures will be stabilized earthen impoundments.

On-site storage of petroleum will be necessary to provide fuel for on-site equipment. This equipment is predominately for the use of the container loading/unloading area. A 4,000 gallon

(15 m^3) double-walled, above-ground steel tank will be installed on-site with a secondary containment of at least 110% of the volume of the tank. Within the main processing plant, chemicals like slaked lime, activated carbon, and urea will be stored, and used in the flue gas cleaning system. Regular deliveries will be made to minimize the volume of on-site storage that is required.

SECTION 5 – FLOODING

Section 5 of Part 2 of the Full Environmental Assessment Form asks whether the Project may result in development on lands subject to flooding. The Project will not impact lands subject to flooding, and thus will not result in significant adverse flooding impacts.

The Project Site does not contain a recognized 100-year floodplain or 500-year floodplain as identified upon the most recent FEMA FIRM mapping. ***See*** **Appendix 5.A.** The entire area has been assigned a FEMA flood zone designation of Zone C. Zone C areas are defined as being outside the area of a 500-year flood and therefore have minimal to no risk of flooding.

Therefore, the Project will not result in development of lands that are subject to flooding.

SECTION 6 – AIR

Section 6 of Part 2 of the Full Environmental Assessment Form inquires with respect to a state regulated air emission source from the Project. While there will be state regulated air emissions, the Project will not result in significant adverse impacts on air quality, and will not degrade air quality in the vicinity of the Project Site.

6.1 Process Description and Sources of Air Emissions (Part 1 EAF Question D.2.f)

The Facility will include one or more sources of air emissions at the Project Site, including air emissions from fuel combustion and waste combustion. Mobile air emission sources during Facility operations will include waste unloading and handling equipment. Stationary emissions sources during Project construction will include generators, heaters, and construction equipment. Stationary sources during project operations will include the waste combustion system and process cooling water cooling towers.

The Facility is designed to receive, store, prepare for combustion, and combust 2,640 tpd of MSW, with process outputs including steam that is then used for electric power generation, and bottom ash and baghouse fly ash that is processed for use in concrete mix, aggregates, and fillers and from which metals are recovered and recycled. The Facility operation and process, and related air emission sources, are presented in **Appendix 6.A** and described as follows:

A. Waste Delivery and Material Handling

Waste deliveries are anticipated to be made by intermodal container trucks, transfer trailers, rear loaders, and front loaders (see Section 13 for a discussion of transportation impacts). The waste unloading platform will have 16 dumping platforms, and the truck will back up to the

designated platform to unload the waste into the underlying waste bunker. The waste bunker will have the capacity to store more than 5 days of waste deliveries. During this period, the waste is mixed and anticipated to decompose. Moisture will drain by gravity to a leachate collection pit. At the base of the waste bunker, a grid for leachate drainage will direct leachate toward a leachate collection tank (see Section 3 for a discussion of the leachate management system). Two semi-automatic cranes will be installed above the waste bunker for waste mixing, waste sorting and loading waste into the furnace feed hoppers.

Potential air emissions from the MSW delivery and handling processes include diesel exhaust from waste transfer vehicles entering and exiting the facility. Waste unloading, mixing, combustion, ash handling, waste unloading platform and the waste pit will not be open to air, so any gases produced will be managed by the Facility processes through the combustion air supply system for the furnace.

B. Waste Combustion

The waste combustion technology to be utilized at the Facility will be a moving grate furnace. From the hopper chute, the waste will be fed into the furnace using a moving grate feeding system to ensure that waste is fed into the furnace for combustion at a consistent rate. The moving grates will be designed to dry the waste as it is fed into the furnace, break up large pieces of waste, allow air flow through the grates, and ensure waste will be continuously transferred to the furnace.

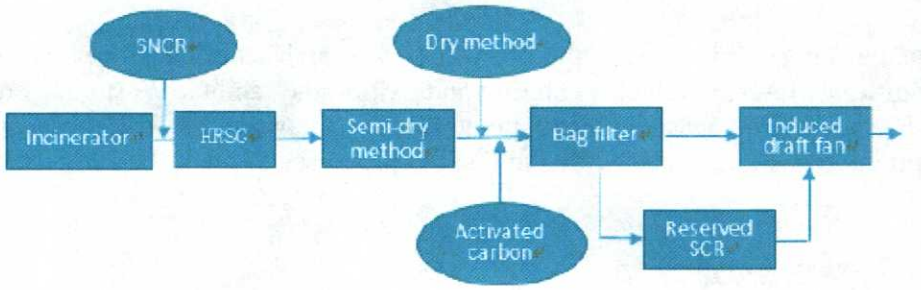
A natural gas ignition burner will be provided to start the combustion process in the furnace and a natural gas auxiliary burner is used to raise and maintain a consistent temperature during operations. Heat from the combustion process flue gases will be transferred in the boiler to the boiler water to create steam used to drive electric power generating turbines. Flue gas emissions will be managed through the air pollution control system (discussed below) and bottom ash will be managed through the slag and ash management process (discussed below).

The combustion air supply system will be divided into two systems. The primary air supply system will provide air to the moving grates and furnace for combustion and to preheat the combustion air according to the heat value of incoming waste. This system will pull air from the waste bunker. The secondary air supply system will supply air to the furnace chamber via secondary air nozzles for combustion of gas and regulating furnace temperature and oxygen concentration. Secondary air will be pulled from the furnace area and at the slag extractor to diffuse odorous air and vapor.

The steam generation process will occur at a boiler that works in conjunction with the waste combustion furnace. The boiler will be a single drum, natural circulation water tube boiler. Steam output from the boiler will be at 400°C. Steam will then either sold to neighboring industrial businesses or routed to a steam turbine generator. After routing through the steam turbine generator, the steam will be cooled at an air-cooled cooling tower. The condensate water collected at the cooling tower will then be returned as process water.

C. Air Pollution Control System

The air pollution control system utilizes redundant and backup systems that result in a flue gas that will meet or exceed NYSDEC and USEPA emission standards. A schematic of the system is provided below, followed by a detailed description of the individual processes.



SCHEMATIC DIAGRAM OF THE AIR POLLUTION CONTROL SYSTEM

1. *Carbon Monoxide Control*

Carbon monoxide ("CO") present in the flue gas will result from incomplete combustion in the furnace. The key to achieve complete combustion of CO is control of the flow of secondary air in the furnace to provide sufficient oxygen to maximize the oxidation process, while avoiding a significant reduction in the local gas temperature.

2. *NOx Control*

Nitrogen oxides (NOx) will form from the combustion of nitrogen containing wastes at high temperatures and the fixation from nitrogen in air at very high temperatures. Moving grate furnaces restrain NOx production by combusting the waste at a relatively low temperature and staging air injection to optimize air supply. In addition, Selective Non-catalytic Reduction (SNCR) with the use of urea as a reductant will be used in the flue gas emission control train. Reaction of NOx with the urea forms nitrogen gas and water vapor, resulting in a NOx removal efficiency of up to 50%.

Under typical conditions, the SNCR process is expected to be sufficient to control NOx, but when necessary a secondary control process, selective catalytic reduction (SCR), utilizing ammonia, will be installed and on reserve. The SCR process will be utilized downstream of the bag filter. Removal of particulates decreases fouling of the catalyst; however, the gas may require reheating to bring the flue gas back to optimum temperatures. The ammonia will be injected into the flue gas duct work, then the mixture passes through a catalyst. SCR used in conjunction with SNCR will provide up to 90% removal of NOx.

3. *Acid Gas Control*

Flue gas produced during the waste combustion process will require treatment to remove acid gases such as hydrogen chloride (HCl) and sulfur dioxide (SO2), which result from the combustion of chlorine and sulfur containing materials. Two deacidification methods will be used at the Facility: dry and semi-dry methods. The semi-dry method uses a lime slurry and dry reaction tower in conjunction with a rotary atomizer to atomize the lime slurry absorbent to provide a high removal efficiency with no water discharge. This method is the most frequently used acid gas control technology utilized in the United States. The semi-dry flue gas deacidification process will be the primary method for control for HCl and SO2, providing around 95% removal efficiency.

Treatment of the flue gas using the semi-dry method will entail injection of the lime slurry via rotary atomizers in an adsorber vessel. The water within the slurry will evaporate, cooling the flue gas, while the lime reacts with the acid gases, forming calcium salt particulates which can be removed by the subsequent particulate removal process (i.e., fabric filters).

The dry method uses dry powdered lime, but provides a relatively low removal efficiency of around 80%. The dry method will be installed and on standby for use during periods when target levels of HCl and SO2 are not achieved using the semi-dry system alone and if the semi-dry system is down for maintenance.

4. *Dioxin, Furan, and Heavy Metal Removal*

Dioxins and furans (CDD/CDF) can form as products of incomplete combustion in the presence of chlorine compounds. Heavy metals can be present in low concentrations in the waste feedstock. In addition to utilizing good combustion practices to minimize the potential for formation of CDD/CDF (see CO Control discussion above), dioxins and furans (CDD/CDF), as well as heavy metals (especially, mercury), will be removed from the flue gas using an activated carbon injection system. Fine particles of activated carbon will be evenly mixed with the flue gas within the ductwork downstream of the semi-dry reaction tower. Sufficient contact time will be provided to achieve high adsorption and cleaning efficiency. Once the pollutants are adsorbed onto the activated carbon, the particulates can be removed by a subsequent treatment process (i.e., fabric filters).

5. *Particulate Control*

Particulate control will be achieved with fabric filters sewn into cylindrical tubes or bags. The flue gas will pass through the bag filters from outside to inside. Particulates, calcium salts, unreacted lime, and activated carbon particles will be collected on the surface of the filter, mainly through inertial compaction. This will form a dust cake layer. The dust cake layer will provide additional removal of pollutants as the flue gas passes through the unreacted lime and activated carbon found within the layer. The cleaned gas will be emitted out the bag filter via top plenums above a supporting plate for the filter media.

The cleaning of the bag filters will be carried out by pulse jet air. The differential pressure across the bag filter will be monitored and automatically controls the pulse jet cleaning system.

D. Slag and Ash Management

1. *Bottom Ash*

Through the process of MSW combustion approximately 25% by weight of the incoming waste will be reduced to ash which will be collected at the bottom of the furnace. This ash can be combined with slag pulled from the bottom of the boilers. The bottom ash and boiler slag will be processed for recovery of metals. After the metals are removed, the residual ash/slag will be prepared and sold for use in concrete mix, aggregates, and fillers.

The proposed bottom ash/boiler slag handling process will be housed in an enclosed building and includes initial screening with overhead magnets to pull out large (>1.25 inches) ferrous materials, including items such as non-perishable food cans, utensils, and grates. A second screen will further divide the material into less than 0.4-inch and 0.4-inch to 1.25-inch size classes. Both size classes will be processed by a magnetic drum separator for additional ferrous metals recovery, and an eddy current separator for non-ferrous metals (primarily aluminum) recovery. The ash in the smallest size class (< 0.4 inches) can be sold as a replacement material for concrete sand for use in cement blocks, sidewalks, or other concrete products. The remaining ash in the two larger sized classes will be crushed with an impact crusher, and reprocessed if needed, to achieve the sand-like particle size distribution necessary to be used in the production of concrete (i.e., 100% < 0.4 inches (10 mm)).

2. *Fly Ash*

Fly ash will be collected in the bag filters used in the air pollution control system. Generally, fly ash will be produced at a rate of approximately 5% of the incoming waste, by weight. After initial screening, fly ash can be mixed with the smallest size class (< 0.4 inches (10 mm)) of bottom ash and sold as a replacement material for concrete sand.

E. Dust Control

Dust controls measures will be implemented at the commencement of construction in accordance with the NYSDEC *Standards and Specifications for Erosion and Sediment Control* referenced as **Appendix 6.C**. A water truck has will be utilized on-site during construction, providing dust control on haul roads and actively worked areas. Street sweeping will occur as necessary to clean the roadways of any dust that has accumulated on adjacent streets so that it does not pose an impact to traffic safety. Both temporary and permanent stabilization will be utilized to control dust and applied in accordance with the NYSDEC General Permit requirements, including vegetative cover, straw mulching, and stone stabilization.

Additionally, dust generated during waste management and ash processing operations will be exhausted through the furnace supply air system and captured in the particulate control system.

6.2 Permitting Requirements (Part 1 FEAF Questions D.2.g and D.2.g(i))

The Project will require a federal Title V and Prevention of Significant Deterioration (PSD) air permit to operate because emissions of nitrogen oxides (NOx), and potentially sulfur dioxide (SO2) hydrogen chloride (HCl) exceed the triggering standards for major sources. However, because the Facility will meet or exceed the applicable emission standards, the Facility will not have a significant adverse impact on air quality.

A. Emission Estimates

While past experience with proprietary air pollution control equipment can be considered, AP-42, *Compilation of Air Pollutant Emission Factors*, is USEPA's primary compilation of emission factor information used to estimate Facility air emissions. AP-42 is organized by industry. In Chapter 2 of the 5th Edition, Section 2.1 is dedicated to Refuse Combustion. Emission factors (in pounds of pollutant emitted per US short ton of refuse combusted) are presented by combustor type and primary treatment technologies utilized. Based on the description in AP-42, the Facility utilizes a typical mass burn waterwall type combustor design with a waste acceptance rate of 2,640 US short tons/day and an assumed 365 days per year of waste acceptance. Under these conditions, the emissions estimates in US short tons per year ("TPY") are presented in the table below:

Table 6-1
Facility Emission Estimates

Pollutant	AP-42 Flue Gas Emission Rates[1] (TPY)	Adjusted AP-42 Flue Gas Emission Rates[2] (TPY)	Measured Flue Gas Emission Rates[3] (TPY)
CDD/CDF	3.18E-05	7.96E-06[4]	≤4.0E-07
NOx	1,715	858 (172)[5]	240
CO	223	223	13
CO_2	949,146	949,146	Not Measured
Particulate Matter	29.87	29.87	16
Mercury	1.06	2.65E-01[4]	Not Detected[8]
Cadmium	2.04E-03	5.10E-04[4]	Not Detected[8]
Arsenic	1.31E-02	3.26E-03[4]	0.014[7]
Chromium	1.45E-02	3.61E-03[4]	
Nickel	2.49E-02	6.22E-03[4]	
Lead	1.26E-01	3.14E-02[4]	
SO_2	267	53[6]	Not Detected[8]
HCl	102	20[6]	Not Detected[8]
Fluorides			Not Detected[8]

[1] Calculated using controlled emission factors which account for treatment with semi-dry adsoprtion and bag filters only.
[2] Calculated using emission reduction efficiencies presented in Section 6.1.C for all additional air pollution control measures.

[3] Converted from actual air emission measurements provided by an operating facility utilizing similar air pollution control equipment to that proposed for the Facility.
[4] Removal efficiency of 75% assumed for activated carbon injection system based on AP-42.
[5] SCNR 50% removal alone (SNCR+SCR 90% removal in combination).
[6]Additional 80% removal when dry method is used in combination with the semi-dry method.
[7]Sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, and their compounds.
[8]Detection limit unknown.

In addition, the estimated emissions of Hazardous Air Pollutants ("HAPs") are 20.64 tons per year. HAPs at this Facility are dominated by HCl. All the metals and CDD/CDF are also HAPS. Controls for each of these compounds are included in the Facility design as discussed in Section 6.1.C.

AP-42 also provides conversion factors to convert the published emission factors into concentrations to facilitate the comparison of expected emissions to performance standards. The following Table provides the results of these conversions.

Table 6-2
Estimate of Emission Concentrations from the Facility

Pollutant	Unit[1]	AP-42 Flue Gas Concentration[2]	Adjusted AP-42 Flue Gas Concentration[3]	Measured Flue Gas Concentraion[4]
CDD/CDF	ng/Sm^3	8.2	2.05[5]	≤ 0.11
NOx	ppm	231	116 (23.1)[6]	34.69
CO	ppm	49.26	49.26	3.10
CO_2	ppm	134,000	134,000	Not Measured
Particulate Matter	mg/Sm^3	7.69	7.69	4.33
Mercury	$\mu g/Sm^3$	273	68.25[5]	Not Detected[9]
Cadmium	$\mu g/Sm^3$	3.36	0.84[5]	Not Detected[9]
Arsenic	$\mu g/Sm^3$	0.525	0.13[5]	3.7[8]
Chromium	$\mu g/Sm^3$	3.72	0.93[5]	
Nickel	$\mu g/Sm^3$	6.40	1.6[5]	
Lead	$\mu g/Sm^3$	32.4	8.1[5]	
SO_2	ppm	25.77	5.15[7]	Not Detected[9]
HCl	ppm	17.15	4.29[7]	Not Detected[9]

[1] Sm^3 = Standard cubic meters and ppm = parts per million by volume, both corrected to 7% oxygen.
[2]Calculated using controlled emission factors which account for treatment with semi-dry adsoprtion and bag filters only.
[3]Calculated using emission reduction efficiencies presented in Section 6.1.C for all additional air pollution control measures.
[4]Converted from actual air emission measurements provided by an operating facility utilizing similar air pollution control equipment to that proposed for Facility.
[5]Removal efficiency of 75% assumed for activated carbon injection system based on AP-42.
[6]SCNR 50% removal alone (SNCR+SCR 90% removal in combination).
[7]Additional 80% removal when dry method is used in combination with the semi-dry method.
[8]Sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, and their compounds.
[9]Detection limit unknown.

B. New Source Performance Standards

The primary standards applicable to the Facility are the federal New Source Performance Standards (NSPSs). Similar to AP-42, the NSPSs are organized by industry. 40 CFR Part 60, Subpart Eb, *Standards of Performance for Large Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994*, will govern the base emissions limits. In 40 CFR §60.50b(a), a large municipal waste combustor is defined as a "municipal waste combustor unit with a combustion capacity greater than 250 tons per day of municipal solid waste." The standards contained within this regulation are summarized in the table below. In addition, several of the pollutants listed in Table 6-3 have stricter standards imposed by the State of New York as listed in 6 NYCRR §219-2.2. Where they exist, the stricter State standards have been noted.

Table 6-3
NSPS Standards Applicable to the Facility

Pollutant	Unit	Base Emission Standard (State Standard)
Particulate Matter	mg/Sm^3 (grains Sm^3)	20 (0.010)
Opacity	%, 6-minute average	10
Cadmium	$\mu g/Sm^3$	10
Lead	$\mu g/Sm^3$	140
Mercury	$\mu g/Sm^3$ -or- % of the potential, whichever is less stringent	50 (28) -or- 15
SO_2	ppm (Note 2) -or- % of the potential, whichever is less stringent	30 -or- 20
HCl	ppm -or- % of the potential, whichever is less stringent	25 -or- 5
CDD/CDF	ng/Sm^3	13 (2)
NOx, 1st year of operation	ppm	180
NOx, After 1st year	ppm	150
CO	ppm	100
Visible Emissions of Combustor Ash	% of observation period (9 minutes per 3-hour period per EPA Reference Method 22)	5

Notes: 1. Sm3 = Standard cubic meters corrected to 7% oxygen.
2. ppm = parts per million by volume and corrected to 7% oxygen.

A comparison of the estimate of emission concentrations in Table 6-2 with the base emission standards presented here demonstrates that the Facility will meet the emission standards for all compounds specified in the federal NSPS regulations. Estimated mercury concentrations are over the absolute standard of 28 and 50 $\mu g/Sm^3$, respectively, but under the 15% of the potential emissions (calculated using AP-42 as 104 $\mu g/Sm^3$).

C. New Source Review Standards

While NSPS considers the source alone, New Source Review (NSR) regulations considers the environment in which the Facility will be located. Under the NSR regulations, the Facility will be classified as a major stationary source because it is listed as one of the 28 major source types in 6 NYCRR §201-2.1(b)(21)(iii)(h), Municipal Incinerators Capable of Charging More Than 50 [US Short] Tons of Refuse Per Day. Additionally, the Facility would be considered a major source if the potential to emit (PTE) is greater than 100 tons (US short)/year for any of the following pollutants:

Table 6-4
Major Facility Thresholds for Attainment and Unclassified Areas

Contaminant	Major Facility Threshold (TPY)[1]	Maximum Estimated Emissions from Table 6-1[1] (TPY)[2]
Carbon monoxide	100	223
Nitrogen oxides	100	1,715[6]
Sulfur dioxide	100	267[6]
Particulate matter	100	29.87
Particulate matter: PM-10 emissions[3]	100	29.87
Particulate matter: PM-2.5 emissions[3]	100	29.87
Lead (elemental)	100	0.126
Fluorides	100	Not Detected
Sulfuric acid mist	100	Neg.[7]
Hydrogen sulfide (H2S)	100	Neg.[7]
Total reduced sulfur (including H2S)	100	Neg.[7]
Reduced sulfur compounds (including H2S)	100	Neg.[7]

Municipal waste combustor organics (measured as total tetra through octa-chlorinated dibenzo-p-dioxins and dibenzofurans)	100	3.18E-05
Municipal waste combustor metals (measured as particulate matter)	100	29.87
Municipal waste combustor acid gases (measured as sulfur dioxide and hydrogen chloride)	100	369[5]
Greenhouse gases	100 and 100,000[4]	951,563[8]
Any other regulated NSR contaminant	100	Neg.

[1] Unless as otherwise noted.
[2] TPY = US short ton per year.
[3] Both filterable and condensible fractions are to be included (see definitions of PM-10 and PM-2.5 in Part 200 of this Title).
[4] Measured as CO2 equivalents.
[5] SO2 of 267 tpy plus HCl of 102 tpy.
[6] Base AP-42 estimate that does not account mission reduction efficiencies presented in Section 6.1.C for all additional air pollution control measures.
[7] H2s, total reduced sulfur and reduced sulfur compounds will be negligible as combustion (typically via a flare) is the primary pollution control for these compounds.
[8] Calculated.

A comparison of the major source thresholds to the emissions estimates provided in Table 6-1 above indicate that the Facility will be a major source due to its NOx and gross greenhouse gas emissions (*but see* net greenhouse gas emission assessment below), and may also be considered major source for acid gases, sulfur dioxide, and carbon monoxide depending on the emission control estimate.

Under NSR regulations, if a facility, as here, is major source, it will be subject to either non-attainment NSR for non-attainment pollutants or Prevention of Significant Deterioration ("PSD") for attainment or unclassified pollutants. Here, the proposed Facility will be located in a region that is classified as attainment for all criteria pollutants, so PSD regulations under 6 NYCRR Part 231 apply.

The next step in the permitting process is to then compare the Facility's PTE emission with the following significant project thresholds.

Table 6-5
Significant Project Thresholds and Significant Net Emission Increase Thresholds for Attainment and Unclassified Areas

Contaminant	Significant Project Threshold[1]/ Significant Net Emission Increase Threshold
Carbon monoxide	100 TPY
Nitrogen oxides	40 TPY
Sulfur dioxide	40 TPY
Particulate matter	25 TPY
Particulate matter: PM-10 emissions[2]	15 TPY
Particulate matter: PM-2.5 emissions[2]	10 TPY
Lead (elemental)	0.6 TPY
Fluorides	3 TPY
Sulfuric acid mist	7 TPY
Hydrogen sulfide (H2S)	10 TPY
Total reduced sulfur (including H2S)	10 TPY
Reduced sulfur compounds (including H2S)	10 TPY
Municipal waste combustor organics (measured as total tetra through octa-chlorinated dibenzo-p-dioxin and dibenzofurans)	3.2 × 10-6 megagrams per year (3.5 × 10-6 TPY)
Municipal waste combustor metals (measured as particulate matter)	14 megagrams per year (15 TPY)
Municipal waste combustor acid gases (measured as sulfur dioxide and hydrogen chloride)	36 megagrams per year (40 TPY)
Greenhouse gases	Any increase and 75,000 TPY[3]
Any other regulated NSR contaminant	Any increase

[1] Project emission potential threshold. TPY = US short ton per year.
[2] Both filterable and condensible fractions are to be included (see definitions of PM-10 and PM-2.5 in Part 200 of this Title).
[3] Measured as CO2 equivalents.

Due to the location of the Facility in an Ozone Transport Region, the following thresholds for ozone precursors also apply:

Table 6-6
Significant Project Thresholds for the
Ozone Transport Region

Area/Contaminant Classification	Significant Project Threshold (TPY)[1]
Marginal, Moderate, or Ozone Transport Region	
VOC	40
NO_x	40

[1] Project emission potential threshold.

The Project thus has the potential to exceed seven of the significant project thresholds, which are identified by the shading in Table 6-5. As a result, the Facility will be required to submit a permit application that includes both Title V and PSD elements which may result in stricter or additional standards than the NSPS standards listed in Section 5-16.1.2. Elements of the permit application will include:

- An Air Emissions Inventory detailing emissions related information and a comparison with applicable limitations including calculations, process descriptions, flow diagrams, a description of air pollution control equipment, and emission points.
- An Air Monitoring and Compliance Plan that identifies the methods used for monitoring compliance with all applicable standards, test methods used for measuring compliance, record keeping, and reporting requirements.
- An Existing Air Quality Analysis to include site-specific air quality monitoring for those parameters that exceed the significant project thresholds under PSD (i.e., Tables 6-5 and 6-6) for a period of one year typically, but in no cases less than four months.
- A Best Available Control Technology (BACT) Review that demonstrates the adequacy of the proposed air pollution control equipment for every pollutant that exceeds their significant project threshold in Tables 6-5 and 6-6. Based on this information, the BACT may differ from the air emission controls proposed and changes to the air pollution control equipment may be mandatory.
- Dispersion modeling, performed according to the NYSDEC's Air Program Policy DAR-10, to provide supporting evidence that the Facility will not exceed the significant impact levels in the ambient air concentrations listed in the regulation (6 NYCRR §231-12.7) above the background concentrations determined during the existing air quality analysis. Should dispersion modeling not provide support that the Facility can remain below the significant impact levels as proposed, emission limitations stricter than the NSPS emissions standards presented in Table 6-3 will be imposed.

- An Impact Analysis with regards to the possible impairment to visibility and air quality projected for the area as a result of not only the Project itself, but also any other associated growth in commercial, residential, or industrial facilities anticipated due to the Project must be prepared. If it is determined that impairment is possible from the Project as proposed, stricter emission control limitations may be required.

In conclusion, the Facility will require Title V and PSD air emission permits because it will be considered a major facility and a significant project under NSR. Nonetheless, the Facility complies with the base emission performance standards under NSPS, and, if the Title V/PSD air permit application assessment concludes that the Facility will not meet air emission control requirements to achieve BACT, that emissions from the Facility will exceed significant impact levels as proposed, or, with other anticipated projects, it will impair visibility and air quality in the area of the Facility, the Applicant will implement additional emission controls to meet applicable standards. Therefore, the Project as currently designed, or as the Applicant would modify it during the NYSDEC air permitting approval process to ensure it complies with applicable standards, will not result in any significant adverse impacts on air quality, and will not degrade air quality in the vicinity of the Project Site.

6.3 Greenhouse Gas Emission Impact-Comparative Assessment (EAF Part 1 Question D.2.g(ii))

An assessment of the greenhouse gas ("GHG") emissions from the Project was performed to: (1) determine the gross and net annual GHG emissions from the Project; and (2) assess the GHG emissions of the Project as compared to landfilling—the alternative disposal method for mixed MSW available in New York State (*see* http://www.dec.ny.gov/chemical/23682.html).

A. Gross GHG Emissions

As presented in Section D.2.g of the EAF, the gross (i.e. stack) GHG emissions from the Project are 949,000 tons per year of CO2 and 8.6 tons per year of N2O, for total GHG emissions equivalent to 951,563 tons per year of CO2 ("CO2e").[1] The gross CO2 emissions are a measure of CO2 emitted from the combustion of MSW and ancillary fuel sources, while the N2O emissions are derived from waste combustion with the balance from fixation from the atmosphere. However, as discussed further below, the gross GHG emissions do not reflect the environmental benefits of the waste-to-energy Project, since it does not account for the biogenic biomass present in the MSW, the avoided GHG emissions from the utility sector associated with electricity production, or the avoided emissions from the recovery and recycling of metals.

B. Net GHG Emissions and Comparative Assessment to Landfilling Mixed MSW

[1] The Intergovernmental Panel on Climate Change (IPCC) has established CO2 as the reference gas for measurement of heat-trapping potential (also known as global warming potential or GWP). Comparative GHG emissions are expressed in tons of CO2 equivalents (CO2e). By definition, the GWP of CO2 is one. The GWP of N2O is 298. *See* U.S. EPA Documentation for GHG Emission and Energy Factors Used in WARM (February 2016)(the "WARM Documentation"), *available* at: https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model.

As presented below, an assessment of the net GHG emissions from the Project and a comparative assessment of landfilling mixed MSW conclude that the Project activities overall *reduce* GHG emissions and have a significantly beneficial GHG emission impact as compared to landfilling the same material.

As recommended in the NYSDEC Policy for Assessing Energy Use and Greenhouse Gas Emissions in Environmental Impact Statements (July 15, 2009),[2] the net GHG emission assessment and comparative assessment to landfilling utilizes the latest version of U.S. EPA's Excel version of the Waste Reduction Model (WARM) (Version 14, March 2016) (the "WARM GHG Calculator")[3] and U.S. EPA Documentation for GHG Emission and Energy Factors Used in WARM (February 2016)(the "WARM Documentation")[4] to perform this GHG emission assessment.

The net GHG emissions and comparison to landfilling assessments utilized the default assumptions of the WARM GHG Calculator to determine the GHG emissions from the Project. The relevant assumptions are as follows:

- 963,600 U.S. tons of MSW are processed annually (2,640 tpd x 365 days) by the Project or the landfill.
- For the purposes of the WARM GHG Calculator, the Project was assumed to be a waste-to-energy mass burn facility that generates electricity as a byproduct of the combustion process and recovered and recycled ferrous metals from the bottom ash of the combustor.
- The WARM GHG Calculator composition for "mixed MSW" was assumed for the composition of the MSW feedstock.
- An average distance of 254 miles (the distance from New York City to the Project Site) was assumed as a conservative measure of the distance from the source of generation of MSW to the disposal facilities.
- The comparative landfill facility was conservatively assumed to have landfill gas recovery with recovery of the methane for energy.
- The comparative landfill was assumed to have "typical" landfill gas collection efficiency and a national average "MSW decay rate."
- The generated electricity would offset electrical generation in the State of New York.

As presented in the WARM Documentation, the net GHG emissions from waste-to-energy facilities consist of: (1) emissions from the transportation of waste to the facility; (2) emissions of non-biogenic CO2; and (3) emissions of N2O, minus (a) avoided emissions from the electric utility sector for the electricity product; and (b) avoided GHG emissions due to the recovery and recycling of ferrous metals at the combustor as compared with the use of a mix of recycled and virgin materials.[5] CO2 emissions from the combustion of biomass such as paper products, yard

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[2] *Available at* http://www.dec.ny.gov/docs/administration_pdf/eisghgpolicy.pdf.
[3] *Available at*: https://www.epa.gov/warm/versions-waste-reduction-model-warm#WARM%20Tool%20V14.
[4] *Available at:* https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model.
[5] WARM Documentation at 5-1.

trimmings, and food discards are not counted toward the GHG emissions because they are biogenic, naturally cycling back to the atmosphere as CO2 as they degrade.[6]

The net GHG emissions from landfilling operations with landfill gas recovery for energy including the following components: (1) emissions from the transportation of waste to the facility; and (2) methane emissions from decomposition of biogenic carbon compounds, minus (a) biogenic carbon stored in the landfill; and (b) CO2 emission avoided from the electric utility sector for the electricity product.[7] As with the Project, CO2 emissions from biogenic sources are not counted toward net GHG emissions.[8] Methane is counted as a net GHG emission because, even if it is derived from biogenic sources, degradation would not result in methane emissions if not for deposition in the landfill.[9]

The Analysis Inputs and Summary Report generated from the WARM GHG Calculator are presented in **Appendix 6.B** and summarized in the table below:

Waste Disposal Method	**Net GHG Emissions (TPY CO2e)[10]**
Project Waste-to-Energy	-31,759
Landfilling	136,726
Net Benefit WTE to Landfill	-168,485

As shown, disposal of mixed MSW by way of the Project would result in a net a GHG emission reduction equal to 31,759 tons per year of CO2e. This net GHG benefit results because the gross GHG emissions are offset by GHG emissions reductions from avoidance of the combustion of fossil fuels from electricity generation, the accounting for biogenic MSW sources converted to CO2, and GHG offsets from metals recovery and recycling as compared with metals produced from a mix of recycled and virgin materials.

As compared with landfilling, the Project would result in a GHG reduction of about 68,485 tons per year of CO2e, primarily due to the methane emissions and the lack of metals recovery associated with landfilling.

In conclusion, the GHG emission impact of the Project is favorable, especially as compared with the alternative method for disposal of mixed MSW, namely, landfilling. Therefore, the Project will not result in a significant adverse impact on GHG emissions.

6.4 Methane Emissions

Potential for methane generation exists in the enclosed waste storage and mixing bunker. Precautions are taken to keep conditions in the waste aerobic through mixing and by combusting the waste at a similar rate as waste is delivered to avoid prolonged storage. Additionally, the

[6] WARM Documentation at 1-15 and 5-1.
[7] WARM Documentation at 6-2.
[8] WARM Documentation at 6-1.
[9] WARM Documentation at 6-1.
[10] A negative value represents a GHG emission reduction.

enclosed waste bunker is kept at a negative pressure with air directed to the furnace to ensure the combustion of any methane generated in the bunker.

6.5 Release of Air Pollutants from Open Air Operations

The Project may result in the release of air pollutants from open-air operations. Open air processes include diesel exhaust from waste transfer vehicles entering and exiting the facility. Operations within the waste unloading platform and the waste pit are not open to air, so any gases produced will be managed by the facility processes. Waste unloading, mixing, combustion and ash handling are not open-air processes.

SECTION 7 – PLANTS AND ANIMALS

Section 7 of Part 2 of the Full Environmental Assessment Form asks whether the Project may result in a loss of flora or fauna. Any loss would be *de minimis*, and the Project will not result in significant adverse impacts to flora and fauna.

The Project Site is within a highly disturbed area, being within the former Depot. The Depot was constructed in the 1940's and was active until the 2000's. The area remained disturbed after the 1990's due the on-going remediation of the Depot. The Depot is characterized by advanced successional scrub-shrub habitat with wooded pockets that fragment numerous small, successional stage of field habitats. The character of the open lands is fragmented, and successional field vegetation is growing out of old graveled roadways, parking lots, equipment and material storage areas. In addition, along the old railroad, roadways, and storage areas are simple non-vegetated gravel areas. This gravel substrate is impenetrable to borrowing/tunneling mammals, and has resulted in the natural succession of vegetation that is sparsely distributed.

Common vegetative species in the successional scrub-shrub/woods include black locust, scattered scotch pine, green ash, eastern cottonwood treats, and buckthorn, autumn olive, grey dogwood, and hawthorn shrub thickets. Other vegetation includes common species such as Canada goldenrod, Queen Ann's lace, teasel, timothy, knapweed, and other grasses and forbs.

The Applicant reviewed federal and New York State databases for plant and animal resources. The NYSDEC *Environmental Resource Mapper* notes that the Project Site may contain rare plants or animals, but does not specify any. Further the US Fish and Wildlife Service Information, Planning and Conservation ("IPaC") *Trust Resource Report* noted that the Northern Long-eared Bat (*myotis septentrionalis*) could be present within the Project Site. ***See* Appendix 7.A**. The Report also listed various migratory birds that could be affected by the Project. The IPaC Report noted that there were no critical habitats, wildlife refuges, or fish hatcheries at the Project Site.

The Applicant hired two expert consultants to investigate these issues. On July 8 and 9, 2017, Bat Conservation and Management, Inc. ("BCM") investigated 100 acres within the Depot, only 48 of which comprise the Project Site. ***See* Appendix 7.B**. BCM preformed an acoustic bat survey to determine the presence or probable absence of the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened Northern long-eared bat within the Project Site,

following protocols outlined the 2017 U.S. Fish and Wildlife Service ("USFWS") *Range-wide Indiana Bat Summer Survey Guidelines*, which requires that the investigation take place between May 15 to August 15. No Indiana bat or Northern long-eared bat calls were detected during the survey and based on these results, so the absence of these two species within the Project Site can be presumed.

The Applicant also hired Environmental Resources to perform an ecological assessment of the Project Site in September 2017. ***See* Appendix 7.C**. The New York Natural Heritage Program ("NYNHP") indicated that the Short-eared Owl (*Asio flammeus*) is a New York State endangered species suspected to possibly inhabit in the Project Site. Environmental Resources concluded that the lack of dense herbaceous vegetation which serves as cover for small mammals and loose organic soils necessary for tunneling/borrowing mammals, is not conducive in accommodating an abundance of small mammals (meadow voles, field mice, etc.) that serve as prey for the Short-eared Owl. While the NYNHP response indicates Short-eared Owl has been documented at and within 0.5 miles of the Project Site, it is evident that there is more appropriate habitat for this species in the surrounding rural areas of Seneca County.

Based on the small areas of the open fields that are each fragmented by surrounding successional shrubs and woodlots, the impenetrable unnatural gravel substrate underlying the study area, and the vast rural acreages of more appropriate Short-eared Owl habitat surrounding the former Depot Project Site, Environmental Resources concluded that it is unlikely that the Project Site provides optimum habitat for the species. Therefore, the Project Site will not jeopardize or adversely affect Short-eared Owl individuals or populations.

Another wildlife consideration is the leucistic white-tailed deer herd on-site. The white deer have become a symbol of the Depot, and have been confined to the Depot for several decades, but are not legally protected. The Project will not interfere with the white deer population. The noteworthy efforts of Earl Martin, Deer Haven Park LLC, and Seneca White Deer, Inc. to restore the white deer habitat and food sources will boost the populations. Those efforts will continue on the Depot, but not within the area of the Project Site. The Applicant fully supports all white deer conservation efforts, and intends to contribute to those efforts. Furthermore, Bald Eagles and Osprey have been sited historically around the Depot, but have no documented habitats on the Project Site. The Project will not impact these species.

Therefore, the Project will not significantly impact plants and animals.

SECTION 8 - AGRICULTURAL RESOURCES

Section 8 of Part 2 of the Full Environmental Assessment Form asks whether the Project may impact agricultural resources. It will not, so the Project will not result in significant adverse impact on agricultural resources.

The Project is not located with an Agricultural District. ***See* Appendix 8.A.** The Depot has occupied the land since the 1940's, and there is documented contamination throughout the Depot. The Project Site does not occupy any potential agricultural land. In fact, the Project Site is encumbered by two environmental easements granted to NYSDEC by the predecessor in title,

which forbids groundwater use without the prior written approval of the USEPA and U.S. Department of the Army. This restriction was imposed due to the contamination from the Depot's operations. *See* Instrument Number 2008-00000893, Liber 767/318, and Instrument 2011-00006718, Liber 835/119.

Therefore, the Project will not impact any agricultural resources.

SECTION 9 – AESTHETIC RESOURCES

Section 9 of Part 2 of the Full Environmental Assessment Form asks whether the land uses of the Project are obviously different from, or are in sharp contrast to, current land use patterns between the Project and a scenic or aesthetic resource. They are not, and the Project will not result in significant adverse impact on aesthetic resources.

Seneca County in 2008 had 127,972 acres in farms, and in 2007 had 513 farms. Many of these farms contain facilities that include sheds, buildings, bunker and trench silos, and bins for grain storage. Silos are typically 10 to 90 feet in diameter and 30 to 275 feet in height. The County and surrounding community is accustomed to this high structures and should not be impacted by the Project's structures. Additionally, a cell phone tower exists about 1350 feet away from the Project Site, and is about 195 feet tall, which is taller than the height of the proposed building.

The Facility building will be about 180 feet tall, with a steam stack of about 260 feet. These heights will require a variance from the height limits in the Town Zoning Ordinance (discussed below). However, the Facility will not be inconsistent with other structures in the area. It will be aesthetically pleasing and will be properly maintained. ***See* Appendix 9.A.,** bird's eye view simulation of similar facility**, Appendix 9.B,** building elevations.

Therefore, the Project will not result in significant adverse impact on aesthetic resources.

SECTION 10 – HISTORIC AND ARCHEOLOGICAL RESOURCES

Section 10 of Part 2 of the Full Environmental Assessment Form asks whether the Project may occur in or adjacent to a historic or archeological resource. While there are nearby historic and archeological resources, the Project will not have a significant adverse impact on these resources.

Costich Engineering D.P.C., on behalf of the Applicant, requested a consultation from the New York State Historic Preservation Office ("SHPO") in order to determine whether historic places or archeological sites existed on the Project Site. Per letter dated September 21, 2017, SHPO found that the Project Site will have no adverse impact on any historic resources on the Project Site. ***See* Appendix 10.A.** It stated: "Our office continues to note that the Depot Historic District is eligible for listing on the National Register of Historic Places. Based upon further research our office has determined that that the boundaries of the historic district have been modified and that building 310: Lunch Room and Building S-311: Popping plant are not contributing to the historic district and are outside the district boundaries. As such, we have no concerns with potential impacts to these properties."

As for archeological sites, while there are two present within the Depot (Archeological Sites A09906.000229 and A09906.00230) that have been deemed eligible for the National Register of Historic Places, they are not located within the Project Site. In fact, SHPO indicated that no archeological sites were identified within the Project Site, and that it has no concerns regarding potential impacts to archaeological resources. ***See*** **Appendix 10.B.**

Therefore, the Project will not result in a significant adverse impacts to any Historic or Archeological Resources.

SECTION 11 – OPEN SPACE AND RECREATION

Section 11 of Part 2 of the Full Environmental Assessment Form asks whether the Project may result in a loss of recreational opportunities or a reduction of an open space resource as designated in any adopted municipal open space plan. The Project will not, so it will not have any significant adverse impact on open space and recreation.

The Project Site is not within an open space resource as designated in any adopted municipal open space plan. The Project will not result in an impairment of natural functions, or "ecosystem services," provided by an undeveloped area. The Project Site is within a highly developed area, and is restricted to public access. No current or future recreation uses are being lost due to the Project.

Thus, the Project will not result in a significant adverse impact on open space and recreation.

SECTION 12 – CRITICAL ENVIRONMENTAL AREAS

Section 12 of Part 2 of the Full Environmental Assessment Form asks whether the Project may be located within or adjacent to a critical environmental area ("CEA"). The Project will not be in a CEA, and will not result in a significant adverse impact on critical environmental areas.

The NYSDEC designates a Critical Environmental Area based on the exceptional or unique character of the area with respect to one or more of the following:

- a benefit or threat to human health;
- a natural setting (e.g., fish and wildlife habitat, forest and vegetation, open space and areas of important aesthetic or scenic quality);
- agricultural, social, cultural, historic, archaeological, recreational, or educational values; or
- an inherent ecological, geological or hydrological sensitivity to change that may be adversely affected by any change.

There are no Critical Environmental Areas designated pursuant to 6 NYCRR Part 617 in Seneca County. ***See*** **Appendix 12.A**, CEAs listed by County. Thus, the Project will not result in a significant adverse impact on CEAs.

SECTION 13 – TRANSPORTATION

Section 13 of Part 2 of the Full Environmental Assessment Form makes inquiry into impacts from the Project that may result from a change to existing transportation systems. While the Project will utilize existing transportation systems, it will not result in a significant adverse impact on transportation.

A comprehensive Traffic Impact Study ("TIS") was prepared in October 2017 by SRF Associates. ***See*** **Appendix 13.A.** The purpose of the TIS was to identify and evaluate the potential traffic impacts from the Project. The TIS concludes that the existing transportation network can adequately accommodate the projected traffic volumes and resulting impacts to study area intersections. SRF made the following conclusions:

1. Based upon information provided by the Facility operator, employees are expected to work three shifts: 6 AM-2 PM, 2 PM-10 PM, and 10 PM-6 AM. Given that these shift times occur outside of the commuter peaks on the adjacent roadways (7-8 AM and 4-5 PM), employee traffic is not anticipated during the peak hours studied. However, truck and other heavy vehicle traffic is anticipated to enter and exit the Project Site during the peak hours.
2. The proposed development is expected to generate approximately 57 (23) total truck trips during the AM (PM) peak hours, respectively.
3. All intersections operate at LOS "B" or better on all approaches during both peak hours under existing, background, and full build conditions.
4. There are no significant changes in levels of service as a result of the proposed Project and no mitigation is warranted or recommended at any of the study area intersections.

The TIS was performed under the assumption that all municipal waste will reach the Facility via waste hauling trucks, approximately 176 per day. As mentioned above and detailed further below, the Applicant intends to utilize the existing rail infrastructure at the Depot to transport waste via rail, so the projected vehicular traffic figures are likely higher than they will actually be.

Assuming Phase 2 is completed and the Facility operates at full design capacity in 2024, the Facility may employ approximately 85 people. The work shifts (6 AM-2 PM, 2 PM-10 PM, and 10 PM-6 AM) occur outside the commuter peaks on the adjacent roadways, so no employee traffic is anticipated during the peak hours studied. The Project (trucks only and at full build out) is estimated to generate approximately: 176 waste hauling vehicles/day; 2 slaked line trucks/day; 1 activated carbon truck/day; 1 urea truck/day; 1 lubricating truck/day; 3 scrap ferrous metal trucks/day; 2 non-ferrous trucks/day; and 52 ash or concrete sand trucks/day. These estimated trips were then compared against the commuter peak hours of 7:00-8:00 AM and 4:00-5:00 PM.

Table 1 below details the result of that comparison.

TABLE I

PROJECTED TRIP GENERATION

DESCRIPTION	AM PEAK		PM PEAK	
	ENTER	EXIT	ENTER	EXIT
Employees	0	0	0	0
Trucks/Other Vehicles	36	21	9	14
Total Site Generated Trips	*36*	*21*	*9*	*14*

Based on these Project trip generation numbers, SRF undertook a capacity analysis whereby the effectiveness of a section of roadway and/or intersection was measured based on the number of vehicles during a specific time period. 2017 base and 2024 background operating conditions during the peak study periods were evaluated to determine a basis for comparison with the projected future conditions. The future traffic conditions generated by the Project were analyzed to assess the operations of the intersections in the study area time period. Table II below details the results:

TABLE II: CAPACITY ANALYSIS RESULTS

INTERSECTION	2017 EXISTING CONDITIONS		2024 BACKGROUND CONDITIONS		2024 FULL DEVELOPMENT CONDITIONS	
	AM	PM	AM	PM	AM	PM
Route 96/Cayuga Street						
Westbound – Cayuga Street	B(10.1)	A(9.8)	B(10.2)	A(9.8)	B(11.3)	B(10.3)
Southbound left – Route 96	A(7.4)	A(7.6)	A(7.5)	A(7.6)	A(7.5)	A(7.6)
Route 414/Cayuga Street						
Eastbound – Cayuga Street	A(9.9)	B(10.0)	A(9.9)	B(10.1)	B(10.7)	B(10.6)
Northbound left – Route 414	A(7.6)	A(7.5)	A(7.6)	A(7.5)	A(8.0)	A(7.8)
Route 96/E. Patrol Road						
Eastbound – E Patrol Road	B(10.3)	A(0.0)	B(10.4)	A(0.0)	B(12.7)	B(11.5)
Northbound left – Route 96	A(7.5)	A(0.0)	A(7.6)	A(0.0)	A(8.5)	A(8.6)
Route 96/Bromka Road						
Westbound – Bromka Road	A(8.9)	A(9.1)	A(8.9)	A(9.2)	A(9.0)	A(9.2)
Southbound left – Route 96	A(7.4)	A(7.4)	A(7.4)	A(7.4)	A(7.4)	A(7.4)

NOTES:
B(10.6) = Level Of Service (delay in seconds per vehicle)
N/A = Approach does not exist/was not analyzed during this condition.
F(*) = Delays greater than two minutes per vehicle

All intersections are projected to operate at LOS "B" or better on all approaches during both peak hours under existing, background, and full build conditions. There are no significant changes in levels of service as a result of the Project, and no mitigation is warranted or recommended at any of the study area intersections

As detailed above, after Phase 2 of the Project has been completed, and assuming the Project would not receive waste by rail, it is estimated that approximately 176 waste-hauling vehicles will deliver to the Facility per day. This traffic would be limited to state highways, either coming from the south on Routes 96 or 414, from the north, via the New York State Thruway, on Routes 96, 96A or 414, or from the east and west on Route 5 (U.S. 20). These roads are adequate to handle this modest level of truck traffic.

However, the Applicant prefers to utilize the existing rail lines on the Depot, and hopes to minimize the waste-hauling trucks from the roadways. Even with rail, some waste-hauling trucks will be necessary, but the impacts of those would be *de minimis*. *See* Sections 6, 15.

The Depot is already equipped with an existing rail facility, previously operated by the Army, and currently used by Anderson Rail Group. The existing rail is connected to the Finger Lakes Railway ("FGLK") shortline. The FGLK line runs east and west, across New York State in between Syracuse and Rochester. It has an interchange station in Geneva. The waste would be transported via rail in 20-foot (6 m) long top loading, rear dumping sealed containers, holding 20 tons of waste per container. After Phase 2 is complete, rail-haul operations would include deliveries of 30 flat railcars carrying 120 sealed containers Monday through Saturday each week. The rail facility is estimated to be capable of delivering up to 2,000 tpd.

The FGLK locomotive will stage the railcars with loaded containers on the unloading track, and then use the runaround track to maneuver to the storage track to recover the railcars with the empty containers before leaving the Project Site. The Facility will be equipped with a reach stacker that will unload each container from the railcar and place it on the truck for transfer to the enclosed waste unloading platform. Once the container is emptied, the truck will return to the loading/unloading pad, where the reach stacker will place the empty container back on the railcar. Once all the containers have been emptied, the railcar mover will transfer the railcars from the unloading track to the storage track.

To accommodate for the daily rail deliveries, new track and improvements to existing track will likely be required. Additional infrastructure would include the construction of the loading/unloading platform, access roadways and drainage features. Track improvements would include a new loading/unloading track, a new storage track and a runaround track that connects to the existing track at the Project Site. These improvements would be a benefit to the community, and would hopefully allow more development of the Depot.

Therefore, based on the above, the Project will not result in a significant adverse impact on transportation.

SECTION 14 – ENERGY

Section 14 of Part 2 of the Full Environmental Assessment Form asks whether the Project may cause an increase in any form of energy. The Project will generate electricity, and will not result in any adverse impact to energy resources, but rather have a positive impact.

Underground utilities, including water, electric, sanitary, gas, and telecommunications are

available throughout the property. The Seneca Ordnance Substation is located at the intersection of East Kendaia Road and East Patrol Road, approximately 1,700 feet (518 m) east of Facility. The substation distributes electricity to the Depot through a 34.5/4.8 kV, 5 MVA transformer and four 4.8 kV circuits via overhead and underground wires. This electrical substation will be the main connection between the Facility and the New York State Electric & Gas Corp. ("NYSEG") grid. Based on a previous interconnect study in the area, it is anticipated that the facility will require the following upgrade, at a minimum, to the utility-owned infrastructure: Rebuild existing 34.5kV transmission line to 115kV standards from the substation to Border City/MacDougall. This upgrade will benefit the community and the Depot.

Further, an 8" (20 cm) natural gas service line is located approximately 1,500 ft. (457 m) east of the proposed main processing building. Natural gas is serviced by NYSEG in the Romulus area. The Project will use approximately 7,334 scf/day (1,928 Nm^3/day or 73.36 therms/day) of natural gas. The existing gas utilizes are expected to meet the demand of the Project.

Energy Production

In addition to consuming a small amount of energy, the Facility will produce a large amount of energy. There will be either one or two condensing steam turbine generators with a total capacity of about 25 MW each (50 MW total). The second generator, if installed, would not be active until Phase 2 of the Project. Power output from the generators is 10.5kV. Power from the generators would be transmitted to the upgraded electrical substation using two 115kV/10.5kV step-up transformers.

The Project will generate the energy by steam. Steam generation is the process to recover heat from the waste combustion process before routing to a steam turbine for power generation. The process water circulating through the system as steam and condensate is treated to prolong the design life of the system components. The steam generation process occurs at a boiler that works in conjunction with the waste combustion furnace. The boiler is a single drum, natural circulation water tube boiler. Steam output from the boiler is at 400°C. Steam will then either sold to neighboring industrial businesses or routed to the steam turbine generator. After routing through the steam turbine generator, the steam will be cooled at an air-cooled cooling tower. The condensate water collected at the cooling tower will then returned as process water. A water pump house will be located adjacent to the cooling tower and process water collection tanks.

The New York Independent System Operator ("NYISO") manages the power grid for all of New York State. All energy sales and purchases are scheduled through the NYISO, using a locational based marginal pricing ("LBMP") methodology which considers not only the cheapest option to produce electricity, but also where electricity is produced relative to where the electricity will be used and the losses and constraints on the transmission system between the generator and the user. NYISO predicts the amount of energy needed to meet demand, and then mandates what generators will operate, and when and for how long they will operate, as well as determine the price they will be paid. Under this operational scheme, pricing varies based on location and demand every five minutes. For the purposes of determining LBMP, the NYISO groups generators into Zones by location. The Project would fall into the Central Zone, or Zone C. A computer algorithm managed by NYISO continuously calculates which generators can supply the electricity

demand at the lowest cost while meeting the system's transmission constraints regarding energy losses and congestion. The Project will aid in the electrical demand for this Zone.

Therefore, the Project will not have a significant adverse impact on energy. Instead, it will have a positive impact by generating renewable energy.

SECTION 15 – NOISE, ODOR, AND LIGHT

Section 15 of Part 2 of the Full Environmental Assessment Form asks whether the Project may result in an increase in noise, odors or outdoor lighting. There will not be any significant adverse environmental impacts with respect to noise, odors or outdoor lighting.

Noise

The Project will produce noise that will exceed existing ambient noise levels during construction and operation. However, any increased noise will not result in a significant adverse environmental impact. The Project will comply with the Town of Romulus Noise Ordinance.

Temporarily elevated noise levels will be generated by relatively short-term construction activities at the Project Site. Construction activities will generate noise for an approximately two-year period until Phase 1 of construction is complete. Once Phase 1 is functional, operations (at 50% potential capacity) and construction of Phase 2 will generate noise for another two-year period. Following completion of Phase 2, only operations will generate noise. Short duration sound level increases from construction activities will be temporary until construction moves away from the property boundary, screening is provided via building walls, or construction is complete.

Most of the operational noise sources will be located indoors (e.g., transformers, generators, etc.) where the walls of the building provide noise attenuation. Outdoor sources of noise that will contribute to existing ambient sound levels include an air emissions stack, cooling towers, the rail loading/unloading area, and waste truck queuing along the access road. The air emissions stack will be 260 feet tall, operating continuously 24 hours per day. The noise source for the stack includes a fan or blower to push emissions through the stack to the atmosphere. The fans/blowers will be enclosed inside the combustion operations building contributing little, if any noise to ambient conditions.

Cooling towers will operate continuously, 24 hours per day and generate noise from the fans, motors, and water noise. The stack and cooling towers will be shielded on one side by the combustion operations building, and on the other sides by noise barriers as required.

Truck queuing along the access road may occur before the weigh station/security and before entering the enclosed waste unloading platform. Truck noise will be minimized as the engines will be at idle. State solid waste regulations require that mufflers be fitted to all internal combustion-powered equipment used at the Facility. On-site vehicles will be subject to speed limitations and will be equipped with mufflers which will further attenuate sound levels. The maintenance of the on-site vehicle fleet, including appropriate mufflers, will attenuate sound levels.

Deliveries are expected to occur during daytime hours, excluding Sundays. Unloading of waste from trucks will occur inside the enclosed waste unloading platform with sealed doors, emitting little, if any noise through the walls of the building. Intermittent rail deliveries are expected to occur once per day, during daytime hours, excluding Sundays. Noise will be generated from the unloading of containers from the railcars to trucks. The trucks will then travel to the enclosed waste unloading platform inside the building to be unloaded.

Off-site traffic including waste haulers, delivery trucks, and other construction related vehicles will generate noise while travelling to and from the Facility; however, state motor vehicle law dictates noise restrictions pertaining to off-site traffic. Section 375 of the New York Vehicle and Traffic Law states, "every motor vehicle, operated or driven upon the highways of the state, shall at all times be equipped with an adequate muffler and exhaust system in constant operation and properly maintained to prevent any excessive or unusual noise."

Odor

The Facility will be designed to avoid the emanation of odors, however, odors may originate from the enclosed waste unloading platform, waste bunker, and the leachate collection system. These areas are inside the main operations building and will be maintained under negative pressure. The collected air in these areas will be used in the combustion process to mitigate the potential for odors outside of the enclosed areas. Flue gas will be treated with urea and lime, as well as activated carbon at the bag filter and released through the stack. No offensive odors are expected to result following treatment once released to the atmosphere. Since waste deliveries have the potential to produce an undesired odor, as such, waste is required to be covered during transportation via rail or truck. All waste delivered by rail will be enclosed in sealed containers that will only be opened indoors.

Light

The Project will be dark sky compliant, and have no off-site light spill. Given the secluded nature of the Project Site, the Project is not expected to cause any light impacts.

Based on the above, the Project will not result in a significant adverse impact on noise, odor or light.

SECTION 16 – HUMAN HEALTH

Section 16 of Part 2 of the Full Environmental Assessment Form asks whether the Project may have an impact on human health from exposure to new or existing sources of contaminants. There will be no significant adverse impact on human health.

The Project Site is +/- 3200 feet away from the nearest school (Romulus Central School), and +/- 1400 feet away from the nearest residence. The Project will not disturb the community by its operations. The nearby community is accustomed to industrial activities at the Project Site due to the U.S. Army's former operations at the Depot, which began in the 1940's. There were two

deactivated furnaces in the area of the Project Site as part of the Army's operations at the Depot, operating from the 1940's until 1989. These facilities were used for the demilitarization of various small arms munitions. The process of deactivation of munitions involved heating the munitions within a rotating steel kiln, which caused the munitions to detonate. The byproducts produced during this detonation were then swept out of the kiln through the stack. Therefore, a similar type of use has historically occurred near the Project Site.

The Project Site is not currently being remediated, but remediation did occur throughout the Depot due to the contamination from the U.S. Army's Operations. The Project Site will not disturb any portions of the Depot that have been remediated. The Project will not utilize groundwater and therefore will not disturb the groundwater use restriction in place at the Project Site.

The Project has adequate control measures in place to ensure that future generation, treatment and/or disposal of hazardous wastes will be protective of the environment and human health. The Facility operations are designed to avoid the generation of hazardous waste. A waste control plan will be prepared to inspect incoming waste and turn away or separate wastes that are expected to produce hazardous waste. While the Facility will not accept hazardous wastes, testing will occur at key points in the Facility to detect any potential hazardous waste that is unintentionally accepted. Depending on the characteristics of the waste, a hazardous waste disposal facility will be contacted to accept any hazardous waste that is found.

The State Solid Waste Management Plan and State Solid Waste Management Policy, set forth at ECL §27-0106, which prescribes the following Hierarchy for solid waste management:

(a) first, to reduce the amount of solid waste generated;
(b) second, to reuse material for the purpose for which it was originally intended or to recycle material that cannot be reused;
(c) third, to recover, in an environmentally acceptable manner, energy from solid waste that cannot be economically and technically reused or recycled; and
(d) fourth, to dispose of solid waste that is not being reused, recycled or from which energy is not being recovered, by land burial or other methods approved by the department.

The Facility will be fully compliant by recovering energy in an environmentally acceptable manner, and recycling residuals. At present, waste management in the Seneca County and all of NYSDEC Region 8 is generally inconsistent with the Hierarchy by depending on the least preferred alternative, landfilling solid waste from throughout the State and surrounding areas. Major landfills include Seneca Meadows in Seneca County, the Ontario County Landfill, and High Acres Landfill in Monroe County. The Facility will improve environmental quality and reduce the carbon footprint from waste generation by utilizing the more preferred option of waste-to-energy. As discussed in Section 6 above, this will result in a savings of 168,485 tpy of CO2e compared to landfilling.

Through the process of MSW combustion, the weight of the incoming waste is reduced by 75% to ash which is collected at the bottom of the furnaces. This ash can be combined with slag

pulled from the bottom of the boilers. Bottom ash and boiler slag will be processed for recovery of metals. Afterward, the residual ash/slag will be prepared and sold for use in concrete mix, aggregates, and fillers. The proposed bottom ash/boiler slag handling process would include initial screening with overhead magnets to pull out large (> 1.25 inches or 32 mm) ferrous materials, including items such as non-perishable food cans, utensils, and grates. The ash in the smallest size class (< 0.4 inches (10 mm)) will be sold as a replacement material for concrete sand for use in cement blocks, sidewalks, or other concrete products. The remaining ash in the two larger sized classes will be crushed with an impact crusher, and reprocessed if needed, to achieve the sand-like particle size distribution necessary to be used in the production of concrete (i.e., 100% < 0.4 inches (10 mm)). Fly ash will collected in the bag filters used in the air pollution control system. Fly ash will be mixed with the smallest size class (< 0.4 inches (10 mm)) of bottom ash and sold as a replacement material for concrete sand. Further, ferrous metals and aluminum typically comprise about 6% and 5% of the bottom ash by weight, respectively. The separation process can achieve a minimum of 80% efficiency.

Overall, the Project is project to recover approximately 11,560 tons of scrap ferrous metals, 8,750 tons of non-ferrous metals, and 267,880 tons of replacement material for concrete and sand.

Thus, the Project will not result in a significant adverse impact on human health.

SECTION 17 – CONSISTENCY WITH COMMUNITY PLANS

Section 17 of Part 2 of the Full Environmental Assessment Form asks whether the Project is not consistent with the adopted land use plans. The Project is consistent with the community plans, and will not result in any significant adverse impacts in this regard.

Zoning

The Property is zoned Industrial/Warehouse ("I/W"). ***See*** **Appendix 17.A**, Zoning Map. The Town Zoning Ordinance, Local Law No. 1 of the year 2015 ("Zoning Ordinance") details that

> The purpose; of the Industrial/Warehouse (I/W) District is to delineate areas best suited for Industrial, Office Development, Warehouse and Distribution uses because of location, existing services (i.e., rail), topography, existing facilities, previous use of the property and the relationship to other land uses. It is also the intent of the district to require that such uses be planned in a manner as to minimize degradation of groundwater and surface water quality, and wetlands, minimize disturbance of natural vegetation and harmonize with nearby residential areas

Renewable Energy is permitted by Special Permit within the I/W District. On March 16, 2017, the Town of Romulus Zoning Officer issued a zoning interpretation, notice of which was published in the *Ovid Gazette* on May 10, 2017. ***See*** **Appendix 17.B**. It states that a waste-to-energy facility which, through combustion of solid waste, would use the resulting heat from the combustion process to generate steam to power a turbine to produce electric power, is an allowed use at the former Depot. The interpretation goes on the state that a waste-to-energy facility would be classified under Article IV, Section 1 as a "Renewable Energy Production (Solar, Wind,

Biomass, Geothermal, etc.) – Utility scale." A waste-to-energy facility "would not be prohibited under Article IV, Section 4(a) of the Romulus Zoning Law as a 'noxious or injurious' use, provided it substantially complies with applicable environmental regulations." A second interpretation, dated August 28, 2017, confirmed that a waste-to-energy facility was an allowed use within the I/W Zoning District as well as the Warehouse, Industrial, Transportation, Energy Zoning District. Notice of that second interpretation was published in the *Ovid Gazette* on September 13, 2017. ***See* Appendix 17.B.**

As noted above, a height variance will be required, since the maximum height allowed in the I/W District is 35 feet, or 50 feet with approval of the Planning Board. The Facility building will be 180 feet tall, with an approximately 260-foot steam stack. However, the Zoning Ordinance allows such variances, and there are a number of structures in the area with similar heights.

Town of Romulus Comprehensive Plan

The Project is also consistent with the Town of Romulus Comprehensive Plan, which states

> During the past 50 plus years the Town of Romulus has been heavily dependent upon, and constrained by, government sector type facilities and employment. Subsequently, the economic health of the Township has encountered some big setbacks with the closing of all three of the large government employers – Sampson Naval Base (and its successors), the Willard Psychiatric Center, and the Depot – and these areas have remained off the tax rolls. The most recent closure, that of the Depot, will when completed, be highly detrimental, and it is coming just as the country is beginning to pull out of a downturn....This plan envisions the movement of the Town from a dependency on an economy which is government driven to one which is a more privately based. A limited economic impact of government agencies will remain, but it is thought that the Town will be strengthened by maintaining its strong agricultural base while diversifying through the attraction of other business activity primarily into the designated areas in the Depot.

Consistent with the Comprehensive Plan, the Project seeks to bring private industry to the decaying Depot. The Project will increase the tax base for the Town, and stimulate the economy by providing approximately 85 jobs. In addition, the Project will provide energy so other businesses can be located at the Depot. Further, the Applicant intends to offer a Host Community Plan to the local community to provide financial benefits.

Seneca County Plans

Ever since the Depot closed, the affected Towns and Seneca County have been trying to promote reuse of the property. The Seneca County Board of Supervisors established the Depot Local Redevelopment Authority in 1995, whose primary responsibility was to plan for redevelopment of the Depot. The Seneca County Industrial Development Agency ("SCIDA") has succeeded the Local Redevelopment Authority in that mission. SCIDA is currently marketing the

portion of the Depot that includes the Project Site. It seeks various uses, one of which is "Alternative Energy." *See* **Appendix 17.C**, SCIDA Available Sites Printout. This Project is in alignment with SCIDA's goals.

The Seneca County Comprehensive Plan was last updated in the late 1970s. The Seneca County Department of Planning and Community Development has been in the process of updating this Plan, which is comprised of six (6) chapters: (1) Seneca County Comprehensive Plan Introduction; (2) Seneca County Comprehensive Plan Overview; (3) Seneca County Housing Plan; (4) Agriculture and Farmland Protection Plan; (5) Seneca County Environmental Conservation Plan; and (6) Seneca County Economic Development Plan.

It is important to note that only Chapters 3 and 4 have been adopted at this time. The draft Seneca County Environmental Conservation Plan and draft Seneca County Economic Development Plan have not been adopted by Seneca County at this time. Nevertheless, the Project is consistent with these Plans.

The Seneca County Draft Environmental Conservation Plan (June 2014) details the importance of waste management." ***See*** **Appendix 17.E**. A "zero waste" management model makes landfilling the last resort, and encourages waste diversion and energy recovery: "Waste material is weighed and sorted, separated into its various constituent parts, inspected for consistency, re-sorted, and reprocessed, or baled for specialist reprocessing and re-manufacture or energy recovery. The goal is to transform everything into something of value, and not landfill anything unnecessarily." ***See*** **Appendix 17.E**. This model is in line with the New York State Waste Hierarchy set forth at ECL § 27-0106. While Seneca County does not have a County Solid Waste Management Plan, the Conservation Plan states that "[t]he best practices are intended to contribute to higher waste diversion/recycling levels in communities and thus reduce the amount of household and municipal waste going to landfills." The Project will achieve these goals.

The Seneca County Draft Economic Development Plan (June 2014) details the declining workforce and county-wide poverty. ***See*** **Appendix 17.F**. "Total personal income in Seneca County was slightly lower (1.5%) than the per capita figure of $36,245 for the nonmetro (rural) areas of New York State. It was also lower than the figures for the Rochester metro area (18.5% lower), Syracuse metro area (14.5%), and Ithaca metro area (8.8%)."

The Draft Economic Development Plan also details the utility service problems with the Depot, which the Project seeks to correct. "The lack of sufficient electric capacity and distribution at the Depot inhibits its growth as a job and business center, and Seneca County is committed to supporting necessary upgrades. Renewable energy may offer at least a partial solution to the Depot's energy problems. Seneca County is committed to supporting the development and use of green energy sources. The Seneca County IDA helps promote green energy Projects at the Depot." Thus, the Plan calls for renewable energy projects like the Facility.

The Economic goals of the County include: "Goal 3. Seek and support local and nonlocal businesses that strengthen and diversify the economic base, expand and enhance the tax base, improve wage and salary levels, and utilize the resident workforce, without diminishing the quality of natural, historical, or cultural resources in the County." This includes Strategy 3B to

Support and coordinate efforts to provide adequate infrastructure and targeted County investment in areas best suited for future and unmet employment opportunities; specifically:

- Route 318/414 corridor.
- Route 5 & 20 corridor/Seneca Army Depot.

Further, Strategy 3H is to "Enable alternative and renewable energy production, including, but not limited to, solar, hydro, biogas, and wind resources."

The Project will satisfy these economic goals as it will expand and enhance the tax base by providing about 85 jobs with varying salary levels. The Project will improve the infrastructure at the Depot. It will also provide renewable energy production that could be used for future businesses located on the Depot.

Based on the above, the Project is in alignment with the community plans and will be a catalyst for increase economic growth within the Town of Romulus and Seneca County. It will not result in any significant adverse impacts with regard to community plans.

SECTION 18 – CONSISTENCY WITH COMMUNITY CHARACTER

Section 18 of Part 2 of the Full Environmental Assessment Form asks whether the Project is inconsistent with the existing community character. The Project is consistent with, and will not result in an adverse impact to, community character.

The U.S. Army's military mission at the Depot included receipt, storage, distribution, maintenance, and demilitarization of conventional ammunition, explosives and special weapons from 1940 until 2000. The nearby community is accustomed to industrial activities at the Project Site due to these operations. No public resources are being diminished as the Project Site is currently not accessible to the public.

The type of use proposed by the Project has historically occurred on the Depot, although the Project will be a much cleaner operation. There were two deactivated furnaces as part of the Army's operations at the Depot, operating from the 1940's until 1989. These facilities were used for the demilitarization of various small arms munitions. The process of deactivation of munitions involved heating the munitions within a rotating steel kiln, which caused the munitions to detonate. The byproducts produced during this detonation were then swept out of the kiln through the stack. Therefore, the character of the property is not being altered by the Project.

The Project is not anticipated to have any adverse impacts with respect to Environmental Justice ("EJ") communities.[11] An EJ community includes "a minority or low-income community that may bear a disproportionate share of the negative environmental consequences resulting from

[11] Phase 1 of the Project will not meet the threshold under 6 NYCRR §487.2, so a full EJ is not required at this time. If, during Phase 2, a generating capacity of 25 MW or more will be reached, a full EJ analysis will be completed.

industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies." 6 NYCRR §487.3(l).

In accordance with the impact study area requirements of 6 NYCRR §487.4(a), the geographical area within one-half mile of the Project Site was investigated for the presence of EJ areas. Section 487.4 details how to determine the presence of an EJ area by comparing the most recent and reliable census block group data against set thresholds to determine if a minor or low-income community, or both, exist in the study area. The information in Table 3-1 provides a comparison of data from the U.S. Census Bureau's 2011-2015 American Community Survey 5-Year Estimates to the applicable Environmental Justice thresholds.

COMPARISON OF ENVIRONMENTAL JUSTICE THRESHOLDS FOR IMMEDIATE AND ADJACENT COMMUNITIES IN CENSUS TRACT 9508[3]

	% Minorities	% Low-Income
THRESHOLD	33.8[1]	23.59[2]
Block Group 1	7.7	6.7
Block Group 2	51.0	9.3
Block Group 3	1.6	8.9
Block Group 4	0.2	8.4
Block Group 5	34.8	11.6

[1] Threshold for a rural area.

[2] Below the federal poverty level.

[3] Data for the U.S. Census Bureau's 2011-2015 America Community Survey 5-Year Estimates.

It appears at this time that the Project falls within two EJ areas. The Project will fairly treat and meaningfully involve all people regardless of race, color, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. 6 NYCRR §487.6 requires that cumulative impacts of air be analyzed. As discussed fully in Section 6 of the Executive Summary, no significant adverse air impacts will occur from the Project to any community, including EJ communities. The physical conditions of the Project will not have any significant and adverse disproportionate environmental impacts any community. It will be operated and constructed in accordance will all statutes and regulations. The Facility will receive various permits from the NYSDEC, many of which include opportunities for public comment and involvement, as will the permitting through the Town.

Therefore, the Project will not have any significant adverse impacts on community character.

APPENDIX 0.A

(PLANS CAN BE FOUND IN FRONT COVER)

APPENDIX 0.B

A COMPARABLE FACILITY

MAIN PROCESSING BUILDING

The main processing building is the heart of the facility and includes the following major components:

- Enclosed waste unloading platform and feeding hoppers:
    - The waste unloading platform and entrance ramp is sized to allow deliveries by transfer-trailers; that is, 48 foot walking floor trailers with a capacity of 20-30 tons depending on truck permit limitations
- 44,000 yd^3 (33,640 m^3) waste bunker;
- Leachate collection and transfer pit;
- Four 660 tpd (600 mtpd) moving grate furnaces;
- Four waste heat boilers;
- Air pollution control system:
    - Selective Non-catalytic Reduction system

- Lime storage and lime slurry preparation
- Activated carbon storage and injection
- Rotary atomizer and semi-dry reactor
- Bag filter
- ID fan and exhaust
- Fly ash conveyor and storage

- 260ft (80m) continuous emissions monitoring stack;
- Bottom and fly ash processing facilities:
  - Screen [1.25 in (32mm)] with overhead magnets
  - Screen [0.4 in (10mm)]
  - Magnetic drum
  - Eddy current separator
  - Impact Crusher
  - Truck loading hopper.
- Air cooled steam generators totaling 50MW;
- Electrical switching and motor control systems;
- Two 115 kV transformers; and
- Laboratories, control rooms and offices.

COOLING TOWERS AND WATER STORAGE

Steam that is not lost to evaporation is cooled and collected as condensate at the cooling tower, to be recirculated as process water. The collected process water is stored in a divided 475,000 gallon (1,800 m^3) concrete tank located at the base of the cooling towers, with 171,000 gallon (648 m^3) reserved for fire protection. In the adjacent water pump house, a pumping system circulates process water and pressurizes the fire protection system.

WATER SUPPLY AND TREATMENT

Fresh water requirements include high purity boiler feed water, makeup water for boilers and cooling, fire protection and potable water for domestic use. According to information supplied by engineers of an operating WTE facility and the design criteria for the NYWTE facility, raw water demand will be 445,000 gallons per day (gpd) (1,685m^3/d) which will be withdrawn from Seneca Lake, approximately 3.75 miles (6.0km) west of the site. Required improvements include relining an abandoned 8-inch (20 cm) pipe, and installing a new pump in the existing wet well.

Raw water will be tested during the final design stage to identify the specific treatment processes and equipment. Treatment is anticipated to include membrane filters and desalination. Once treated, the water will be stored in underground tanks, and pressurized at the water pump house for use as process water and fire suppression.

Domestic water, for use in the facility lavatories, laboratories and kitchens would be obtained from the Village of Waterloo municipal water supply. An existing 8-inch (20 cm) water main adjacent to the facility is capable of supplying the estimated 5,500 gpd (21 m^3/d) domestic water supply.

ADMINISTRATION BUILDING

The administration building will house office space, training rooms, restrooms meeting rooms and a lounge area. This building will be located near the gated entrance and main parking area.

WEIGH STATION/SECURITY BUILDING

The weigh station will include three truck scales and a building enclosure with offices for the weighmaster and security personnel.

AUXILIARY FUEL COMPRESSOR STATION

Auxiliary fuel is required to start the furnaces and to supplement the combustion process when needed to maintain temperature in the boilers. Natural gas will be used as auxiliary fuel. The natural gas supplier for the area is NYSEG. A compressor station will be needed required. The specifications of this station will need to be coordinated with the natural gas supplier.

MISCELLANEOUS OPERATIONS

Other appurtenant facilities on site will include a residential drop-off area to accept local waste from Town of Romulus residents and small commercial loads, security fencing and a 10 KV generator for start-up and as a back-up source of power.

RAILHAUL FACILITY

The CFP illustrates the intermodal rail facility capable of delivering up to 2,000 tpd (1,800 mtpd) of waste to the site via the Finger Lakes Railway (FGLK) shortline. To handle daily rail deliveries, new track and improvements to existing track will be required. Additional infrastructure would include the construction of the loading/unloading platform, access roadways and drainage features. Track improvements include a new loading/unloading track, a new storage track and a runaround track that connects to the existing track at the site.

The intermodal railhaul facility is designed to the following parameters:

- Waste is hauled to the site in 20 foot (6m) long top loading, rear dumping sealed containers, holding 20 tons of waste per container;

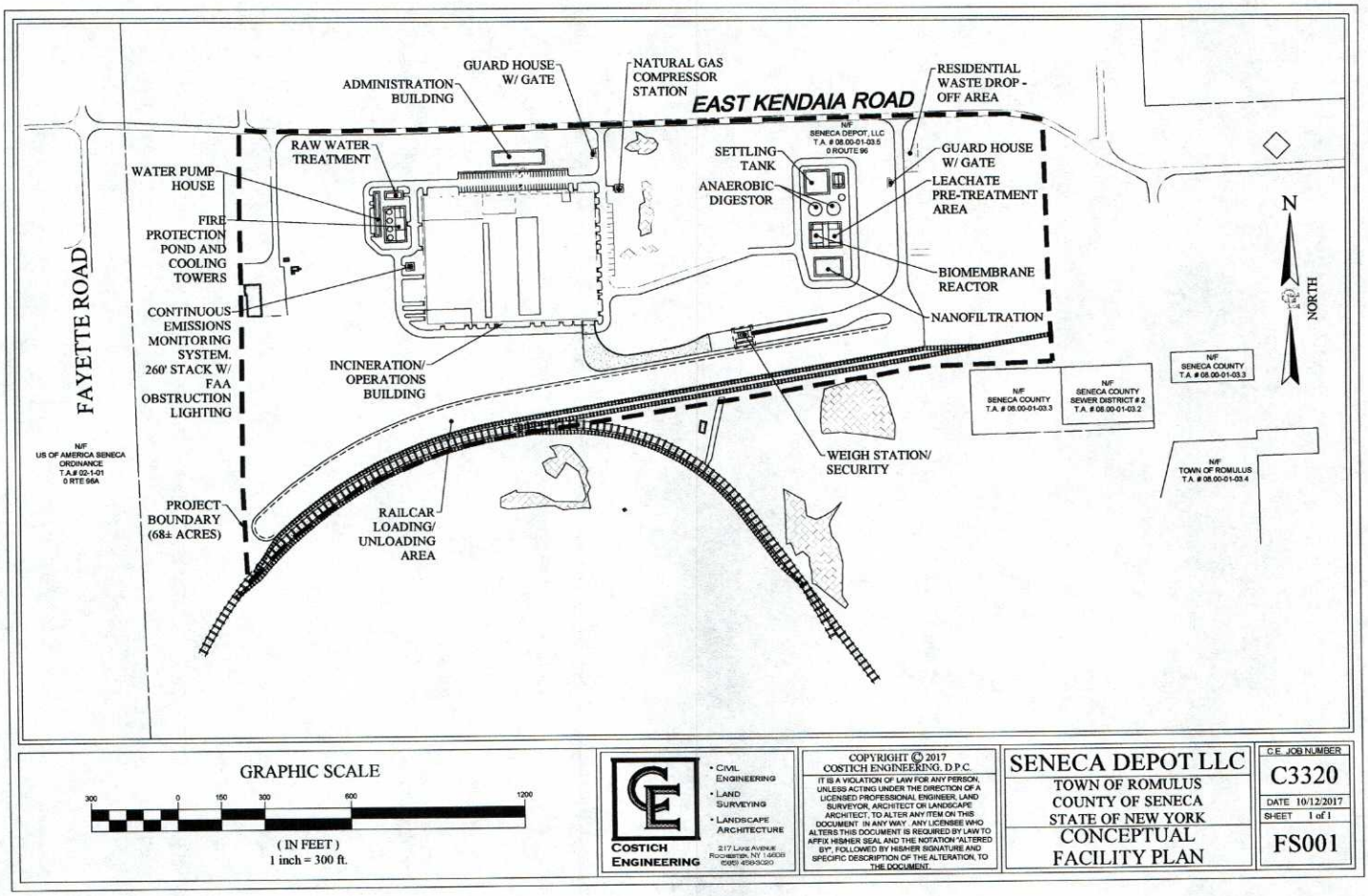
- A 36 turn/year, or 10-day cycle:
    - Cycle is the time to load from the customer transfer station to the WTE facility and return
        - Account for the railroad's schedule, loading/unloading times, holidays
    - A 10-day cycle requires 10 sets of rail cars and containers to receive a shipment of waste six days per week
- A truck dumping cycle is 20 minutes; and
- The reach stacker can load/unload 15 trucks per hour.

Based on the above parameters, the railhaul facility will require the following equipment:

- 1,200-top loading rear dumping sealed intermodal containers;
- 300-85 foot (25 m) or 89 foot (27 m) railcars (container flats);
- Five intermodal container hooklift trucks;
- Hercules railcar mover; and
- Hyster reach stacker.

Railhaul operations include deliveries of 30 flat railcars carrying 120 sealed containers Monday through Saturday each week. The FGLK locomotive will stage the railcars with loaded containers on the unloading track, and then use the runaround track to maneuver to the storage track to recover the railcars with the empty containers before leaving the site.

The reach stacker will unload each container from the railcar and place it on the truck for transfer to the enclosed waste unloading platform. Once the container is emptied, the truck will return to the loading/unloading pad where the reach stacker will place the empty container back on the railcar. Once all the containers have been emptied, the railcar mover will transfer the railcars from the unloading track to the storage track.



GRAPHIC SCALE

300 0 150 300 600 1200

(IN FEET)
1 inch = 300 ft.

COSTICH ENGINEERING

- CIVIL ENGINEERING
- LAND SURVEYING
- LANDSCAPE ARCHITECTURE

217 Lyell Avenue Rochester, NY 14608 (585) 4583020

SENECA DEPOT LLC

TOWN OF ROMULUS
COUNTY OF SENECA
STATE OF NEW YORK

CONCEPTUAL FACILITY PLAN

C.E. JOB NUMBER
C3320
DATE 10/12/2017
SHEET 1 of 1
FS001