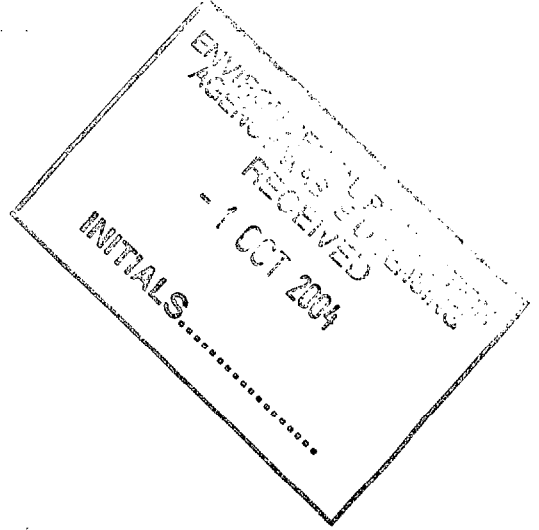




Attachment E



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Attachment E1: Emissions to Atmosphere

TABLE E.1(i) LANDFILL GAS FLARE EMISSIONS TO ATMOSPHERE
Emission Point:

Emission Point Ref. N ^o :	not applicable
Location :	not applicable
Grid Ref. (12 digit, 6E,6N):	not applicable
Vent Details Diameter: Height above Ground(m):	not applicable
Date of commencement of emission:	not applicable

Characteristics of Emission :

CO	not applicable
Total organic carbon (TOC)	not applicable
NO _x	not applicable
Maximum volume of emission	not applicable m ³ /hr
Temperature	°C(max) °C(min) °C(avg)

- (i) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up/shutdown to be included*):

Periods of Emission (avg)	not applicable
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TABLE E.1(ii) MAIN EMISSIONS TO ATMOSPHERE (1 Page for each emission point)

Emission Point Ref. N ^o :	A1
Source of Emission:	Boiler Stack
Location :	Yard, South-East
Grid Ref. (12 digit, 6E,6N):	209708N - 797970E
Vent Details Diameter:	0.7m internal diameter
Height above Ground(m):	16 m
Date of commencement:	Estimated early 2006

Characteristics of Emission:

(i) Volume to be emitted:			
Average/day	241,000Nm ³ /d	Maximum/day	278,400Nm ³ /d
Maximum rate/hour	11,600Nm ³ /h	Min efflux velocity	12m.sec ⁻¹
(ii) Other factors			
Temperature	250 °C(max)	180 °C(min)	230 °C(avg)
For Combustion Sources:			
Volume terms expressed as : Ξ Wet. Dry. <u> 10 </u> %O ₂			

(iii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	<u> 60 </u> min/hr <u> 24 </u> hr/day <u> 351 </u> day/yr
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TABLE E.1(iii): MAIN EMISSIONS TO ATMOSPHERE - Chemical characteristics of the emission (1 table per emission point)

Emission Point Reference Number: **A1**

Parameter	Prior to treatment ⁽¹⁾				Brief Description of treatment	As discharged ⁽¹⁾					
	mg/Nm ³		kg/h			mg/Nm ³		kg/h.		kg/year	
	Avg	Max	Avg	Max		Avg	Max	Avg	Max	Avg	Max
Nitrogen Oxides (NO ₂)	250	400	2.51	4.64	not applicable	250	400	2.51	4.64	21148	29316
CO	150	200	1.51	2.32	not applicable	150	200	1.51	2.32	12689	14658
Particulates	500	1000	5.02	11.6	Electrostatic Precipitator	30	50	0.30	0.58	2538	3664
VOC	10	15	0.10	0.17	not applicable	10	15	0.1	0.174	846	1099

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1. Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0°C,101.3kPa). Wet/dry should be the same as given in Table E.1(ii) unless clearly stated otherwise.

TABLE E.1(ii) MAIN EMISSIONS TO ATMOSPHERE (1 Page for each emission point)

Emission Point Ref. N ^o :	A2
Source of Emission:	Biofilter or Thermal Oxidiser
Location :	Near Waste Water Treatment Plant
Grid Ref. (12 digit, 6E,6N):	To be determined
Vent Details	
Diameter:	To be determined
Height above Ground(m):	To be determined
Date of commencement:	Estimated early 2006

Characteristics of Emission:

(i) Volume to be emitted:			
Average/day	To be determined	Maximum/day	Estimated at 70,000Nm³/d
Maximum rate/hour	To be determined	Min efflux velocity	To be determined
(ii) Other factors			
Temperature	To be determined	To be determined	To be determined
For Combustion Sources:			
Volume terms expressed as : ☒ Wet. Dry. To be determined			

(iii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (start-up /shutdown to be included):

Periods of Emission (avg)	To be determined
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TABLE E.1(iii): MAIN EMISSIONS TO ATMOSPHERE - Chemical characteristics of the emission (1 table per emission point)

Emission Point Reference Number: A2

Parameter	Prior to treatment ⁽¹⁾				Brief Description of treatment	As discharged ⁽¹⁾					
	mg/Nm ³		kg/h			mg/Nm ³		kg/h.		kg/year	
	Avg	Max	Avg	Max		Avg	Max	Avg	Max	Avg	Max
Nitrogen Oxides (NO ₂)					To be determined/Biofilter or Thermal Oxidiser						
CO											
Particulates											
VOC											

1. Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0°C, 101.3kPa). Wet/dry should be the same as given in Table E.1(ii) unless clearly stated otherwise.

TABLE E.1(iv): EMISSIONS TO ATMOSPHERE **Minor /Fugitive**

Emission point Reference Numbers	Description	Emission details ¹				Abatement system employed
		material	mg/Nm ³⁽²⁾	kg/h.	kg/year	
E1	Sludge Reception, Odour					Regularly inspection & maintenance
E2	Waste Recovery and Transfer Building, Odour					Regularly inspection & maintenance
E3	Standby Generator, Gaseous					Regularly inspection & maintenance
E4	Standby Generator, Odour					Regularly inspection & maintenance
E5	Oil Storage Bund, Gaseous					Regularly inspection & maintenance
E6	Oil Storage Bund, Odour					Regularly inspection & maintenance
E7	Dried Sludge Storage Area, Dust					Regularly inspection & maintenance
E8	Dried Sludge Storage Area, Odour					Regularly inspection & maintenance
E9	Waste Recovery and Transfer Building, Dust					Regularly inspection & maintenance
E10	Storm Water Retention Tanks, Odour					Regularly inspection & maintenance
E11	Storm Water Retention Tanks, Gaseous					Regularly inspection & maintenance
E12	Waste Water Treatment Plant, Odour					Regularly inspection & maintenance

1 The maximum emission should be stated for each material emitted, the concentration should be based on the maximum 30 minute mean.

2 Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0°C/101.3kPa). Wet/dry should be clearly stated. Include reference oxygen conditions for combustion sources.

Attachment E2: Emissions to Surface Waters

TABLE E.2(i): EMISSIONS TO SURFACE WATERS
(One page for each emission)

Emission Point:

Emission Point Ref. N ^o :	not applicable
Source of Emission:	
Location :	
Grid Ref. (10 digit, 5E,5N):	
Name of receiving waters:	
Flow rate in receiving waters:	<p>_____ m³.sec⁻¹ Dry Weather Flow</p> <p>_____ m³.sec⁻¹ 95%ile flow</p>
Available waste assimilative capacity:	_____ kg/day

Emission Details:

(i) Volume to be emitted			
Normal/day	m ³	Maximum/day	m ³
Maximum rate/hour	m ³		

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	_____ min/hr _____ hr/day _____ day/yr
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TABLE E.2(ii): EMISSIONS TO SURFACE WATERS - Characteristics of the emission (1 table per emission point)

Emission point reference number: _____

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	

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Attachment E3: Emissions to Sewers

TABLE E.3(i): EMISSIONS TO SEWER(One page for each emission)

Emission Point:

Emission Point Ref. N ^o :	SE1
Location of connection to sewer :	Exact location to be agreed with Youghal Town Council but in close proximity to waste water treatment plant and storm water retention tank.
Grid Ref. (10 digit, 5E,5N):	To be determined
Name of sewage undertaker:	Youghal Town Council

Emission Details:

(i) Volume to be emitted			
Normal/day	120m ³	Maximum/day	360m ³
Maximum rate/hour	15m ³		

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	60min/hr	24hr/day	365day/yr
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TABLE E.3(ii): EMISSIONS TO SEWER - Characteristics of the emission (1 table per emission point)

Emission point reference number: SE1

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	Typical expected mg/l	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
BOD				1200	100				
pH				3 - 10	6 - 9				
Toxicity				not applicable	< 10				
TSS				300	100				
TDS				6000	7500				
Nitrogen				40	35				
Ammonia				20	10				
Phosphorous				20	10				
Copper				.05	.5				
Chlorides				100	1000				
Zinc				1	.5				
Nickel				.01	2				
Cyanide				.5	.2				

Attachment E4: Emissions to Groundwater

TABLE E.4(i): EMISSIONS TO GROUNDWATER (1 Page for each emission point)

Emission Point or Area:

Emission Point/Area Ref. N ^o :	Not applicable
Emission Pathway: (borehole, well, percolation area, soakaway, landspreading, etc.)	
Location :	
Grid Ref. (10 digit, 5E,5N):	
Elevation of discharge: (relative to Ordnance Datum)	
Aquifer classification for receiving groundwater body:	
Groundwater vulnerability assessment (including vulnerability rating):	
Identity and proximity of groundwater sources at risk (wells, springs, etc):	
Identity and proximity of surface water bodies at risk:	

Emission Details:

(i) Volume to be emitted			
Normal/day	m ³	Maximum/day	m ³
Maximum rate/hour	m ³		

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	_____ min/hr _____ hr/day _____ day/yr
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Attachment E5: Noise Emissions

Table E.5(i): NOISE EMISSIONS - Noise sources summary sheet

Source	Emission point Ref. No	Equipment Ref. No	Sound Pressure ¹ dBA at reference distance (1m)	Octave bands (Hz) Sound Pressure ¹ Levels dB(unweighted) per band								Impulsive or tonal qualities	Periods of Emission		
				31.5	63	125	250	500	1K	2K	4K			8K	
Waste Recovery and Transfer Building	N1	not applicable	102, measured at 1m from plant and equipment inside building											not applicable	6.00- 22.00 hours Monday to Sunday inclusive.
Sludge Drying Building	N2	not applicable	92, measured at 1m from plant and equipment inside building											not applicable	24 hours
Waste Water Treatment plant	N3	not applicable	75 at 1m from blower											not applicable	24 hours

1. For items of plant sound power levels may be used.

Noise pressure levels, octave bands and tonal and impulsive qualities for specific plant equipment can vary between sites and conditions, as well as, depend on the nature of material to be handled by such equipment.

Specific noise emissions and qualities for all plant and equipment, associated with the proposed site, will be measured when this equipment is in place and fully commissioned. This information will be submitted to the Agency as part of the first Annual Noise Survey.

Sound pressure levels listed in Table E.5(i) are 'worse case scenario' noise levels and for more information on these levels refer to Section 6 of the Environmental Impact Statement (Attachment B3).

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Attachment E6: Environmental Nuisances

Bird Control

Due to the fact that only wastes from commercial and industrial sources will be accepted the potential to attract birds is low. All incoming waste will be off-loaded as soon as is practicable possible inside the Waste Recovery and Transfer Building. No waste of any type will be stored or handled in open containers outdoors. The waste handling practices will eliminate the attractiveness of the site for scavenging birds. It is considered that further bird control measures are not required.

Litter Control

It is anticipated that nuisance from litter be minimal due to the fact that only material from commercial and industrial sources will be accepted on site in covered vehicles, and outgoing material will be baled and compacted. All activities will be conducted in enclosed buildings and good housekeeping measures will be employed. Regular litter patrols will be carried out by a designated member of staff.

Vermin Control

The absence of putrescible organic waste at the Waste Recovery and Transfer Building together with the implementation of good cleaning and housekeeping procedures will minimize potential vermin nuisance. In the Sludge Drying facility care will be taken to minimize its attractiveness to Vermin. A contract to provide regular site visits, including monitoring of activity and maintenance of bait points by a recognized Pest Control Contractor such as Terminix, Rentokil or similar shall be drawn up.

Traffic Control

Traffic control will be achieved by the implementation of a Traffic Management Plan, which will ensure on-site safety and prevent congestion and queuing in the local environs. Deliveries/collections to/from the proposed facility will be staggered to limit the number of HGV's on the surrounding road network, at any one time.

Road Cleaning

The entire waste management facility will be hard surfaced and maintained clean to prevent the egress of material onto roads through vehicular movements on and off site. Surfaces on site and roads outside the boundary will be inspected regularly, particularly in dry or windy conditions and cleaned as required. Vehicles arriving on or departing the site will be maintained clean to prevent the transfer of material off site.

Dust Control

The potential for dust generation will be minimized by considerations made at the design stage and during site operations. The waste delivery vehicles will generally be free from debris that could generate dust. Construction and demolition wastes, which are a potential significant source of dust, will not be accepted at the site. All areas accessed by vehicles will be constructed of concrete or tarmac. All activities will be conducted in enclosed buildings to contain any dust which may be generated. The only point source will be the wood shredder which will be located inside the building and employ BAT to minimize dust emissions.. All floors and equipment will be kept clean following good housekeeping principles.

Fire Control

The following measures will be implemented to deal with any fires at the facility:

- Fire hydrants will be located on-site; these will be supplied from the mains water supply with backup from the fire water storage tank.
- Fire extinguishers will be strategically located on-site.
- All trucks and/or plant equipment entering or operating on-site will carry fire extinguishers.
- Training of employees in fire prevention and control.
- Prominent posting of emergency response contact numbers (fire, gardai, ambulance and other agencies).
- AVR-Environmental Solutions Ltd will implement all fire control measures specified in the fire certificate, as set out in the Building Control Regulations (1997).

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