Monaghan County Council

Scotch Corner Landfill

Scotch Corner Landfill

1st January 2017 – 31st December 2017

Annual Environmental Report

April 2017 **Waste Licence W0020-02**

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1. INTRODUCTION

On 7th December 2001 the EPA granted a waste licence, W0020-01, subject to conditions to Monaghan County Council for its facility at Scotch Corner Landfill. This licence is for the operation and development of an existing non-hazardous landfill at Scotch Corner, Letterbane, Annyalla, Castleblaney, Co. Monaghan and also covers the operation of a Material Recovery Facility at the site. The Material Recovery Facility allows for the storage and processing of pre-segregated recyclable wastes.

This licence was reviewed by the Agency and a new licence, W0020-02 was issued on the 24th March 2010.

Condition 11.7 of Waste Licence W0020-02 states the following:

11.7 Annual Environmental Report

11.7.1 The licensee shall submit to the Agency, by the 31st March each year an AER covering the previous calendar year. This report, which shall to the satisfaction of the Agency, shall include as a minimum the information specified in Schedule G: Annual Environmental Report of this Licence and shall be prepared in accordance with any revelant guidelines issued by the Agency.

The AER shall include as a minimum the information specified in Schedule G: Content of the Annual Environment Report of this licence and shall be prepared in accordance with any relevant written guidance issued by the Agency.

This Annual Environmental Report will include the following:

- Reporting Period.
- Waste activities carried out at the facility.
- Quantity and Composition of waste received, disposed of and recovered during the reporting period and each previous year.
- Calculated remaining capacity of the facility and year in which final capacity is expected to be reached.
- Methods of deposition and recovery of waste.
- Summary report on emissions.
- Summary of results and interpretation of environmental monitoring.
- Resource and energy consumption summary.
- Proposed development of the facility and timescale of such development (including plant operating capacity at the MRF, provision of adequate standby and provision of contingency, backup and spares in the case of breakdown)
- Capacity and provision of contingency, backup and spares in the case of breakdown).
- Volume of leachate produced and volume of leachate transported / discharged off-site.
- Report on development works undertaken during the reporting period, and a timescale for those proposed during the coming year.
- Report on restoration of completed cells/ phases.
- Site survey showing existing levels of the facility at the end of the reporting period.
- Estimated annual and cumulative quantities of landfill gas emitted from the facility.
- Estimated annual and cumulative quantity of indirect emissions to groundwater.
- Annual water balance calculation and interpretation.
- Report on the progress towards achievement of the Environmental Objectives and Targets contained in previous year's report.
- Schedule of Environmental Objectives and Targets for the forthcoming year.
- Updates to Landfill Environmental Management Plan (LEMP)
- Review of Environmental Liabilities
- Report on waste recovery
- Full title and a written summary of any procedures developed by the licensee in the year which relates to the facility operation.
- Tank, pipeline and bund testing and inspection report.
- Reported incidents and Complaints summaries.

- Review of Nuisance Controls.
- Reports on financial provision made under this licence, management and staffing structure of the facility, and a programme for public information.
- Report on training of staff.
- Statement of compliance of facility with any updates of the relevant Waste Management Plan.
- Statement on the achievement of the waste acceptance and treatment obligations.
- Any other items specified by the Agency.

2. REFERENCES

Waste Licence W0020-02.
Waste Licence Application Form – Monaghan County Council 25th February 1998.
EPA Landfill Manuals – Landfill Operational Practises.
E.I.S. for Scotch Corner Landfill Site Monaghan – MCOS.
Scotch Corner Landfill 2017 Groundwater Monitoring Reports.
Scotch Corner Landfill 2017 Surface Water Monitoring Reports.
Scotch Corner Landfill 2017 Leachate Monitoring Reports.
Scotch Corner Landfill 2017 Noise Monitoring Report.
Scotch Corner Landfill 2017 Landfill Gas Monitoring Reports.
Scotch Corner Landfill 2017 Dust Monitoring Reports.
Pestproof Service Reports.
Environmental Management System at Scotch Corner Landfill Rev.00.
Scotch Corner Landfill 1st January 2016– 31st December 2016 Annual Environmental Report.
Scotch Corner Landfill 2017 PRTR Returns Workbook.
Scotch Corner Landfill 2017 EPA Landfill Gas Survey.
Scotch Corner Landfill 2017 Biodegradable Municipal Waste Reporting Landfill Submission Report.
Connacht - Ulster Region Waste Management Plan 2015 – 2021.
Focus on Landfilling in Ireland – EPA.

3. CONTENT OF ANNUAL ENVIRONMENTAL REPORT

3.1 Reporting Period

This report covers the period 1st January 2017 to 31st December 2017.

3.2 Waste activities carried out at the facility

Scotch Corner Landfill is licensed to accept household waste, commercial waste, non-hazardous industrial waste and construction and demolition waste.

Wastes that will not be accepted at the landfill facility include the following:

- Whole used tyres (other than bicycle tyres and tyres with an outside diameter greater than 1400mm) and shredded tyres.
- Liquid Wastes
- Sludges

- Hazardous Wastes as defined by the European Waste Catalogue and Hazardous Waste List
- Unsorted Waste

Scotch Corner Landfill is closed to the public and accepts the above waste types from licensed hauliers only. All other persons must present their waste for disposal at the Material Recovery Facility (MRF). The MRF accepts the following clean, dry, segregated recyclables from householders and industrial and commercial sectors: paper, newspaper, cardboard, glass, timber, rubble, aluminium and steel cans, plastic, textiles/clothes, footwear, white goods, scrap metal, electrical goods (except printers), waste oil, used cooking oil, fluorescent tubes, batteries, gas cylinders, tyres, polystyrene, plasterboard, paint cans and green waste. The MRF also accepts mixed skips of recyclables from householders and kerbside collection of recyclables from waste hauliers.

Scotch Corner Landfill is licensed to accept and deposit the following waste types in lined cells as per Schedule A of the Waste Licence:

Waste Type	Maximum Tonnes Per Annum
Household	18,200
Commercial	5,700
Construction and Demolition	2,800
Industrial Non-Hazardous	12,800
TOTAL	39,500

Scotch Corner Landfill ceased the intake of waste on 6th October 2017 and is now closed.

3.3 Quantity and Composition of waste received, disposed of and recovered during the reporting period and each previous year

(A) Waste Disposal

Table 1: Types and Quantities of waste disposed to landfill from 07/12/01 – 31/12/17.

Year	Household EWC 20 03 01 20 03 07	Commercial EWC 20 03 01 20 03 02 19 12 12	Industrial EWC 20 03 01 19 12 04 07 01 99 02 03 04	Mixed Municipal Waste EWC 20 03 01	Sewage Sludge EWC 19 08 05	Industrial Sludge EWC 02 05 02	Construction & Demolition EWC 17 09 04	Street Cleanings EWC 20 03 03	TOTAL (tonnes)
2001	908.52	121.89	562.75		238.72	15.90	0	13.11	1,861
2002	15,103.3	3,736.66	8,390.4		4,703.44	622.77	277.32	397.39	33,231
2003	11,895.14	2,047.01	6,833.30		4,921.88	662.85	239.29	414.65	27,014
2004	19,096.03	3,757.94	16,210.71		5,473.12	560.91	345.56	2,487.23	47,932
2005	20,111.51	2,981.29	8,085.37		5,681.26	1020.06	214.28	729.77	38,824
2006	13,770.61	1,305.71	7,280.73		1,232.70	169.60	291.48	1,693.69	25,745
2007	12,559.82	2,689.06	10,888.38	12,528.14	0	0	49.44	792.75	39,508
2008	12,976.48	1,972.74	7,121.10	10,137.14	0	0	40.9	706.38	32,955
2009	9,228.92	612.22	4,737.98	23,492.30	0	0	93.28	668.16	38,833
2010	18,689	9,140	3,717		0	0	5	671	32,222
2011	7,326.62	681.30	5,070.06	13,587.82	0	0	0	701.90	27,368
2012	4,837.86	6,911.16	1,799.00	13,755	0	0	0	771.00	28,075
2013	11,582.21	7,506.5	2,915.24	9021	0	0	0	1,429.31	32,454
2014	0	326.70	11,129.68	31,261.20	0	0	13.6	2,859.86	45,591
2015	0	771.52	10,964.19	13,363.42	0	0	1312.06	3,708.20	30,119
2016	522.04	274.08	21836.14	5341.48	0	0	9.18	1414.38	29,397
2017	0	0	15,496.04	0	0	0	0	0	15,335
Quota	18,200	5,700	12,800		0	0	2,800		39,500

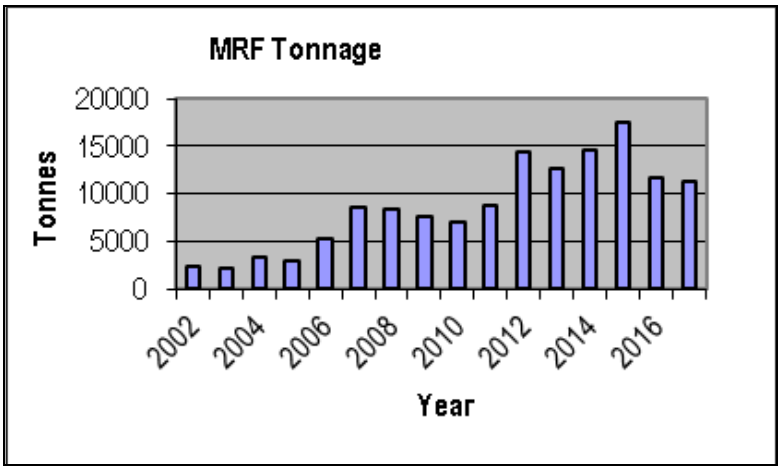
(B) Waste Recovery

Table 2: Tonnage at Scotch Corner Recycling Centre 01/01/17 – 31/12/17

Load Type	EWC Code	Tonnes
Lead Batteries	16 06 01	2.5
Household Batteries	16 06 02	3.83
C & D waste	17 09 04	1134.1
Textiles	20 01 10	12.8
Glass	15 01 07	433.58
Biodegradable Food Waste	20 01 08	0.56
Fluorescent lights & Bulbs	20 01 21	0.86
Newspaper and Magazines	20 01 01	145.16
Scrap metal	20 01 40	238
Timber/Woodchip	20 01 38	647.84
Cooking Oil	20 01 25	0.1
Waste oil	13 02 08	1.14
Oil Filters	16 01 07	0.06
Steel Cans & Aluminium Cans	15 01 04	127.76
Cardboard	15 01 01	1920.72
Mixed Paper	20 01 01	158.62
CRT's	20 01 35	30.29
LDA's	20 01 36	23.96
LDA's cold	20 01 36	16.49
SDA's	20 01 36	34.19
Mixed Dry Recyclables	20 03 01	2458.28
Clear Plastic Film	20 01 39	37.64
Coloured Plastic Film	20 01 39	56.9
Hard Plastics	20 01 39	98.78
Plastic bottles	20 01 39	57.22
Mixed Plastics	20 01 39	23.3
Windscreen Glass	16 01 20	27.42
Tyres	16 01 03	27.58
Gas Cylinders	15 01 11	1.04
Waste Paint	20 01 27	0.3
Aerosol cans	16 05 04	0.2
Plastic Packaging	15 01 02	16.02
Green Waste	20 02 01	245.52
Plasterboard	17 08 02	123.16
Ink Cartridges	08 03 13	0.02
Mixed Residual Waste	20 03 01	3175.35
	Total	**11,281.29**

Table 3: Tonnage Table for Scotch Corner Recycling Centre 2001 – 2017

Year	Tonnes
Dec 2001 & 2002	2,435.88
2003	2,067.32
2004	3,382.10
2005	1,749.69
2006	5,280.5
2007	8,531.999
2008	8,460.12
2009	7,683.77
2010	6,999.56
2011	8,674.42
2012	14,380.86
2013	12,581.6
2014	14,598.327
2015	17,552.05
2016	11,632.72
2017	11,281.29



3.4 Calculated Remaining Capacity of the Facility and year in which Final Capacity is expected to be reached

Final Capacity in Phase 3 was reached in Q4 2017 when the landfilling of Incinerator bottom ash ceased at Scotch Corner Landfill. The landfill is closed to waste disposal since 6/10/17. Phase 4 and 5 are not developed.

3.5 Methods of Deposition and Recovery of Waste

From 1st January 2017 to 6th October 2017 waste was deposited to landfill into Phase 3. The only type of waste accepted was Incinerator Bottom ash. Waste was compacted using a compactor and/or hymac and/or dozer as required.

From 25th April 2005 to date the MRF is operated by McElvaney Waste & Recycling Ltd. During this period 1/1/17 to 31/12/17, source segregated recyclable materials from the Civic Amenity Sites, mixed recyclables from their skip collection service and kerbside bin collection service at the MRF were sent to recycling outlets approved by the Agency.

Waste deposited in the compactor at the MRF in 2017 was brought off site for disposal at an approved facility.

Ref. "SOP 05 Waste Acceptance and Characterisation Procedure at Scotch Corner Landfill"

3.6 Summary Report on Emissions

3.6.1 Dust

Results for all dust monitoring locations were below the Waste Licence dust deposition limit of 350mg/m^2/day except as follows:

Results for the first schedule (2/5/2017 to 7/6/17) and the second schedule (7/6/17 to 26/7/17) for dust monitoring location D4 exceeded the dust deposition of 350mg/m^2/day limit because of bird faeces on the inside of the dust jars.

Ref. 'Scotch Corner Landfill 2017 Dust Monitoring Report'.

3.6.2 Noise

As per in previous years the noise survey carried out at Scotch Corner Landfill in 2017 indicated that there are no significant noise emissions at the facility.

Results for noise monitoring locations NSL1, NSL 2, D1 and D4 are below the Waste Licence noise emission limits of 45 Night dB(A) L_{AEQ}(30 minutes) and 55 Day dB(A) L_{AEQ}(30 minutes).

Ref. 'Scotch Corner Landfill 2017 Noise Monitoring Report'.

3.6.3 Landfill Gas

Permanent landfill gas extraction and flaring has operated from Area 1 and Area 2 (capped cells since 2004) since 8th December 2005 including this period 1/1/14 to 31/12/14. Landfill gas extraction and flaring has operated from Phase 2 (capped cells since 2010) from vertical extraction wells since 10th December 2007. Landfill gas extraction and flaring has operated from Cell 5a (partially capped cell and temporarily capped cell since 2010) from horizontal extraction pipework since 29th January 2008 and from vertical extraction wells 16th December 2009. Landfill gas extraction and flaring has operated from Cell 4a (temporarily capped cell since 2010) from horizontal extraction pipework since 19th January 2009 and from vertical extraction wells 16th December 2009. Landfill gas extraction and flaring has operated from cell 4b from horizontal extraction pipework since 30th June 2010 and from vertical extraction wells since 27th October 2011. Landfill gas extraction and flaring has operated from cell 5b from horizontal extraction pipework since 3rd September 2013 and from vertical extraction wells since 9th October 2013.

Landfill gas produced by the decomposition of waste from Phase 2 (cells 2 & 3) discharged to the atmosphere since waste deposition commenced in this cell on 22/10/03 until 10/12/07 when flaring from this area commenced.

Landfill gas produced by the decomposition of waste from Cell 5a discharged to the atmosphere since waste deposition commenced in this cell on 21/6/07 until 29/1/08 when flaring from this area commenced.

Landfill gas produced by the decomposition of waste from the Cell 4a discharged to the atmosphere since waste deposition commenced in this cell on 23/6/08 until 19/1/09 when flaring from this area commenced.

Landfill gas produced by the decomposition of waste from the Cell 4b discharged to the atmosphere since waste deposition commenced in this cell on 15/3/10 until 30/6/10 when flaring from this area commenced.

Landfill gas produced by the decomposition of waste from the Cell 4c discharged to the atmosphere since waste deposition commenced in this cell on 29/6/11 until 28/1/2012 when flaring from this area commenced.

Landfill gas produced by the decomposition of waste from the Cell 5b discharged to the atmosphere since waste deposition commenced in this cell on 28/1/13 until 3/9/2013 when flaring from this area commenced.

See also 3.7 Summary of results and interpretation of environmental monitoring and 3.14 Estimated annual and cumulative quantities of landfill gas emitted from the facility.

3.6.4 Leachate

An analysis of surface water and groundwater at the Scotch Corner facility indicates that there is contamination of surface water and groundwater by leachate from the old landfill.

See also 3.7 Summary of results and interpretation of environmental monitoring and 3.10 Volume of leachate produced and volume of leachate transported / discharged off-site and 3.15 Estimated annual and cumulative quantities of indirect emissions to groundwater.

3.7 Summary of results and interpretation of environmental monitoring

3.7.1 Landfill Gas

During 2017, analysis of the inlet the landfill gas flare stack indicates active decomposition of waste since monitoring commenced on 1/3/06.

Analysis of the outlet the landfill gas flare stack was carried out by Odour Monitoring Ireland on 14th June 2017 and 4th October 2017. All parameters remained below the flare stack emission trigger levels for these dates.

During 2017, analysis of gas in boreholes at the perimeter of the facility (B1a, B2a, B3a, B4a, B5a, B6a, B4a, B4a(new), B7a and B10a) indicate that there is no migration of gas from the current facility i.e. Area 1 (comprising of Cell 1 and the unlined cell to the north of Cell 1), Area 2 (comprising of the unlined cell behind the MRF), Phase 2 (Cells 2 and 3) and Phase 3 (Cells 5a and 4a, 4b & 4c).

Landfill Gas readings for boreholes L7, L8 and L9, located within the body of waste, are typical for waste that is actively decomposing.

Continuous monitoring of landfill gas in the weighbridge office, MRF office and in the MRF canteen indicate that the results are below the Waste Licence trigger levels for landfill gas emission levels of less than or equal to 1.0%v/v methane and less than or equal to 1.5% Carbon Dioxide.

Ref. 'Scotch Corner January to March 2017 Landfill Gas Monitoring Report'
'Scotch Corner Landfill April to June 2017 Landfill Gas Monitoring Report'
'Scotch Corner Landfill July to September 2017 Landfill Gas Monitoring Report'
'Scotch Corner Landfill October to December 2017 Landfill Gas Monitoring Report'
"Air Emission Compliance Monitoring Emissions Report" for Scotch Corner Landfill, Letterbane, Annyalla, Castleblaney, Co. Monaghan" performed by Air Scientific on behalf of Odour Monitoring Ireland for Monaghan County Council dated 03/07/2017 and 12/10/2017

3.7.2 Noise Monitoring

See 3.6.2 Noise above.

3.7.3 Groundwater Monitoring

Analytical results of groundwater samples taken from private wells within 250m of the facility indicate no contamination from the landfill.

Old G1 was connected to the leachate collection system on 28/5/07. Works to install groundwater interceptor drains around the perimeter of old landfill took place in early 2007 and the discharge from this system was sampled and analysed as new G1 since April 2007.

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Further investigations at the old landfill have identified the source of contamination and further remedial works were completed in summer of 2008 to prevent this source of contamination entering this groundwater collection system.

Analysis of groundwater at new G1 represents the quality of groundwater that was discharges from the road gullies and the surrounding groundwater in the vicinity of this discharge pipe.

As stated in Groundwater Impact Assessment MDR1094Rp0004 by RPS dated 15/7/2015, the zone of contribution for the discharge to the drainage layer, which is sampled at G2, covers much of the historic and active landfill and is therefore potentially contaminated by leachate from the unlined cells.

The leachate interceptor drain has been fully operational around unlined Cell 1 since 04/06/03 and this has eliminated leachate contamination from this unlined cell to Boreholes S3 and RC1.

Additional groundwater boreholes B7, B7a, B8, B8a, B9a, B10, B10a, B4(new) and B4a(new) were drilled in March 2015 as part of the Groundwater Impact Assessment and Surface Water Impact Assessment that was carried out by RPS in 2015.

As stated in Groundwater Impact Assessment MDR1094Rp0004 by RPS dated 15/7/2015, the unlined waste bodies at Scotch Corner Landfill lie directly on saturated bedrock. The groundwater head in the bedrock aquifer is above the base of the waste. Therefore leachate from the waste represents a direct discharge to groundwater and the resulting contaminant pathway is direct seepage into the underlying aquifer. Hence groundwater boreholes B2a, B3a, B4a, B5a, B6a, S3, B4a(new), B7a, B8a, B9a and B10a are potentially contaminated from the landfill as indicated by varying exceedance of pH and ammonia through the year and iron, manganese and sulphate in March 2017 when compared to the Department of the Environment's MACs for the drinking water regulations 2000 and elevated levels of chloride and conductivity.

Groundwater levels and temperature were also monitored in groundwater boreholes RC1, S3, B1, B1a, B2, B2a, B3, B3a, B4, B4a, B5, B5a, B6, B6a, B7, B7a, B8, B8a, B9a, B10, B10a, B4(new) and B4a(new) on a monthly basis during 2017.

Ref. Scotch Corner Landfill January to March 2017 Groundwater Monitoring Report
Scotch Corner Landfill April to June 2017 Groundwater Monitoring Report
Scotch Corner Landfill July to September 2017 Groundwater Monitoring Report
Scotch Corner Landfill October to December 2017 Groundwater Monitoring Report
RPS "Scotch Corner Landfill Groundwater Impact Assessment" (MDR1020Rp002) dated 25/3/2014
RPS "Scotch Corner Landfill Groundwater Impact Assessment" (MDR1094Rp0004) dated 15/7/2015
CI000534

3.7.4 Leachate Monitoring

Results of analysis of leachate in all boreholes on site are typical of leachate from waste that is actively decomposing, with elevated readings of BOD, COD, Ammonia, Chloride and Minerals during this reporting period.

Leachate levels continue to be recorded on a weekly basis in leachate boreholes L5, L7, L8 and L9 from pressure transducer data on the Scada computer located in the landfill manager's office.

Leachate levels in Phase 2 and Phase 3 were also recorded on a weekly basis during 2017 from pressure transducer data on the Scada computer located in the landfill manager's office.

Ref. Scotch Corner Landfill January to March 2017 Leachate Monitoring Report.
Scotch Corner Landfill April to June 2017 Leachate Monitoring Report.
Scotch Corner Landfill July to September 2017 Leachate Monitoring Report.
Scotch Corner Landfill October to December 2017 Leachate Monitoring Report.

3.7.5 Surface Water Monitoring

Surface water samples S5, S6 and S7 continue to show contamination from the landfill. This contamination is attenuated with distance from the landfill as seen by analysis data for S7, EPA 155 and EPA 180.

However a significant improvement in water quality at S7 is noted since June 2012 as a result of the blocking of New G1 discharge on 23/5/2012 with the average ammonia level of 8.1mg/l in January to June 2012 decreasing to 3.4mg/l in July to December 2012. The average ammonia reading in 2017 was 1.87mg/l, a decrease from 1.91mg/l in 2016, a decrease from 3.30mg/l in 2015, 7.1mg/l in 2014, 6.86mg/l in 2013 and 5.73mg/l in 2012.

RPS "Scotch Corner Landfill Groundwater Impact Assessment" (MDR1020Rp002) dated 25/3/2014 has identified that shallow and deep groundwater appears to be contributing to ammonia levels in the stream. The groundwater levels appear to show that the aquifer is in hydraulic continuity with the stream and the river, and that there is a marked downstream increase in the ammonia concentrations along the site boundary. Based on these results it appears the chemical status of the river is adversely impacted by the groundwater discharging from the landfill.

S8 is the surface water sampling point upstream of the landfill and is typical of background surface water quality. Oil Interceptor S9, discharging to the leachate lagoon shows elevated ammonia levels but mineral oil analysis remains below the trigger level.

Ref. Scotch Corner Landfill January to March 2017 Surface Water Monitoring Report.
Scotch Corner Landfill April to June 2017 Surface Water Monitoring Report.
Scotch Corner Landfill July to September 2017 Surface Water Monitoring Report.
Scotch Corner Landfill October to December 2017 Surface Water Monitoring Report.
RPS "Scotch Corner Landfill Groundwater Impact Assessment" (MDR1020Rp002) dated 25/3/2014
RPS "Scotch Corner Landfill Groundwater Impact Assessment" (MDR1094Rp0004) dated 15/7/2015
RPS "Scotch Corner Landfill Surface Water Impact Assessment" (MDR1020Rp001) dated 14/3/2014
CI000534

3.7.6 Meteorological Monitoring

Met Eireann on behalf of Monaghan County Council recorded the meteorological parameters as per Schedule D.6 of the IE Licence W0020-02 for its facility at Scotch Corner.

Ref. Scotch Corner Landfill Meteorological Monitoring Report 2017.

3.7.7 Topographical Survey

This survey completed by QED Engineering in Q2 2017

3.7.8 Biological Assessment

This survey was completed by Conservation Services in May 2017 and indicated that water quality has improved slightly at S7 and S8. It is now classified as Q3, an improvement from the Q2-3 status from 2008 until 2016. EPA155 remains at Q3 status.

3.7.9 Archaeological Assessment

No archaeological assessment was carried out at the facility in 2017.

3.7.10 Nuisance Monitoring

Nuisance monitoring was carried out at least twice weekly basis by the landfill manager or by the deputy landfill manager or by the acting landfill manager. These site inspections recorded the presence or absence of nuisances caused by litter, vermin, birds, flies, mud, dust and odours at the facility and at its immediate surrounds and the corrective actions to be carried out. Completed 'Site Inspection Forms at Scotch Corner Landfill' are maintained at the Landfill Office.

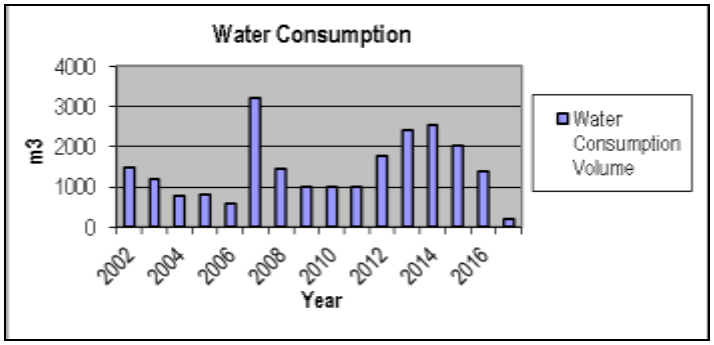
Ref. "SOP 11 Site Inspection Procedure in Environmental Management System at Scotch Corner Landfill

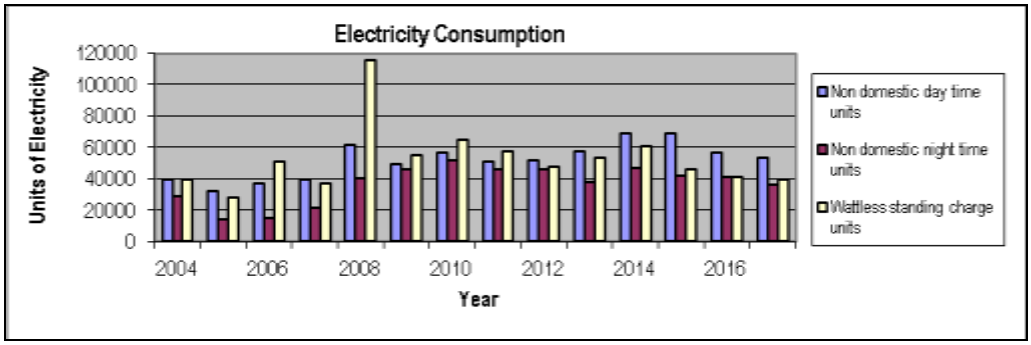
3.8 Resource and energy consumption summary

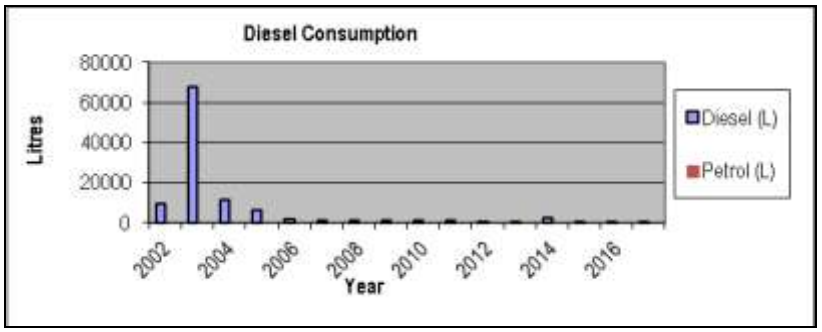
The following table summaries the consumption on site of water, electricity, diesel, and gravel. Water consumption consisted of usage by the wheel wash facility and domestic purposes. Electricity consumption consisted of usage by the landfill office, leachate pumps, groundwater pumps and the landfill gas flare. Diesel consumption includes the diesel supplied for the jeep and other hired in plant and equipment (e.g. dumper, generator etc). Gravel was required for maintenance of site roads, installation of horizontal gas extraction pipework and vertical gas extraction boreholes and other works on site as they arose (e.g. placement of ducting).

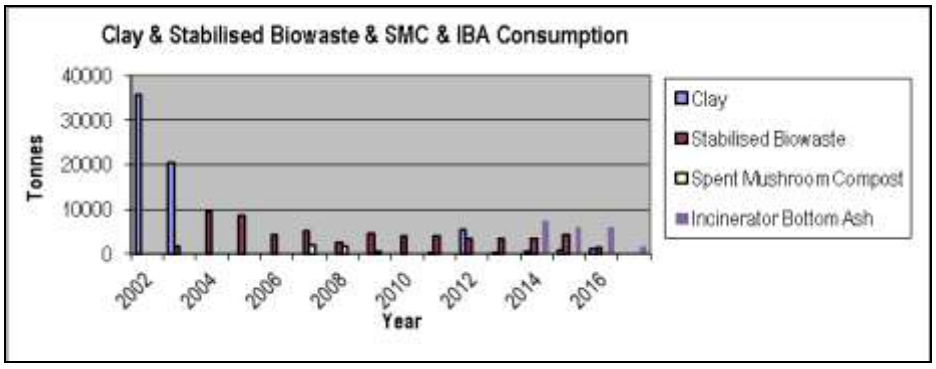
Table 8: Resource and Energy Consumption Table

Resource/Energy Source	Units consumed
Water	210m3
Electricity	Non-domestic day time units 53,220 Non-domestic night time units 36,132 Wattless standing charge units 39,516
Diesel	354.15L
Petrol	29.29L
Stones/Gravel	0 tonnes
C&D	0 tonnes
Compost	0 tonnes
Imported Soil	0 tonnes
Incinerator Bottom Ash	1694.52 tonnes
Spent Mushroom Compost	0 tonnes









3.9 Proposed development of the facility and timescale of such development (including plant operating capacity at the MRF, provision of adequate standby and provision of contingency, backup and spares in the case of breakdown)

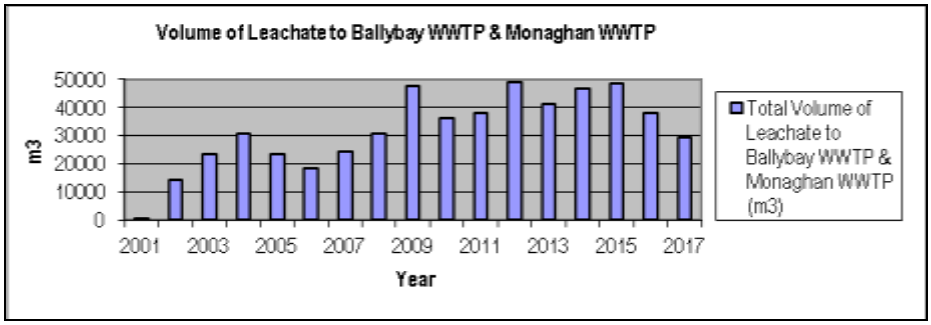
The following are the proposed development works for the year 2018/2019 subject to approval from the Agency, planning permission and/or funding from the Department of the Environment as appropriate:

- Gas infrastructure in Phase 3 as per final capping requirements.
- Final capping of Phase 3.
- Installation of a 10KW PV system on the landfill site.
- Installation of boundary fence on eastern side of facility when agreed with landowner.
- Further surface water remedial works as required by CI00534.
- Further leachate remedial works as required by CI00534.
- Review of W0020-02.
- Installation of infrastructure on site lighting to reduce usage after hours.
- Investigate the financial feasibility of the installation of invertors on leachate pumps
- Install a timer on Area 2 (Bennys) leachate pump to operate on night rate electricity only when possible (if applicable Ref CI000534).
- Submission of MRF and CA site layout drawings following completion of MRF upgrade works.

3.10 Volume of leachate produced and volume of leachate transported / discharged off-site

Table 9: Disposal of Leachate from 07/12/01 – 31/12/17

Year	Total Volume to Monaghan WWTP
07/12/01 – 31/12/01	81.97 m^3
2002	14,484.68 m^3
2003	23,411.11 m^3
2004	30,841.64 m^3
2005	23,490.46 m^3
2006	18,344.17 m^3
2007	24,313.93 m^3
2008	30,631.02 m^3
2009	47,498.06 m^3
2010	36,149.02 m^3
2011	38,020.37 m^3
2012	49,124.87 m^3
2013	41,243.31 m^3
2014	46,635.58 m^3
2015	48,555.66 m^3
2016	37,932.54 m^3
2017	29, 365.06 m^3



3.11 Report on development works undertaken during the reporting period, and a timescale for those proposed during the coming year

The following development works were undertaken during the reporting period 01/01/17 to 31/12/17:

- Extension of gas wells and relocation of gas carrier pipes to facilitate waste deposition.
- Monitoring of additional groundwater monitoring boreholes B7, B7a, B8, B8a, B9a, B10, B10a, B4(new) and B4a(new) and surface water locations S30, S1, S4, S10, EPA155 and EPA180, submission of report required by A16220 Surface Water Investigation in Q2 2018 and submission of report required by A017344 Groundwater and Surface Water Risk Assessment Update in Q4 2018.
- Completion of Scotch Corner Landfill future options report and decision was made not to opening new cells and a decision was made on advertise for a concession contract for utilization of landfill gas.
- Commencement of SEW Tender documents for the capping of Phase 3 by Fehily Timoney Consultants
- Installation of a timer on groundwater pumps to facilitate use on night rate electricity only.
- Repairs carried out to the leachate lagoon following integrity testing.
- Installation of a second back-up leachate pump in Phase 3 leachate sump.
- Completion of surface water and leachate remedial works on the old landfill.
- Installation of a timer on Old G1 leachate pump in the old landfill to facilitate use on night rate electricity only.
- On-going negotiations with the landowner to regularize the eastern boundary line of the landfill site.
- Remediation completed on southern boundary wooden fence.
- Completion of landfill gas concession contract.

See also 3.9 Proposed development of the facility and timescale of such development (including plant operating capacity at the MRF, provision of adequate standby and provision of contingency, backup and spares in the case of breakdown) above.

3.12 Report on restoration of completed cells/ phases

A consultant was procured in 2017 to prepare SEW and tender documents for final capping of 2017. These works commenced in Q4 2017 when waste deposition ceased on 6th October 2017.

3.13 Site survey showing existing levels of the facility at the end of the reporting period

A topographical survey was carried out by QED Engineering in Q2 2017.

3.14 Estimated annual and cumulative quantities of landfill gas emitted from the facility

The volume of landfill gas has been estimated as 200m^3 of gas per tonne of waste over its life in the Waste Licence Application. This figure assumes that the waste comprises of a 50/50 mix of slowly decomposable and rapidly decomposable material. The rapidly decomposable material is assumed to generate gas for 5 years after placement with peak gas generation for each tonne of waste being 1 year after placement. Gas generation for the slowly decomposable material is assumed to be on going for 15 years after placement with a peak at 5 years after placement.

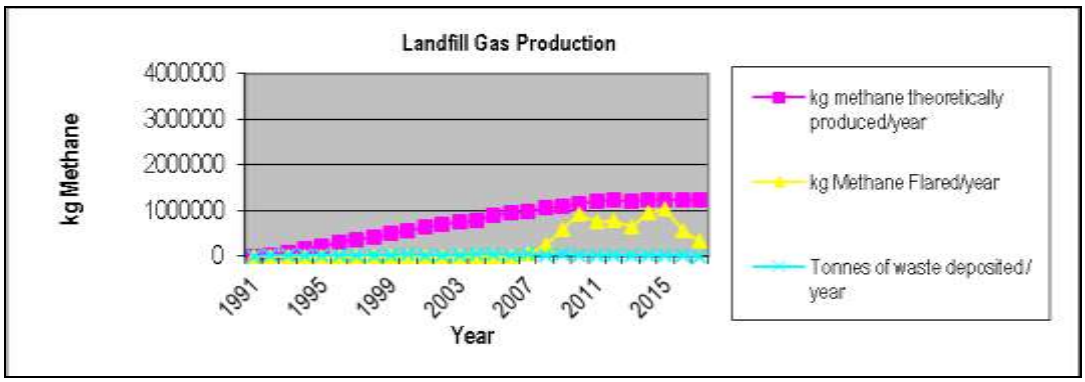
Using the Landgem program 3.649 x 10^6 m^3 of landfill gas (assumed 50% methane by volume) was theoretically produced in 2017 by waste deposited at Scotch Corner. This is equivalent to 1,217,000kg Methane in 2017. The figure below for waste deposition excludes 15,335T of incinerator bottom ash which is classified by the Agency as 0% BMW.

Landfill gas extracted and flared from Area 1, Area 2, Phase 2 and Phase 3 in 2016 was calculated to be 491,364m^3 CH_4 which is equivalent to 325,454kg.

The follows summaries landfill gas production since the site opened in 1991 using the Landgem Program and EPA Landfill Survey Data for 2008, 2009, 2011, 2012, 2013, 2014, 2015, 2016 and 2017:

Year	Tonnes of waste deposited / year	Theoretical kg methane produced /year	Actual kg methane flared /year
1991	6750 (estimated)	0	0
1992	28000 (estimated)	17,690	0
1993	28000 (estimated)	90,390	0
1994	28000 (estimated)	160,200	0
1995	28000 (estimated)	227,300	0
1996	28000 (estimated)	291,800	0
1997	32237 (estimated)	353,800	0
1998	30,120.87	424,400	0
1999	33,882.46	486,700	0
2000	36,762.53	556,400	0
2001	33,256.37	631,000	0
2002	33,231.28	693,400	0

2003	27,014.12	753,300	0
2004	47,931.5	794,600	0
2005	38,823.53	889,100	0
2006	25,744.52	956,000	0
2007	39,507.59	986,000	~59,614
2008	32,954.74	1,051,000	258,086
2009	38,832.86	1,096,000	588,747
2010	32,222	1,155,000	921,191
2011	27,367.7	1,194,000	762,589
2012	14,320	1,219,000	780,475
2013	21,444	1,209,000	651,322
2014	22,988	1,218,000	938,182
2015	21,845T	1,230,000	1,036,193
2016	10,176T	1,239,000	555,246
2017	0T	1,217,000	325,454



3.15 Estimated annual and cumulative quantities of indirect emissions to groundwater

Waste for disposal at Scotch Corner landfill is placed in lined cells to prevent potential discharge to groundwater. Leachate is pumped from the lined cell to the leachate lagoon and tankered off-site for treatment at Monaghan WWTP.

However, prior to the construction of lined cells on site, the landfill operated on a dilute and disperse principle with leachate collection by gravity in the old leachate lagoon. Consequently leachate from the unlined cells also migrates to groundwater. Leachate interceptor drains have been put in place around unlined cells at the facility to mitigate the risk of leachate contamination of groundwater and capping of unlined cells was completed on 28/7/05. Due to the direction of groundwater flow, there is also leachate contamination of groundwater from the old landfill which is located on the other side of the road to the south of the current facility.

See also 3.7.3 Groundwater Monitoring.

3.16 Annual water balance calculation and interpretation

The calculation for annual water balance is as follows:

Lo = [ER(A) + LW + IRCA + ER(1)] – [aW]

Where Lo = leachate produced (m^3)

ER = effective rainfall (use actual rainfall (R) for active cells)(m)

A = area of cell (m^2)
LW = liquid waste (also includes excess water from sludges) (m^3)
IRCA = infiltration through restored and capped areas (m)
1 = surface area of lagoons (m^2)
a = absorptive capacity of waste (m^3/t)
W = weight of waste deposited (t/a)

ER = 0.9531m (Total rainfall for 2016 from Met Eireann Data)

A = 17,700m^2) (~Area of unlined cell 1 & Area of unlined cell behind MRF)
+ 7,800m^2 (~Area of Cell 1)
+ 20,000m^2 (~Area of Cell 2 & 3)
+ 8,100m^2 (~Area of Cell 5a)
+ 4,500m^2 (~Area of Cell 4a)
+ 4,500m^2 (~Area of Cell 4b)
+ 4,000m^2 (~Area of Cell 4c)
+ 5,100m^2 (~Area of Cell 5b)

LW = 0m^3

IRCA = 30% of ER x Area of capped cells
= (30% of 0.9531) x (7800m^2 + 17700m^2 + 14240m^2 + 8048m^2)
= 0.0.2860m x 47788 m^2 = 13,667m^3

1 = 350m^2 (~ area of new leachate lagoon)

a = 0.025m^3/t

W = 15,335T (total weight deposited in landfill in 2017)

ER(A) = 0.9531m x (20000m^2 + 8100m^2 + 4500m^2 + 4500m^2 + 4000m^2 + 5100 m^2 - 14240m^2 - 8048m^2)
= 0.9531m x 23912m^2 = 22,791m^3

Lo = [ER(A) + LW + IRCA + ER(1)] – [aW]
= 22,791m^3 + 0m^3 + 13,667m^3+(0.9531 x 350m^2)]–[0.025m^3/t x 15,335t]
= [22,791m^3 + 0m^3 + 13,667m^3 + 334m^3] – 383m^3
= 36,409m^3

Theoretical volume of leachate produced in 2017 = 36,409m^3.
Actual volume of leachate tankered off site to Monaghan WWTP = 29,365m^3.

The figure of 29,365m^3 of leachate tankered to Monaghan WWTP also includes approximately 6,752m^3 of contaminated water from the old landfill (old G1), approximately 583m3 from S9 (which has been discharging to the leachate lagoon since 20/4/2010) and approximately 300m^3 condensate from the gas collection system). Therefore the actual volume of leachate produced and tankered off site in 2017 was ~21,730m^3 of leachate from the current facility.

There are a number of unknowns in the calculations of both the theoretical and actual volume of leachate generated on site. These are:

- The water balance formula does not take into account the fact that 17,700m2 of the capped area on site are actually unlined cells and that leachate generation is as a result of ingress of groundwater at the base of the cells.
- The volume of condensate generated on site and discharged to the leachate lagoon via 5 knockout pots on site is estimated as there are only flow meters on KOP2 and KOP1. KOP1 discharged 1m^3 of condensate and KOP2 discharged 184m^3 of condensate to the leachate lagoon in 2017.
- The breakdown of waste to landfill in 2017 was 15,335T of IBA only.

There it is not possible to compare the theoretical and actual volume of leachate generated on site.

3.17 Report on the progress towards achievement of the Environmental Objectives and Targets contained in previous year's report

The following progress toward achieving the Environment Objectives and targets listed in the 2016 AER was achieved in 2017:

- Implementation of EMS.
- Submission of Scotch Corner Landfill 1st January 2017 – 31st December 2017 Annual Environmental Report in March 2018.
- Provision of Staff training as per training plans in 2017.
- Installation of gas infrastructure to facilitate waste deposition and Phase 3 capping.
- Commencement of tender documents by Fehily Timoney for Phase 3 Capping works.
- Negotiations with the landowner to regularize the eastern site boundary line of the facility.
- Remediation of southern boundary wooden fence.
- Completed a procurement process by concession contract for landfill gas utilisation.
- Completed leachate and surface water remediation works on the old landfill.
- On-going Implementation of Restoration and Aftercare Plan.
- On-going implementations of "Scotch Corner Landfill Resource Use and Energy Efficiency Report" dated December 2006 and subsequent Energy Audits including operating Groundwater pumps less often and on night rate electricity, timers out on other pumps on site for operation on night rate electricity only and commencement of a procurement process for a 10KW PV system.

3.18 Schedule of Environmental Objectives and Targets for the forthcoming year

Table 12: Schedule of Environmental Objectives and Targets for 2018

Objective	Target	Completion Date
Maintain EMS	Update EMS as required	December 2018
Implement new requirements of W0020	Implement new requirements of W0020 as they arise	As set in licence
Prepare AER	Submit Annual Environmental Report 2018 to the Agency	31st March 2018
Provision of Training	Provide training as per training plans for 2018.	December 2018
Provision of MRF Infrastructure / Reduce waste to landfill	Submission of MRF and CA site layout drawings following completion of MRF upgrade works.	April 2018
Provision of Landfill Infrastructure	Final capping of Phase 3	December 2018
	Gas infrastructure in Phase 3 as per final capping requirements.	December 2018
	Installation of boundary fence on eastern side of the facility	December 2018
	Further surface water remediation works as required by CI000534	December 2018
	Further leachate remediation works as required by CI000534	December 2018
	Submission of Licence Review of W0020-02.	December 2018
Provision of Restoration & Aftercare	On-going implementation of Restoration and Aftercare Plan.	December 2018
Improve Energy Efficiency & Reduce Resource Use	Installation of 10KW PV system on the landfill site.	December 2018
	Installation of infrastructure on site lighting to reduce usage after hours.	December 2018
	Investigate the financial feasibility of the installation of invertors on leachate pumps	December 2018
	Install a timer on Area 2 (Bennys) leachate pump to operate on night rate electricity only when possible (if applicable Ref CI000534).	December 2018

3.19 Updates to Landfill Environmental Management Plan (LEMP)

No updates to Landfill Environmental Management Plan (LEMP) were carried out in 2017.

3.20 Review of Environmental Liabilities

ELRA was not reviewed in 2017.

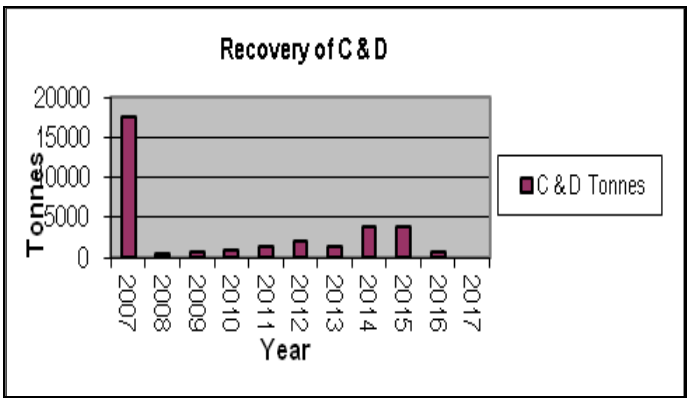
3.21 Report on Waste Recovery

See also 3.3 Quantity and Composition of waste received, disposed of and recovered during the reporting period and each previous year

3.21.1 The recovery of Construction and Demolition Waste

In 2017 Scotch Corner Landfill reused 0 tonnes of C & D waste for maintenance of entrance pad and tipping area in its active Cell.

Year	C & D Tonnes
2007	17552.05
2008	399.62
2009	760.7
2010	877.8
2011	1340.18
2012	2014.45
2013	1355.12
2014	3849.52
2015	3810.08
2016	584.44
2017	0



3.21.2 The recovery of energy from other waste at Scotch Corner MRF, by incineration

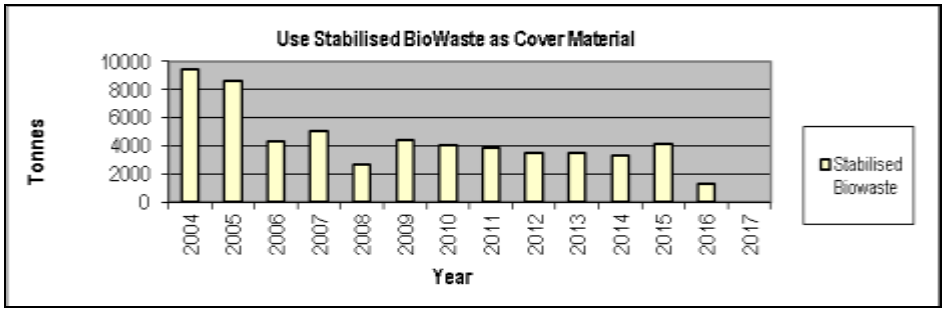
In 2017 Scotch Corner MRF sent 3775.16T of mixed residual waste (EWC Code 20 03 01) to Indaver's incinerator at Duleek, Co. Meath for energy recovery.

Year	Waste to Incinerator
2007	0
2008	0
2009	0
2010	0
2011	0
2012	5816.18
2013	6003.4
2014	7103.16
2015	10253.72
2016	3775.16
2017	0

3.21.3 The recovery of other waste in landfill operation, including restoration

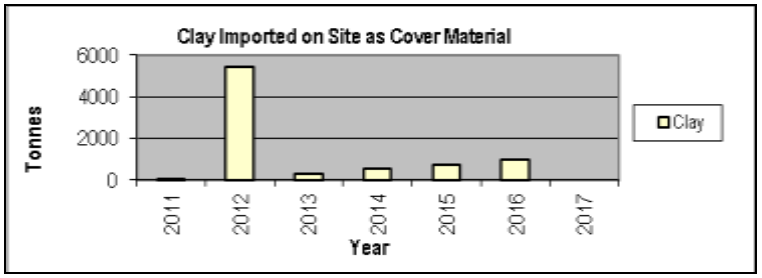
In 2017 Scotch Corner Landfill used 0 tonnes of compost from Milltown Composting for daily cover material.

Year	Compost
2004	9413.32
2005	8624.64
2006	4292.1
2007	5014
2008	2632.18
2009	4422.98
2010	3990.38
2011	3824.22
2012	3514.66
2013	3451.5
2014	3295.12
2015	4137.2
2016	1279.06
2017	0



In 2017 Scotch Corner Landfill imported 0 tonnes of soil to be used as daily/intermediate cover materials as well as using on site clay and peat as intermediate cover material.

Year	Soil
2011	18.46
2012	5456.34
2013	268.74
2014	554.94
2015	739.42
2016	987.66
2017	0



3.21.4 The recovery of energy through landfill gas combustion

There is no recovery of energy through landfill gas combustion on site at present. Monaghan County completed a landfill gas utilisation procurement process which produced no viable proposals for Monaghan County Council and thus the procurement process was ended.

3.22 Full Title and a written summary of any procedures developed by the licensee in the year which relates to the facility operation

The following procedures were updated and reissued in 2016/2017 for inclusion in the "Environment Section Health & Safety Manual for Landfill":

Title: LFSOP01 Document Control and Records
Issue Date: July 2016
Issue No: 01
Summary: This procedure outlines how documentation and data relating to the operation of the landfill at Scotch Corner is controlled and how records are maintained to demonstrate

compliance with IE Licence W0020. This procedure covers the control of the following documents and the records associated with them: IE Licence W0020; Environmental Management Plan; SOPs; SOGs, Forms.

Title: LFSOP02 Procedure for Leachate Management at Scotch Corner Landfill
Issue Date: July 2016
Issue No: 01
Summary: This procedure details the leachate collection and removal system in operation at Scotch Corner landfill.

Title: LFSOP03 Procedure for Operation of Weighbridge at Scotch Corner Landfill
Issue Date: July 2016
Issue No: 01
Summary: This procedure details the protocol for the weighbridge using Riteweigh software at Scotch Corner landfill.

Title: LFSOP04 Accident Preventation and Emergency Response Procedure
Issue Date: Apr 2017
Issue No: 01
Summary: This procedure details the Accident Prevention and Emergency Response Procedure that will be implemented at the facility at Scotch Corner to comply with IE Licence W0020. This procedure and LFSOP07 Corrective Action Procedure will be followed in the event of an emergency situation arising on site. The Emergency Response Procedure applies, but is not limited to the following incidents: Major Fire / Explosion; Migration of Landfill Gas; Spillage; Serious injury/accident to persons; Equipment Breakdown greater than 24 hours; Any other incident that may pose a significant threat to persons or to the environment.

Title: LFSOP05 Waste Acceptance and Characterisation Procedure at Scotch Corner Landfill
Issue Date: July 2016
Issue No: 01
Summary: This procedure details the waste acceptance and characterisation operations in place at Scotch Corner landfill to comply with IE Licence W0020. The procedure is summarized under the following headings: Waste Acceptance; Waste Rejection; Waste Handling (mixed municipal waste); Waste Handling (Incinerator bottom ash); Waste Covering; Waste Characterisation; Biodegradable Municipal Waste Content Determination.

Title: LFSOG01 Communications Programme Procedure
Issue Date: Sep 2016
Issue No: 01
Summary: This procedure details the Communications Programme that is implemented at the facility at Scotch Corner to comply with Condition 2.4.1 of Waste Licence W0020. The Communications Programme includes web site notice, notice board and information requests to the Landfill Manager.

Title: LFSOP07 Corrective Action Procedure
Issue Date: Sep 2016
Issue No: 01
Summary: This procedure details the Corrective Action Procedure that will be implemented at the facility at Scotch Corner to comply with IE Licence W0020. This procedure will be followed

in the event of any non-compliance of the Licence that occurs in relation to the operation of the site. This includes incidents, complaints from the public, non-conforming waste loads, etc.

Title: LFSOG02 Procedure for Operation of Scotch Corner Landfill in Adverse Wind Conditions
Issue Date: Sep 2016
Issue No: 01
Summary: This procedure details the programme that operates at Scotch Corner landfill in adverse wind condition resulting in either complete closure, limited closure or complete closure.

Title: LFSOG03 Awareness and Training Programme
Issue Date: Sep 2016
Issue No: 01
Summary: This procedure details the Awareness and Training Programme that has implemented at the facility at Scotch Corner to comply with IE Licence W0020. The purpose of this programme is to outline how training needs are identified, carried out and documented for all staff whose work is related to the operation of Scotch Corner Landfill by means of training plans and training records.

Title: LFSOG03 Site Inspection Procedure at Scotch Corenr Landfill
Issue Date: Sep 2016
Issue No: 01
Summary: This procedure details the protocol for performing a site inspection at Scotch Corner to comply with IE Licence W0020 and completion of Site Inspection Forms at Scotch Corner Landfill.

Title: LFSOG03 Sampling Procedure
Issue Date: Sep 2016
Issue No: 01
Summary: This procedure details the frequency and protocol for sampling and analysis of groundwater, well water, surface water, leachate, and dust and landfill gas at Scotch Corner to comply with IE Licence W0020.

Title: LFSOP10 Wheel Wash Facility Procedure
Issue Date: Apr 2017
Issue No: 01
Summary: This procedure details the protocol for operation and maintenance of the wheel wash facility in operation at Scotch Corner since 21/10/2002.

Title: LFSOG07 Procedure for Landfill Gas Management at Scotch Corner Landfill
Issue Date: Sep 2016
Issue No: 01
Summary: This procedure details the landfill gas management system in operation at Scotch Corner Landfill, including monitoring of the flare inlet and outlet gas streams, balancing of the gas field, condensate removal and flare shutdowns.

The following procedures were created in 2017 for inclusion in the "Environment Section Health & Safety Manual for Landfill":

Title: LFSOG06 Procedure for Operation of the Dipmeter
Issue Date: Apr 2017
Issue No: 01
Summary: This procedure details the protocol for using the dipmeter for monitoring purposes at Scotch Corner Landfill to comply with IE Licence W0020.

Title: LFSOG09 Fire Prevention Plan
Issue Date: May 2017
Issue No: 01
Summary: This procedure details the measures taken at Scotch Corner Landfill to prevent a fire on site.

Title: LFSOG10 Fire Response Plan
Issue Date: May 2017
Issue No: 01
Summary: This procedure details the procedure to follow in the event of a fire at Scotch Corner Landfill.

Title: LFSOP11 Procedure for Operation of the Dissolved Oxygen & Temperature Meter (Oximeter Oxi 320)
Issue Date: July 2017
Issue No: 01
Summary: This procedure details the protocol for operation of the Dissolved Oxygen & Temperature Meter (Oximeter Oxi 320).

Title: LFSOP12 Procedure for Operation of the Digitron PM-20 Pressure Meter
Issue Date: July 2017
Issue No: 01
Summary: This procedure details the protocol for operation of the Digitron PM-20 Pressure Meter.

Title: LFSOP13 Procedure for Operation of the Fluke 62 Max IR Thermommeter
Issue Date: July 2017
Issue No: 01
Summary: This procedure details the protocol for operation of the Fluke 62 Max IR Thermometer.

3.23 Tank, pipeline and bund testing and inspection report

Integrity testing was carried out in September in 2017 on the leachate lagoon, 2 mobile bunds, the waste Inspection and quarantine area tanks and the waste inspection and quarantine hardstanding areas.

3.24 Reported Incidents and Complaints Summaries

3.24.1 Incidents

Incident INCI011576 records exceedance of the ELV of Carbon Dioxide in perimeter groundwater monitoring boreholes in 2017.

Incidents INCI012516, INCI012604, INCI013001 and INCI013380 record shutdowns of the landfill gas flare in 2017

Incidents INCI013263, INCI013381, INCI013398 and INCI013575 record Phase 3 leachate pump not working in 2017.

Incident INCI011730 records exceedance of MAC (Salmonid Regulations for Surface Water 1988) for 2017 Surface Water monitoring at Scotch Corner Landfill.

Incident INCI011732 records exceedance of MAC (Drinking Water Regulations 2000) for 2017 Groundwater monitoring at Scotch Corner Landfill.

Incidents INCI012329 and INCI012856 records exceedance of the trigger level for Dust for Scotch Corner Landfill Dust Monitoring 2017.

3.24.2 Complaints

There were no complaints received in 2017.

3.25 Review of Nuisance Controls

3.25.1 Litter

The erection and maintenance of 5m high anti-litter netting has been very successfully in controlling wind blown litter within the active face. Holes in netting are repaired and landfill operatives collect any litter that escapes from the tipping area. Compaction, daily cover with compost or clay and intermediate covering of the waste with IBA or clay will continue as to prevent nuisance by litter at the facility.

3.25.2 Vermin

During 2017 rodent control duties were carried out by Pestproof. From inspection of the bait boxes on site, Pestproof has noted sporadic low levels of infestation from mice and rats at varying times of the year. Satisfactory rodent control was provided by Pestproof during the reporting period.

3.25.3 Birds

Bird control at Scotch Corner landfill is an integrated approach of keeping the tipping face as small as possible, compacting the waste, daily covering with compost or clay and intermediate covering of the waste with IBA or clay and deployment of visual deterrents and use of acoustic deterrents. Bird control deterents by landfill operatives, Monaghan County Council was not required in 2017. The services of Rock Bird Control on site ceased in December 2016 as it were no longer required.

3.25.4 Flies

Fly control at Scotch Corner landfill is also an integrated approach of keeping the tipping face as small as possible, compaction of the waste, and covering the tip head daily with compost or clay and intermediate covering of the waste with IBA or clay. The above measures proved to be very successful in preventing nuisance by flies in 2017. The spraying of insecticide was not required in 2017.

3.25.5 Mud

The installation of the wheel wash facility at Scotch Corner Landfill has been successful as it has virtually eliminated mud as a nuisance at the facility. Additional measures in place to prevent nuisance by mud are the regular maintenance of site roads and regular cleaning of the site entrance and the weighbridge.

3.25.6 Dust

Nuisance by dust was not a problem at the facility during the reporting period due to compaction of the waste and spraying of site roads with water when necessary.

3.25.7 Odour

Nuisance by odour was addressed during the reporting period by an integrated approach that involved keeping the tipping face as small as possible, compacting the waste, daily covering with compost and or clay, intermediate covering with IBA and clay, installation of both horizontal gas extraction pipework and vertical gas extraction boreholes in the active cell from commencement of waste deposition and operation of permanent flare on a continuous basis.

3.26 Reports on financial provision made under this licence, management and staffing structure of the facility, and a programme for public information

3.26.1 Report on financial provision made under this licence

A Section 53a return was forwarded to the Agency on 2nd April 2018 for the 2017 financial year.

3.26.2 Report on management and staffing structure

The management and staffing structure at Scotch Corner Landfill consisted of Chief Executive, Director of Services, Senior Engineer, Acting Senior Executive Engineer, Landfill Manager, Deputy Landfill Manager/Weighbridge Operative, Landfill Operative (Jan-May 2017 only), 1 Graduate Engineer and subcontracted Machine Operatives for this reporting period.

The management and staffing structure at Scotch Corner Recycling Centre at the end of 2017 was employed by McElvaney Waste and Recycling and consisted of 2 Directors, 1 Yard Manager, 7 General Operatives, 3 Civic Amenity Attendants, 8 Office staff, 2 sales reps, 1 Mechanic, 1 Cleaner and 15 Drivers.

3.26.3 Report on programme for public information

Environmental information relating to the landfill and to the Recycling Centre is on display at the landfill offices and available in the Environment Section of Monaghan County Council. A notice to this effect is on the Monaghan County Council Web site.

3.27 Report on training of staff

Training plans and records were compiled for all staff at the facility including the subcontracted machine operators. Training was been completed as per training plans during the reporting period.

3.28 Statement of Compliance of facility with any updates of the relevant Waste Management Plan

The facility at Scotch Corner is operated under the conditions of Waste Licence W0020-02 and is in compliance with the "Connacht – Ulster Region Waste Management Plan 2015 – 2021".

3.29 Statement of the achievement of the waste acceptance and treatment obligations

Scotch Corner Landfill has achieved their waste acceptance and treatment obligation of less than 40% BMW in each quarter of 2017 as follows:

Date	% BMW	% BMW (Target)
January – March 2017	0%	40%
April – June 2017	0%	40%
July – September 2017	0%	40%
October – December 2017	0%	40%
Cumulative Report for 2017	0%	40%

Ref. BMW returns to the EPA

3.30 Any Other Items Specified by the Agency.

3.30.1 AER / PRTR Electronic Reporting Workbook 2017

A copy of the 2017 AER / PRTR Electronic Reporting Workbook is contained in Appendix 1.

3.30.2 EPA Landfill Gas Survey 2017

A copy of the Scotch Corner Landfill EPA Landfill Gas Survey 2017 is contained in Appendix 2.

3.30.3 Biodegradable Municipal Waste Reporting 2017

A copy of the Scotch Corner Landfill EPA Biodegradable Municipal Waste Reporting Landfill Submission Reports for 2017 is contained in Appendix 3.

Report Prepared By:	Report Approved By:	Date:
_____	_____	_____
Irene Williamson	**Kieran Duffy**	
Landfill Manager	***Acting Senior Executive Engineer***	

APPENDIX 1

AER / PRTR Electronic Reporting Workbook for 2016

Environmental Protection Agency

Guidance to completing the PRTR workbook

PRTR Returns Workbook

Version 1.1.19

REFERENCE YEAR	2017

1. FACILITY IDENTIFICATION

Parent Company Name	Monaghan County Council
Facility Name	Scotch Corner Landfill
PRTR Identification Number	W0020
Licence Number	W0020-02

Classes of Activity

No.	class_name
-	Refer to PRTR class activities below

Address 1	Latlarbane
Address 2	Annyalla
Address 3	Castleblaney
Address 4	
	Monaghan
Country	Ireland
Coordinates of Location	-7.32431 54.0181
River Basin District	GBNIIENB
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	Irene Williamson
AER Returns Contact Email Address	william@monaghancoco.ie
AER Returns Contact Position	Landfi Manager
AER Returns Contact Telephone Number	047-80930
AER Returns Contact Mobile Phone Number	087-0991944
AER Returns Contact Fax Number	047-80930
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	2
User Feedback/Comments	Variance of +50% decrease in SOx emissions in 2017 when compared to 2016 is due to a decrease in landfill gas extraction from the gas field from 1,947,385m3 (at 10.99mg/m3 and 44.64mg/m3 SOx) in 2016 to 1,097,993m3 (at 145.27mg/m3 and 92.13mg/m3 SOx) in 2017 and due to the variation in SOx readings in both 2016 and 2017.
Web Address	

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
5(d)	Landfills
5(c)	Installations for the disposal of non-hazardous waste
5(d)	Landfills
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. WASTE IMPORTED/ACCEPTED ONTO SITE

Guidance on waste imported/accepted onto site

Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities) ?	

4.1 RELEASES TO AIR

Link to previous years emissions data

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

Please enter all quantities in this section in KGs

RELEASES TO AIR: POLLUTANT No. Annex II	POLLUTANT Name	METHOD M/C/E	Method Used: Method Code	Method Used: Designation or Description	Emission Point 1 : Outlet Stack of Flare	Emission Point 2	QUANTITY: T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
03	Carbon dioxide (CO2)	E	OTH	Calculated using "landgem" theoretical landfill gas production model and actual flow data from the flare	3285621.0	0.0	3285621.0	0.0	0.0
01	Methane (CH4)	C	OTH	Calculated using "landgem" theoretical landfill gas production model and actual flow data from the flare	891546.0	0.0	891546.0	0.0	0.0
02	Carbon monoxide (CO)	M	OTH	Calculated using "Air Scientific" flare stack analysis and actual flow data from the flare	5.8	0.0	5.8	0.0	0.0
08	Nitrogen oxides (NOx/NO2)	M	OTH	Calculated using "Air Scientific" flare stack analysis and actual flow data from the flare	92.6	0.0	92.6	0.0	0.0
11	Sulphur oxides (SOx/SO2)	M	OTH	Calculated using "Air Scientific" flare stack analysis and actual flow data from the flare	130.3	0.0	130.3	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

Please enter all quantities in this section in KGs

RELEASES TO AIR: POLLUTANT No. Annex II	POLLUTANT Name	METHOD M/C/E	Method Used: Method Code	Method Used: Designation or Description	Emission Point 1	QUANTITY: 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)

Please enter all quantities in this section in KGs

RELEASES TO AIR: POLLUTANT Pollutant No.	POLLUTANT Name	METHOD M/C/E	Method Used: Method Code	Method Used: Designation or Description	Emission Point 1	QUANTITY: 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 Tab(s) KG/yr for Section A; Sector specific PRTR pollutants above. Please complete the table below:

Landfill: Scotch Corner Landfill

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)	1217000.0	C	OTH	Landgem	N/A	
Methane flared	325454.0	M	OTH	Calculated from Landfill Ga	1000.0	(Total Flaring Capacity)
Methane utilised in engines	0.0				0.0	(Total Utilising Capacity)
Net methane emission (as reported in Section A above)	891546.0	C	OTH	Calculated using "landgem" theoretical landfill gas production model and actual flow data from the flare and data from landfill gas survey 2017	N/A	

4.2 RELEASES TO WATERS

Link to previous years emissions data

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

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT			Method Used			QUANTITY		
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			Method Used			QUANTITY		
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			Method Used			QUANTITY		
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

Please enter all quantities in this section in KGs

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE WATER TREATMENT OR SEWER								
POLLUTANT		METHOD			QUANTITY			
No. Annex II	Name	M/C/E	Method Code	Method Used 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)

Please enter all quantities in this section in KGs

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE WATER TREATMENT OR SEWER								
POLLUTANT		METHOD			QUANTITY			
Pollutant No	Name	M/C/E	Method Code	Method Used 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

8. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

Please enter all quantities on this sheet in Tonnes

Transfer Designation	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Net Waste : Name and Licence/Permit No of Next Destination Facility for Waste : Name and Licence/Permit No of Recover/Disposer	Net Waste : Address of Next Destination Facility for Waste : Address of Recover/Disposer	Name and Licence / 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/I	Method Used					
Within the Country	15 02 02	Yes	1.14	Engine oil	R9	M	Weighed	Offsite in Ireland	Enva Ireland Ltd.,WO-184-01	Portlaoise,Co. Laois, , ,Ireland	Enva Ireland Ltd.,WO-184-01,Portlaoise,Co. Laois, , ,Ireland	Portlaoise,Co. Laois, , ,Ireland
Within the Country	15 01 01	No	625.08	Cardboard	R12	M	Weighed	Offsite in Ireland	Irish Packaging Recycling,W0263-01	Ballymount Road, , Dublin 12, , Ireland		
Within the Country	15 01 01	No	1088.24	Cardboard	R3	M	Weighed	Offsite in Ireland	Agnail Ltd. T/A ROC Recycling Solutions,WFP-LS-11-0001-01	Ballymacken Industrial Estate, ,Ballymacken,Co. Laois,Ireland		
Within the Country	15 01 02	No	57.22	Plastic bottles	R3	M	Weighed	Offsite in Ireland	Shabra Recycling Ltd.,WFP-MN-CB-0022-01	Killycard Industrial Estate,Bree,Castleblayney,Co. Monaghan,Ireland		
Within the Country	15 01 02	No	12.62	Plastic packaging (PP strings)	R3	M	Weighed	Offsite in Ireland	Agnail Ltd. T/A ROC Recycling Solutions,WFP-LS-11-0001-01	Ballymacken Industrial Estate , Ballymacken,Co. Laois,Ireland		
Within the Country	15 01 04	No	11.98	Steel and Aluminium Cans	R4	M	Weighed	Offsite in Ireland	Wilton Waste Recycling,WFP-CN-15-0003-01	Kilfa, ,Ballyjamesduff,Co. Cavan,Ireland		
Within the Country	15 01 04	No	115.78	Steel and Aluminium Cans	R4	M	Weighed	Offsite in Ireland	Agnail Ltd. T/A ROC Recycling Solutions,WFP-LS-11-0001-01	Ballymacken Industrial Estate, ,Ballymacken,Co. Laois,Ireland		
Within the Country	15 01 07	No	433.56	Glass bottles	R5	M	Weighed	Offsite in Ireland	Glasco Recycling Limited (Rehab Recycling),W0279-02	Unit 4 Oberstown Business Park,Carragh Road,Naas,Co. Kildare,Ireland		
Within the Country	15 01 11	Yes	9.04	Empty Flogas Cylinders	R4	M	Weighed	Offsite in Ireland	Flogas,	Clones Road, ,Monaghan,Co. Monaghan,Ireland	Flogas, ,Clones Road, ,Monaghan,Co. Monaghan,Ireland	Clones Road, ,Monaghan,Co. Monaghan,Ireland
Within the Country	16 01 03	No	27.68	end-of-life tyres	R3	M	Weighed	Offsite in Ireland	Green Leaf Tyre Recycling,WFP-MN-12-0003-01	Dunstonagh\, ,Emyvale,Co Monaghan,Ireland		
To Other Countries	16 01 07	Yes	0.06	oil filters	R4	M	Weighed	Abroad	Enva Ireland Ltd.,WO-184-01	Portlaoise,Co. Laois, , ,Ireland	RD Recycling,81727/1/KD,Houthalen, , ,Belgium	Houthalen, , , ,Belgium
Within the Country	16 01 20	No	27.42	Windscreen glass	R5	M	Weighed	Offsite in Ireland	John Gannon Concrete Limited T/A Gannon Eco,WFP-WM-2014-05	Split Hill Quarry,Hazelwood,Kilbeggan,Co. Westmeath,Ireland		
To Other Countries	16 06 04	Yes	0.2	Aerosol Cans	R4	M	Weighed	Abroad	Enva Ireland Ltd.,WO-184-01	Portlaoise,Co. Laois, , ,Ireland	Remondis,H09037960,Ausfasse 5,D-74238,Krautheim, ,Germany H.J. Enthoven & Sons,BL 5569/R,Darley Dale,Smelter,South Darley Matlock,DE4 2LP,United Kingdom	Ausfasse 5,D-74238,Krautheim, ,Germany Darley Dale,Smelter,South Darley Matlock,DE4 2LP,United Kingdom
To Other Countries	16 06 01	Yes	2.5	Lead Acid batteries	R4	M	Weighed	Abroad	Wilton Waste Recycling,WFP-CN-15-0003-01	Kilfa, ,Ballyjamesduff,Co. Cavan,Ireland		
To Other Countries	16 06 02	Yes	0.83	Household batteries	R4	M	Weighed	Abroad	ERP Ireland,Compliance Scheme	Unit 9D Nutgrove Office Park,Nutgrove Avenue,Rathfarnham,Dublin 14,Ireland	Recypilas S.A. ,EU2/037/97 and EU/037/02-B and EUX/008/08 NIMA Code <800002937,Carretera de la Cantera 11, , ,E-48960 ASUA-ERANDIO (Bizkaia),Spain	IR Recypilas S.A. ,Carretera de la Cantera 11, ,E-48950 ASUA-ERANDIO (Bizkaia),Spain

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 Licence / 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)
						MCR	Method Used					
To Other Countries	17 02 01	No	87.22	wood	R3	M	Weighed	Abroad	MCKinstry Biomass Limited,LN/09/22	Unit 2 Carnbane Business Park,Derryboy Road,Newry,BT35 6QH,United Kingdom		
Within the Country	17 02 01	No	414.14	wood	R3	M	Weighed	Offsite in Ireland	OCR Waste Management,WFP-RN-10-0001-01	Office 2 ,Roxborough, ,Roscommon,Ireland		
Within the Country	17 02 01	No	0.66	Timber Pallets	R3	M	Weighed	Offsite in Ireland	Robowash,.	Corbrack,..Ballybay,Co. Monaghan,Ireland		
Within the Country	17 02 01	No	50.72	Timber Pallets	R3	M	Weighed	Offsite in Ireland	McAree Engineering,. Enviro Grind Ltd.,WFP-DL-11-004-01	Ballinode,...,Co. Monaghan,Ireland		
Within the Country	17 08 02	No	123.18	Plasterboard	R5	M	Weighed	Offsite in Ireland		Donegal Road,..Pettigo,Co. Donegal,Ireland		
Within the Country	19 07 03	No	29365.06	landfill leachate other than those mentioned in 19 07 02	D8	M	Weighed	Offsite in Ireland	Irish Water,D0061-01	Monaghan Waste Water Treatment Plant,Tirkennan,..Monaghan ,Ireland		
Within the Country	20 01 01	No	130.88	Mixed paper	R12	M	Weighed	Offsite in Ireland	Agnet Ltd. T/A ROC Recycling Solutions,WFP-LS-11-0001-01	Ballymacken Industrial Estate,..Ballymacken,Co. Laois,Ireland		
Within the Country	20 01 01	No	126.7	Newspapers	R12	M	Weighed	Offsite in Ireland	Agnet Ltd. T/A ROC Recycling Solutions,WFP-LS-11-0001-01	Ballymacken Industrial Estate,..Ballymacken,Co. Laois,Ireland		
Within the Country	20 01 01	No	27.74	Mixed paper	R12	M	Weighed	Offsite in Ireland	Marwin Environmental Trading Ltd.,Broker	Cuil Greine House,Ballincollig Commercial Park,Link Road Ballincollig,Cork,Ireland		
Within the Country	20 01 01	No	19.46	Newspapers	R12	M	Weighed	Offsite in Ireland	Marwin Environmental Trading Ltd.,Broker Exomex (Ireland) Ltd T/A McElvaney's Waste & Recycling,WFP-LH-16-0001-01	Cuil Greine House,Ballincollig Commercial Park,Link Road Ballincollig,Cork,Ireland		
Within the Country	20 01 08	No	0.66	Biodegradable Food Waste	R3	M	Weighed	Offsite in Ireland	Hackett Mushrooms Ltd.,COR-MN-11-0007-01	Units SUU 1-3,Clermont Business Park Haggardstown,Dundalk,Co. Louth,Ireland		
Within the Country	20 01 38	No	43.22	wood other than that mentioned in 20 01 37	R3	M	Weighed	Offsite in Ireland	Textile Recycling Ltd.,WCP-DC-1225-01	Coolkill East,... Co. Monaghan,Ireland		
Within the Country	20 01 10	No	12.8	clothes	R12	M	Weighed	Offsite in Ireland		Belgard Road,Tallaght,Co. Dublin, ,Ireland		
Within the Country	20 01 21	Yes	0.66	Fluorescent tubes	R4	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd. ,W0113-04	Capoincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland	KMK Metals Recycling Ltd.,W0113-04,Capoincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland	Irish Lamps Recycling,Woodstock Industrial Estate,Kilkenny Road Bleach Athy,Co. Kildare,Ireland
Within the Country	20 01 21	Yes	0.18	fluorescent tubes and other mercury-containing waste	R4	M	Weighed	Offsite in Ireland	Irish Lamp Recycling Co. Ltd.,WFP-KE-14-0072-01	Woodstock Industrial Estate,Kilkenny Road,Athy,Co. Kildare,Ireland	Irish Lamp and Recycling Co. Ltd.,WFP-KE-0072-01,Woodstock Industrial Estate,Kilkenny Road,Athy,Co. Kildare,Ireland	Woodstock Industrial Estate,Kilkenny Road,Athy,Co. Kildare,Ireland
To Other Countries	20 01 25	No	0.1	edible oil and fat	R9	M	Weighed	Abroad	Fryrite Ltd.,LN/11/83	Head Office,Orchard Road Industrial Estate,Strabane Co. Tyrone,BT82 9FR,United Kingdom		

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 (Exit) 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					
To Other Countries	20 01 27	Yes	0.5	Paints	R1	M	Weighed	Abroad	Enva Ireland Ltd.,WO-184-01	Portlaoise,Co. Laois,,,,Ireland	Recyfuel,BE0459.735.458,Rue du Parc Industriel 16,4480,Engis,,,Belgium	Rue du Parc Industriel 16,4480,Engis,,,Belgium
Within the Country	20 01 36	Yes	30.29	CRT's	R4	M	Weighed	Offsite in Ireland	ERP Ireland,Compliance Scheme	Unit 9D Nutgrove Office Park,Nutgrove Avenue,Rathfarnham,Dublin 14,Ireland	The Recycling Village,WO286-01,Unit 21 Dulsek Business Park,Commons,Duleek,Co. Meath,Ireland	Unit 21 Duleek Business Park,Commons,Duleek,Co. Meath,Ireland
Within the Country	20 01 36	No	23.66	LDA's	R4	M	Weighed	Offsite in Ireland	ERP Ireland,Compliance Scheme	Unit 9D Nutgrove Office Park,Nutgrove Avenue,Rathfarnham,Dublin 14,Ireland		
Within the Country	20 01 36	No	18.46	LDA's cold	R4	M	Weighed	Offsite in Ireland	ERP Ireland,Compliance Scheme	Unit 9D Nutgrove Office Park,Nutgrove Avenue,Rathfarnham,Dublin 14,Ireland		
Within the Country	20 01 36	No	34.19	SDA's	R4	M	Weighed	Offsite in Ireland	ERP Ireland,Compliance Scheme	Unit 9D Nutgrove Office Park,Nutgrove Avenue,Rathfarnham,Dublin 14,Ireland		
Within the Country	20 01 38	No	28.88	Woodchip	R10	M	Weighed	Offsite in Ireland	Local Farmers..	.....,Ireland		
Within the Country	20 01 39	No	33.32	Coloured plastic film	R3	M	Weighed	Offsite in Ireland	Leinster Environmental,WFP-LH-11-0002-01	Clermont Business Park,Haggardstown,Dundalk ,Co. Louth,Ireland		
Within the Country	20 01 39	No	6.76	Clear plastic film	R3	M	Weighed	Offsite in Ireland	Agrisil Ltd. T/A ROC Recycling Solutions,WFP-LS-11-0001-01	Ballymacken Industrial Estate,,,Ballymacken,Co. Laois,Ireland		
Within the Country	15 01 02	No	15.5	Hard plastics	R3	M	Weighed	Offsite in Ireland	Cloughwater Plastics,WFP-FG-08-0002-04	Ballycoolin,Blanchardstown, Dublin 11,,,Ireland		
Within the Country	15 01 02	No	1.42	Hard Plastics	R3	M	Weighed	Offsite in Ireland	Tiernanell Mushrooms..	Tiernanell,Monaghan Co. Monaghan,,,Ireland		
To Other Countries	20 01 39	No	45.9	Hard Plastics	R3	M	Weighed	Abroad	N.I.Plastics Ltd.,WMEX 98/13 and ROC LT 6147	92 Cloughwater Road,Ballymena,Co. Antrim,BT43 6SZ,United Kingdom		
Within the Country	20 01 01	No	207.4	Cardboard	R3	M	Weighed	Offsite in Ireland	Marwin Environmental Trading Ltd.,Broker	Cuil Greine House,Ballincollig Commercial Park,Link Road Ballincollig,Cork,Ireland		
Within the Country	20 01 39	No	37.88	Hard plastics	R3	M	Weighed	Offsite in Ireland	Leinster Environmental,WFP-LH-11-0002-01	Clermont Business Park,Haggardstown,Dundalk ,Co. Louth,Ireland		
Within the Country	20 01 39	No	30.88	Clear plastic film	R3	M	Weighed	Offsite in Ireland	Leinster Environmental,WFP-LH-11-0002-01	Clermont Business Park,Haggardstown,Dundalk ,Co. Louth,Ireland		
Within the Country	20 01 39	No	23.3	Mixed plastics	R3	M	Weighed	Offsite in Ireland	Leinster Environmental,WFP-LH-11-0002-01	Clermont Business Park,Haggardstown,Dundalk ,Co. Louth,Ireland		
To Other Countries	20 01 40	No	237.92	Metals	R4	M	Weighed	Abroad	T-Mat,LW11/04	84 Armagh Road,Moy,Dungannon,Co. Tyrone,BT71 7JA,Ireland		
Within the Country	20 02 01	No	245.52	Green waste	R3	M	Weighed	Offsite in Ireland	Enviro Grind Ltd.,WFP-DL-11-004-01	Donegal Road,,,Pettigo,Co. Donegal,Ireland		
Within the Country	20 03 07	No	434.9	MSW / Bulky Waste	R1	M	Weighed	Offsite in Ireland	Indaver Ireland Ltd.,WD167-03	Carranstown,Duleek,Co. Meath,,,Ireland		

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)
						WCF	Method Used					
Within the Country	20 03 07	No	728.96	MSW / bulky waste	D5	M	Weighed	Offsite in Ireland	Knockharley Landfill Limited,W0146-02	Knockharley, , Navan,Co. Meath,Ireland		
To Other Countries	20 03 01	No	2458.28	Mixed Dry Recyclables	R12	M	Weighed	Abroad	RECYCO Limited,LN/11/15	102 Barony Road,Mountfield,Omagh Co. Tyrone,BT78 7QG,United Kingdom		
Within the Country	20 03 07	No	1767.23	MSW / bulky waste / bulky recyclables	D13	M	Weighed	Offsite in Ireland	Exomex (Ireland) Ltd. T/A McElvaney's Waste & Recycling,WFP-LH-16-0001-01	Units SUU 1-3,Clermont Business Park Haggardstown,Dundalk,Co. Louth,Ireland		
Within the Country	20 03 01	No	136.28	Mixed municipal waste	D15	M	Weighed	Offsite in Ireland	Exomex (Ireland) Ltd. T/A McElvaney's Waste & Recycling,WFP-LH-16-0001-01	Units SUU 1-3,Clermont Business Park Haggardstown,Dundalk,Co. Louth,Ireland		
Within the Country	15 01 02	No	3.4	plastic packaging	R3	M	Weighed	Offsite in Ireland	Agnail Ltd. T/A ROC Recycling Solutions,WFP-LS-11-0001-01	Ballymacken Industrial Estate, ,Ballymacken,Co. Laois,Ireland		
Within the Country	20 01 39	No	23.58	Coloured Plastic Film	R3	M	Weighed	Offsite in Ireland	Wilton Waste Recycling,WFP-CN-15-0003-01	Kiffa, ,Ballyjamesduff,Co. Cavan,Ireland		
Within the Country	15 01 02	No	0.08	Hard Plastics	R3	M	Weighed	Offsite in Ireland	Robowash,	Corbrack, ,Ballybay,Co. Monaghan,Ireland		
Within the Country	20 01 40	No	0.8	Scrap Metal	R4	M	Weighed	Offsite in Ireland	Local Farmers,	,,,,,,Ireland		
Within the Country	08 03 18	No	0.02	Ink Cartridges	R3	M	Weighed	Offsite in Ireland	Kildarson Ltd.,WCPEX-DC-08-11-01	Coom,Castle Island, ,Co Kerry,Ireland		
Within the Country	20 03 07	No	106.98	MSW / bulky waste / bulky recyclables	D13	M	Weighed	Offsite in Ireland	Oxigen Environmental (Coes Road),W0144-01	Coes Road, ,Dundalk,Co. Louth,Ireland		
Within the Country	20 01 33	Yes	3.0	Fence Batteries	R4	M	Weighed	Offsite in Ireland	ERP Ireland,Compliance Scheme	Unit 9D Nutgrove Office Park,Nutgrove Avenue,Rathfarnham,Dublin 14,Ireland	Envimbal Espana Avda,M/MA/ 19/2000 ,19200 Azuqueca de Henares,Guadalajara,Spain	De Lyon 10,P.I. Rodano 10,De Lyon 10,P.I. Rodano ,19200 Azuqueca de Henares,Guadalajara,Spain

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

Appendix 2

EPA Landfill Gas Survey 2017

Environmental Protection Agency

A survey of landfill sites to determine the quantity of methane flared and or recovered in utilisation plants for 2017

Please choose from the drop down menu the license number for your site	W0220
Please choose from the drop down menu the name of the landfill site	Scotch Corner Landfill
Please enter the number of flares operational at your site in 2017	1
Please enter the number of engines operational at your site in 2017	0
Total methane flared	328,422 kg/year
Total methane utilised in engines	0 kg/year

Please note that the closing date for reciept of completed surveys is 31/03/2018

Introduction

The Office of Environmental Sustainability (OES) of the Environmental Protection Agency acts as the inventory agency in Ireland with responsibility for compiling and reporting national greenhouse gas inventories to the European Commission and the United Nations Framework Convention on Climate Change. In addition to meeting international commitments Ireland's national greenhouse gas inventory informs national agencies and Government departments as they face the challenge to curb emissions and meet Ireland's emission reduction targets under the Effort Sharing Decision (No. 406/2009/EC). The national inventory also informs data suppliers, making them aware of the importance of their contributions to the inventory process and a means of identifying areas where input data may be improved.

It is on this basis that the Environmental Protection Agency is asking landfill operators to partake in this survey so that the most uptodate information on methane flaring and recovery in utilisation plants at landfills sites is used in calculating the contribution of the landfill sector to national greenhouse gas emissions

The Environmental Protection Agency wishes to thank you for partaking in this survey. If you have any questions about the survey and how to complete it please view the "Help sheet" worksheet. If however, your query is not answered by viewing the "Help sheet" worksheet please contact:
LFGProject@epa.ie

Once completed please send the completed file as an attachment clearly stating the name and or license number of the landfill site (e.g. W000 Xanadu landfill_2017) to:
LFGProject@epa.ie

	to be filled in by licensee		calculated by spreadsheet	

Flare No. 1

Flare type ?	Biogas BG2468	If "other" enter flare description here
Is the flare an open or enclosed flare ?	Enclosed	Rated flare capacity ? 1000 m3/hr
Month /year comissioned ?	March 2005	
Month decomissioned if decomissioned in 2017 ?	Select	
What is the function of the flare ?	Extraction from capped and uncapped areas	If "other" enter flare function here

Monthly	Method M/C/E	Runtime days/month	Runtime hrs/day	Downtime hrs	Total runtime hrs/month	Average Inlet Pressure (mbg)	Average Inlet Temp ◦C	Average Flow Rate (m^3/hr)	Average CH_4 %v/v	Average CO_2 %v/v	Average O_2 %v/v	Combustion efficiency (%)	Total CH_4 m^3	Total CH_4 kgs
January	M	31	24.0	0.0	744	-29	10	211	34.60	26.30	2.40	98.0	53,230	35,701
February	M	28	24.0	0.0	672	-31	10	175	36.10	26.50	2.70	98.0	41,605	27,847
March	M	31	24.0	0.1	744	-31	10	167	37.10	26.20	3.00	98.0	45,168	30,232
April	M	30	24.0	0.0	720	-33	10	161	35.50	25.30	3.20	98.0	40,329	26,938
May	M	31	24.0	0.3	744	-29	20	190	33.70	25.20	2.50	98.0	46,667	30,231
June	M	30	24.0	4.2	716	-30	20	166	34.20	25.30	2.70	98.0	39,825	25,773
July	M	31	24.0	0.8	743	-30	20	170	35.00	24.60	3.30	98.0	43,336	28,045
August	M	31	24.0	9.3	735	-27	10	160	34.10	25.10	2.70	98.0	39,284	26,401
September	M	30	24.0	0.0	720	-32	10	139	34.60	25.10	2.40	98.0	33,935	22,691
October	M	31	24.0	1.5	742	-40	10	148	33.80	24.60	2.80	98.0	35,903	23,811
November	M	30	24.0	248.4	472	-41	10	178	36.30	26.10	2.30	98.0	29,527	19,562
December	M	31	24.0	156.5	588	-40	10	190	38.90	29.30	1.50	98.0	42,557	28,223
Total					8,339								491,364	325,454

Please note: Only fill the "Yearly" table if data is not availabe or cannot be calculated nor estimated on a monthly basis

Yearly	Method M/C/E	Runtime days/year	Runtime hrs/day	Downtime hrs	Total runtime hrs/year	Average Inlet Pressure (mbg)	Average Inlet Temp ◦C	Average Flow Rate m^3/hr	Average CH_4 %v/v	Average CO_2 %v/v	Average O_2 %v/v	Combustion efficiency (%)	Total CH_4 m^3	Total CH_4 kgs
2017					0		10					98.0	0	0

Appendix 3

Biodegradable Municipal Waste Reporting 2017

Step 3 of 4

License Number: W0020
Facility Name: Scotch Corner Landfill

Reporting Period: 2017 Quarter 1 (January - March)

Type of MSW accepted	Total Qty MSW (Tonnes)	BMW Factor Type	BMW Factor Value	Total Qty BMW (Tonnes)	Comment	% BMW of MSW
Ash residue from MSW incineration	6344.80	EPA Approved factor	0.00	0.00		0.00
Totals	**6344.80**			**0.00**		**0.00**

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Step 3 of 4

License Number: W0020
Facility Name: Scotch Corner Landfill

Reporting Period: 2017 Quarter 2 (April - June)

Type of MSW accepted	Total Qty MSW (Tonnes)	BMW Factor Type	BMW Factor Value	Total Qty BMW (Tonnes)	Comment	% BMW of MSW
Ash residue from MSW incineration	4382.48	EPA Approved factor	0.00	0.00		0.00
Totals	**4382.48**			**0.00**		**0.00**

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Step 3 of 4

License Number: W0020
Facility Name: Scotch Corner Landfill

Reporting Period: 2017 Quarter 3 (July - September)

Type of Waste accepted	Total Qty Input (Tonnes)	BMW Factor Type	BMW Factor Value	Total Qty BMW (Tonnes)	Comment	% BMW of Waste
Ash residue from MSW incineration	4443.50	EPA Approved Factor	0.00	0.00		0.00
Totals	**4443.50**			**0.00**		**0.00**

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