



Annual Environmental Report

Name: McGill Environmental Systems (Ireland) Limited

Address: Coom, Glenville, Co. Cork

Waste Licence: W0180-01

Reporting Period: January 1st 2017 – December 31st 2017

Signed: 

Heather Loughlin
Environmental Manager

1.0 REPORTING PERIOD

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

2.0 WASTE ACTIVITIES CARRIED OUT AT THE FACILITY AND QUANTITY/ COMPOSITION OF WASTE RECEIVED, DISPOSED OF AND RECOVERED DURING THE REPORTING PERIOD

2.1 *Waste Activities*

McGill Environmental Systems (Ireland) Ltd operates an in-vessel composting facility in Coom, Glenville, County Cork, under the Conditions of Waste Licence W0180-01.

On 16th February 2016 the facility received approval as a “Type 8” composting plant under the Animal By-Products Regulations (S.I. No. 187 of 2014). Approval No. Comp 31. This permits the company to accept organic fines produced from municipal waste and amendment material only. Prior to this date the company had full ABP approval to accept other types of ABP waste.

Operating as a Type 8 facility means that the facility is still regulated by the Department of Agriculture Food and the Marine, but is no longer required to have separate clean and dirty areas for waste processing, DAFM do not place restrictions on the way the compost is produced and we are not required to carry out pathogen tests on the compost because all of the material is destined for landfill.

During 2017 100% of the facility’s feedstock was organic fines from the processing of municipal solid waste (MSW).

The feedstock is mixed with amendment materials such as leaves and sawdust and composted to produce a stabilised biowaste that is used as landfill cover. ‘Overs’ from the composting process are disposed of to landfill.

In 2017 all composted material and overs were sent to Greenstar’s Landfills in Ballynagran, Co. Wicklow and Knockharley landfill in Meath and Bord na Mona’s Drehid Landfill in Kildare.

2.2 Incoming Waste

Description of Incoming Waste	List of Waste Code	Quantity accepted from ROI (TONNES)
Organic Fines*	19 12 12	17933.86
		17933.86

*animal by-product waste

Amendment materials	List of Waste Code	Quantity accepted from ROI (TONNES)
Hawthorn leaves	07 05 14	12.94
Ginko leaves	07 05 99	1311.82
Chaff	02 01 03	58.42
Activated carbon	02 03 99	1.42
Sawdust	-	39.58
Virgin woodchip	-	1595.66
		3019.84

2.3 Outgoing

Material Description	List of Waste Code	Quantity (TONNES)	Name & address of offsite facility to which waste was sent, also permit or licence number
Biostabilised waste (CLO)	19 05 99	6667.651	Ballynagran Landfill, Wicklow W0165-02
		1802.48	Drehid Landfill, Co Kildare W0201-04
		52.3	Knockharley Landfill, Meath W0146-02
Residual oversize material (CLOR)	19 05 99	2873.64	Ballynagran Landfill, Wicklow W0165-02
		503.2	Drehid Landfill, Co Kildare W0201-04
		24.72	Knockharley Landfill, Meath W0146-02
Biofilter water	16 10 02	1568.33	Fermoy WWTP
		8.12	Molaisin Compost Ltd W0245-01
Waste oil	20 01 26*	2.16	Rilta Environmental W0192-03
Mixed municipal (skip)	20 03 07	0.56	Waste Recovery Services, Fermoy

3.0 EMISSIONS AND RESULTS OF ENVIRONMENTAL MONITORING

A summary of monitoring results is included in Appendix 1. The following monitoring was carried out in 2017:

- Compost Analysis results for stability are required quarterly by the Waste Licence and monthly by the destination landfill. Samples of the compost and oversize were taken monthly for analysis. All samples were compliant.
- McGill conducted dust monitoring on site for three different 28 day periods during 2017. All results were compliant.
- Odour Monitoring Ireland were on site twice in 2017 to conduct PM10 and Bioaerosol monitoring. The results of these visits showed that there are no significant bioaerosol impacts in the vicinity of the facility and the ambient air concentration levels of PM10 were below the statutory 24-hour average ambient air concentration level of 50µg m³.

- Biofilter sampling was conducted biannually as per the licence requirement. There were no environmental concerns with the results.
- Groundwater sampling was conducted once in 2017 as per the licence requirement. There were no environmental concerns with the results.
- Surface water sampling was conducted once in 2017 as per the licence requirement. There were no environmental concerns with the results.
- Wastewater from the biofilter was analysed once in 2017.

During 2016 it was confirmed by the EPA that quality monitoring (pathogens & trace elements) of the biostabilised waste is not required as the material is going to landfill.

4.0 RESOURCE AND ENERGY CONSUMPTION SUMMARY

Water usage: 222m³ for the reporting period.

Diesel Usage: 41,621 litres of diesel was used during the reporting period to operate equipment in the facility.

Electricity Usage: McGill have used 388,000 kWh of electricity at the facility during the reporting year

5.0 REPORT ON DEVELOPMENT WORKS UNDERTAKEN DURING THE REPORTING PERIOD, AND A TIMESCALE FOR ANY PROPOSED FOR THE COMING YEAR.

There were no development works on site during 2017 and there are no proposed developments for 2018.

6.0 ENVIRONMENTAL MANAGEMENT PROGRAMME

6.1 Environmental Management Programme 2017 - Update on progress made

The progress made towards the Environmental Management Programme for 2017 is as follows. This programme was updated in December 2017 as part of the annual EMS update.

Target	Responsibility	Target Date	Status	Last review date
Continue with the revision of the Environmental Management System and streamline procedures wherever possible.	Heather Loughlin	End March 2016	New Emergency Response Procedure issued	20.12.18
Monitor energy usage and identify opportunities for reductions.	Heather Loughlin /Niall Carroll	Ongoing	Energy Services commissioned to review on an ongoing basis. Lights have been replaced with LED alternatives	20.12.18
Investigate biofilter odour control options - alternative technology/cover etc	Heather Loughlin /Niall Carroll	End May 2016	Ongoing - obtained pricing for odour modelling, reviewed carbon system at WWTP	20.12.18
Prepare case for reducing monitoring frequency for noise/dust/odour/water, where appropriate.	Heather Loughlin	End April 2016	Complete. Submission made to EPA. Reduction in dust monitoring granted.	20.12.18
Carry out refresher training for all staff	Heather Loughlin	End June 2016	Complete.	20.12.18
Sow wildflower meadow on site	Heather Loughlin	End March 2016	Complete.	20.12.18

6.1 ENVIRONMENTAL MANAGEMENT PROGRAMME 2018

Target	Responsibility	Target Date
Monitor energy usage and identify opportunities for reductions.	Heather Loughlin/Niall Carroll	Ongoing
Investigate biofilter odour control options - alternative technology/cover etc	Heather Loughlin/Niall Carroll	End August 2017
Carry out refresher training for all staff	Heather Loughlin	End June 2017
Sow wildflower meadow on site	Heather Loughlin	End April 2017

7.0 SUMMARY OF PROCEDURES DEVELOPED DURING THE YEAR

The Emergency Response Procedure was updated during 2017. We also commissioned a new Environmental Liabilities Risk Assessment. The ELRA has been submitted to the EPA via EDEN and is currently being assessed. The new Emergency Response Procedure was included in the ELRA.

8.0 BUND TESTING AND INSPECTION REPORT

Bund testing is next due in 2019.

8.0 REPORTED INCIDENTS AND COMPLAINTS SUMMARIES

There were 2 complaints in 2017, from the same local resident. One complaint was in April and one in September. No cause could be found for the remainder of the complaints. The complaints were recorded and responded to.

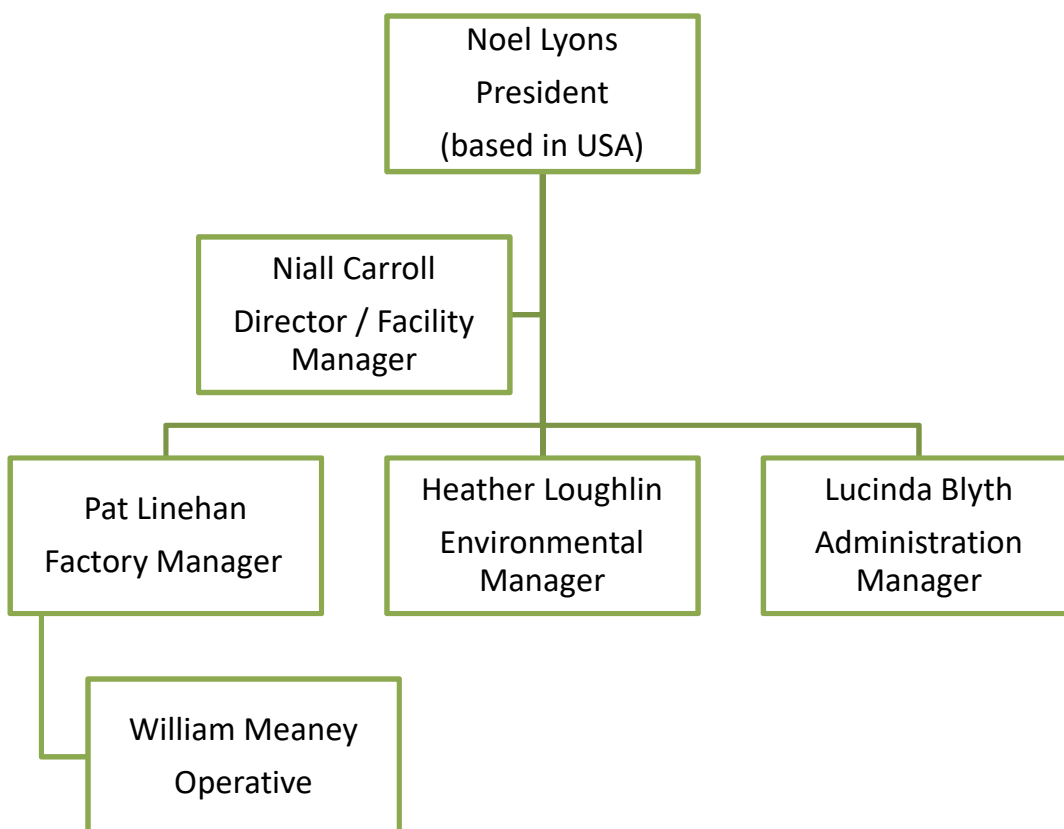
There were no reportable incidents during the reporting period.

9.0 FINANCIAL PROVISIONS, MANAGEMENT AND STAFFING STRUCTURE AND PROGRAMME FOR PUBLIC INFORMATION

9.1 Financial Provisions

McGill have put financial provisions in place to cover any Environmental Risk or Closure costs associated with the site as per the decommissioning and aftercare plan and as per the Environmental Liability Risk Assessment (ELRA). These provisions are in the form of a guarantee from McGill Compost, USA, parent company of McGill Environmental Systems (Ireland) Limited. The ELRA has been submitted to the EPA via EDEN and is currently being assessed.

9.2 Management and Staffing Structure 2017



9.0 INFORMATION PROGRAMME

A procedure is in place to ensure that the public can obtain information concerning the environmental performance of the facility at all reasonable times.

There were no requests for information during 2017.

10.0 FOUL WATER MOVEMENT

McGill transported 1576.45 tonnes of waste water from the Biofilter during the reporting year.

1568.33 tonnes of water was transported to Fermoy Waste Water Treatment Plant for treatment. The remaining 8.12 tonnes of sludge from the biofilter was transported to Molaisin Compost Ltd for composting

Appendix 1

Summary of Monitoring Results

BIOAEROSOL MONITORING					
Date	Bioaerosol	Ref Concentration Range	Glen 1	Glen 2	Glen 3
09.03.2017	Aspergillus fumigatus	1000-5000 CFU m3	2.08	2.35	3.21
09.03.2017	Mesophilic Bacteria	5000 - 10000 CFU m3	312	353	482
09.10.2017	Aspergillus fumigatus	1000-5000 CFU m3	0	0	0
09.10.2017	Mesophilic Bacteria	5000 - 10000 CFU m3	442	530	482

DUST MONITORING							
Sampling End Date	McGill Reference	Monitoring Point	Lab Reference	Units	Result	ELV	Compliant?
27.03.2017	GLV DM1 R1 2017	DM1	0360/424/01	mg/m ² /day	53.47	350	YES
27.03.2017	GLV DM2 R1 2017	DM2	0360/424/02	mg/m ² /day	121.1	350	YES
27.03.2017	GLV DM3 R1 2017	DM3	0360/424/03	mg/m ² /day	113.76	350	YES
21.06.2017	GLV DM1 R2 2017	DM1	0360/428/01	mg/m ² /day	94.89	350	YES
21.06.2017	GLV DM2 R2 2017	DM2	0360/428/02	mg/m ² /day	286.23	350	YES
21.06.2017	GLV DM3 R2 2017	DM3	0360/428/03	mg/m ² /day	70.25	350	YES
21.12.2017	GLV DM1 R3 2017	DM1	0360/435/01	mg/m ² /day	38.79	350	YES
21.12.2017	GLV DM2 R3 2017	DM2	0360/435/02	mg/m ² /day	74.97	350	YES
21.12.2017	GLV DM3 R3 2017	DM3	0360/435/03	mg/m ² /day	61.86	350	YES

PM10 MONITORING			
DATE	REPORTING PERIOD	REFERENCE CONC RANGE	PM10 (ug/m ³)
09.03.17	Bi annual	50 ug/m3 PM10	8
09.10.17	Bi annual	50 ug/m3 PM10	8.5

BIOFILTER GASES MONITORING														
Date	Test	ELV	Sample No.											
			S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
30.06.17	Ammonia	50mg/m ³	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
30.06.17	Hydrogen Sulphide	5mg/m ³	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
30.06.17	Total Mercaptans	5mg/m ³	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
15.12.17	Ammonia	50mg/m ³	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3	ND
15.12.17	Hydrogen Sulfide	5mg/m ³	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
15.12.17	Total Mercaptans	5mg/m ³	ND	ND	ND	ND	ND	ND	0	ND	ND	ND	ND	ND

BIOFILTER BED MEDIA			
Date	Analyte	Units	Results
28.06.17	% Moisture Content	%	72.11
	Ammonia	mg/Kg as N	261.36
	pH	pH Units	8.2
	**TVC @ 22°C	cfu/g	186000
	**TVC @ 37°C	cfu/g	164000
21.12.17	% Moisture Content	%	70.5
	Ammonia	mg/Kg as N	2.3
	pH	pH Units	8.1
	**TVC @ 22°C	cfu/g	51000
	**TVC @ 37°C	cfu/g	110000

Sample ref	CLO AT4 (mg O ₂ /g TS in 4 days)	CLOR AT4 (mg O ₂ /g TS in 4 days)	Standard
CLO 09/01/17	3.0		<7
CLOR 09/01/17		4.4	<7
CLO 06/02/17	2.7		<7
CLOR 06/02/17		2.3	<7
CLO 01/03/17	5.1		<7
CLOR 01/03/17		4.7	<7
CLO 05/04/17	4.6		<7
CLOR 05/04/17		5.2	<7
CLO 03/05/17	6.0		<7
CLOR 03/05/17		6.3	<7
CLO 08/06/17	3.3		<7
CLOR 08/06/17		6.5	<7
CLO 18/07/17	3.1		<7
CLOR 18/07/17		5.6	<7
CLO 03/08/17	6.1		<7
CLOR 03/08/17		6.6	<7
CLO 29/09/17	5.6		<7
CLOR 29/09/17		3.0	<7
CLO 31/10/17	3.8		<7
CLOR 31/10/17		4.3	<7
CLO 08/11/17	3.9		<7
CLOR 08/11/17		3.6	<7

GROUNDWATER MONITORING 22.12.17						
Parameter	Analytical Technique	Units	GW1	GW2	GW3	GW4
Depth						
Ammonium (NH4)	Colorimetry	mg/l	0.03	<0.02	<0.02	<0.02
Chloride	Colorimetry	mg/l	12.7	13	12.9	9.7
Coliforms (Faecal)	Filtration/Incubation @ 44C/24H	cfu/100ml	0	0	45	0
Coliforms (Total)	Filtration/Incubation	cfu/100ml	0	24	36	0
Electrical Conductivity	Electrometry	uscm -1@20C	263	274	197	150
pH	Electrometry	pH units	6.4	7	6.6	5.8

SURFACE WATER MONITORING 22.12.17			
Parameter	Analytical Technique	Units	Results
Ammonia	Colorimetry	mg/l	0.06
BOD	Electrometry	mg/l	<5
Coliforms (Faecal)	Filtration/Incubation @ 44C/24H	cfu/100ml	15
Coliforms (Total)	Filtration/Incubation	cfu/100ml	0
Electrical Conductivity	Electrometry	uscm -1@20C	104
pH	Electrometry	pH units	5.8
Solids	Filtration/drying @140C	mg/l	9

WASTEWATER MONITORING 22.12.17		
Analyte	Units	Results
BOD	mg/l	562
pH	pH units	8
Solids (Total Suspended)	mg/l	297