Annual Environmental Report 2011

CARLOW
COUNTY COUNCIL
COMHAIRLE CHONTAE CHEATHARLOCHA

Haroldstown Waste Transfer Station

Waste Licence Reg. No. W0139-01

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1.0 Introduction

This report comprises an Annual Environmental Report (AER) for Haroldstown Waste Transfer Station (HWTS), Haroldstown, Co. Carlow. The report has been compiled in accordance with Schedule F of Waste Licence, Register Number W0139-01 and in accordance with the EPA's Guidance Notes on the preparation of AERs. The report covers the period of 1st January 2011 to 31st December 2011.

The AER fulfils the following objectives:

- Brings together all reports required under the Conditions of the Waste Licence.
- Allows an evaluation of those reports, results and programmes prepared to monitor, track and improve environmental performance.
- Provides a summary assessment of performance of the reported year against the previous year's environmental objectives and targets.
- Provides a structured format for the development of an environmental strategy incorporating the resetting of environmental goals and targets for subsequent years.
- Provides environmental information and performance data on the Waste Transfer Station at Haroldstown in clear, non technical language, thus providing a means of communicating environmental information to site neighbours and the general public.

2.0 Facility Description and Waste Activities

2.1 Waste Activities at Haroldstown Waste Transfer Station

HWTS was granted a Waste Licence (W0139-01) by the Environmental Protection Agency (EPA) in August 2001. In December 2009 the Waste Transfer Station ceased to operate and all waste material was re-directed to Powerstown Landfill. The site is occasionally used as a temporary storage area for road traffic equipment such as signage / cones. Waste is no longer accepted or stored at the site but environmental monitoring in accordance with Schedule D of Waste Licence W0139-01 continues to be carried out. This report covers the period 1st January to 31st December 2011. There were no waste activities carried out at the site during this period.

2.2 Facility Description and Layout

HWTS is located on the R727 road, approximately 19 kilometres northeast of Carlow town. HWTS is located in a rural setting and is bounded to the north by the R727 road and to the west, south and east by farmland. A gravel pit is located to the north east beyond the R727.

The layout of the waste transfer station is as follows:

- Gates and appropriate signage.
- Porto-cabin previously used for administration and toilet porto-cabins.
- Internal roads.
- Hardstand areas.
- Compactor for municipal waste, including control room.
- Heavy duty loading hopper.
- Waste Quarantine Area.
- Bord na Mona Puraflow Treatment Plant.

The layout of the facility is presented in Drawing No.1.

The waste transfer station was historically a gravel quarry. Between the years 1954 – 1993 the site was operated as a municipal solid waste landfill site. In 1993 the landfill was restored by capping with topsoil. In October 1993, within six months of closing the landfill, Carlow County Council opened the waste transfer station on the northern portion of the old landfill site. Drawing No. 2 illustrates the location of the old gravel quarry and the extent of the old landfill.

3.0 Environmental Monitoring

Ms. Mary Walsh, Environmental Technician, and Mr. Fergus Mulhare Landfill Manager, oversee all matters of an environmental nature including compliance monitoring. The majority of the monitoring and report preparation for 2011 was completed by Carlow County Council personnel. Annual groundwater and surface water sampling was carried out by the EPA.

Drawing No. 3 illustrates the locations of the groundwater, noise, dust and landfill gas monitoring points at HWTS. Drawing No. 4 illustrates the surface water monitoring locations. Grid references for monitoring locations are also provided with the drawings.

3.1 Summary of Results of Environmental Monitoring

3.1.1 Dust

Dust monitoring was undertaken at HWTS in 2011 by Carlow County Council personnel, in accordance with the requirements outlined in Schedule D.3 of Waste Licence No. W0139-01. The Waste Licence stipulates that dust monitoring must be conducted at three designated locations, three times a year, twice during the period May to September. Dust deposition limits for HWTS are set out in Schedule C of the Waste Licence. The dust monitoring results for 2011 are summarised in Table 3.1.

Table 3.1: Dust Monitoring Results, Haroldstown Waste Transfer Station, 2011

Location	Dust Deposition Limit $mg/m^2/day$	Jan – Feb 2011 Dust Result $mg/m^2/day$	May – June 2011 Dust Result $mg/m^2/day$	June – July 2011 Dust Result $mg/m^2/day$
DM1	350	28	53	37
DM2		31	63	35
DM3		26	77	14

The dust monitoring results reported for 2011 were below the dust deposition limit of $350mg/m^2/day$. This represents a 100% compliance rate with the dust deposition limit. This is the same as the compliance rate reported for 2009 and 2010. Based on these results and following an EPA audit of the site on 13/10/2011 the EPA revised the dust monitoring requirements at the site. Inspection Report Reference W0139-01\SI11JMcC states that dust monitoring at the site may be discontinued unless the facility recommences activities.

3.1.2 Landfill Gas

The results of landfill gas monitoring at HWTS for 2011 are presented in table 3.2 overleaf. Landfill gas monitoring is carried out at HWTS in accordance with Schedule D.2 of the Waste Licence. Monitoring is conducted at ten locations on a monthly basis by Carlow County Council personnel. Landfill gas concentration limits as set out in Schedule C of the Waste Licence are 20% LEL (1% v/v) for methane, and 1.5% v/v carbon dioxide. These limits apply to landfill gas measured in any building on or adjacent to the HWTS or landfill gas monitoring wells (LG5, LG6, LG7) located outside the waste body of the old landfill. Landfill gas monitoring data for gas monitoring wells (LG1, LG2, LG3 and LG4) located within the old landfill boundary are not required to meet the emission limit values.

Reported landfill gas methane levels were below the emission limit values at all buildings and off-site monitoring locations during 2011. There were no exceedances to report in relation to methane levels during 2011. This is the same as 2009 and 2010 when methane levels recorded were 100% compliant with licence requirements.

Carbon Dioxide (CO_2) levels recorded at LG5 equal or exceeded the ELV of 1.5% on eight occasions during 2011. This is an increase by 2 in the number of exceedances in comparison to 2010 results. However a reduction in the number of exceedances had been noted between 2009 and 2010. 4 exceedances were recorded at LG6 and 4 exceedances were recorded at LG7 during 2011. There were no exceedances recorded in relation to CO_2 levels recorded within buildings during 2011.

Fig 3.1 below indicates the % non-compliances recorded during 2011 for CO_2

Figure 3.1 Summary of Carbon Dioxide Non-Compliance (2011)

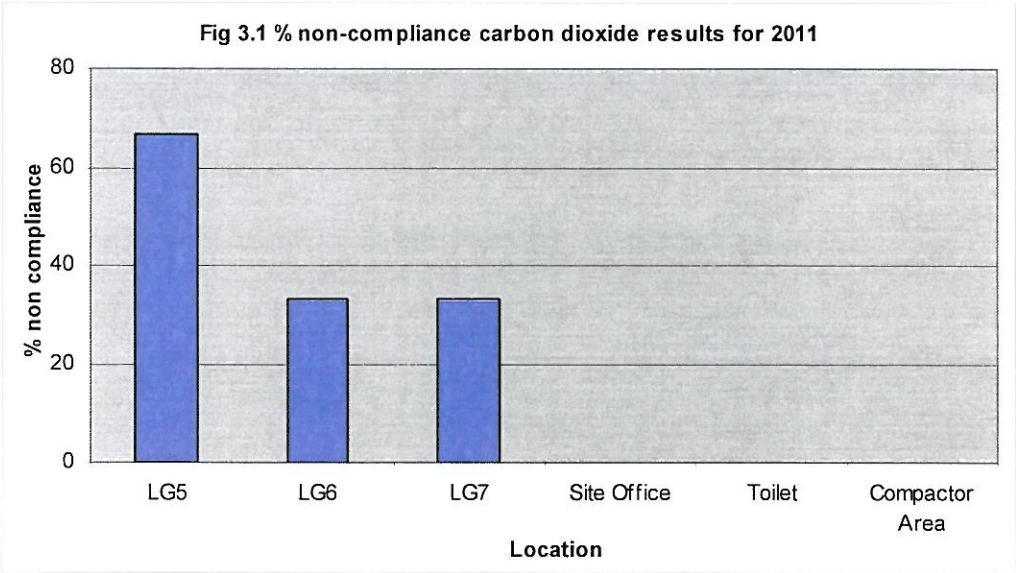


Table 3.2 Landfill Gas monitoring Results for January – December 2011

Date	Operator	Gas	LG 1	LG 2	LG 3	LG 4	LG 5	LG 6	LG 7	Site Office	Toilet	Compactor Area
26/01/11	MW	CH_4,	0.0	20.5	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
		CO_2,	5.7	10.0	1.1	1.9	1.3	1.9	2.2	0.1	0.1	0.1
		O_2	12.4	0.0	20.2	17.7	18.9	18.9	18.5	20.6	20.6	20.4
		Atm Pressure	1001	1001	1011	1001	1001	1001	1001	1001	1001	1001
23/02/11	SK	CH_4,	0.0	13.0	1.4	0.0	0.0	0.0	0.0	0.1	0.1	0.0
		CO_2,	0.6	12.2	8.9	2.2	2.2	0.8	0.9	0.1	0.1	0.1
		O_2	20.1	0.0	4.8	18.3	18.3	19.8	20.3	19.6	20.1	20.1
		Atm Pressure	996	996	996	996	996	996	996	996	996	996
14/03/11	MW	CH_4,	0.0	12.7	0.0	0.0	0.0	0.0	No	0.0	0.0	0.0
		CO_2,	2.2	13.4	5.2	0.5	1.0	0.6	access	0.0	0.0	0.0
		O_2	18.7	0.6	15.0	20.6	19.6	20.2	to	20.9	20.9	20.9
		Atm Pressure	1001	1001	1001	1001	1001	1001	well	1001	1001	1001
19/04/11	MW	CH_4,	0.0	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		CO_2,	1.3	12.8	2.8	0.7	1.4	0.8	2.5	0.0	0.0	0.0
		O_2	18.8	1.8	17.4	18.2	18.8	19.5	17.2	20.4	20.3	20.4
		Atm Pressure	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
26/05/11	MW	CH_4,	0.0	0.9	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
		CO_2,	1.8	8.4	1.2	0.2	2.0	1.6	0.0	0.0	0.0	0.0
		O_2	18.0	8.2	19.5	20.1	18.3	19.0	20.3	20.2	20.3	20.3
		Atm Pressure	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
22/06/11	MW/GOD	CH_4,	0.0	10.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		CO_2,	1.8	13.3	6.7	0.4	2.5	0.8	1.4	0.0	0.0	0.0
		O_2	16.2	4.7	11.5	19.7	07.1	19.2	18.9	20.1	20.2	19.7
		Atm Pressure	1003	1003	1003	1003	1003	1003	1003	1003	1003	1003
22/07/11	MW	CH_4,	0.0	21.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		CO_2,	2.8	16.5	0.7	0.5	3.2	1.7	1.2	0.0	0.0	0.0
		O_2	18.4	0.2	20.0	19.5	15.5	18.5	19.2	20.7	20.7	20.7
		Atm Pressure	995	995	995	995	995	995	995	995	995	995
29/08/11	MW / GO'D	CH_4,	0.0	25.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
		CO_2,	3.2	17.5	1.7	0.6	3.5	1.6	0.2	0.0	0.0	0.0
		O_2	15.3	0.4	19.6	20.4	16.6	18.5	20.7	21.0	21.0	20.9
		Atm Pressure	1009	1009	1009	1009	1009	1009	1009	1009	1009	1009
27/09/11	MW	CH_4,	0.0	15.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
		CO_2,	0.1	16.8	3.7	0.3	2.2	0.5	2.3	0.0	0.0	0.0
		O_2	206	2.0	16.8	20.1	19.3	20.3	18.1	20.5	20.5	20.5
		Atm Pressure	1010	1010	1010	1010	1010	1010	1010	1010	1010	1010
13/10/11	MW	CH_4,	0.0	18.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		CO_2,	0.4	16.8	3.8	0.2	2.4	0.5	0.6	0.0	0.0	0.0
		O_2	20.2	0.5	16.2	20.5	18.6	20.2	20.3	20.7	20.6	20.7
		Atm Pressure	1015	1015	1015	1015	1015	1015	1015	1015	1015	1015
21/11/11	MW	CH_4,	0.1	1.7	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0
		CO_2,	0.2	7.7	0.8	2.2	1.0	1.2	2.2	0.1	0.1	0.1
		O_2	20.1	12.1	19.4	16.8	19.9	19.9	18.6	20.4	20.2	20.2
		Atm Pressure	998	998	998	998	998	998	998	998	998	998
22/12/11	MW	CH_4,	0.1	11.7	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
		CO_2,	0.6	12.7	9.5	0.4	1.5	0.4	0.4	0.0	0.0	0.0
		O_2	20.2	0.3	9.0	20.1	18.6	20.0	20.0	20.6	20.6	20.6
		Atm Pressure	1009	1009	1009	1009	1009	1009	1009	1009	1009	1009

3.1.3 Surface Water

A chemical water quality assessment of the Dereen River was carried out by EPA personnel, and a biological water quality assessment was undertaken by Conservation Services Ltd. at two sampling locations, SW1 and SW2, in accordance with Schedule D.6 of the Waste Licence. SW1 is situated upstream of the facility and SW2 is situated downstream.

Chemical Assessment

Samples collected from SW1 and SW2 were analysed for the parameters outlined in Table D.6.1 of the Waste Licence; pH, Temperature, Conductivity, Ammoniacal Nitrogen as N, COD, BOD, Total Suspended Solids and Chloride.

Table 3.3: Surface Water Monitoring Results for SW1 (2009, 2010 and 2011)

Parameter	EQS Note 1	November 2009	September 2010	March 2011
Visual Inspection	NA	Slight Brown Colour	Rusty / Amber Brown Colour	-
pH	>6.5 - <9.5	7.3	7.2	8.0
Temp (oC)	25	-	13.2	9.9
Conductivity (µS/cm)	1000	345	170	215
Dissolved Oxygen (% Saturation)	NAC	94	100	113
Ammoniacal Nitrogen as N mg/l	0.78 Note 2	0.14	0.05	0.02
COD mg/l	NA	<20	21	<20
BOD mg/l	≤5	0.9	1.2	0.7
Total Suspended Solids mg/l	25	<5	5	<5
Chloride mg/l	-	14	11	12

Note 1: EQS = Environmental Quality Standards (EPA 2007)
Note 2: 0.78 denotes ammoniacal nitrogen value as N. converted for comparison with laboratory results

Table 3.4: Surface Water Monitoring Results for SW2 (2009, 2010 and 2011)

Parameter	EQS [Note 1]	November 2009	September 2010	March 2011
Visual Inspection	-	Slight Brown Colour	Rusty / Amber Brown Colour	-
pH	>6.5 - <9.5	7.7	7.2	8.0
Temp (oC)	25	NA	13.2	10.0
Conductivity (µS/cm)	1000	214	178	224
Dissolved Oxygen (% Saturation)	NAC	95	101	109
Ammoniacal Nitrogen as N mg/l	0.78 [Note 2]	0.16	0.05	<0.01
COD mg/l	-	22	24	<20
BOD mg/l	≤5	1.0	1.2	0.6
Total Suspended Solids mg/l	25	<5	<5	<5
Chloride mg/l	-	12	11	12

Note 1: EQS = Environmental Quality Standards (EPA 2007)
Note 2: 0.78 denotes ammoniacal nitrogen value as N. converted for comparison with laboratory results

PH, COD, Chloride and suspended solids levels detected during the annual monitoring event 2011 are the same at the upstream (SW1) and downstream (SW2) monitoring locations. Temperature, DO, Conductivity and BOD are also similar at both locations. Ammonia was not detected at the downstream monitoring location.
The chemical analytical data for water samples collected at both monitoring points are within the relevant EQSs.
Based on the chemical results reported during 2011 water quality of the Dereen River is similar both upstream and downstream of HWTS, which indicates that the facility has not impacted on water quality.

Biological Assessment

Conservation Services Ltd. carried out a biological assessment in accordance with Table D.6.1 of the Waste Licence. The biological assessment contained two facets; habitat assessment and biological water quality assessment.

A habitat assessment was carried out at SW1 and SW2 during August 2011. These monitoring locations were assessed in terms of characteristics of the habitat and rated as a habitat for trout in the adult, nursery and spawning stages. The results of the habitat assessment are shown in Table 3.5 below. These results are the same as those reported for the 2010 period at both SW1 and SW2.

Table 3.5: Habitat Assessment 2011

Habitat	SW1 (upstream)	SW2 (downstream)
Trout Adult Habitat	Very Good	Good
Trout Nursery Habitat	Good	Good
Trout Spawning Habitat	Good	Good

A biological water quality assessment was also completed at locations SW1 and SW2. Based on the relative abundance of indicator species, a biotic index (Q-rating) was determined for each location in accordance with the biological assessment procedure used by the EPA (McGarrigle, M.L. *et al; 1998).* The results of the biological water quality assessment are compared to previous annual monitoring events dating back to 2008 in Table 3.6

Table 3.6: Biological Water Quality Assessment

Location	Sept 2008	July 2009	Sept 2010	August 2011
SW 1	Q3-4 Slightly Polluted	Q3-4 Slightly Polluted	Q3-4 Slightly Polluted	Q4 Unpolluted
SW2	Q3-4 Slightly Polluted	Q3-4 Slightly Polluted	Q3-4 Slightly Polluted	Q4 Unpolluted

The biological data indicate a slight improvement in water quality both upstream and downstream of the Waste Transfer Station from slightly polluted conditions to unpolluted conditions. Both the upstream and downstream monitoring locations now merit a Q-Rating of Q4, indicating no impact from the Waste Transfer Station on the water quality of the Dereen River.

3.1.4 Groundwater

Groundwater monitoring was undertaken by EPA personnel on the 23rd of March 2011 for the parameters outlined in Schedule D Table D.6.1 of Waste Licence W0139-01. Groundwater monitoring was carried out at five monitoring locations (GW1, GW2, GW3, GW4 and GW6). GW5 was not sampled as it is a private residence and there was no access to the well on the date of sampling. None of the six monitoring locations are used for domestic supply purposes. The groundwater monitoring locations are shown on Drawing No. 3 and summarised in Table 3.7 below. Groundwater monitoring results for 2011 are presented overleaf in Table 3.8.

Table 3.7: Groundwater Monitoring Locations

Location	Water Pattern
GW1	Within Waste Body (Cross gradient)
GW2	Within Waste Body (Down gradient)
GW3	Within Waste Body (Cross gradient)
GW4	Up gradient
GW5	Cross gradient
GW6	Down gradient

Table 3.8 Groundwater Monitoring Results for 2011

Parameter	Units	SI No 9 of 2010	GW1	GW2	GW3	GW4	GW5	GW6	S.I. No. 278 of 2007
Visual Inspection	-	-	-	-	-	-	Not Sampled	-	-
Water Level	mbpl	-	7.8	4	9	nm	-	nm	-
Temperature	oC	-	11.5	11.3	11.2	11	-	10.6	-
Dissolved Oxygen	%	-	68	78	58	81	-	35	-
pH	pH units	-	7.2	7.2	7.2	7	-	7.6	≥6.5≤9.5
Conductivity	µS/cm	1,875	717	1604	816	449	-	491	2,500
Ammonia	mg/l N	0.175	<0.01	0.05	0.12	<0.01	-	<0.01	0.23
Chloride	mg/l Cl	187.5	29	45	52	19	-	14	250
Ortho-Phosphate	mg/l P	-	0.06	0.13	0.11	0.13	-	0.07	NAC
Total Oxidised Nitrogen	mg/l N	-	11.85	23.66	13.85	8.75	-	2.28	-
Fluoride	mg/l F	-	0.08	<0.5	<0.05	0.07	-	0.55	0.8
Sulphate	mg/l SO4	187.5	26	**310**	39	12	-	18	250
Alkalinity	mg/l $CaCO_3$	-	270	447	286	155	-	226	-
Total Organic Carbon	mg/l C	-	-	-	-	-	-	-	-
Aluminium	µg/l	150	**210**	130	110	<25	-	<25	200
Antimony	µg/l	-	1.6	2.6	1.6	1.6	-	1.6	5
Arsenic	µg/l	7.5	2.1	2.1	2.1	1.7	-	2.7	10
Barium	µg/l	-	31	64	28	12	-	11	-
Beryllium	µg/l	-	1.5	1.4	1.5	1.4	-	1.5	-
Boron	µg/l	750	27	81	27	6	-	<5	1000
Cadmium	µg/l	3.75	<0.5	<0.5	<0.5	<0.5	-	<0.5	5
Calcium	mg/l	-	64	140	72	39	-	37	-
Chromium	µg/l	37.5	1.3	1.6	2.9	0.9	-	0.8	50
Cobalt	µg/l	-	1.7	1.9	1.7	1.6	-	1.5	-
Copper	µg/l	1500	1.3	6.4	2.7	14	-	2.9	2000
Iron	µg/l	-	260	140	100	<25	-	**390**	200
Lead	µg/l	18.75	2.1	3.3	2.2	1.7	-	1.6	25
Magnesium	mg/l	-	5.4	20	6	3.7	-	7.1	-
Manganese	µg/l	-	<25	32	<25	<25	-	<25	50
Mercury	µg/l	0.75	-	-	-	-	-	-	1
Molybdenum	µg/l	-	0.6	1.1	0.6	<0.5	-	3.8	-
Nickel	µg/l	15	1.5	11	1.9	1.1	-	1	20
Potassium	mg/l	-	4.6	21	3.3	2.2	-	1.9	-
Selenium	µg/l	-	2.1	2.6	2.2	2	-	1.8	10
Sodium	mg/l	150	9.6	19	13	11	-	11	200
Thallium	µg/l	-	1.7	1.7	1.7	1.7	-	1.7	-
Tin	µg/l	-	1	1	1	1	-	1	-
Uranium	µg/l	-	22	4.5	11	5.3	-	220	-
Vanadium	µg/l	-	1.5	2.5	1.3	1.1	-	1	-
Zinc	µg/l	-	16	42	20	37	-	16	-
Total Cyanide	mg/l	0.0375	<0.05	<0.05	<0.05	<0.05	-	<0.05	
Phenols	mg/l	-	<0.01	<0.01	<0.01	<0.01	-	<0.01	-
Total phpsphorous	mg/l	-	-	-	-	-	-	-	-
Residue on Evaporation	mg/l	-	-	-	-	-	-	-	-
Microbiological									
Total Coliforms	cfu/100ml	-	130	-	10	**10**	-	<10	0
Faecal Coliforms	cfu/100ml	-	<10	-	<10	<10	-	<10	0
VOC's	µg/l	-	ND	-	ND	ND	-	ND	-
SVOC's	µg/l	-	ND	-	ND	ND	-	ND	-
Tetrachloroethene	µg/l	-	-	1.4	-	-	-	-	-

Groundwater analytical data collected during 2011 was compared with two sets of Groundwater Standards; the private wells are compared to European Communities (Drinking Water) (No. 2) Regulation 2007 (SI No. 278 of 2007) while GW1, GW2 and GW3 are compared to Groundwater Standards SI No 9 of 2010.

Groundwater elevation data indicates that groundwater flow direction is generally towards the south and southwest.

GW1, GW2 and GW3 are located inside the boundary of HWTS. GW2 is considered to be located down gradient of the site. Elevated levels of sulphate were detected at GW2 during 2011. Tetrachloroethene was also detected at GW2. Organics were absent in all other samples obtained.

Samples were obtained from GW1 and GW3 which are both located cross gradient of the site in terms of groundwater flow. The results received at both locations show similar concentrations for the chemical and metal parameters analysed. In general the results recorded display a decrease in the concentrations of metals present in comparison to previous results received during September 2010.

Two private wells were sampled during 2011 (GW4 and GW6). GW6 is located down-gradient of HWTS. The concentration of iron detected at GW6 exceeded the limit of 200 µg/l set out in S.I. No. 278 of 2007. All other results reported for GW6 were below their respective parametric values stipulated in S.I. No. 278 of 2007. Elevated levels of Uranium were detected at GW6 during 2011, however there is no parametric value stipulated for Uranium in S.I. No. 278 of 2007.
Total coliforms (10cfu/100ml) were detected at GW4. All other results recorded at GW4 were below their respective parametric values stipulated in S.I. No. 278 of 2007.

Following the EPA Audit of the site carried out on 13/10/2011 it was recommended to carry out repeat sampling at GW6 for a small number of parameters. This sampling was completed on 22/11/2011 and results will be forwarded to the agency in 2012.

3.1.5 Noise

In accordance with Table D.4.1 of Waste Licence W0139-01 noise monitoring is required to be carried out on an annual basis at HWTS. However based on correspondence submitted to the agency by Carlow County Council in January 2011, the EPA agreed to the cessation of annual noise monitoring at the site as long as waste activities on site have ceased (EPA document ref. "ap02df"). Therefore noise monitoring was not carried out at HWTS during 2011.

4.0 Releases from the Facility (PRTR)

The Pollutant Release and Transfer Register (PRTR) for HWTS has been compiled in accordance with the Environmental Protection Agency's (EPA) Guidance Notes. The PRTR information for HWTS is reported to the EPA in electronic format, a hard copy of the electronic report is presented in Appendix A.
Due to the fact that the site is now closed and there are currently no waste activities carried out at the site, there was no information to report in the PRTR for HWTS.

The report is based on monitoring data, disposal and recovery records for the facility.

4.1 Releases to Air

There is no flare present at HWTS and there are no quantified emissions to air from the facility. Therefore there are no releases to air to report for the facility.

4.2 Releases to Waters

There are no direct discharges from HWTS to receiving waters. There is no licensed emission point for surface water run-off at the site. Therefore there are no quantified releases to water to report for HWTS.

4.3 Releases to Wastewater or Sewer

There are no releases to wastewater or sewer reported for the HWTS.

4.4 Releases to Land

There are no releases to land reported for the HWTS.

4.5 Treatment and Transfer of Waste

HWTS ceased operations on the 31st of December 2009. Therefore there are no waste activities to report for the treatment and transfer of waste for 1st January 2011 to 31st December 2011. In order to upload the PRTR file to the EPA website one line was inserted into this section of the PRTR report, reporting "zero" amount of waste being accepted at the site. There were no waste activities at HWTS during 2011.

5.0 Resource and Energy Consumption

The following section summarises electricity and water usage in 2011 at HWTS. The energy and resource consumption for the facility is minimal due to the fact that this facility is closed and no waste activities are carried out.

5.1 Water

There is no water used at the site with the exception of council employees occasionally using canteen / toilet facilities. There is no water meter at the facility but water usage is considered minimal.

5.2 Electricity

Data for electricity usage at the site was available for the period 14/10/2010 to 13/10/2011. The total energy used at the site during this period was 3,061kWh. The main sources of electricity usage are the old office area, site security, cameras and lighting.

6.0 Site Development Activities & Plans

6.1 Development Works

There was no development works carried out at the facility during 2011. Maintenance of green areas and the yard area is carried out by northern area staff.

6.2 Environmental Objectives and Targets for 2011 and 2012

Objectives set for 2011

Carlow County Councils objectives for 2011 as set out in the AER submitted for the 2010 period were "to carry out all regular compliance monitoring and preparation of reports for the 2011 monitoring period." This objective was completed and all reports were submitted for the 2011 period in accordance with Waste Licence Requirements.

Objectives set for 2012

Table 3.9 below presents the objectives / targets set for HWTS for 2012.

Table 3.9 Objectives / targets for HWTS for 2012

Objective / Target	Target completion Date
Carry out all required compliance monitoring as per W0139-01 licence conditions	December 2012
Carry out Bund Integrity Test on soiled water collection tank	December 2012
Maintain site in a clean and tidy condition	December 2012
Carry out a Tier 2 Risk Assessment for area that was previously part of the old landfill but is now in private ownership [Note 1]	December 2012

Note 1: Carlow County Council will carry out a Tier 2 Risk Assessment on the portion of the former landfill, at the back of Haroldstown Transfer Station, now in private ownership. The assessment will comply with the requirements of the Agency document "CODE OF PRACTICE, Environmental Risk Assessment for Unregulated Waste Disposal Sites" and is being carried out with a view to registration under the requirements of SI 534/2008 "WASTE MANAGEMENT (CERTIFICATION OF HISTORIC UNLICENCED WASTE DISPOSAL AND RECOVERY ACTIVITY) REGULATIONS 2008 "

7.0 Environmental Nuisance Control

7.1 Litter
Litter is not a problem at HWTS as no waste is present on site at any time.

7.2 Noise
Noise does not cause any nuisance at the facility as operations have ceased.

7.3 Dust
Dust is not a problem at HWTS. Dust results for 2011 are presented in table 3.1 of this report and no exceedances of the licence limit for dust deposition were recorded. Going forward, dust monitoring is not required at the site unless operations recommence.

7.4 Bird & Pest Control
Due to the absence of waste at HWTS birds, pests and vermin do not present any problems at the site.

7.5 Odour Control
There are no odour problems at the facility.

8.0 Incidents and Complaints for the Reporting Period 2011

There were no complaints received in relation to the site during 2011.

11 incidents were reported to the EPA during 2011 in relation to HWTS. All incidents relate to CO_2 exceedances at gas monitoring locations outside the boundary of the facility. Landfill gas monitoring results for 2011 are presented in section 3.1.2 of this report.

9.0 Financial Provisions, Staffing and Programme for Public Information

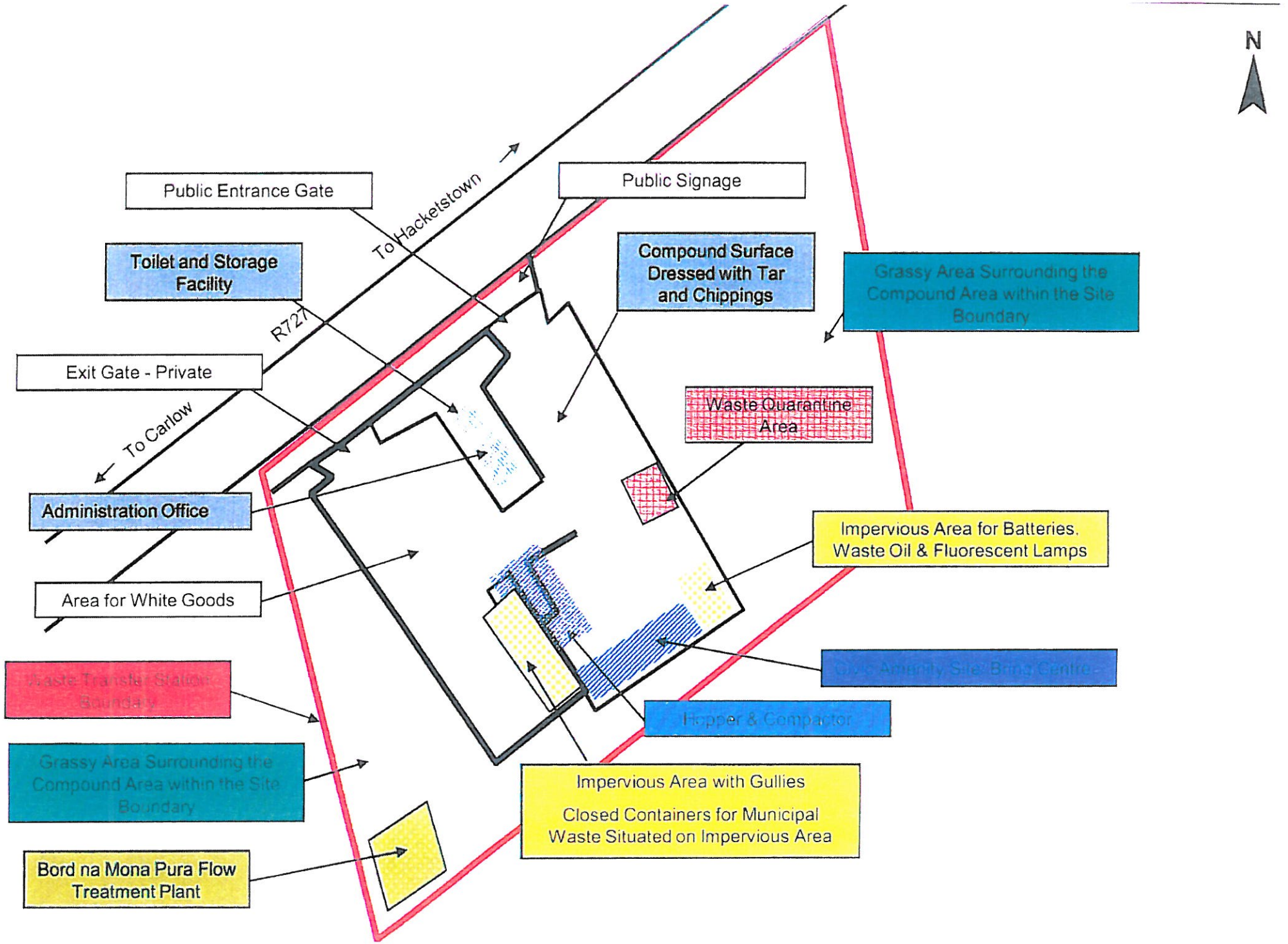
9.1 Financial Provisions
A total of €23,700 was budgeted for HWTS in 2011.

9.2 Staffing and Training
There is no staff assigned to full time employment at HWTS. Any issues in relation to the facility are dealt with by Carlow County Councils Environment Section or the area engineer for the Northern Area.

9.3 Public Information
Signage at the facility re-directs customers to Powerstown Landfill. Carlow County Council website provides an information package in relation to Powerstown Landfill that is available to download for members of the public.

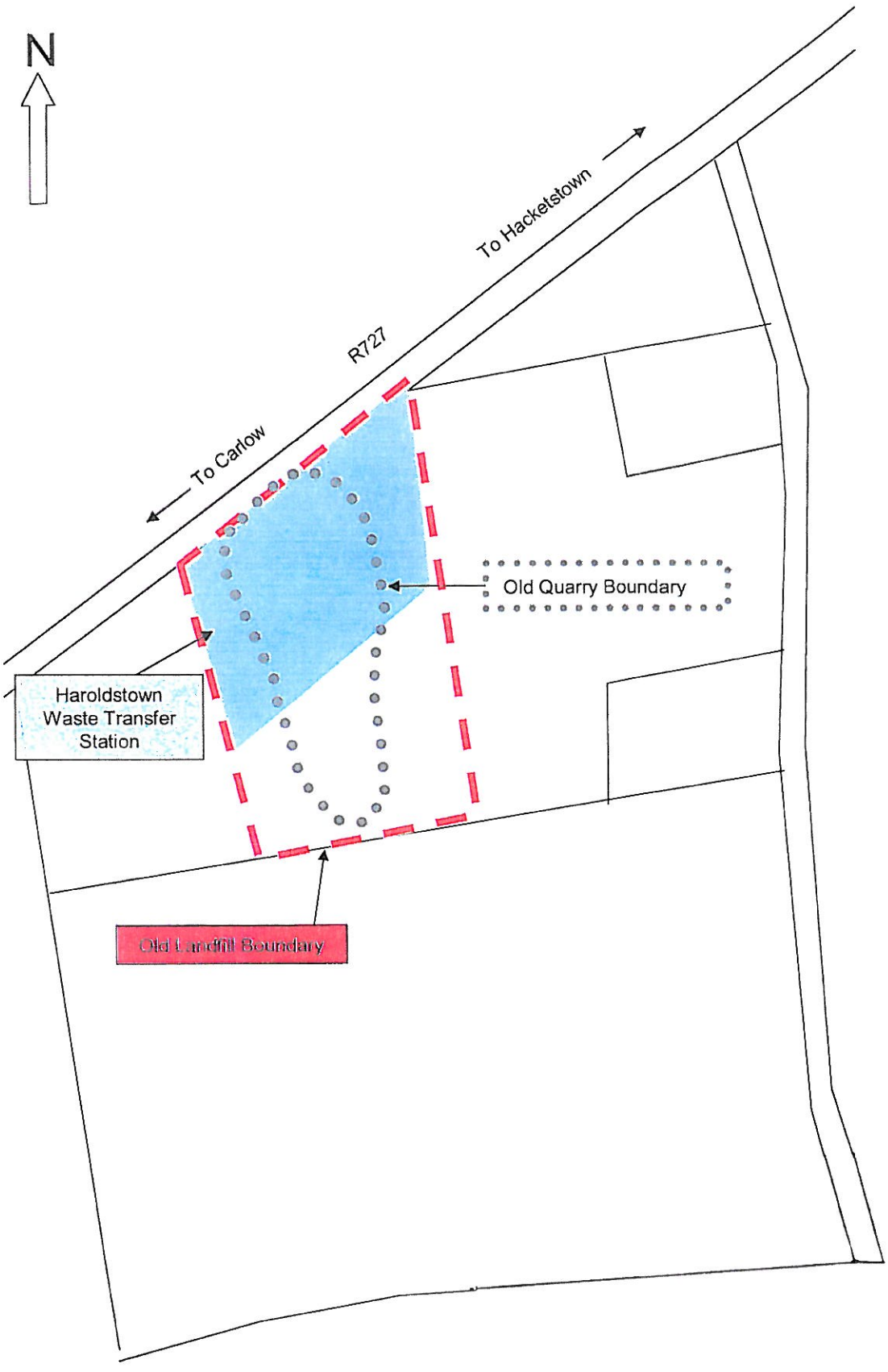
DRAWING 1

SITE LAYOUT


N
Public Entrance Gate
To Hacketstown
Public Signage
Toilet and Storage Facility
R727
Compound Surface Dressed with Tar and Chippings
Grassy Area Surrounding the Compound Area within the Site Boundary
Exit Gate - Private
To Carlow
Waste Quarantine Area
Administration Office
Impervious Area for Batteries, Waste Oil & Fluorescent Lamps
Area for White Goods
Waste Transfer Station Boundary
Civic Amenity Site/ Bring Centre
Hopper & Compactor
Grassy Area Surrounding the Compound Area within the Site Boundary
Impervious Area with Gullies
Closed Containers for Municipal Waste Situated on Impervious Area
Bord na Mona Pura Flow Treatment Plant

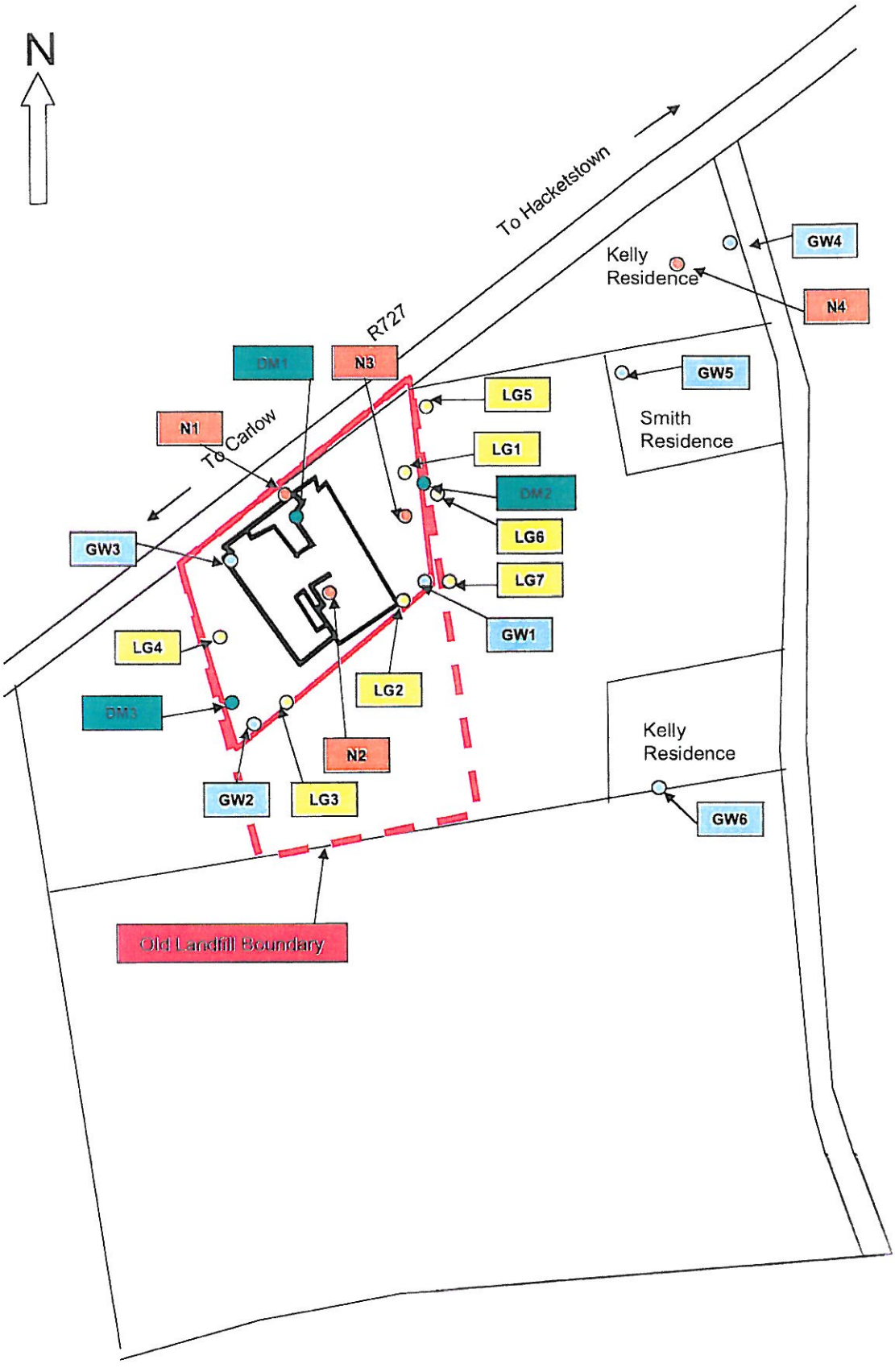
DRAWING 2

OLD LANDFILL BOUNDARIES AND QUARRY


N
To Hacketstown
R727
To Carlow
Old Quarry Boundary
Haroldstown
Waste Transfer
Station
Old Landfill Boundary

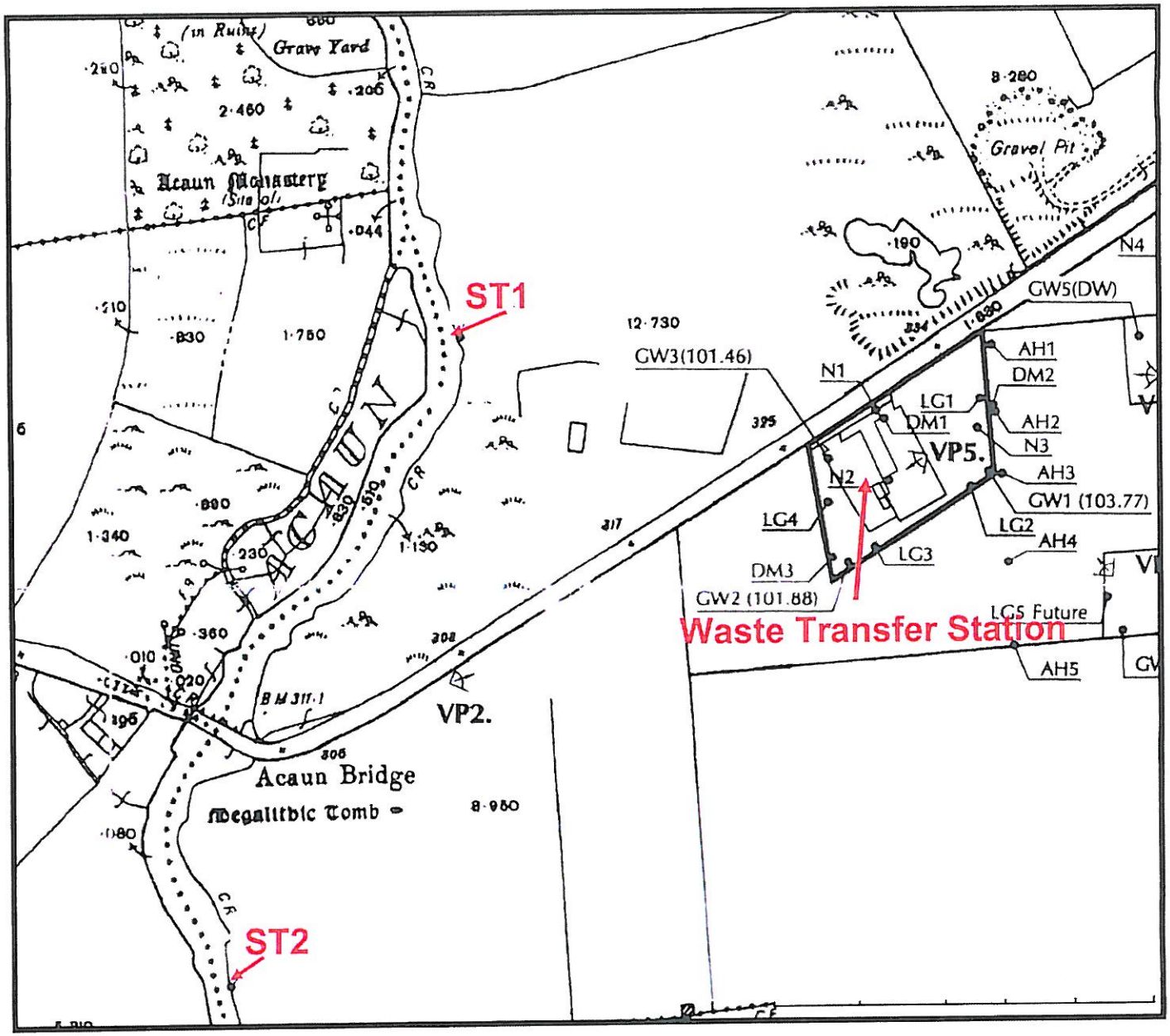
DRAWING 3

MONITORING LOCATIONS


N
To Hacketstown
R727
To Carlow
Kelly Residence
Smith Residence
Kelly Residence
GW4
N4
GW5
DM1
N3
LG5
N1
LG1
DM2
LG6
GW3
LG7
GW1
LG4
LG2
DM3
N2
GW2
LG3
GW6
Old Landfill Boundary

DRAWING 4

SURFACE WATER MONITORING LOCATIONS


ST1
ST2
VP2.
VP5.
Waste Transfer Station
GW3(101.46)
GW2 (101.88)
GW1 (103.77)
GW5(DW)
N1
N2
N3
N4
LG1
LG2
LG3
LG4
LG5 Future
DM1
DM2
DM3
AH1
AH2
AH3
AH4
AH5
Acaun Bridge
Megalithic Tomb
Acaun Monastery
(Site of)
Grave Yard
(in Ruins)
Gravel Pit
ACAUN
12·730
8·280
8·950
BM 311·1

APPENDIX 1

GROUNDWATER CONTOUR MAP

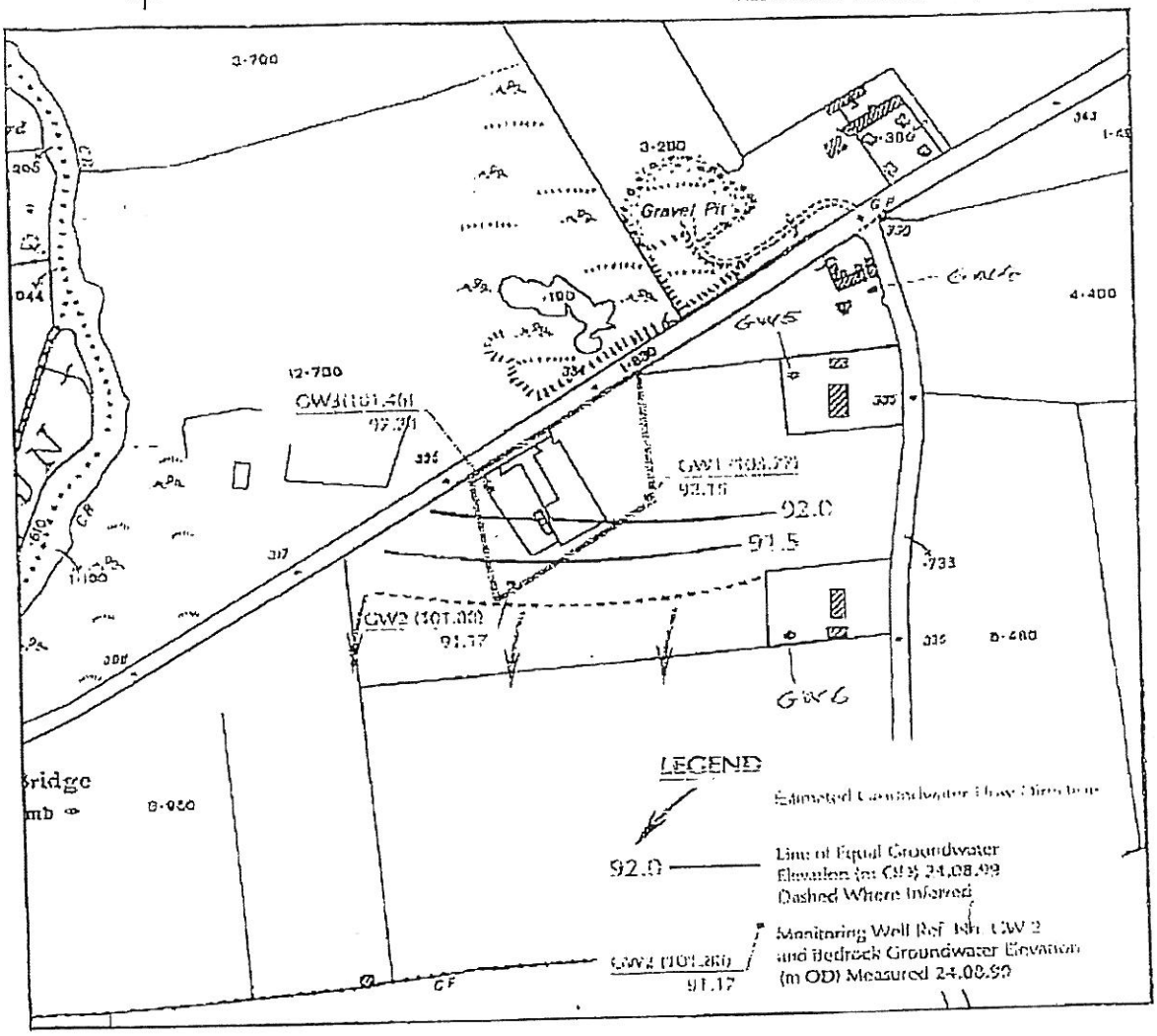
REVISION A

Sept. 99

SKMD

97/1105/WASTE-HTS_C62

Reproduced from Ordnance Survey with Government Permission - Permit No. 97/07/58
1:2500 Carlow Sheets CW004-13+14, CW009-01+02



FEHILY TIMONEY & COMPANY, CENTRE PARK HOUSE, CENTRE PARK ROAD, CORK

1:2500 BEDROCK GROUNDWATER CONTOUR MAP

WASTE LICENCE APPLICATION
For WASTE TRANSFER STATION
At HAROLDSTOWN, Co. CARLOW

Dwg. No. C.6.2

APPENDIX 2

PRTR REPORT

| PRTR# : W0139 | Facility Name : Haroldstown Transfer Station | Filename : W0139_2011.xls | Return Year : 2011 |

Environmental Protection Agency

Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.13

REFERENCE YEAR	2011

1. FACILITY IDENTIFICATION

Parent Company Name	Carlow County Council
Facility Name	Haroldstown Transfer Station
PRTR Identification Number	W0139
Licence Number	W0139-01

Waste or IPPC Classes of Activity

No.	class_name
3.12	Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.
3.13	Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.
4.13	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.
4.2	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).
4.3	Recycling or reclamation of metals and metal compounds.
4.4	Recycling or reclamation of other inorganic materials.

Address 1	Haroldstown
Address 2	Tullow
Address 3	Co Carlow
Address 4	
	Carlow
Country	Ireland
Coordinates of Location	-6.65946 52.8462
River Basin District	IESE
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	Fergus Mulhare
AER Returns Contact Email Address	fmulhare@carlowcoco.ie
AER Returns Contact Position	Landfill Manager
AER Returns Contact Telephone Number	0599172478
AER Returns Contact Mobile Phone Number	
AER Returns Contact Fax Number	0599146356
Production Volume	0.0
Production Volume Units	0
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	0
User Feedback/Comments	This is a closed site that no longer accepts waste. No operations on-site during 2011. 1 blank line was inserted into the treatment & transfer of waste section in order to upload file.
Web Address	

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name

50.1	General
50.1	General

3. SOLVENTS REGULATIONS (S.I. No. 543 of 2002)

Is it applicable?	
Have you been granted an exemption ?	
If applicable which activity class applies (as per Schedule 2 of the regulations) ?	
Is the reduction scheme compliance route being used ?	

4.1 RELEASES TO AIR

Link to previous years emissions data

PRTR# : W0139 | Facility Name : Haroldstown Transfer Station | Filename : W0139_2011.xls | Return Year : 2011 08/02/2012 10:12

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD				QUANTITY		
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD				QUANTITY		
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (As required in your Licence)

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD				QUANTITY		
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

Additional Data Requested from Landfill operators

For the purposes of the National Inventory on Greenhouse Gases, landfill operators are requested to provide summary data on landfill gas (Methane) flared or utilised on their facilities to accompany the figures for total methane generated. Operators should only report their Net methane (CH4) emission to the environment under T(total) KG/yr for Section A: Sector specific PRTR pollutants above. Please complete the table below:

Landfill: Haroldstown Transfer Station

Please enter summary data on the quantities of methane flared and / or utilised	T (Total) kg/Year	M/C/E	Method Used: Method Code	Method Used: Designation or Description	Facility Total Capacity m3 per hour	
Total estimated methane generation (as per site model)	0.0				N/A	
Methane flared	0.0				0.0	(Total Flaring Capacity)
Methane utilised in engine/s	0.0				0.0	(Total Utilising Capacity)
Net methane emission (as reported in Section A above)	0.0				N/A	

4.2 RELEASES TO WATERS

Link to previous years emissions data

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

Data on ambient monitoring of storm/surface water or groundwater, conducted as part of your licence requirements, should NOT be submitted under AER / PRTR Reporting as

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT					QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT					QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT					QUANTITY			
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

4.3 RELEASES TO WASTEWATER OR SEWER

Link to previous years emissions data

SECTION A : PRTR POLLUTANTS

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

4.4 RELEASES TO LAND

Link to previous years emissions data

SECTION A : PRTR POLLUTANTS

RELEASES TO LAND					Please enter all quantities in this section in KGs		
POLLUTANT		METHOD			QUANTITY		
			Method Used				
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
					0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO LAND					Please enter all quantities in this section in KGs		
POLLUTANT		METHOD			QUANTITY		
			Method Used				
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
					0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

Please enter all quantities on this sheet in Tonnes

3

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste Address of Recover/Disposer	Name and License / Permit No and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i e Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	20 03 01	No	0.0	mixed municipal waste	D15	M	Weighed	Offsite in Ireland	Powerstown Landfill,W0025-03	Powerstown, , ,Carlow,, ,Ireland		

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