G ATTACHMENTS

ATTACHMENT G.1 Process Related Raw Materials

Ballymurtagh Landfill is closed and restored. The only substances used on site are for vermin control. These consist of Chlorophacione, rat poison and Brodifacoum,'Klerat' Wax Blocks rodenticide. Included with this attachment is:

- **Attachment G.1(i)** Safety Data Sheet Brodifacoum
- **Attachment G.1(ii)** Safety Data Sheet Chlorophacionone
- **Table G.1** Raw Materials, Products used on site

ATTACHMENT G.2 Energy Efficiency

In 2008 the operation of the landfill required:
55,113 units of electricity,
2,800 L of diesel to operate the generator at the Civic Amenity site and
6,221 L of water.

PRODUCT AND COMPANY IDENTIFICATION

Trade Name	Sorex Brodifacoum Rat and Mouse Bait
Product Code	BROD83000
Intended Use	FOR USE ONLY AS A RODENTICIDE Approved under The Control of Pesticides Regulations 1986 for the indoor control of rats and mice. Health and Safety Executive HSE 6706
Appearance	A purple cut wheat bait of granular consistency.
Manufacturer/Supplier	Sorex Limited
Address	St. Michael's Industrial Estate Widnes, Cheshire, WA8 8TJ
Phone Number	+44 (0) 151-420 7151
Fax Number	+44 (0) 151-495 1163

COMPOSITION/INFORMATION ON THE COMPONENTS

Hazardous Components in Product for EC

Component Name	CAS No.	Concentration	R Phrases	Classification
Brodifacoum Technical Material	56073-10-0	0.002%	R26/27/28, R48/25	T+, T

R26/27/28 Very toxic by inhalation, in contact with skin and if swallowed.
R48/25 Toxic: danger of serious damage to health by prolonged exposure if swallowed.
T - Toxic
T+ - Very toxic

PRODUCT HAZARD IDENTIFICATION

Main Hazards

Not classified as hazardous.
Large quantities would need to be ingested to produce a toxic effect. Avoid all contact by mouth.
Practically non-hazardous by skin contact.

This product contains brodifacoum, an indirect anticoagulant. Any signs of poisoning are unlikely to occur until 12-18 hours after ingestion. Thereafter, they will develop progressively and may rapidly appear. Clinical signs result from an increased bleeding tendency and include: an increase in prothrombin time, bruising easily with occasional gum bleeding, blood in the stool or urine, excessive bleeding from minor cuts and abrasions, pale mouth and cold gums, anorexia and general weakness. More severe cases of poisoning include haemorrhage (usually internal) and shock.
This product is hazardous to mammals including domesticated animals, and birds if ingested. Exposure of non-target animals should be prevented.

FIRST AID MEASURES

First Aid - Eyes	Wash out eye with plenty of water. Obtain medical attention if soreness or redness persists.
First Aid - Skin	Wash skin with soap and water.
First Aid - Ingestion	Wash out mouth with water. Do not induce vomiting. Obtain medical attention.
First Aid - Inhalation	Remove from exposure. Obtain medical advice if symptoms develop.

FIRST AID MEASURES (continued)

Advice to Physicians

Brodifacoum is an indirect anticoagulant. Vitamin K1 (phytomenadione) is antidotal.
In the case of suspected poisoning, determine prothrombin time not less than 18 hours after consumption. If elevated, administer vitamin K1, 40 mg/day in divided doses, and continue until prothrombin times normalise. Continue determination of prothrombin time for three days after withdrawal of the antidote and resume treatment if elevation occurs in that time.
For comprehensive medical advice on the treatment of poisoning, contact the nearest Poisons Information Centre or Sorex Limited.

FIRE FIGHTING MEASURES

General Hazard	This product is non-flammable, but is combustible.
Extinguishing Media	Use water spray, foam, dry chemical or carbon dioxide. Cool the smouldering material with water spray to minimise the possibility of re-ignition. Keep containers and surroundings cool with water spray.
Protective Equipment for Fire-Fighting	Wear self contained breathing apparatus.

ACCIDENTAL RELEASE MEASURES

Spillages	Any spillages should be cleared up immediately and disposed of safely. Wash contaminated surfaces with detergent solution.

HANDLING AND STORAGE

Handling	This product is subject to the Food and Environment Protection Act, 1985, and The Control of Pesticides Regulations, 1986, made under it. The product must be used and stored only in accordance with the product label. Refer also to the section 'Exposure Controls/Personal Protection'. Avoid contact with eyes, skin and clothing.
Storage	Store in original container under cool and dry conditions in a secure, well ventilated place, inaccessible to children, and away from foodstuffs and animal feedstuffs and products which may have an odour.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Standards

Brodifacoum Technical Material	None assigned.

Exposure controls should be implemented with due regard to the hierarchy of controls (elimination, substitution, local exhaust ventilation, operating procedures and Personal Protective Equipment (PPE)) as required by The Control of Substances Hazardous to Health (COSHH) Regulations. PPE should only be used as a last resort where exposure cannot be controlled by other means.

EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Hand Protection	Although gloves are not required for the safe use of the product, they are recommended for protection against rodent-borne diseases.

PHYSICAL AND CHEMICAL PROPERTIES

Physical State	A cut wheat bait of granular consistency.
Colour	Purple.
Odour	No significant odour.
Flammability	Not flammable.
Solubility in Water	Insoluble.
Density	ca. 0.74.
Explosive Properties	None.
Oxidising Properties	None.

STABILITY AND REACTIVITY

Stability	Stable under normal conditions.
Hazardous Decomposition Products	Hazardous decomposition products are not expected to be formed during normal storage.

TOXICOLOGICAL INFORMATION

Acute Toxicity	Oral LD50 (rat) 13500mg/kg.
Irritancy - Eyes	Not an eye irritant.
Irritancy - Skin	Not a skin irritant.
Skin Sensitisation	No known reports of skin sensitisation.

ECOLOGICAL INFORMATION

Ecotoxicity	This product is hazardous to mammals including domesticated animals, and birds if ingested. Exposure of non-target animals should be prevented.

DISPOSAL

Product Disposal	The best means of disposal of any product is through proper use according to the label. Incineration is the recommended method of disposal.
Container Disposal	Do not dispose of the pack in domestic refuse. Empty completely, puncture or crush, and dispose of safely.

TRANSPORT INFORMATION

Non-hazardous for transport.

REGULATORY INFORMATION

Intended Use

FOR USE ONLY AS A RODENTICIDE
Approved under The Control of Pesticides Regulations 1986 for the indoor control of rats and mice.
Approval Number: MAFF 07758

Precautions Phrases

For the Statutory Conditions Relating to Use please refer to the product label.
FOR USE ONLY AS A RODENTICIDE
DO NOT USE OUTDOORS.
AVOID ALL CONTACT BY MOUTH.
WASH HANDS AND EXPOSED SKIN before meals and after work.
PREVENT ACCESS TO THE BAITS by children, birds and other animals, particularly dogs, cats and pigs.
DO NOT USE BAIT where food, feed or water could become contaminated.
REMOVE ALL REMAINS OF BAIT and bait containers after treatment and burn.
SEARCH FOR AND BURN ALL RODENT BODIES. DO NOT PLACE in refuse bins or on rubbish tips.
KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place under lock and key.
EMPTY CONTAINER COMPLETELY and dispose of safely.
IN CASE OF ACCIDENTAL CONSUMPTION, contact a doctor and show this label.

OTHER INFORMATION

For use only as specified on the label.
This product must not be sold to, or used by farmers, gamekeepers or amateur users.

The information in this data sheet should be considered when undertaking a risk assessment under the COSHH regulations. A data sheet does not constitute a COSHH assessment.
This product contains Bitrex and warning dyes.
Bitrex is a human taste deterrent. It is included at a concentration that is repulsive to human taste but is not detected by rats or mice.
(Bitrex is a Trade Mark of MacFarlan Smith, Edinburgh)

This data sheet was prepared in accordance with the European Directive 93/112/EC.

Sure-Gro Inc.
P.O. Box 21001, Brantford, ON, N3R 7W9
TEL (519) 754-2900 FAX (519) 754-2901

MATERIAL SAFETY DATA SHEET

PRODUCT: Riddex®, Rat & Mouse Killer - Pellets

SECTION 1 - PRODUCT INFORMATION

P.C.P. Act Registration No.: 15284 **Code:** 7 70577 0
Chemical Name: 2-((p-chlorophenyl) phenylacetyl)-1,3-indandione
Synonyms: Chlorophacinone
Chemical Family: Hydroxycoumarin
Product Use: Rodenticide
TDG Classification: Not Regulated

SECTION 2 - HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS	WEIGHT %	CAS REG #	LD50 (mg/Kg)	T.W.A. - T.L.V.
Chlorophacinone	0.005	3691-35-8	Oral,rat 2.7 Oral, Mouse 1.75 Oral, Dog 75	-
Calculated LD50 for the product			Rat 54,000	
Calculated LD50 for the product			Mouse 340,000	
Calculated LD50 for the product			Dog 1,500,000	

SECTION 3 - PHYSICAL DATA

Physical State: Solid
Specific Gravity: Not Applicable
Boiling Point: Not Applicable
Vapour Pressure: No Data
% Volatiles: No Data
Solubility in Water: Insoluble
Appearance\Odour: Corn meal with no odour.
pH: No Data
Freezing/Melting Point: Not Applicable
Vapour Density: Not Applicable
Evaporation Rate: Not Applicable

SECTION 4 - FIRE AND EXPLOSION

Flash Point: Not Applicable
Autoignition Temperature: No Data
Lower Explosion Limit %: Not Applicable
Upper Explosion Limit %: Not Applicable
Fire Extinguishing Media: Foam, Dry Chemical, Carbon Dioxide, Water Fog
Fire Fighting Procedures: Wear self-contained Breathing Apparatus and impervious clothing. Minimize amount of water used and contain the run-off by diking.
Other Fire or Explosion Hazards: None known.

SECTION 5 - REACTIVITY DATA

Stability: Stable
Hazardous Polymerization: Will Not Occur
Conditions to Avoid: Exposure to UV light may cause this product to decompose.
Incompatibility (Materials to Avoid): Acids and bases.
Hazardous Decomposition Products: Carbon Dioxide and Carbon Monoxide.

SECTION 6 - HEALTH HAZARD DATA

Acute Effects of Overexposure: None likely to occur under normal usage. Can cause bleeding of the nose and gums and bruising.
Effects of Chronic Exposure: Chlorophacinone is an anticoagulant which may accumulate in the system and cause internal bleeding.
Other Health Effects: This product is an anticoagulant and can cause bleeding. Main routes of entry are oral, inhalation and dermal. Notes to Physician - Monitor prothrombin times for 5 to 7 days. Intravenous and oral administration of Vitamin K_1 should be given if lab results indicate an effect on blood clotting times. This product has a prolonged anticoagulant action which may persist for up to 45 days.

SECTION 7 - FIRST AID PROCEDURES

Inhalation: Move victim to fresh air. Give Artificial Respiration ONLY if required. Give CPR if there is NO breathing AND NO pulse. Obtain medical advice if symptoms persist.
Skin Contact: Flush skin with running water and thoroughly wash with soap and water. If irritation persists seek medical attention.
Ingestion: Give 1 to 2 glasses (200 to 500 ml) of water to dilute material. Do not induce vomiting. If spontaneous vomiting should occur have victim lean forward with head down to avoid breathing vomitus, rince mouth and administer more water. OBTAIN MEDICAL ADVICE. Do not induce vomiting or give anything by mouth to an unconscious person.
Eye Contact: Flush eyes with running water for 20 minutes. Hold eyelids open during flushing. If irritation persists seek Medical Attention.

SECTION 8 - PREVENTIVE MEASURES

Respiratory Protection: Prolonged usage requires a NIOSH/MSHA approved respirator,
Eye Protection: Not required
Skin Protection: Chemical resistant gloves.
Other Personal Protective Equipment: Coveralls
Engineering Controls: Local exhaust or ventilation.
Handling Procedures and Equipment: Avoid breathing vapours and/or dust, contact with eyes, skin and clothing. Wash thoroughly after use.
Storage Requirements: Store in cool, dry, ventilated area. Keep out of reach of children and pets.
Storage Temperature: Min: none ^{o}C Max: 40 ^{o}C

SECTION 9 - ENVIRONMENTAL PROTECTION DATA

Spill and Leak Procedures: Stop leak and contain spill. Sweep up spilled material and transfer into waste container for disposal. Clean area with detergent and water, absorb wash and place in waste container. Remove any contaminated soil for proper disposal.
Waste Disposal: Dispose of empty container in household garbage. Dispose of waste product in accordance with Local, Provincial or Federal government regulations.
Environmental Effects: Do not contaminate local water supplies or environments.

The information contained herein is considered accurate and offered only as a guide to the handling of this specific material. This information, does not relate to its use with any other material or product or in any process. No warranty, expressed or implied is made regarding the accuracy of the data or the performance of the material by Sure-Gro Inc. This Material Safety Data Sheet is valid for three years from Issue Date.

Prepared by: Technical Department **Issue Date:** December 1, 2007

Table G.1 Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site

Ref. Nº or Code	Material/ Substance(1)	CAS Number	Danger(2) Category	Amount Stored (tonnes)	Annual Usage (tonnes)	Nature of Use	R(3) - Phrase	S(3) - Phrase
Ref No62	Chlorophacinone	3691-35-8	Not classified as Hazardous	24kg	24 kg	Rodenticide	R27/28	R48/24/25
64564	Brodifacoum	56073-10-0	Not classified as Hazardous	1kg	500g	Rodenticide	R26/27/28	R48/25

Notes: 1. In cases where a material comprises a number of distinct and available dangerous substances, please give details for each component substance.
2. c.f. Article 2(2) of SI Nº 77/94
3. c.f. Schedules 2 and 3 of SI Nº 77/94

H ATTACHMENTS

ATTACHMENT H.1 Quantities of Waste Handled

The landfill is closed and restored but accepted waste for disposal between 1989 and 2002. During this time approximately 480,000m^3 of municipal waste were deposited at the site. A Waste Licence for Ballymurtagh landfill, Register W0011-01, was granted by the EPA to Wicklow County Council in 2001. Waste acceptance for landfilling ceased in December 2002 and there is currently a 'nil import' to the landfill site. The facility has been capped and landscaped since 2006 and is subject to ongoing environmental monitoring and aftercare.

The only waste currently handled at the site is in relation to the Civic Amenity facility.
Included with this attachment are :

- **Attachment H.1(i)** Quantity and Type of Waste Handled for 2008
- **Attachment H.1(ii)** Waste Type Recovery Details
- **Attachment H.1(iii)** E-PRTR for Waste Transfer
- **Table H1(i)** Not Applicable. Only Household Hazardous Waste handled at the facility.
- **Table H1(ii)** The information is included in Attachment H.1(i) and H.1(ii)

ATTACHMENT H.2 Waste Acceptance Procedures

The procedure for waste acceptance and removal from the Civic Amenity site is updated on an annual basis in the Environmental Management Plan for the facility. The most recent procedure is included with this attachment.

- **Attachment H.2(i)** Waste Acceptance Procedure

ATTACHMENT H.3 Waste Handling Procedures

The landfill is closed. The only handling of waste is at the Civic Amenity site, where recyclable waste is temporarily stored pending collection to other waste recovery sites. Details with respect to the waste handled at the Civic Amenity site have already been presented in Attachment H.1and H.2.

ATTACHMENT H.4 Not Applicable - Landfill Restored – No waste arisings

Total Quantities of Waste Accepted at the Ballymurtagh Civic Waste Facility (RPS, 2008)

Waste Type	EWC Code	Approx. Monthly Quantities	Materials transported Off-site
Aluminium cans	19 12 03	472 Kg	5663 Kg
Steel Cans	20 01 40	1345 Kg	16140 Kg
Paper / Cardboard packaging / tetrapak	20 01 01	21816 Kg	261792 Kg
Fluorescent tubes / Bulbs	20 01 21	45 Kg	543 Kg
Fridges / Freezers	20 01 23	1183 Kg	14195 Kg
WEE small: Photocopiers, Keyboards, TVs, Videos, Monitors, Printers, PCs, Scanners, Smoke alarms	20 01 36	3171 Kg	38050 Kg
Plastics	20 01 39	5755 Kg	69063 Kg
Batteries	20 01 33/34	537 Kg	6441 Kg
Mixed Municipal Waste	20 03 01	853 Kg	10240 Kg
Waste Oils	20 01 25/26	275 Kg	3300 Kg
Ink jet cartridges,	08 03 13	26 Units	308 Units
Glass	20 01 02	7043 Kg	84519 Kg
WEE large: Cookers, Washing machines, Dryers	19 12 02	2618 Kg	31421 Kg
Textiles, Clothes	20 01 10/11	2110 Kg	25320 Kg
Scrap Metal	20 01 40	1682 Kg	20180 Kg
Mobile Phones		17 Units	204 Units

Table 3.1: Waste Types and their Recovery/Disposal Details 2007.

Waste Type	EWC Code	Approx. Monthly Quantities	Transfer Frequency	Name of Waste Carrier (Waste Collection permit details)	Waste Collection Permit/ licence		Delivery to					Does the waste collection permit allow for collection and delivery of the waste to the specified offsite waste facility?	Agency Agreement Notice reference and date
					Date of Issue	Expiry date	Facility	Address	Transferred to: Reg. No.	Waste Facility Permit/ licence			
										Date of Issue	Expiry Date		
Aluminium cans	19 12 03	788 kg	Fortnightly	Greenstar (ESS/15/54/68/06C)	1-12-2006	31-11-2008	Greenstar, Fassaroe	Bray, Co. Wicklow	W0053-03	n/a	n/a	yes	GEN11DS (21/01/04)
Steel Cans	20 01 40	1,150 kg	Fortnightly	Leon Transport (ESS/15/54/504/07A)	26-07-2007	25-07-09	Hammond Lane Metal Co. Ltd,	Pigeon House Road, Dublin 4	Leon Arklow, WPT8/308				
Paper / cardboard packaging / tetrapak	20 01 01	22,422 kg	Weekly	Bailey Waste (ESS/15/54/235/07B)	12-11-2007	11-11-2009	Bailey Waste Recycling Ltd,	Rosemount Business Park, Dublin 11.	Facility Permit No., WPT9/4 (Fingal Co. Co.).	24-04-2006	23-04-2009	yes	GEN11DS (21/01/04)
Fluorescent tubes / bulbs	20 01 21*	34 kg	Every 6 months	Irish Lamp Recycling Ltd (ESS/15/54/51/ 07C)	18-12-2007	17-12-2009	Irish Lamp Recycling Ltd	Blackpark, Kilkenny Road, Athy, Co. Kildare	Waste Permit No., 02/2000B (Kildare Co. Co.)	13/12/2005	12/12/2008	yes	GEN11DS (21/04/04)
Fridges, etc.	20 01 23*	1,950 kg	Every 2 weeks	Cedar Resources (ESS/15/54/74/08B)	25-02-08	24-02-10	Cedar Resource Management Ltd	Site No. 14A1, Greenogue Business Park, Rathcoole, Co. Dublin	Recycling Permit (WO185/01)	n/a	n/a	yes	GEN11DS (21/1/04)
WEEE Small: Photocopiers, keyboards, TVs, videos, monitors, printers, PCs, scanners, smoke alarms	20 01 36	3,386 kg	Every 2 weeks	Cedar Resources	25-02-08	24-02-10	Cedar Resource Management Ltd	Site No. 14A1, Greenogue Business Park, Rathcoole, Co. Dublin	Recycling Permit (WO185/01)	31-05-2004	09-01-2007	yes	GEN11DS (21/01/04)
Plastics	20 01 39	3,976 kg	Weekly	RecycleNet (ESS/15/54/21/ 07B)	31-03-2007	1-02-2009	RecycleNet,	Rathangan, Kildare	Facility Permit No. 49/2001(Kildare Co. Co.)	17-05-2006	16-05-2009	yes	GEN11DS ()21/01/04)
Batteries	20 01 33/34*	958 kg	Every 2 months	Returnbatt (ESS/15/54/08C)	26-03-2008	25-03-2010	Returnbatt Ltd	Unit 35, Kildare Enterprise Centre, Melitta Rd., Co. Kildare	W0105-01	n/a	n/a	yes	GEN11DS (21/01/04)
Mixed Municipal Waste	20 03 01	933 kg	Fortnightly	Arklow Waste Disposal, Permit No. (ESS/15/54/05D)	May 2007	May 2010	Rampere Landfill	Rampere, Co. Wicklow	W0066-02	n/a	n/a	yes	GEN11DS (21/01/04)
Waste Engine Oil	20 01 25/26*	390 kg	When Required	ENVA Industrial Automotive (Ess/15/54/06B)	04-12-2006	31-12-2008	ENVA Industrial Automotive	Clonminan Ind. Estate, Portlaoise, Co. Laois	W0184/01	n/a	n/a	yes	AK06DS
Ink jet cartridges	08 03 13	2.5 kg.	When required	Oxfam Ireland	Forwarded to Jack & Jill Foundation (Charity No. CHY12405)					n/a	n/a	yes	
Glass	20 01 02	5,838 kg	Fortnightly	Greenstar (ESS/15/54/68/06C)	Nov-2008	Nov-2010	Fassaroe	Bray, Co. Wicklow	W0053-03	n/a	n/a	yes	AK06DS (20/08/04)
WEEE Large: Metals, cookers, washing machines, dryers	19 12 02	3,005 kg	Fortnightly	Cedar Resources (15/54/74/08B)	25-02-08	24-02-10	Cedar Resource Management Ltd	Site No. 14A1, Greenogue Business Park, Rathcoole, Co. Dublin	Recycling Permit WO185/01	31-05-2004		yes	
Textiles, clothes	20 01 10/11	232 kg	Weekly	National Council for the Blind (Mrs. Quin's Charity Shop) (ESS/15/54/365/08B)	25-2-2008	24-2-2010	National Council for the Blind (Mrs. Quin's Charity Shop)	Unit T5B, Toucher Business Park, Newhall, Naas, Co. Kildare.	Waste Permit No. 214/2005 (Kildare Co. Co.)	13-03-2006	12-03-2009	yes	AR06MPD (19/06/06)
Scrap Metal	20 01 40	2,002 kg	Fortnightly	Leon Transport (ESS 15/08/308)	26-07-2007	25-07-09	Hammond Lane Metal Co. Ltd,	Pigeon House Road, Dublin 4	Dublin City Council WP98067				
Mobile phones		0.83 kg.	When received		To Jack and Jill Foundation (Charity No. CHY12405)								

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE | PRTR# : W0011 | Facility Name : Ballymurtagh Landfill Facility | Filename : W0011_2008.xls | Return Year : 2008 | 18/06/2009 14:46

0

Transfer Destination	European Waste Code	Hazardous	Quantity T/Year	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Name and Licence / Permit No. of Recoverer / Disposer / Broker	Address of Recoverer / Disposer / Broker	Name and Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)	Licence / Permit No. of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	20 01 01	No	176.242	Newsprint/Mags	R13	M	Weighed	Offsite in Ireland	Bailey Waste WPT9/4 (Fingal Co Council) (WCP 235-07B)	Rosemount Business Park, Dublin 11		
Within the Country	15 01 01	No	82.17	Cardboard	R13	M	Weighed	Offsite in Ireland	Bailey Waste WPT9/4 (Fingal Co Council) (WCP 235-07B)	Rosemount Business Park, Dublin 11		
Within the Country	15 01 05	No	3.38	Beverage Cartons	R13	M	Weighed	Offsite in Ireland	Bailey Waste WPT9/4 (Fingal Co Council) (WCP 235-07B)	Rosemount Business Park, Dublin 11		
Within the Country	20 01 11	No	25.32	Textiles	R13	M	Weighed	Offsite in Ireland	National Council for the Blind (Mrs Quinns Charity Shop) 214-2005 (Kildare County Council) (WCP368-08B)	Kildare		
Within the Country	15 01 02	No	69.063	Household Plastic Packaging	R13	M	Weighed	Offsite in Ireland	RecycleNet 49/2001(Kildare County Council) (WPC 21-07B)	Rathdangan, Co Kildare		
Within the Country	15 01 07	No	84.519	Glass	R13	M	Weighed	Offsite in Ireland	Greenstar W0053-03 (WCP 68-06C)	Fassaroe, Bray, Co Wicklow		
Within the Country	15 01 04	No	5.663	Al Cans	R13	M	Weighed	Offsite in Ireland	Greenstar W0053-03 (WCP 68-06C)	Fassaroe, Bray, Co Wicklow		
Within the Country	15 01 04	No	16.14	Ferrous Cans	R13	M	Weighed	Offsite in Ireland	Leon (WPT8/308) (ESS1254504/07A)	Hammond Lane, Dublin		
Within the Country	20 01 40	No	20.18	Scrap Metal	R13	M	Weighed	Offsite in Ireland	Leon (WPT98067) (ESS/15/54/365/08B)	Hammond Lane, Dublin		
Within the Country	20 03 01	No	10.24	Residual Wastes	R13	M	Weighed	Offsite in Ireland	Arklow Waste Disposal (W066-02) (ESS/15/54/05D)	Rampere, Baltinglass, County Wicklow		
Within the Country	20 01 33	Yes	5.728	Wet Batteries	R13	M	Weighed	Offsite in Ireland	Returnbatt (W0105-01) (WCP 54-05B)	Melita Road, Kildare		
Within the Country	20 01 21	Yes	0.543	Light Bulbs	R13	M	Weighed	Offsite in Ireland	Irish Lamp Recycling 02/2000B (Kildare Co Council) (WCP 51-07C)	Athy, Co Kildare		
Within the Country	20 01 25	No	0.7	Cooking Oil	R13	M	Weighed	Offsite in Ireland	ENVA (W0184-01) (W0184/01)	ENVA, Portlaoise, Co Laois		
Within the Country	20 01 26	Yes	2.6	Engine Oil	R13	M	Weighed	Offsite in Ireland	ENVA (W0184-01) (W0184/01)	ENVA, Portlaoise, Co Laois		
Within the Country	20 01 25	No	83.666	All WEEE	R13	M	Weighed	Offsite in Ireland	CEDAR Resources (W0185/01)	Rathcoole, Co Dublin		
Within the Country	20 01 34	No	0.713	Dry Batteries	R13	M	Weighed	Offsite in Ireland	Returnbatt (W0105-01) (WCP 54-05B)	Melita Road, Kildare		
Within the Country	20 01 35	Yes	18.36	Mobile Phones	R13	E	None	Offsite in Ireland	Jack and Jill Foundation (Charity No. CHY12405)			
Within the Country	20 01 28	No	10.2	Ink Cartridges	R13	E	None	Offsite in Ireland	Oxfam Ireland forwarded to the jack and Jill foundation.			

* Select a row by double-clicking the Description of Waste then click the delete button

PROCEDURE FOR THE ACCEPTANCE OF WASTE/WASTE DEPARTING THE FACILITY

The purpose of this procedure is to ensure that waste accepted at the Civic Waste Facility is disposed of in the correct manner and waste departing the Civic Waste Facility is documented as required by the Waste Licence.

RESPONSIBILITY

It is the responsibility of the Facility Manager to oversee this procedure, however the Site Supervisor will implement the procedure as part of the daily operation of the site.

PROCEDURE

The following waste types will be accepted at the facility:

1. Paper
2. Cardboard
3. Tetrapak
4. Plastic packaging/rigid & flexible
5. Aluminium drinks cans
6. Steel food cans
7. Glass
8. Batteries (wet and dry cell)
9. Textiles
10. Scrap metal
11. White & brown goods WEE
12. Waste oils (cooking and engine)
13. Mobile phones
14. Books
15. Ink Jet cartridges, smoke alarm, CD, spectacles
16. Fluorescent tubes / Bulbs

The Site Supervisor will:

1. Accept only waste as outlined above between 10.00am and 4.00pm, Tuesday to Saturday inclusive.
2. Ensure all food and beverage containers are washed & clean and all fridges, freezer, cookers, microwaves do not contain food products and are generally clean. All paper/cardboard should be clean and dry. Any contaminated products will be rejected.
3. Ensure all materials are placed in specified containers.
4. Supervise users of the facility, to ensure recyclables are disposed correctly and unauthorised waste is not disposed at the facility. No hazardous waste (excluding waste oil, batteries, fluorescent tubes, household chemicals collected for recovery or disposal off-site), asbestos, liquid waste, sludge or offal can be deposited at the facility. Direct members of the public to suitable licensed facilities with waste types, which are not acceptable at the civic amenity site.
5. Request payment by users where required and issue receipt.
6. Inspect containers on a daily basis and record those, which are almost full.
7. Contact the waste carrier authorised (see Appendix B, EMP) to remove/empty the container to a licensed facility to organise a suitable date and time for collection of the container.
8. Record details of the waste departing the site on the Waste Record Form
9. Record date on which re-filling of the container commences.

I ATTACHMENTS

ATTACHMENT I.1 Assessment of Atmospheric Emissions

The existing environment in terms of air quality and the potential impacts of atmospheric emissions associated with the facility are detailed in Section 9 of the accompanying EIS.

Since the landfill was capped in 2006 there have been no complaints with respect to atmospheric emissions from local residents demonstrating the effectiveness of the abatement measures employed at the facility. Routine monitoring for landfill gas is carried out in accordance with the current W0011-01. Weekly maintenance checks of the gas extraction system and the landfill gas flare minimises flare shutdowns and reduces the potential for odour emissions.

A dispersion modelling report on emissions from the Flare was carried out in February 2004, prior to capping of the landfill. This modelling exercise demonstrated that under normal operating conditions, the emissions from the combustion of landfill gas at the Ballymurtagh Landfill flare unit did not have an adverse impact on the local ambient air quality in the vicinity of the landfill or specifically, at local residents situated in proximity to the landfill site. The report also recommended that the height of the flare outlet be increased to optimise dispersion. Following landfill capping in 2006, the flare outlet was raised approximately 1m. Included with this attachment are the conclusions from this report.

Attachment I.1.(i) Dispersion Modelling Report Conclusions 2004

ATTACHMENT I.2 Assessment of Impact on Receiving Surface Water

The existing environment in terms of surface water quality and the potential impacts of the landfill on surface and groundwater is the principal purpose of this Waste Licence Review Application and is dealt with in detail in Sections 6 and 7 of the accompanying EIS.

The Tables included with this attachment are the surface water quality results from monitoring of the Avoca River throughout 2008 at the locations indicated on the Monitoring Points Plan in Attachment F.2(ii). As discussed during pre-consultation with the EPA, these attachments are substituted for the presentation of qualitative information requested in Table I.2(i) Surface Water Quality Results standard form. The remainder of the information requested for Table I.2(i) is outlined on the attached Table I.2(i). Included with this attachment is:

Attachment I.2.(i) Surface Water Quality Results for 2008 for SW1, SW2, SW4 and SW5

Table I.2(i) Surface Water Quality

ATTACHMENT I.3 Not Applicable – No Discharge to Sewer

ATTACHMENT I.4 Assessment of Impact on Ground/Groundwater Emissions

The existing environment in terms of groundwater quality and the potential impacts of the landfill on surface and groundwater is the principal purpose of this Waste Licence Review Application and is dealt with in detail in Section 7 of the accompanying EIS.

The key challenge in assessing the nature and extent of potential landfill impacts on groundwater and surface water quality in West Avoca is being able to distinguish between the impacts of the landfill from those of the mine workings. This is especially important because the landfill overlies the mine workings and therefore a co-mingling of contaminants can be expected in downgradient areas.

A multivariate statistical method known as a Principal Component Analysis (PCA) has been carried out on water quality data collected since the mid-1990s, when long-term monitoring began at the landfill. The PCA was carried out to help distinguish between the impacts of the landfill from those of the mine workings. Details are provided in Section 7 of the EIS

The Tables included with this attachment are groundwater quality results from groundwater monitoring locations in the vicinity of the landfill as presented on the Monitoring Points Plan in Attachment F.2(ii). As discussed during pre-consultation with the EPA, these attachments are substituted for the presentation of qualitative information requested in Table I.4(i) Groundwater Quality Results standard form. The remainder of the information requested for Table I.4(i) is outlined on the attached Table I.4(i). Included with this attachment is:

Attachment I.4(i) Groundwater Quality Results for 2008 for Twin Shafts, G1/04, G2/04, G1/05 and G2/05

Table I.4(i) Groundwater Quality

ATTACHMENT I.5 Ground and Groundwater Contamination

The existing environment in terms of groundwater contamination and the potential impacts of the landfill on groundwater is dealt with in detail in Section 7 of the accompanying EIS.

The groundwater quality in the entire West Avoca mining area, including the landfill, is impaired and impacted by acid mine drainage. The impacts to groundwater have been documented prior to the landfill being constructed. Impacts on both sides of the river are of a similar nature, whereby contamination to groundwater and the Avoca River are attributed to mine waste and underground mine workings.

ATTACHMENT I.6 Assessment of Noise Impact

The existing environment in terms of noise and the potential impacts of noise from Ballymurtagh Lanfill is presented in Section 4.2 of the accompanying EIS.

In accordance with the current Waste Licence, noise monitoring is carried out on an annual basis at NSL1 and NSL4, the noise sensitive locations indicated on the Monitoring Points Plan in Attachment F.2(ii). Monitoring of noise emissions over recent years under the W0011-01 has found that Ballymurtagh Landfill has no impact at these noise sensitive locations.

The most recent noise survey was carried out in March 2009. The 55dB(A) day limit was only marginally exceeded at 57dB(A) at one noise monitoring location, NSL1 and this was attributed to traffic on the main R752 road which runs adjacent to the site. No noise could be detected from operations at the landfill at NSL1 at the time of

monitoring. The 55dB(A) day limit was not exceeded at monitoring point NSL4. Included with this attachment is:

Table I.6(i) Ambient Noise Assessment

ATTACHMENT I.7 Assessment of Ecological Impacts

The existing environment in terms of ecology and the potential impacts of the landfill on the ecology of the site and the surrounding area are discussed in Section 8 of the accompanying EIS.

Overall, the site and area in general has benefited ecologically from the infilling of the open pit, a legacy of decades of open cast mining at Avoca and a difficult environment for fauna and flora of many types. The planned revegetation of the landfill capping has improved the habitat, both for fauna and flora. This will continue to improve with time, to a point where the landfill site is completely integrated with its surrounding environment.

CONCLUSIONS

A comprehensive evaluation of the potential impact on air quality as a result of emissions from the landfill gas flare at the Ballymurtagh Landfill flare unit has been completed. The main assessment criteria used were the Irish Air Quality Standards Regulations 2002, S.I. No. 271 of 2002 and where no specific Irish or European legislation exists for specific compounds, limit values specified in the Danish Industrial Air Pollution Control Guidelines and in TA Luft: German Technical Instructions on Air Quality Control have been used. The predicted ground level concentrations of substances emitted from the landfill gas glare have also been compared to the odour thresholds of specific odorous constituents of landfill gas in order to evaluate the potential for odour nuisance associated with the emissions.

The modelling exercise has demonstrated that emissions from the combustion of landfill gas at the Ballymurtagh Landfill flare unit under normal operating conditions do not have an adverse impact on the local ambient air quality in the vicinity of the landfill or specifically, at local residences situated in proximity to the landfill site. The model has identified significant potential for short-term odour incidents associated with emissions from the flare when trace levels of odorous constituents are present in the outlet gas stream and when meteorological conditions are adverse. The dispersion of emissions from the flare outlet is less than optimum due to the nature of the terrain in the immediate vicinity of the flare. Some consideration should be afforded to optimisation of the height at which emissions are released in order to ensure that such emissions are effectively dispersed under all meteorological conditions and for all potential operating scenarios.

Table 8a Dispersion Modelling predictions for emissions from Flare Stack
Scenario#1: ***Typical Measured Emissions***

Parameter/Averaging Period	***Limit Value***	***Modelling*** ***Maximum predicted Increment to GLC (ug/m^3)***	***Predictions*** ***Receptor Location***
NO_2			
WHO GUIDELINE (1)			
Maximum 1- hour mean	200	*2.0*	*319584, 181243*
Annual	40-50	*0.01*	-
Irish AOS SI No. 271 of 2002(2)			
Council Directive 1999/30/EC			
99.8 percentile of 1- hour average	200	*0.83*	*319584,181243*
Annual mean	40	*0.01*	-
SO			
WHO GUIDELINE (1)			
Maximum 1- hour mean	50	*0.004*	-
Annual	350	*0.57*	*319634, 181443*
Irish AOS SI No. 271 of 2002(2)			
Council Directive 1999/30/EC			
99.7 percentile of 1- hour average	350	*0.19*	*319634,181443*
99.2 percentile of 24-hour average	125	*0.04*	*319584,181243*
Annual mean	20	*0.004*	-
CO			
Irish AOS SI No. 271 of 2002(2)			
Council Directive 1999/30/EC			
8- hour	10,000	1247	319634, 181243
1- hour	30,000	3656	319634, 181243
HCI			
Danish C-Value			
99 percentile of 1- hour mean	50	0.02	319584,181243
HF			
Danish C-Value			
99 percentile of 1- hour mean	2	0.02	319584,181243
TA Luft Class 1			
98 percentile of 1- hour mean	50	0.05	319584,181243
TA Luft Class 11			
98 percentile of 1- hour mean	200	0.05	319584,181243
TA Luft Class 111	1000	0.05	319584,181243
98 percentile of 1- hour mean			

NOTE:
(1) Guidelines for Air Quality, WHO, Geneva, 2000
(2) Irish Air Quality Standard Regulations, SI No. 271 of 2002
(3) The Danish Industrial Air Pollution Control Guidelines specify a C-value which is the value which must not be exceeded when expressed as the 99-percentile of 1-hour values.
(4) TA Luft: German Technical Instructions on Air Quality Control

Parameter	Units	Surface Water Regulations 1989 Max. Admissable Conc.	Environmental Quality Standards (proposed by EPA, 1997) Proposed Limits	SW1 Whitesbridge s/w sample 319755N 182056E Sampled: 11/11/08 Analysed: 12/11/08	SW1 Whitesbridge s/w sample 319755N 182056E Sampled: 07/08/08 Analysed: 07/08/08	SW1 Whitesbridge s/w sample 319755N 182056E Sampled: 19/5/08 Analysed: 19/5/08	SW1 Whitesbridge s/w sample 319755N 182056E Sampled: 5/2/08 Analysed: 5/2/08
pH		**5.5 < pH < 8.5**	**5.5 <pH < 9.0**	6.9	7.0	7.2	6.9
Temperature (on site)	^{o}C	**25**		6	14	11	8
Conductivity	uS/cm at 20^{o}C	**1,000**	**1,000**	58	55	86	59
C.O.D.	mg/l O_2	**40**	**None**	20	26	32	9
B.O.D.	mg/l O_2	**5**	**5**	<3	<5	8	<2
Dissolved Oxygen (on site)	mg/l O_2	**<5**	**<9 (@ 50% of the time)**	7.5	9.3	13.6	9.7
Total Suspended Solids	mg/l SS	**35**		4	3	4	6
Total Oxidised Nitrogen	mg/l N	**5**	**11.36**	0.9			
Total Alkalinity	mg/l HCO_3		**None**	12			
Ammonium	mg/l NH_4	**0.2**	**20ug/l NH_3 un-ionised Ammonia**	<0.08	<0.08	<0.08	<0.08
Calcium	mg/l Ca		**None**	5			
Cadmium	mg/l Cd	**0.005**	**0.005**	<0.0002			
Chromium	mg/l Cr	**0.05**	**0.05**	<0.001			
Chloride	mg/l Cl	**250**	**250**	8	8	10	10
Copper	mg/l Cu	**0.05**	**0.005 - 0.112**	0.0094			
Iron	mg/l Fe	**0.2**	**1**	0.27			
Lead	mg/l Pb	**0.05**	**0.05**	<0.004			
Magnesium	mg/l Mg		**None**	2			
Manganese	mg/l Mn	**0.05**	**0.3**	0.03			
Mercury	mg/l Hg	**0.001**	**0.001**	<0.000012			
Total Phosphorus as P	mg/l P	**-**	**-**	0.06			
Phosphate	mg/l P_2O_5	**0.5**	**0.07 mg/l P (0.32 mg/l P_2O_5) (for Seriously polluted river (Q<2)**	<1			
Potassium	mg/l K		**None**	<1			
Sodium	mg/l Na		**None**	5			
Sulphate	mg/l SO_4	**200**	**200**	5	5	9	6
Zinc	mg/l Zn	**3**	**0.03 - 0.5**	0.06			

Parameter	Units	Surface Water Regulations 1989 Max. Admissable Conc.	Environmental Quality Standards (proposed by EPA, 1997) Proposed Limits	SW2 Upstream adit s/w sample 319932N 181680E Sampled: 11/11/08 Analysed: 12/11/08	SW2 Upstream adit s/w sample 319932N 181680E Sampled: 07/08/08 Analysed: 07/08/08	SW2 Upstream adit s/w sample 319932N 181680E Sampled: 19/5/08 Analysed:19/5/08	SW2 Upstream adit s/w sample 319932N 181680E Sampled: 5/2/08 Analysed: 5/2/08
pH		**5.5 < pH < 8.5**	**5.5 <pH < 9.0**	6.6	6.9	6.7	6.5
Temperature (on site)	^{o}C	**25**		6	14	11	8
Conductivity	uS/cm at $20^{o}C$	**1,000**	**1,000**	57	63	94	61
C.O.D.	mg/l O_2	**40**	**None**	16	22	19	16
B.O.D.	mg/l O_2	**5**	**5**	<3	<5	4	<3
Dissolved Oxygen (on site)	mg/l O_2	**<5**	**<9 (@ 50% of the time)**	8.0	9.3	12.1	10.1
Total Suspended Solids	mg/l SS	**35**		5	2	3	8
Total Oxidised Nitrogen	mg/l N	**5**	**11.36**	0.9			
Total Alkalinity	mg/l HCO_3		**None**	12			
Ammonium	mg/l NH_4	**0.2**	**20ug/l NH_3 un-ionised Ammonia**	<0.08	<0.08	<0.08	<0.08
Calcium	mg/l Ca		**None**	5			
Cadmium	mg/l Cd	**0.005**	**0.005**	<0.0005			
Chromium	mg/l Cr	**0.05**	**0.05**	<0.001			
Chloride	mg/l Cl	**250**	**250**	8	9	10	10
Copper	mg/l Cu	**0.05**	**0.005 - 0.112**	0.017			
Iron	mg/l Fe	**0.2**	**1**	0.31			
Lead	mg/l Pb	**0.05**	**0.05**	<0.01			
Magnesium	mg/l Mg		**None**	2			
Manganese	mg/l Mn	**0.05**	**0.3**	0.05			
Mercury	mg/l Hg	**0.001**	**0.001**	<0.000012			
Total Phosphorus as P	mg/l P	**-**	**-**	<0.05			
Phosphate	mg/l P_2O_5	**0.5**	**0.07 mg/l P (0.32 mg/l P_2O_5) (for Seriously polluted river (Q<2)**	<1			
Potassium	mg/l K		**None**	<1			
Sodium	mg/l Na		**None**	5			
Sulphate	mg/l SO_4	**200**	**200**	7	7	15	7
Zinc	mg/l Zn	**3**	**0.03 - 0.5**	0.06			

Parameter	Units	Surface Water Regulations 1989 Max. Admissable Conc.	Environmental Quality Standards (proposed by EPA, 1997) Proposed Limits	SW4 Coal Yard s/w sample 319946N 181136E Sampled: 11/11/08 Analysed: 12/11/08	SW4 Coal Yard s/w sample 319946N 181136E Sampled: 07/08/08 Analysed: 07/08/08	SW4 Coal Yard s/w sample 319946N 181136E Sampled: 19/5/08 Analysed:19/5/08	SW4 Coal Yard s/w sample 319946N 181136E Sampled: 5/2/08 Analysed: 5/2/08
pH		**5.5 < pH < 8.5**	**5.5 <pH < 9.0**	6.2	6.6	6.2	6.1
Temperature (on site)	^{o}C	**25**		7	14	11	8
Conductivity	uS/cm at 20^{o}C	**1,000**	**1,000**	90	71	127	75
C.O.D.	mg/l O_2	**40**	**None**	16	19	22	<4
B.O.D.	mg/l O_2	**5**	**5**	<3	<3	7	<2
Dissolved Oxygen (on site)	mg/l O_2	**<5**	**<9 (@ 50% of the time)**	7.7	8.7	12.3	8.4
Total Suspended Solids	mg/l SS	**35**		3	3	9	6
Total Oxidised Nitrogen	mg/l N	**5**	**11.36**	0.8			
Total Alkalinity	mg/l HCO_3		**None**	9			
Ammonium	mg/l NH_4	**0.2**	**20ug/l NH_3 un-ionised Ammonia**	0.12	0.08	<0.08	<0.08
Calcium	mg/l Ca		**None**	5			
Cadmium	mg/l Cd	**0.005**	**0.005**	0.001			
Chromium	mg/l Cr	**0.05**	**0.05**	<0.001			
Chloride	mg/l Cl	**250**	**250**	8	8	11	10
Copper	mg/l Cu	**0.05**	**0.005 - 0.112**	0.012			
Iron	mg/l Fe	**0.2**	**1**	0.8			
Lead	mg/l Pb	**0.05**	**0.05**	0.007			
Magnesium	mg/l Mg		**None**	3			
Manganese	mg/l Mn	**0.05**	**0.3**	0.07			
Mercury	mg/l Hg	**0.001**	**0.001**	<0.000012			
Total Phosphorus as P	mg/l P	**-**	**-**	0.05			
Phosphate	mg/l P_2O_5	**0.5**	**0.07 mg/l P (0.32 mg/l P_2O_5) (for Seriously polluted river (Q<2)**	<1			
Potassium	mg/l K		**None**	<1			
Sodium	mg/l Na		**None**	5			
Sulphate	mg/l SO_4	**200**	**200**	12	13	31	14
Zinc	mg/l Zn	**3**	**0.03 - 0.5**	0.15			

Parameter	Units	Surface Water Regulations 1989	Environmental Quality Standards (proposed by EPA, 1997)	SW5 Avoca Bridge s/w sample 320020N 180799E Sampled: 11/11/08 Analysed: 12/11/08	SW5 Avoca Bridge s/w sample 320020N 180799E Sampled: 07/08/08 Analysed: 07/08/08	SW5 Avoca Bridge s/w sample 320020N 180799E Sampled: 19/5/08 Analysed: 19/5/08	SW5 Avoca Bridge s/w sample 320020N 180799E Sampled: 5/2/08 Analysed: 5/2/08
		Max. Admissable Conc.	Proposed Limits				
pH		**5.5 < pH < 8.5**	**5.5 <pH < 9.0**	6.4	6.8	6.6	6.4
Temperature (on site)	^{o}C	**25**		6	14	11	8
Conductivity	uS/cm at 20^{o}C	**1,000**	**1,000**	61	61	110	64
C.O.D.	mg/l O_2	**40**	**None**	17	17	18	<4
B.O.D.	mg/l O_2	**5**	**5**	<3	<3	<3	<2
Dissolved Oxygen (on site)	mg/l O_2	**<5**	**<9 (@ 50% of the time)**	7.7	9.6	10.7	7.6
Total Suspended Solids	mg/l SS	**35**		4	2	3	7
Total Oxidised Nitrogen	mg/l N	**5**	**11.36**	0.9			
Total Alkalinity	mg/l HCO_3		**None**	11			
Ammonium	mg/l NH_4	**0.2**	**20ug/l NH_3 un-ionised Ammonia**	<0.08	<0.08	0.15	<0.08
Calcium	mg/l Ca		**None**	5			
Cadmium	mg/l Cd	**0.005**	**0.005**	0.00038			
Chromium	mg/l Cr	**0.05**	**0.05**	<0.001			
Chloride	mg/l Cl	**250**	**250**	8	8	11	10
Copper	mg/l Cu	**0.05**	**0.005 - 0.112**	0.008			
Iron	mg/l Fe	**0.2**	**1**	0.41			
Lead	mg/l Pb	**0.05**	**0.05**	0.006			
Magnesium	mg/l Mg		**None**	2			
Manganese	mg/l Mn	**0.05**	**0.3**	0.05			
Mercury	mg/l Hg	**0.001**	**0.001**	<0.000012			
Total Phosphorus as P	mg/l P	**-**	**-**	0.05			
Phosphate	mg/l P_2O_5	**0.5**	**0.07 mg/l P (0.32 mg/l P_2O_5) (for Seriously polluted river (Q<2)**	<1			
Potassium	mg/l K		**None**	<1			
Sodium	mg/l Na		**None**	5			
Sulphate	mg/l SO_4	**200**	**200**	8	8	22	9
Zinc	mg/l Zn	**3**	**0.03 - 0.5**	0.11			

Table I.2(i) SURFACE WATER QUALITY

(Sheet 1 of 2) Monitoring Point/ Grid Reference: _____**See Attachment I.2**_____

Parameter	Results (mg/l)				Sampling method[2] (grab, drift etc.)	Normal Analytical Range[2]	Analysis method / technique
	Date	Date	Date	Date			
PH						1-14	Hydrogen Ion Selective Electrode
Temperature						0-100ºC	Temperature Probe
Electrical conductivity EC						1-100,000	Electrometry
Ammoniacal nitrogen NH_4-N						0.1-2.0	Colourimetry
Chemical oxygen demand						0-150, 0-1500	Digestion/colorimetry
Biochemical oxygen demand						1-7	DO probe
Dissolved oxygen DO						N/A	Dissolved Oxygen Probe
Calcium Ca						2.5-100	Ion chromatography (IC)
Cadmium Cd						0.1-2.00 ug/L	GF AAS
Chromium Cr						1-25ug/L	GFAAS
Chloride Cl						0.5-50	Ion chromatography
Copper Cu						0.002-1	ICP-MS
Iron Fe						0.05-5.00	Direct aspiration/flame AAS
Lead Pb						2-40 ug/L	GFAAS
Magnesium Mg						1-25	Ion chromatography
Manganese Mn						0.03-2.00	Direct aspiration/flame AAS
Mercury Hg						0.0005-0.4	Direct aspiration/cold vapour AAS

Surface Water Quality (Sheet 2 of 2)

Parameter	Results (mg/l)				Sampling method (grab, drift etc.)	Normal Analytical Range	Analysis method / technique
	Date	Date	Date	Date			
Nickel Ni							NOT ANALYSED
Potassium K						1-25	Ion chromatography
Sodium Na						1-100	Ion chromatography
Sulphate SO_4						0.25-100	Ion chromatography
Zinc Zn						0.01-1.00	Direct aspiration/flame AAS
Total alkalinity (as $CaCO_3$)						5-2000	Titration
Total organic carbon TOC						0.25-10	Oxidation/IR spectroscopy
Total oxidised nitrogen TON							Sum of nitrate & nitrite
Nitrite NO_2						0.2-10	Ion chromatography
Nitrate NO_3						0.5-50	Ion chromatography
Faecal coliforms (/100mls)						0-100 cfu	Membrane Filtration
Total coliforms (/100mls)						0-100 cfu	Membrane Filtration
Phosphate PO_4 (low level)						0.01- 2.5	Colourimetry

Parameter	Units	EU Directive	Twin Shafts	Twin Shafts	Twin Shafts	Twin Shafts
			319454N 181265E	319454N 181265E	319454N 181265E	319454N 181265E
			g/w sample	g/w sample	g/w sample	g/w sample
			Sampled 11/11/08	Sampled 07/08/08	Sampled 19/5/08	Sampled 5/2/08
		Max. Admissable Conc.	Analysed 12/11/08	Analysed 07/08/08	Analysed 19/5/08	Analysed 5/2/08
Water Level	**(m)**		**n/a**	**n/a**	**n/a**	**n/a**
Depth	**(m)**					
Visual Description	**-**		Colourless with some suspended solid	Clear, colourless	Clear, colourless	Clear, colourless
pH		**6.5 < pH < 9.5**	6.8	6.9	6.8	7.3
Temperature (on site)	^{o}C	**25**	9	13	12	9
Odour			Odourless	Odourless	Odourless	Odourless
Conductivity	uS/cm at 20^{o}C	**1,500**	360	397	419	383
Residue on Evaporation	mg/l @ 180^{o}C	**1,500**	218			
Dissolved Oxygen	mg/l O_2		7.3	8.0	8.0	8.4
Total Organic Carbon	mg/l	**No abnormal change**	2.1	1.2	1.4	2.3
Total Oxidised Nitrogen	mg/l N		4.2	3.2	2.5	6.6
Total Alkalinity	mg/l HCO_3		42			
Ammonium	mg/l NH_4	**0.3**	<0.08	<0.08	<0.08	<0.08
Boron	mg/l B	**1.0**	<0.017			
Calcium	mg/l Ca	**200**	3890			
Cadmium	mg/l Cd	**0.005**	0.009			
Chromium	mg/l Cr	**0.05**	<0.001			
Chloride	mg/l Cl	**250**	26	27	28	29
Copper	mg/l Cu	**0.5**	0.018			
Cyanide	mg/l CN	**0.05**	<0.01			
Flouride	mg/l F	**1.5**	0.13			
Iron	mg/l Fe	**0.2**	0.15	0.14	0.12	0.12
Lead	mg/l Pb	**0.05**	<0.004			
Magnesium	mg/l Mg	**50**	12			
Manganese	mg/l Mn	**0.05**	0.17			
Mercury	mg/l Hg	**0.001**	<0.000012			
Nitrate	mg/l NO_3	**50**				
Nitrite	mg/l NO_2	**0.5**				
Total Phosphorus as P	mg/l P	**2.18**	0.05			
Ortho-Phosphate	mg/l PO_4	**6**	<1			
Potassium	mg/l K	**12**	11	8	7	12
Phenols	mg/l C_6H_5OH	**0.0005**	<0.05	<0.05	<0.05	0.08
Sodium	mg/l Na	**200**	11	11	10	12
Sulphate	mg/l SO_4	**250**	95	115	119	98
Zinc	mg/l Zn	**1**	1			
Total Coliforms	CFU per 100 ml	**Nil**	>100	>100	>100	>100 cfu / 100mls
Faecal Coliforms	CFU per 100 ml	**Nil**	3	0	0	4 cfu / 100mls

Parameter	Units	EU Directive	G1/04	G1/04	G1/04	G1/04
			319816E 181537N	319816E 181537N	319816E 181537N	319816E 181537N
			g/w sample	g/w sample	g/w sample	g/w sample
			Sampled 11/11/08	Sampled 07/08/08	Sampled 19/5/08	Sampled 5/2/08
		Max. Admissable Conc.	Analysed 12/11/08	Analysed 07/08/08	Analysed 19/5/08	Analysed 5/2/08
Water Level	**(m)**		**25.12**	**25.1**	**25.25**	**25.43**
Depth	**(m)**					
Visual Description	-		Yellow, turbid	Pale yellow, with suspended solids present	Yellow, cloudy	Turbid yellowish colour
pH		**6.5 < pH < 9.5**	2.9	3.0	3.0	3.0
Temperature (on site)	^{o}C	**25**	9	13	13	10
Odour			Slight septic odour	Odourless	Decaying food	slight organic odour
Conductivity	uS/cm at 20^{o}C	**1,500**	9270	9850	9870	10220
Residue on Evaporation	mg/l @ 180^{o}C	**1,500**	17889			
Dissolved Oxygen	mg/l O_2		6.1	3.9	7.9	4.0
Total Organic Carbon	mg/l	**No abnormal change**	9.9	9	9	11
Total Oxidised Nitrogen	mg/l N		<1.14	<1.43	<0.62	<1.04
Total Alkalinity	mg/l HCO_3		<5			
Ammonium	mg/l NH_4	**0.3**	0.39	1.2	1.2	1.3
Boron	mg/l B	**1.0**	<0.017			
Calcium	mg/l Ca	**200**	341			
Cadmium	mg/l Cd	**0.005**	0.833			
Chromium	mg/l Cr	**0.05**	0.133			
Chloride	mg/l Cl	**250**	21	30	32	10
Copper	mg/l Cu	**0.5**	140			
Cyanide	mg/l CN	**0.05**	<0.01			
Flouride	mg/l F	**1.5**	14			
Iron	mg/l Fe	**0.2**	84	84	148	111
Lead	mg/l Pb	**0.05**	0.343			
Magnesium	mg/l Mg	**50**	1248			
Manganese	mg/l Mn	**0.05**	55			
Mercury	mg/l Hg	**0.001**	0.000359			
Nitrate	mg/l NO_3	**50**				
Nitrite	mg/l NO_2	**0.5**				
Total Phosphorus as P	mg/l P	**2.18**	0.24			
Ortho-Phosphate	mg/l PO_4	**6**	<5			
Potassium	mg/l K	**12**	<5	<2	<5	<2
Phenols	mg/l C_6H_5OH	**0.0005**	0.08	0.06	<0.05	0.1
Sodium	mg/l Na	**200**	6	8	8	7
Sulphate	mg/l SO_4	**250**	12460	14135	14617	13880
Zinc	mg/l Zn	**1**	207			
Total Coliforms	CFU per 100 ml	**Nil**	10	>100	0	5 cfu / 20 mls
Faecal Coliforms	CFU per 100 ml	**Nil**	0	0	0	0 cfu / 20 mls

Parameter	Units	EU Directive	G2/04	G2/04	G2/04	G2/04
			319817E 181514N	319817E 181514N	319817E 181514N	319817E 181514N
			g/w sample	g/w sample	g/w sample	g/w sample
			Sampled 11/11/08	Not sampled	Not sampled	Not sampled
		Max. Admissable Conc.	Analysed 12/11/08	Analysed -	Analysed -	Analysed -
Water Level	**(m)**		**n/a**			
Depth	**(m)**					
Visual Description	**-**		Yellow, turbid with soily sediment			
pH		**6.5 < pH < 9.5**	3.2			
Temperature (on site)	^{o}C	**25**	9			
Odour			Mild Musty			
Conductivity	uS/cm at 20^{o}C	**1,500**	159			
Residue on Evaporation	mg/l @ 180^{o}C	**1,500**	5820			
Dissolved Oxygen	mg/l O_2		Not Recorded			
Total Organic Carbon	mg/l	**No abnormal change**	5.8			
Total Oxidised Nitrogen	mg/l N		4			
Total Alkalinity	mg/l HCO_3		<5			
Ammonium	mg/l NH_4	**0.3**	1.7			
Boron	mg/l B	**1.0**	0.19			
Calcium	mg/l Ca	**200**	204			
Cadmium	mg/l Cd	**0.005**	0.118			
Chromium	mg/l Cr	**0.05**	0.044			
Chloride	mg/l Cl	**250**	16			
Copper	mg/l Cu	**0.5**	57			
Cyanide	mg/l CN	**0.05**				
Flouride	mg/l F	**1.5**	3.1			
Iron	mg/l Fe	**0.2**	28			
Lead	mg/l Pb	**0.05**	0.242			
Magnesium	mg/l Mg	**50**	375			
Manganese	mg/l Mn	**0.05**	20			
Mercury	mg/l Hg	**0.001**	0.0032			
Nitrate	mg/l NO_3	**50**				
Nitrite	mg/l NO_2	**0.5**				
Total Phosphorus as P	mg/l P	**2.18**	14			
Ortho-Phosphate	mg/l PO_4	**6**	<1			
Potassium	mg/l K	**12**	1			
Phenols	mg/l C_6H_5OH	**0.0005**				
Sodium	mg/l Na	**200**	11			
Sulphate	mg/l SO_4	**250**	4074			
Zinc	mg/l Zn	**1**	37			
Total Coliforms	CFU per 100 ml	**Nil**	>100			
Faecal Coliforms	CFU per 100 ml	**Nil**	0			

Parameter	Units	EU Directive	G1/05	G1/05	G1/05	G1/05
			319878N 181676E	319878N 181676E	319878N 181676E	319878N 181676E
			g/w sample	g/w sample	g/w sample	g/w sample
			Sampled 11/11/08	Sampled 07/08/08	Sampled 19/5/08	Sampled 5/2/08
		Max. Admissable Conc.	Analysed 12/11/08	Analysed 07/08/08	Analysed 19/5/08	Analysed 5/2/08
Water Level	**(m)**		**4.26**	**4.1**	**5**	**4.35**
Depth	**(m)**					
Visual Description	**-**		Clear, colourless	Clear, colourless	Clear, colourless	Clear, colourless
pH		**6.5 < pH < 9.5**	3.8	3.7	3.9	3.7
Temperature (on site)	^{o}C	**25**	10	13	11	9
Odour			Odourless	Odourless	Odourless	Odourless
Conductivity	uS/cm at 20^{o}C	**1,500**	2020	1628	1599	1980
Residue on Evaporation	mg/l @ 180^{o}C	**1,500**	2382			
Dissolved Oxygen	mg/l O_2		5.4	4.6	6.4	5
Total Organic Carbon	mg/l	**No abnormal change**	2.0	1.4	1.7	2.0
Total Oxidised Nitrogen	mg/l N		1.0	1.3	1.2	1.1
Total Alkalinity	mg/l HCO_3		<5			
Ammonium	mg/l NH_4	**0.3**	<0.08	<0.08	<0.08	<0.08
Boron	mg/l B	**1.0**	<0.017			
Calcium	mg/l Ca	**200**	207			
Cadmium	mg/l Cd	**0.005**	0.057			
Chromium	mg/l Cr	**0.05**	<0.005			
Chloride	mg/l Cl	**250**	15	16	13	15
Copper	mg/l Cu	**0.5**	11.8			
Cyanide	mg/l CN	**0.05**	<0.01			
Flouride	mg/l F	**1.5**	2.6			
Iron	mg/l Fe	**0.2**	25	0.17	0.26	25.8
Lead	mg/l Pb	**0.05**	0.279			
Magnesium	mg/l Mg	**50**	140			
Manganese	mg/l Mn	**0.05**	8.2			
Mercury	mg/l Hg	**0.001**	<0.000012			
Nitrate	mg/l NO_3	**50**				
Nitrite	mg/l NO_2	**0.5**				
Total Phosphorus as P	mg/l P	**2.18**	<0.05			
Ortho-Phosphate	mg/l PO_4	**6**	<1			
Potassium	mg/l K	**12**	2	2	2	2
Phenols	mg/l C_6H_5OH	**0.0005**	<0.05	<0.05	<0.05	<0.05
Sodium	mg/l Na	**200**	12	12	10	13
Sulphate	mg/l SO_4	**250**	1596	1156	1277	1716
Zinc	mg/l Zn	**1**	21			
Total Coliforms	CFU per 100 ml	**Nil**	0	1	27	0
Faecal Coliforms	CFU per 100 ml	**Nil**	0	0	0	0

Parameter	Units	EU Directive	G2/05	G2/05	G2/05	G2/05
			319877N 181677E	319877N 181677E	319877N 181677E	319877N 181677E
			g/w sample	g/w sample	g/w sample	g/w sample
			Sampled 11/11/08	Sampled 07/08/08	Sampled 19/5/08	Sampled 5/2/08
		Max. Admissable Conc.	Analysed 12/11/08	Analysed 07/08/08	Analysed 19/5/08	Analysed 5/2/08
Water Level	**(m)**		**4.03**	**4.1**	**4.8**	**4.4**
Depth	**(m)**					
Visual Description	**-**		Clear, colourless	Pale Yellow with some suspended solids	Clear, grey / brown	Clear, colourless
pH		**6.5 < pH < 9.5**	3.8	3.8	3.7	3.8
Temperature (on site)	^{o}C	**25**	10	13	11	9
Odour			Odourless	Odourless	Odourless	Odourless
Conductivity	uS/cm at 20^{o}C	**1,500**	1393	1327	1468	1407
Residue on Evaporation	mg/l @ 180^{o}C	**1,500**	1460			
Dissolved Oxygen	mg/l O_2		6	6.6	7.3	6.2
Total Organic Carbon	mg/l	**No abnormal change**	1.7	1.2	1.6	9.2
Total Oxidised Nitrogen	mg/l N		1.3	1.4	1.4	1.3
Total Alkalinity	mg/l HCO_3		<5			
Ammonium	mg/l NH_4	**0.3**	<0.08	<0.08	<0.08	<0.08
Boron	mg/l B	**1.0**	0.02			
Calcium	mg/l Ca	**200**	160			
Cadmium	mg/l Cd	**0.005**	0.029			
Chromium	mg/l Cr	**0.05**	<0.001			
Chloride	mg/l Cl	**250**	15	18	14	21
Copper	mg/l Cu	**0.5**	7.7			
Cyanide	mg/l CN	**0.05**	<0.01			
Flouride	mg/l F	**1.5**	1.8			
Iron	mg/l Fe	**0.2**	0.45	0.45	0.39	0.34
Lead	mg/l Pb	**0.05**	<0.002			
Magnesium	mg/l Mg	**50**	81			
Manganese	mg/l Mn	**0.05**	4.7			
Mercury	mg/l Hg	**0.001**	<0.000012			
Nitrate	mg/l NO_3	**50**				
Nitrite	mg/l NO_2	**0.5**				
Total Phosphorus as P	mg/l P	**2.18**	0.07			
Ortho-Phosphate	mg/l PO_4	**6**	<1			
Potassium	mg/l K	**12**	2	2	2	2
Phenols	mg/l C_6H_5OH	**0.0005**	<0.05	0.05	<0.05	<0.05
Sodium	mg/l Na	**200**	11	13	11	15
Sulphate	mg/l SO_4	**250**	993	859	1103	1026
Zinc	mg/l Zn	**1**	9			
Total Coliforms	CFU per 100 ml	**Nil**	1	6	1	0
Faecal Coliforms	CFU per 100 ml	**Nil**	0	1	0	0

Parameter	Units	EU Directive	RC6	RC6	RC6	RC6
			319813N 181512E	319813N 181512E	319813N 181512E	319813N 181512E
			g/w sample	g/w sample	g/w sample	g/w sample
			Not Sampled	Not Sampled	Not Sampled	Not Sampled
		Max. Admissable Conc.	Analysed -	Analysed -	Analysed -	Analysed -
Water Level Depth Visual Description	**(m) (m) -**					
pH		6.5 < pH < 9.5				
Temperature (on site)	^{o}C	25				
Odour						
Conductivity	uS/cm at 20^{o}C	1,500				
Residue on Evaporation	mg/l @ 180^{o}C	1,500				
Dissolved Oxygen	mg/l O_2					
Total Organic Carbon	mg/l	No abnormal change				
Total Oxidised Nitrogen	mg/l N					
Total Alkalinity	mg/l HCO_3					
Ammonium	mg/l NH_4	0.3				
Boron	mg/l B	1.0				
Calcium	mg/l Ca	200				
Cadmium	mg/l Cd	0.005				
Chromium	mg/l Cr	0.05				
Chloride	mg/l Cl	250				
Copper	mg/l Cu	0.5				
Cyanide	mg/l CN	0.05				
Flouride	mg/l F	1.5				
Iron	mg/l Fe	0.2				
Lead	mg/l Pb	0.05				
Magnesium	mg/l Mg	50				
Manganese	mg/l Mn	0.05				
Mercury	mg/l Hg	0.001				
Nitrate	mg/l NO_3	50				
Nitrite	mg/l NO_2	0.5				
Total Phosphorus as P	mg/l P	2.18				
Ortho-Phosphate	mg/l PO_4	6				
Potassium	mg/l K	12				
Phenols	mg/l C_6H_5OH	0.0005				
Sodium	mg/l Na	200				
Sulphate	mg/l SO_4	250				
Zinc	mg/l Zn	1				
Total Coliforms	CFU per 100 ml	Nil				
Faecal Coliforms	CFU per 100 ml	Nil				

Table I.4(i) GROUNDWATER QUALITY

(Sheet 1 of 2) Monitoring Point/ Grid Reference: _____**See Attachment I.4**_____

Parameter	**Results (mg/l)**				**Sampling method (composite etc.)**	**Normal Analytical Range**	**Analysis method / technique**
	Date	**Date**	**Date**	**Date**			
pH						1-14	Hydrogen Ion Selective Electrode
Temperature						0-100°C	Temperature Probe
Electrical conductivity EC						1-100,000	Electrometry
Ammoniacal nitrogen NH_4-N						0.1-12.9	Colourimetry/FIA
Dissolved oxygen DO						N/A	DO Probe
Residue on evaporation (180°C)						N/A	Gravimetric
Calcium Ca						2.5-100	Ion chromatography (IC)
Cadmium Cd						0.1-2.00 ug/L	GF AAS
Chromium Cr						1-25ug/L	GFAAS
Chloride Cl						0.5-50	Ion chromatography
Copper Cu						0.002-1	ICP-MS
Cyanide Cn, total						0.01-1.0	Distillation/colorimetry
Iron Fe						0.05-5.00	Direct aspiration/flame AAS
Lead Pb						2-40 ug/L	GFAAS
Magnesium Mg						1-25	Ion chromatography
Manganese Mn						0.02-2.00	Direct aspiration/flame AAS
Mercury Hg						0.0005-0.4	Direct aspiration/cold vapour AAS
Nickel Ni							NOT ANALYSED
Potassium K						1-25	Ion chromatography
Sodium Na						1-100	Ion chromatography

GROUNDWATER QUALITY (SHEET 2 OF 2)

Parameter	Results (mg/l)				Sampling method (composite, dipper etc.)	Normal Analytical Range	Analysis method / technique
	Date	Date	Date	Date			
Phosphate PO_4 (Low level)						0.01- 2.5	Colourimetry
Sulphate SO_4						0.25-100	Ion chromatography
Zinc Zn						0.01-1.00	Direct aspiration/flame AAS
Total alkalinity (as $CaCO_3$)						5-2000	Titration
Total organic carbon TOC						0.25-10	Oxidation/IR spectroscopy
Total oxidised nitrogen TON							Sum of nitrate & nitrite
Arsenic As							NOT ANALYSED
Barium Ba							NOT ANALYSED
Boron B						0.1-1	ICP-OES
Fluoride F						0.1-5.0	Ion chromatography
Phenol						0.05-1.0	Distillation/colorimetry
Phosphorus P						0.05-2.5	Digestion / colourimetry
Selenium Se							NOT ANALYSED
Silver Ag							NOT ANALYSED
Nitrite NO_2						0.2-10	Ion chromatography
Nitrate NO_3						0.5-50	Ion chromatography
Faecal coliforms (/100mls)						0-100 cfu	membrane filtration
Total coliforms (/100mls)						0-100 cfu	membrane filtration
Water level (m OD)							Dip tape

Table I.6(i) Ambient Noise Assessment

Third Octave analysis for noise emissions should be used to determine tonal noises

	National Grid Reference	Sound Pressure Levels		
	(5N, 5E)	$L(A)_{eq}$	$L(A)_{10}$	$L(A)_{90}$
1. SITE BOUNDARY	N/A	N/A	N/A	N/A
2. NOISE SENSITIVE LOCATIONS				
Location 1: NSL 1	X319641 Y181271	57	62	54
Location 2: NSL 4	X319916 Y181543	<55	61	50

NOTE: All locations should be identified on accompanying drawings.

ATTACHMENT J(i) Accident Prevention and Emergency Response

EMERGENCY RESPONSE PROCEDURES

The Emergency Response Procedures applies but is not limited to the following incidents occurring:

- Fire/explosions
- Spillage
- Migration of landfill gas
- Environmental pollution
- Injury or serious accident to persons
- Any other incident, which may pose a significant threat to persons or the environment.

RESPONSIBILITY

1. The Facility Manager is responsible for the implementation of the Emergency Response procedure and for the training of landfill personnel and contractors in effective emergency response procedures (including the use of booms in the event of an oil spillage).
2. In the event of a major fire or an explosion the Chief Fire Officer will be notified immediately and assume responsibility to deal with the emergency.
3. In the event of other incidents i.e. environmental pollution the Senior (Environment) Engineer will be notified and will assume responsibility along with the Facility Manager.
4. Ensure relevant emergency contact numbers are available at the site office next to the telephone.

PROCEDURE

In the event of an incident occurring the following procedure will apply:

1. If necessary evacuate immediate hazard area.
2. Inform other site users to remain upwind of any hazard area.
3. Contact site office and advise in detail of the emergency.
4. Contact Fire Brigade, Ambulance or Gardai as required.
5. Ensure entrance/exit gate is not obstructed.
6. Report to the designated assembly point at the entrance to the Civic Waste Facility or other safe area.
7. All areas affected by the incident will remain closed until given the ‘all clear’ by the Facility Manager or other authorised person.
8. Have regard to the Corrective Action Procedure.

In the event of landfill gas being detected in the site office the following procedure will apply:

1. Evacuate the site office.
2. Have regard to the Corrective Action Procedure.

In the event of a spillage at the facility, the Facility Manager/Operator will:

1. Apply suitable absorbent material to contain and absorb the spillage.
2. Have regard to the Corrective Action Procedure.
3. Dispose of absorbent material at a licensed facility.
4. Order a supply of containment booms.

In the event that monitoring indicates that the facility is having an adverse effect on the environment, the Facility Manager will have regard to the Corrective Action Procedure.

In the event that monitoring of the side slopes of the facility indicate that there may be a risk of slope failure, the Facility Manager will have regard to the Corrective Action Procedure and Environmental Incident Reporting Procedure.

All of the above incidents/emergencies will be reported to the Agency in accordance with the Environmental Incident Reporting Procedure.

RELEVANT DOCUMENTAITON

Details of all incidents will be recorded in accordance with the Environmental Incident Reporting Procedure.

ENVIRONMENTAL INCIDENT REPORTING PROCEDURE

This procedure outlines the reporting requirements necessary in the event of an incident at the facility and is to be used in collaboration with the Corrective Action Procedure.

RESPONSIBILITIES

The Facility Manager is responsible for co-ordinating the procedure, reviewing the inspection report forms on a weekly basis and liaising with the Agency in the event of an incident.

PROCEDURE

1) In the event of one of the following:

   a) a nuisance control problem as identified in the Inspection Report Form/Observations.
   b) any emission that does not comply with the requirements of this Licence i.e. an exceedence in emission limits (Schedule F of the W0011-01) as identified from monitoring data.
   c) any trigger level specified in this licence which is attained or exceeded;
   d) any indication that environmental pollution has, or may have, taken place; and,
   e) an Emergency.

   the Facility Manager will complete the Correction Action Report Form and have regard to the Corrective Action Procedure. In the event of a complaint of the facility, the Facility Manager will complete the Complaint Report Form and have regard to the Corrective Action Procedure.
2) In accordance with Condition 3.3, the Facility Manager will notify the landfill inspector at the Agency (Telephone 053-91-60600/Fax 053-91-60699) not later than 10.00 a.m. the following working day after the occurrence of the incident. If incidents relate to possible discharges to surface water, the Facility Manager will also notify the Eastern Regional Fisheries Board (Telephone 01 2787022/Fax 01-2787025) not later than 10.00 a.m. the following working day after the occurrence of the incident.
3) Submit Incident Summary Report Form to the Agency within five working days after the occurrence of the incident.
4) Submit a written report to the Agency of any further actions undertaken after the date of written notification of the incident within 10 days after the initiation of the actions.
5) Submit a proposal to the Agency for its agreement within one month to identify and put in place measures to avoid recurrence of the incident and identify and put in place any other appropriate remedial action.
6) In the event of a complaint being reported, a Complaint Report Form will be completed and a detailed response forwarded to the Complainant in addition to the above. A copy of the response will be filed with the Complaint Report Form.
7) File all documentation in the Incident/Complaints File.

RELEVANT DOCUMENTATION

1) Corrective Action Report Form.
2) Incident Summary Report Form.
3) Inspection Report Form.
4) Complaint Report Form.

File all documentation in Incident/Complaints File.

CORRECTIVE ACTION PROCEDURE

This procedure sets out the approach to take in the event of the following:

1. A non-compliance with W0011-01,
2. An incident as outlined in Condition 3.1 of W0011-01, and
3. That a corrective action is required at the facility for a reason other than an incident or non-compliance with W0011-01.

The aim of this procedure is to assist in resolving the matter and prevent its recurrence.

RESPONSIBILITIES

The Facility Manager is responsible for co-ordinating the corrective action procedure and retaining the Corrective Action File and forms. The Senior Executive Engineer/Senior Engineer will be responsible for the review of Corrective Action Forms and will also ensure that controls are applied to ensure that corrective actions are implemented and effective.

PROCEDURES

In the event of non-compliance, the Facility Manager will:

1. Take the necessary short-term action to prevent the immediate reoccurrence of the problem or minimise any further impact.
2. Notify the EPA of the incident as per the Environmental Incident Procedure in accordance with Condition 3.3 of W0011-01.
3. Conduct a thorough investigation of the root cause of the problem.
4. Document the results of investigation and propose a long-term corrective action to prevent recurrence of the problem on the Corrective Action Form.
5. Submit the completed Corrective Action Form to the Senior Executive Engineer/Senior Engineer who will review the recommendation and accept or require additional investigation. If additional investigation is required, the form and attachments will be returned to the Facility Manager, who will continue with the investigation as detailed by the Senior Executive Engineer/Senior Engineer on the Corrective Action Form. If the recommendation is acceptable, the Facility Manager will implement the corrective action.
6. Monitor the success of the corrective action to ensure that it is effective.
7. Document the evidence that was reviewed to determine the effectiveness of the corrective action on the Corrective Action Form.
8. File the original Corrective Action Form and any accompanying paperwork in the Corrective Action File and copy the completed form to the Senior Executive Engineer/Senior Engineer.
9. If necessary, implement changes to procedures resulting from the corrective action.
10. Arrange training of landfill personnel if required.

RELEVANT DOCUMENTATION

1. Corrective Action Form.

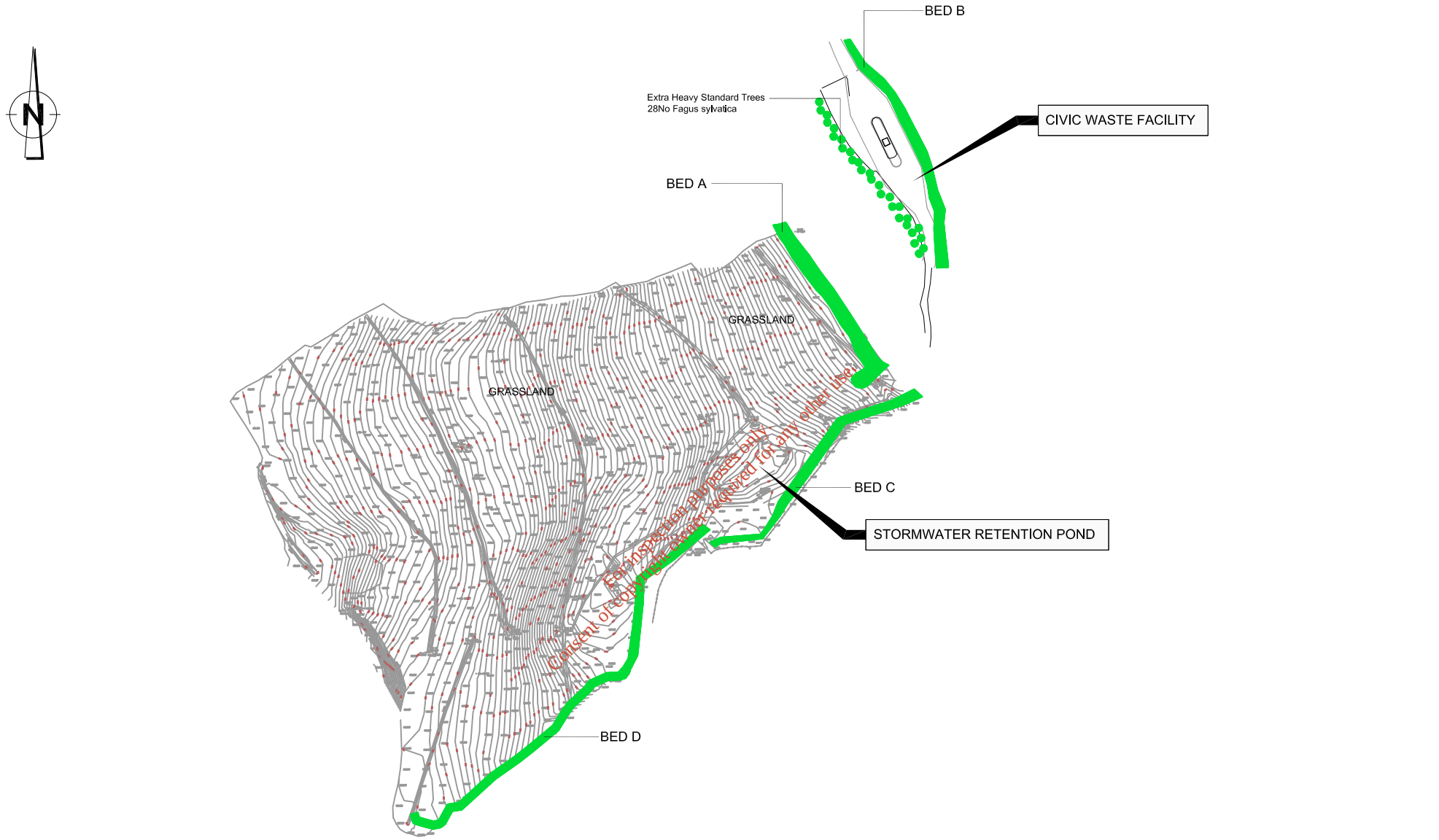
File all documentation in Corrective Action File.

J ATTACHMENTS

ATTACHMENT J.1 Accident Prevention and Emergency Response

The annual Environmental Management Plan for Ballymurtagh Landfill reviews and outlines the accident and emergency response procedures for the facility on a yearly basis. Included with Attachment J.1(i) are the Emergency Response procedures, the Environmental Incident Reporting Procedure and the Corrective Action Procedure.

Attachment J.1(i) Accident and Emergency Response Procedures for 2008



Client: Wicklow County Council, County Buildings, Wicklow, Co. Wicklow	RPS, West Pier Business Campus, Dun Laoghaire, Co. Dublin, Ireland. T: +353 1 488 2900 - F: +353 1 283 5676 E: Ireland@rpsgroup.com W: www.rpsgroup.com/Ireland	NOTES 1. This drawing is the property of RPS. It is a confidential document and must not be copied, used, or its content divulged without prior written consent. 2. All Levels refer to Ordnance Survey Datum, Malin Head. 3. DO NOT SCALE, use figured dimensions only, If in doubt ask.	Job: **Ballymurtagh Landfill Environmental Management Plan**	Title: **LANDSCAPING LAYOUT**	Drawn / HF Checked / LK Approved / CC Scale / Not to scale Date / June '08	File Ref:

K ATTACHMENTS

ATTACHMENT K.1 RESTORATION AND AFTERCARE

The Restoration and Aftercare Plan in 2003 set out the framework to successfully restore Ballymurtagh Landfill and integrate the facility with the surrounding environment. Capping of the facility was completed in 2005 and planting of the final configuration with ecologically appropriate species, tolerant to the site conditions as woodland, heathland and wild grasses was carried out in 2006. The restored landfill is mainly a grassland habitat, as shown in **Figure 8-1**. of the EIS.

Wicklow County Council continues to oversee the aftercare of the facility in accordance with the existing Licence and relevant EPA Landfill Manuals. An Environmental Management Plan is prepared annually, outlining the aftercare requirements of the landfill including a programme to achieve a Schedule of Objectives and Targets. The most recent Environmental Management Plan for Ballymurtagh Landfill was submitted to the EPA in 2008. Copies of the Restoration and Aftercare Plan 2003 as well as the Environmental Management Plan 2008 have already been included in Attachment C2 and Attachment C4 of this application. The final landscaping plan is included in Attachment K.1(i).

Attachment K.1(i) Final Landscaping Plan

L ATTACHMENTS

ATTACHMENT L.1 Statutory Requirements

Attachment L.1(i) outlines how all the requirements of Section 40(4)[(a) to (i)] of the Waste Management Acts 1996 to 2008 will be met for this Waste Licence Review Application.

Attachment L.1(i) Compliance with Section 40(4) of the WMA

ATTACHMENT L.2 Not Applicable – Applicant is a Local Authority

ATTACHMENT L.1(i) COMPLIANCE WITH SECTION 40(4) OF THE WASTE MANAGEMENT ACTS 1996 TO 2008

Under Section 40(4) of the above acts, the EPA can only grant a Waste Licence when it is satisfied that

a) any emissions from the disposal activity will not result in the contravention of any relevant standard for an environmental medium, or any relevant emission limit value, prescribed under any other enactment.

There are no longer any disposal activities at Ballymurtagh Landfill, which is closed since 2002. A Restoration and Aftercare Plan was prepared in accordance with the EPA Landfill Manual 'Landfill Restoration and Aftercare' (1999), the EU Landfill Directive (99/31/EC) and the EPA Waste Licence W0011-1 to address post closure emissions to water and to air. These measures and the current situation are discussed in Sections 7 and 9 of the EIS.

b) the activity concerned, carried on in accordance with such conditions as may be attached to the licence will not cause environmental pollution and if the activity concerned involves the landfill of waste, the activity ….will comply with the EU Landfill Directive 99/31/EC

There are no longer any disposal activities at Ballymurtagh Landfill, which is closed since 2002. A Restoration and Aftercare Plan was prepared in accordance with the EPA Landfill Manual 'Landfill Restoration and Aftercare' (1999), the EU Landfill Directive (99/31/EC) and the EPA Waste Licence W0011-1 to address post closure environmental issues, including emissions to water and to air. These measures and the current situation are discussed in Sections 7 and 9 of the EIS.

Post-closure emissions to water can be summarised as:
1) Indirect emissions to groundwater
2) Surface water emissions

Sections 6 and 7 of the EIS discusses in detail emissions to surface water and to groundwater (respectively), in terms of the impact of any emissions and in the context of complying with relevant legislation. Using the extensive body of monitoring data that is available since the landfill was constructed, it concludes that emissions from the closed landfill to groundwater are not considered to be the cause of the water quality problems associated with the Avoca River. The EIS also addresses leachate management at the closed facility.

Post-closure emissions to air can be summarised as:
1) Air emissions from the Gas Flare
2) Minor/fugitive air emissions

Section 9 of the EIS addresses how on-going environmental management and monitoring at the closed Ballymurtagh Landfill ensures that air emissions from the gas flare and the minor/fugitive air emissions are within the emission limits set down under the current Waste Licence.

Overall, the EIS demonstrates that the closed Ballymurtagh Landfill does not pose a potential hazard to the environment. The EIS concludes that impact of the closed facility on the environment is neutral with respect to Surface Water, Groundwater and Material Assets, the impact is positive with respect to Human Beings, Soils and Geology, Ecology, Land Use and Landscape, and slightly negative with respect to air and climate. The negative impacts are not considered to represent a hazard to the environment, and all impacts are managed in the context of a closed landfill.

c) the best available technology not entailing excessive costs will be used to prevent or eliminate or, where that is not practicable, to limit, abate or reduce an emission from the activity concerned, the activity concerned is consistent with the objectives of the relevant waste management plan or the hazardous waste management plan, as the case may be, and will not prejudice measures taken or to be taken by the relevant local authority or authorities for the purpose of the implementation of any such plan,",

Ballymurtagh Landfill was closed, capped and restored in accordance with best practice as per the EPA Landfill Manual 'Landfill Restoration and Aftercare' (1999), Council Directive (99/31/EC) on the Landfill of Waste and the terms of the EPA Waste Licence W0011-1.

The aftercare of the closed landfill includes stipulations of requisite surveillance and monitoring. Wicklow County Council has carried out monitoring in response to the requirements of the Waste Licence. This monitoring has included leachate, groundwater and surface water (Avoca River), as well as monitoring of private wells in vicinity of the landfill. The monitoring results have been summarised annually in environmental monitoring reports, and have been submitted to the EPA in compliance with Waste Licence conditions. These activities will continue. The EIS recommends amendments to the present monitoring network to reflect recent requirements to comply with new legislation.

Ballymurtagh Landfill is consistent with the objectives of the current County Wicklow Replacement Waste Management Plan 2006-2010 and the National Hazardous Waste Management Plan 2008 to 2012. The closed landfill facility does not prejudice measures taken or to be taken by Wicklow County Council for the purpose of the implementation of either Plan.

***d*) if the applicant is not a local authority, the corporation of a borough that is not a county borough, or the council of an urban district, subject to *subsection (8)*, he or she is a fit and proper person to hold a waste licence,**

Wicklow County Council is a local authority.

(*e*) the applicant has complied with any requirements under section 53.
Wicklow County Council complies with the requirements of Section 53 of the Waste Management Act 1996.

***f*) energy will be used efficiently in the carrying on of the activity concerned,**
***g*) any noise from the activity concerned will comply with, or will not result in the contravention of, any regulations under section 106 of the Act of 1992,**
***h*) necessary measures will be taken to prevent accidents in the carrying on of the activity concerned and, where an accident occurs, to limit its consequences for the environment,**
***i*) necessary measures will be taken upon the permanent cessation of the activity concerned (including such a cessation resulting from the abandonment of the activity) to avoid any risk of environmental pollution and return the site of the activity to a satisfactory state.",**

A Restoration and Aftercare Plan and Annual Environmental Management Plans are designed to ensure that Ballymurtagh Landfill is in compliance with subsections f),g),h) and i) of Section 40 (4) of the Waste Management Acts 1996 and 2008.