

South Dublin County Council

Ballymount Solid Waste Recycling and Baling Centre and Civic Amenity

Waste Licence Reg. No.W0003-03

**Annual Environmental Report
1st January 2018 – 31st December 2018**



Issued April 2019

For inspection purposes only.
Consent of copyright owner required for any other use.

**BALLYMOUNT SOLID WASTE
RECYCLING AND BALING CENTRE
ANNUAL ENVIRONMENTAL REPORT
1st January 2018 – 31st December 2018**

**Environmental Services Department,
South Dublin County Council,
PO Box 4122,
Town Centre,
Tallaght,
Dublin 24.**

April 2019

*For inspection purposes only:
Consent of copyright owner required for any other use.*

For inspection purposes only.
Consent of copyright owner required for any other use.

**BALLYMOUNT SOLID WASTE
RECYCLING AND BALING CENTRE
ANNUAL ENVIRONMENTAL REPORT**

1st January 2018 – 31st December 2018

REVISION CONTROL TABLE

User is Responsible for Checking the Revision Status of This Document

Rev. No.	Description of Changes:	Prepared by:	Checked by:	Approved by:	Date:	No. of Copies
0	1 st Draft	P.H.			07/10/00	3
1	1 st Draft	JMC			08/03/02	3
2	2 nd Draft	JMC	LM	SM	31/01/03	3
3	3 rd Draft	P.G.			31/01/04	3
4	3 rd Draft	P.G.	DF		24/01/05	3
5	1 st Draft	E.G.				5
6	1 st Draft	G.M.			04/01/07	5
7	1 st Draft	G.M.	LM		02/04/08	5
8	1 st Draft	E.B.	LM		23/03/09	5
9	1 st Draft	E.B.	LM		25/03/10	5
10	1 st Draft	E.B.	LM		25/03/11	5
11	1 st Draft	E.B.	LM		16/03/12	5
12	1 st Draft	E.B.	LM		24/03/13	5
13	1 st Draft	E.B.	LM		28/03/14	5
14	1 st Draft	E.B.	LM		30/03/15	5
15	1 st Draft	E.B.	LM		29/03/16	5
16	1 st Draft	E.B.	LM		30/01/17	5
17	1 st Draft	R.McC.	JB		11/04/18	5
18	1 st Draft	R.McC.	JB		16/04/19	5

For inspection purposes only.
Consent of copyright owner required for any other use.

TABLE OF CONTENTS

1. INTRODUCTION	09
1.1. SOUTH DUBLIN COUNTY COUNCIL/PANDA ENVIRONMENTAL POLICY	09
2. DESCRIPTION OF THE SITE.....	10
3. MONITORING AND EMISSIONS SUMMARY	12
3.1. MONITORING OF SURFACE WATER.....	12
3.2. EMISSIONS TO SURFACE WATER.....	12
3.3. EMISSIONS TO FOUL SEWER	12
3.4. NOISE	14
3.5. DUST AND AIR QUALITY MONITORING (PM10)	14
3.7 INTERPRETATION OF RESULTS.....	15
4. SITE DEVELOPMENT WORKS.....	18
5. WASTE RECEIVED BY AND CONSIGNED FROM THE FACILITY	19
5.1. WASTES BALED.....	19
5.2. CIVIC AMENITY	20
5.3 WASTE RECEIVED AND HANDLED.....	22
6. NUISANCE CONTROL	24
6.1. ODOUR CONTROL	24
6.2. LITTER CONTROL	24
6.2. DUST CONTROL	25
7. ENVIRONMENTAL INCIDENTS AND COMPLAINTS.....	26
7.1 INCIDENTS SUMMARY	26
7.1. COMPLAINTS SUMMARY.....	26
7.2. CORRECTIVE ACTION	26
7.3. NON-COMPLIANCE SUMMARY.....	27
8. ENVIRONMENTAL MANAGEMENT PROGRAMME.....	28
8.1. REPORT	28
8.2. PROPOSAL	30
8.3. OPERATIONAL AND ENVIRONMENTAL PROCEDURE.....	31
8.4. MANAGEMENT AND STAFFING STRUCTURE.....	32
9. TANK AND BUND TESTING	33
10. RESOURCE CONSUMPTION SUMMARY	34
11. REPORT ON PUBLIC INFORMATION FILE	35
12. SITE OPERATIONS.....	36
12.1. DUTY AND STANDBY CAPACITY OF WASTE HANDLING PLANT.....	36
12.2. VENTILATION PLANT CAPACITY AND SPARES	36
13 ENVIRONMENTAL LIABILITIES AND DECOMMISSIONING.....	37
13.1 DECOMMISSIONING PLAN.....	37
13.2 ENVIRONMENTAL LIABILITY RISK ASSESSMENT.....	37

Table 3.1 Emissions to Surface Waters	13
Table 3.2 Noise Monitoring Results Summary.....	20
Table 3.3 Dust and PM10 Monitoring Results.....	22
Table 3.4 Odour Concentrations.....	22
Table 4.1 Site Development Works during Reporting Year.....	25
Table 4.2 Site Development Works for the Forthcoming Year.....	25
Table 5.1 MSW Quantities into Facility.....	26
Table 5.2 Composition of Waste Received at the Civic Amenity Facility.....	28
Table 8.1 Achievement of Environment Objectives & Target.....	35
Table 8.2 Proposed Environment Objectives & Targets for 2018.....	37
Table 10.1 Principle Resource Consumers.....	41
Table 10.2 Energy and Resources (January 17 – December 17).....	41
Table 12.1 Surface Water Monitoring Results.....	47
Table 12.2 Emissions to Foul Sewer.....	48

Figure 2.1 Site Location Map.....	12
Figure 3.1 Surface Water Monitoring - Temperature and pH.....	13
Figure 3.2 Surface Water Monitoring - Biological Oxygen Demand (ELV 25mg/l).....	14
Figure 3.3 Surface Water Monitoring - Chemical Oxygen Demand (ELV 150mg/l).....	14
Figure 3.4 Surface Water Monitoring - Mineral Oil (ELV 10mg/l).....	15
Figure 3.5 Surface Water Monitoring - Suspended Solids (ELV 35mg/l).....	15
Figure 3.6 Emissions to Foul Sewer - pH and Temperature (ELV 5-10 & 42OC).....	16
Figure 3.7 Emissions to Foul Sewer - Biochemical Oxygen Demand (5 day).....	17
Figure 3.8 Emissions to Foul Sewer - Chemical Oxygen Demand (ELV 30,000mg/l).....	17
Figure 3.9 Emissions to Foul Sewer – Ammonia (ELV 50mg/l).....	18
Figure 3.10 Emissions to Foul Sewer - Oils Fats and Grease (ELV 100mg/l).....	18
Figure 3.11 Emissions to Foul Sewer - Detergents (ELV 100mg/l).....	19
Figure 3.12 Emissions to Foul Sewer - Total Suspended Solids (ELV 2,000mg/l).....	19
Figure 3.13 Emissions to Foul Sewer – Sulphates (ELV 500mg/l).....	20
Figure 5.1 Monthly Waste Quantities to Incineration.....	27
Figure 5.2 Recyclable Waste Types Received at the Civic Amenity Facility.....	29
Figure 5.3 Tonnage Received and Sent.....	30
Figure 7.1 Number of Non Compliances.....	34
Figure 8.1 Management and Staffing Structure.....	40
Figure 10.1 Water Use.....	42
Figure 10.2 Diesel Consumption.....	42
Figure 10.3 Electricity Consumption.....	43
Figure 12.1 Monitoring Location Map.....	48

Appendix

Table 13.1	Surface Water Emission Results 2018
Table 13.2	Emissions to Foul Sewer 2018

For inspection purposes only.
Consent of copyright owner required for any other use.

1. INTRODUCTION

South Dublin County Council (the Council) holds an Industrial Emissions Licence (Reg. No. 0003-03) to operate Ballymount Solid Waste Recycling and Baling Centre and Civic Amenity Facility at Ballymount Avenue, Walkinstown, Dublin 12. In accordance with the requirements of Condition 11.5 of the Waste Licence, an Annual Environmental Report (AER) for the facility must be submitted to the Environmental Protection Agency (EPA).

This is the eighteenth AER, covering the reporting period 1st January 2018 – 31st December 2018 as agreed with the Agency.

The Civic Amenity and Baling Shed have been operated on the basis of a Licence Agreement basis with Panda Waste Services from 1st January 2017 to present

The facility is located at: -

Ballymount Solid Waste Recycling and Baling Centre,
Ballymount Avenue,
Walkinstown,
Dublin 12

Tel. (01) 4621251 Fax: (01) 4525145

National Grid co-ordinates for the location of the facility are: E 3103 N 2302.

1.1. South Dublin County Council and Panda Waste Services Policy

The Council and Panda Waste Services have developed an Environmental Policy for the facility, which is committed to conducting all activities such that they have a minimal effect on the environment.

All levels of management are committed to implementing and maintaining an environmental management programme in compliance with the requirements of the Environmental Protection Agency.

The key objectives of the Council and Panda Waste Services management committee are: -

1. A commitment to compliance with the Industrial Emissions Licence and all pertinent environmental legislation and approved codes of practice. To this end, the management committee will co-operate fully with all regulatory authorities.
2. To continually develop and modify all procedures to reduce environmental impacts.
3. To train and educate all employees in the skills and understanding necessary to minimise any risk to the environment.
4. To ensure that all management and employees are familiar with the conditions of the Waste Licence and the content of the Environmental Management Plan (EMP).
5. Utilise BAT (Best Available Technology)
6. To maintain and operate the facility in an environmentally sustainable manner.

2. DESCRIPTION OF THE SITE

The Recycling and Baling Centre is located at Ballymount Avenue, Walkinstown, Dublin 12, within an area zoned for industrial development. The site location plan is shown in Figure 1. The facility is surrounded in the industrial park by various warehouses and industrial buildings and is adjacent to the N81 (Greenhills Road) on its eastern boundary.

Waste handling activities at the facility consist of the pre-treatment of municipal solid household waste for export to incineration for energy recovery by Panda Waste Services and also by Panda Waste Services the acceptance of non-recyclable and recyclable household waste types at the Civic Amenity Facility. The main activity at the facility is the pre-treatment, baling and wrapping of waste for energy recovery by incineration.

The licensed waste activities are listed below.

Licensed waste disposal activities, in accordance with the Third Schedule of the Waste Management Act 1996 include: -

- Class 12: Repackaging prior to submission to any activity referred to in this Schedule.
- Class 13: Storage prior to submission to any activity referred to in this Schedule, other than temporary storage, pending collection, on the premises, where the waste concerned is produced.

Licensed waste recovery activities, in accordance with the Fourth Schedule of the Waste Management Act, 1996 include: -

- Class 3: Recycling or reclamation of metals and metal compounds.
- Class 4: Recycling or reclamation of other inorganic materials.
- Class 13: Storage of waste intended for submission to any activity referred to in a preceding paragraph of this schedule, other than the temporary storage, pending collection, on the premises where such waste is produced.

On the 16th of December 2015, the EPA deemed Waste Licence W0003-03 to be an Industrial Emissions Licence and granted the following under Part IV of the Environmental Protection Act 1992 as amended.

The licenced activities were amended as follows:

- 11.4 (B) (ii) Recovery, or a mix of recovery and disposal, of non-hazardous waste with a capacity exceeding 75 tonnes per day involving one or more of the following activities; pre-treatment of waste for incineration or co-incineration.
- 11.1 The recovery or disposal of waste in a facility, within the meaning of the Act of 1996, which facility is connected or associated with another activity specified in the Schedule in respect of which a licence or revised licence under Part IV is in force or in respect of which a licence under the said Part is or will be required.

It is considered that the activities carried out at the waste transfer station do not have an adversely significant impact upon local environmental conditions due to the fully enclosed nature of the facility. While the Civic Amenity Facility is not enclosed, there are no activities carried out which affect local environmental conditions.

Local environmental conditions do 657.7 mm* in 2018. The surface water drainage system is designed with an adequate capacity for high rainfall events at the site. Average prevailing winds are from a south westerly direction. *Baldonnel – Casement Aerodrome

There are approximately 13 people employed on a full-time basis at the facility.

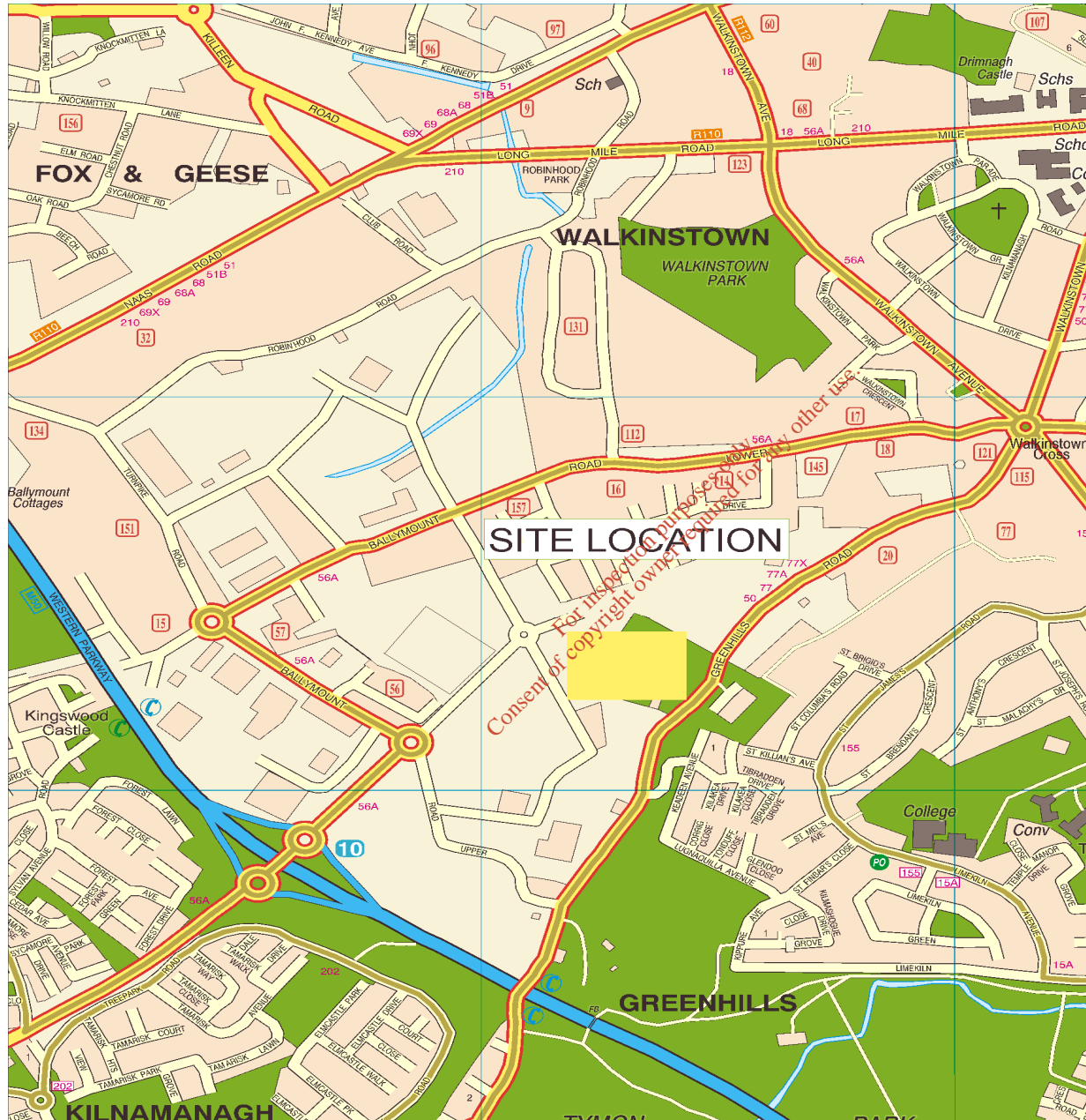


Figure 2.1 Site Location Map

Reproduced from Ordnance Survey with Government Permission – Permit No. 46391/98
DISCOVERY SERIES SHEET No. 50

3. MONITORING AND EMISSIONS SUMMARY

Environmental monitoring results for the reporting period are outlined in the following sections. An interpretation of the results and impacts on the environment are also presented. A site plan showing the position of each monitoring location is included in the Appendix.

3.1. Monitoring of Surface Water

Condition 8.1 of Industrial Emissions Licence W0003-03 requires that quarterly monitoring be undertaken at three points on the partially culverted stream to the Northwest of the facility. Two of the monitoring points (S1 and S2) are upstream (us) of the site, while the other point (S3) is downstream (ds) of the site. Surface water parameters are measured quarterly in accordance with Schedule D.4 of the Licence. The surface water monitoring results are summarised in Table 3.1, which can be found in the Appendix and in Figures 3.1 to 3.5. The results are compared where applicable to the limits for the EPA Industrial Emissions Licence W0003-03.

The surface water monitoring results for grab samples were taken upstream and downstream of the facility at S1, S2 and S3 during the reporting period 1st January to 31st December 2018. Exceedances were recorded both upstream and also downstream of the facility in December. Interpretation of results can be found in 3.7.1 along with a copy of results which can be found in the appendices.

3.2. Emissions to Surface Water

The Licence requires that emissions to surface water be measured quarterly (subject to rainfall events) at SWE1A and SWE1B. Due to insufficient sampling volumes, 1 sample was available during the reporting period.

Table 3.1 Emissions to Surface Water

3.3. Emissions to Foul Sewer

Condition 8.1 requires that emissions to foul sewer (at F6) be monitored on a quarterly basis. There were no exceedances of Emission Limit Values as set out in Schedule C.4 of the Industrial Emissions Licence were recorded for emissions to the sewer

Monitoring Point	SWE1A				SWE1B			
	COD mg/l	OFG mg/l	BOD mg/l	SS mg/l	COD mg/l	OFG mg/l	BOD mg/l	SS mg/l
ELV*	150	10	25	35	150	10	25	35
March	55	<2.5µg/l	<2	51	15	<2.5µg/l	2	8
May	256	0.353	23	121	194	0.353	17	83
September	18	<2.5µg/l	6	2	18	<2.5µg/l	3	<2
November	33	<2.5µg/l	9	<2	32	<2.5µg/l	5	<2

over 4 the sampling events. The results are illustrated in Figures 3.6 to 3.12. A table of monitoring results is included in the Appendix.

- **Noise**

Noise Monitoring was carried out in 2018. Monitoring was done for both night and day. Noise monitoring results are presented below in Table 3.2.

Location	Point Location NG Ref.	Sound Pressure dB(A)		
		L(A) _{EQ}	L(A) ₁₀	L(A) ₉₀
Daytime				
N1	Boundary	56.6	59.2	50.1
N2		55.9	57.9	49.9
N3		57.4	59.9	48.8
N4		55.7	59.0	48.7
N5	Nearest NSL	56.4	59.5	50.4
Night-time				
N1	Boundary	46.0	46.5	43.6
N2		45.7	46.3	46.3
N3		45.6	46.0	43.4
N4		45.6	45.4	42.4
N5	Boundary	45.7	46.8	43.7

Table 3-2 Noise Monitoring Results Summary

NSL = Nearest Noise Sensitive Location.

All operations on site are housed except activity which is associated with the civic amenity and trucks entering and leaving the site. All operations on site were being carried out including operations which are housed inside a large building. The dominant noise outside the site is from the busy road network; the Greenhills Rd, M50 and the Ballymount Avenue adjoining the site.

Location N1: The dominant noise at this location was from the Greenhills Rd and Ballymount Avenue. Trucks entering and exiting the adjoining site also contributed. The activity from the waste facility was not audible at this location at a background of 53.1dBA.

Location N2: The dominant noise at this location was from trucks entering and exiting the waste facility close-by and from road traffic noise extraneous to the waste activity. The waste facility would be contributing in the region of 52dBA.

Location N3: The dominant noise levels at this location are from the amenity facility and road traffic. The contribution from the waste facility would be in the region of less than 51dBA.

Location N4: The dominant noise levels at this location are from road traffic and the waste facility. The waste facility contributes less than the background at 48.4dBA.

Location N5: The dominant noise levels at this location are from road traffic on the Greenhills Rd, Ballymount Rd and M50. There is no audible noise from the waste facility at an L_{min} of 48.1dBA. There was no noise related activity on site at night-time and all recorded noise levels were from activity (road traffic) extraneous to the site. Road traffic noise was the dominant noise at all monitoring locations at night. Accordingly the noise emissions from the site were well below the noise limits for night-time. There were no tonal or impulsive emissions on site during the daytime or night-time.

The noise levels at all monitoring locations are within the limits specified in the licence for day time. The elevated level of road traffic noise from the local road networks masks the noise levels off-site.

The noise emissions were well within the noise limits for night –time at all locations. The noise emissions were inaudible and below the noise limits for day time and night at the

NSL (location N5). There was no clearly audible tonal component or impulsive emission from the facility at any monitoring location during the day time or night-time.

3.4. Dust and Air Quality Monitoring (PM₁₀)

Dust monitoring was carried out during February to August 2018. PM₁₀ monitoring was carried out during August 2018. Monitoring occurred at three locations during the reporting period and was in full compliance with Condition 8.1. The monitoring established the impact of site operations on localised Air Quality. Results of this monitoring are presented in Table 3.5. The Dust results for D1, D2 and D3 are in compliance with guideline limits values (TA Luft Dust- 350 mg/m²/day). PM₁₀ results are also in compliance with guideline limits (EC/1999/30 PM₁₀- 50 ug/m³).

Monitoring Location	Dust Feb (mg/m ² /day)	Dust May (mg/m ² /day)	Dust June (mg/m ² /day)	PM10 (ug/m ³) August 2018
D1	30	31	36	10
D2	32	34	40	14
D3	33	35	43	15

Table 3-3 Dust and PM₁₀ Monitoring Results

3.5. Odour Monitoring

Table 3.4 sets out the results for odour concentrations from direct stack monitoring of the odour control system. Direct monitoring of the odour abatement stack allows for the assessment of the performance of the odour control system. The system is monitored for mechanical performance, volumetric airflow rate (EN13248-1:2002), static pressures (ISO10780:1994), odour threshold concentration (EN13725:2003) and PID VOC's (USEPA TM21A) to assure that the odour control system is achieving adequate performance to prevent odours causing impact beyond the site boundary. The gathered odour is inputted into a dispersion model (AERMOD Prime 07026) with 10 years of meteorological data (Dublin 1997 to 2006 inclusive), which allows for the assessment of the odour control system in accordance with Irish and UK EPA requirements and guidelines (odour isopleths of less than or equal to 3.0 Ou_E/m³ at the 98th percentile of hourly averages for 10 years of meteorological data).

Outlet 1 & 2 Sample Average Period	Outlet Threshold Concentration $\text{OU}_{\text{E}}\text{m}^{-3}$	Volumetric Air Flow Rate (m^3s^{-1})	Odour Emission Rate From Carbon Filtration System $\text{OU}_{\text{E}}\text{s}^{-1}$
March 2018	407	12.71	5166
May 2018	376	13.63	5131
September 2018	299	11.24	3359
December 2018	267	21.71	5794

Table 3-4 Odour Concentrations.

3.7 Interpretation of results

3.7.1 Surface Water Background Monitoring and Emissions to Surface Water

For 2018, predominantly the background surface water monitoring results indicate that the levels of analyses detected downstream of the facility did not exceed the limit values set out in the licence.

Exceedances were recorded upstream at the facility discharge point and downstream of the facility in January 2018. The results of this exceedance can be found in the appendices.

3.7.2 Emissions to Foul Sewer

There was no exceedance of the ELVs recorded in Schedule C.4 of the Waste Licence over 4 sampling events in 2018.

3.7.2.1 pH

All levels measured during the reporting period were compliant with the Emission Limit Value as set out in the Waste Licence W0003-03. The levels ranged from 7.6 pH to 8.1 pH. The Average level was 7.87 pH.

3.7.2.3 Biochemical Oxygen Demand

All levels measured during the reporting period were compliant with the Emission Limit Value as set out in the Waste Licence W0003-03. The levels ranged from 5 mg/l to 27 mg/l. The Average level was 17.33 mg/l.

3.7.2.4 Chemical Oxygen Demand

All levels measured during the reporting period were compliant with the Emission Limit Value as set out in the Waste Licence W0003-03. The levels ranged from 15 mg/l to 265 mg/l. The Average level was 102.33mg/l.

3.7.2.5 Ammonia

All levels measured during the reporting period were compliant with the Emission Limit Value as set out in the Waste Licence W0003-03. The levels ranged from 5 mg/l to 13 mg/l. The Average level was 9.76 mg/l.

3.7.2.6 Total Suspended Solids (TSS)

All levels measured during the reporting period were compliant with the Emission Limit Value as set out in the Waste Licence W0003-03. The levels ranged from 2 mg/l to 91 mg/l. The Average level was 32.33 mg/l.

3.7.2.7 Oils Fats and Grease (OFG)

All levels measured during the reporting period were compliant with the Emission Limit Value as set out in the Waste Licence W0003-03. The levels were less than mg/l.

3.7.2.8 Detergents

All levels measured during the reporting period were compliant with the Emission Limit Value as set out in the Waste Licence W0003-03. The levels ranged from 0.05 mg/l to 0.2576 mg/l. The Average level was 0.51 mg/l.

3.7.2.9 Sulphates

All levels measured during the reporting period were compliant with the Emission Limit Value as set out in the Waste Licence W0003-03. The levels ranged from 20 mg/l to 26 mg/l. The Average level was 22.67 mg/l.

3.7.3 Noise

The results presented in Table 3.2 indicate that daytime and night-time noise levels recorded exceeded licence limits at 8 out of the 10 monitoring points during daytime and night-time monitoring.

Road traffic was the dominant source of noise (LA)₁₀) at all of the locations, which primarily emanates from the busy Greenhills Road which adjoins the site and the M50 motorway.

These results indicate that the facility has no significant impact on the surrounding environment. There were no complaints received at the baling station for noise nuisance.

There was no audible tonal component or impulsive emission from the facility at any monitoring location during the day time or night-time.

3.7.4 Dust and Air Quality Monitoring (PM₁₀)

The results presented in Table 3.3 indicate that the TA Luft limit for dust deposition (350mg/m²/d) was not exceeded during the reporting period at monitoring locations (D1-D3).

One set of monitoring results was obtained for PM₁₀ levels at locations D1-D3. None of the results for PM₁₀ exceeded the Emission Limit Value as set out in the Waste Licence 0003-03.

3.7.5 Odour Monitoring

Direct Odour monitoring of the abatement stack was carried out on a quarterly basis during the reporting period.

To support daily odour inspections carried out by the Environmental Manager or suitably qualified person, quarterly odour monitoring was initiated as required per licence W0003-03. Independent monitoring consultants conducted the quarterly monitoring at the facility. On completion of the monitoring, a report is issued assessing the impact of the operation on its environs. The assessments are presented in the form of odour concentration contours produced using US EPA approved dispersion modelling techniques.

All direct stack odour threshold concentrations had an average range between 1195 OU_E/m³ and 349 OU_E/m³ for the reporting period 2018. No complaints were received at the facility during the 2018 reporting period.

For inspection purposes only.
Consent of copyright owner required for any other use.

4. SITE DEVELOPMENT WORKS

Works undertaken to, at a minimum, comply with the Licence conditions during the reporting period are summarised in Table 4.1.

Requirement	Time Scale
Divert mattresses from landfill for recycling and recovery	Achieved

Table 4-1 Site Development Works during Reporting Year

Requirement	Time Scale
Install a designated MSW area in the Civic Amenity	Achieved
Install new CCTV system to complement the existing system.	Achieved

Table 4-2 Site Development Works for the Forthcoming Year

5. WASTE RECEIVED BY AND CONSIGNED FROM THE FACILITY

5.1. Wastes Pre-Treated, Baled and Compacted

5.1.1 Waste Composition

In February 2013 South Dublin County Council entered into a licence agreement with Panda Waste Services for the operation of the waste transfer station only. On February 1st 2013 MSW was accepted at Ballymount waste transfer station from Panda Waste Services along with the Civic Amenity and other permitted third party waste collectors. This agreement with Panda Waste Services has continued at the waste transfer station. The quantities of waste accepted at the Waste transfer station only are summarised in Table 5.1.

Sources of MSW	Tonnes 2018	Tonnes 2017	Tonnes 2016	Tonnes 2015	Tonnes 2014	Tonnes 2013	Tonnes 2012
Dublin Corporation (DCC)	0	0	0	0	0	0	3,560
South Dublin County Council (SDCC)	0	0	0	0	0	0	0
Civic Amenity	3736.7	3469.59	2,213.13	2271.21	3156.4	3,156.40	3,419
Panda Waste Services & Other	119359.7	83,338.79	92,664.96	159,449.43	154,789.68	154,529.30	0
Total	123096.4	86808.38	94,878.09	161,720.64	157,946.08	157,685.70	6,979

Table 5-1 MSW Quantities into Facility

5.1.2 Baled and Bulked Waste Quantities

Monthly quantities of treated, baled and wrapped waste sent to incineration or waste bulked transferred for incineration as EWC 191212 are shown in Figure 5.1. The bailing of waste ceased in May 2017 and from July 2017 to 31st December the majority of waste was bulked transferred to the 'Dublin Waste To Energy' Incinerator

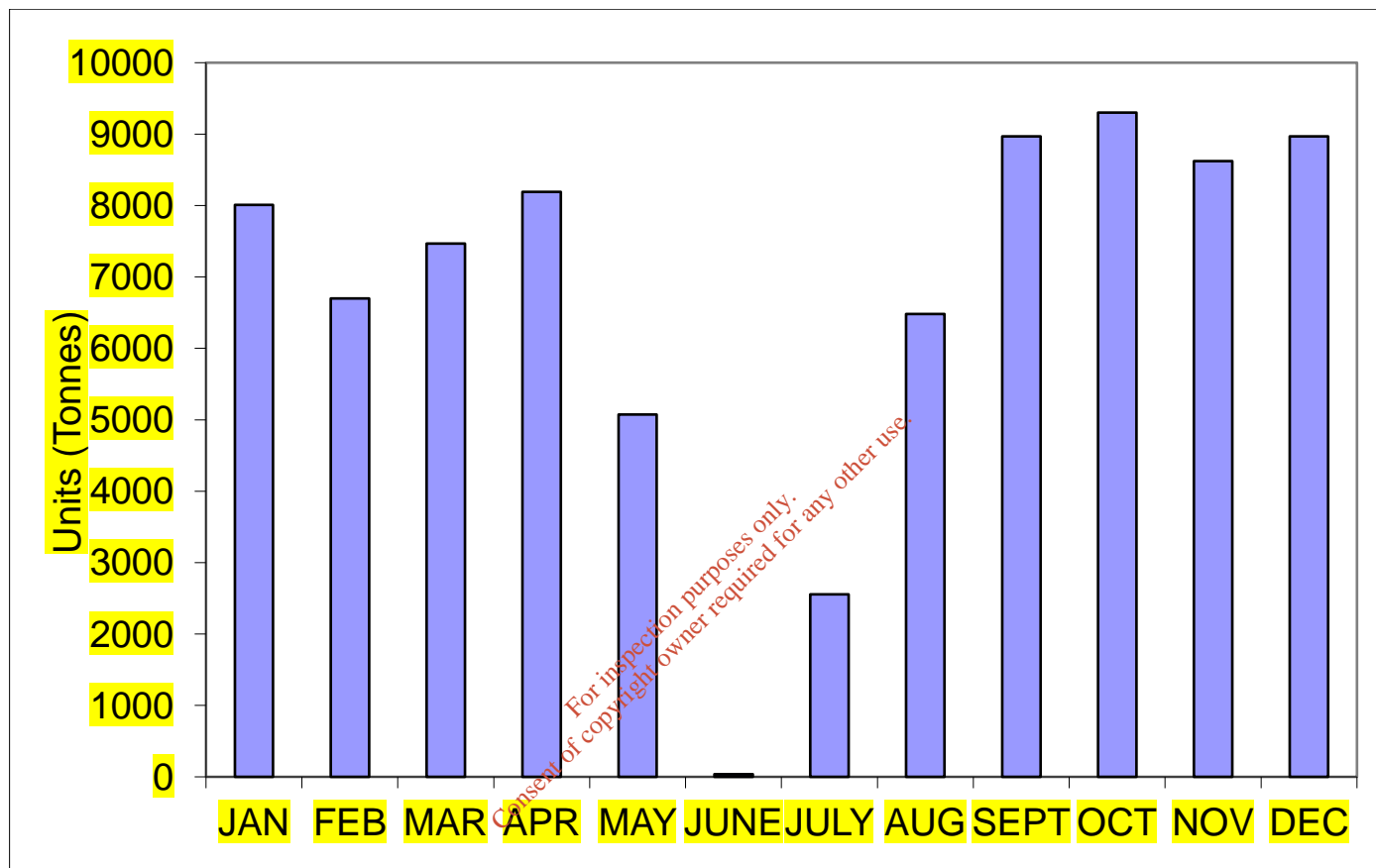


Figure 5.1 Monthly Waste Quantities to Incineration 2018

5.1.2 Treatment of MSW Quantities 2018

The following tonnages were recovered following the treatment of MSW at the waste transfer station:

- Organic Fines: 97754.55 tonnes (EWC -19 12 12)
- Bulky Waste: 1221.1 tonnes (EWC-20 03 07)
- Steel: 91.18 tonnes (EWC- 19 12 02)

Below is a table showing Waste Management Record for Waste Transferred off site as per AER Guidance.

Waste Management Record for waste transferred off site:

European Waste Code	Quantity Tonnes)	Description of waste	Hazardous	Treatment Type (Recovered, Disposed, Recycled)	Location Of Treatment (Country)	Name and Permit No of Agent/Carrier	Name , Address & Licence, Permit No of Final Destination
20 03 01	23021.17	mixed municipal waste	NO	R01 - Use principally as a fuel or other means to generate energy	Ireland	Covanta W0232	Ireland
19 12 12	97754.55	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	NO	R01 - Use principally as a fuel or other means to generate energy	Ireland	Covanta W0232	Ireland
19 12 02	91.18	ferrous metal (Steel)	NO	R04 - Recycling/reclamation of metals and metal compounds	Ireland	Starrus Eco Holdings Limited - W0140 (Panda)	Slane
17 09 04	10.32	mixed construction and demolition waste other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	NO	R05 - Recycling/reclamation of other inorganic materials.	Ireland	Starrus Eco Holdings Limited - W0039	Ballymount Veolia
20 03 07	1221.1	bulky waste	NO	R05 - Recycling/recla	Ireland	Starrus Eco Holdings	MRF(Slane)

				mation of other inorganic materials		Limited - W0140 (Panda)	
19 09 04	23.84	spent activated carbon	NO	R07 - Recovery of components used for pollution abatement	Ireland	MRF Littleton W0249	Littleton

5.2. Civic Amenity

5.2.1 Waste Composition to Civic Amenity

The Civic Amenity Facility is a waste deposit facility for recyclable and non-recyclable waste delivered by members of the general public. Receptacles are provided for the deposit of glass, textiles, plasterboard, rubble, household hazardous, waste oil, paper, green waste, waste oil, batteries, beverage cans, plastics, scrap metal and white goods/ electrical items. Quantities of each of these wastes received are shown in Table 5.2 and Figure 5.2.

Bulky waste referred to in Table 5.2 consists of waste, which due to its bulky nature is unsuitable for baling/compaction. This waste typically consists of furniture, timber and mattresses, in general, materials that cannot be compacted to produce physically stable bales. Bulky waste was collected in bins at the Civic Amenity and is sent off site for recovery.

Description	Tonnes 2018	Tonnes 2017	Tonnes 2016	Tonnes 2015	Tonnes 2014	Tonnes 2013	Tonnes 2012	Tonnes 2011	Tonnes 2010
Glass	114.98	101.34	91.35	88.76	97.94	100.87	114.4	99.12	103.94
Paper	80.24	89.55	98.34	110.1	74.64	73.28	78.38	52.7	51.62
Textiles	64.4	58.49	45.42	30.06	27.47	22.28	29.81	25.63	29.62
WEEE	869.06	775.20	761.23	704.63	620.91	668.7	748.83	781.04	855.38
Plastic	83.46	195.14	93.9	64.26	80.12	75.46	31.33	11.3	18.04
Waste Oil	29.23	26.26	28.26	24.94	24.56	24.4	32.72	43.56	36.72
Green waste	1478.28	1676.94	1,803.26	1,642.70	2076.12	1757.73	2145.36	1,940.86	2,307.12
Batteries	14.84	9.28	8.72	16.19	10.18	12.72	13.14	14.14	21.06
Beverage cans	1.72	1.66	1.26	2.17	1.02	1.12	2.82	1.64	1.41
Metal	575.08	550.48	521.22	365.24	340.64	321.8	331.42	343.32	440.55
Black bag Waste (MSW)	3736.72	3469.59	3281.96	2,972.81	3,156.40	3215.46	3419.11	3582.3	3653.84
Bulky waste	7787.34	6165.89	5181.46	5713.07	5,113.08	4949.85	5581.86	6483.12	6,077.04
Household Hazardous	198.24	179.94	141.1	92.58	26.22	35.2	33.73	33.66	24.9
Plasterboard	84.4	101.20	54.64	97.84	32.16			8.54	41.76
Rubble / C&D	1428.68	1345.4	1,469.39	881.4	846.3	723.02	698.89	789.08	724.66
Cardboard	307.82	353.23	349.1	267.43	266.38	257.98	277.84	206.78	230.2

Waste Edible Oil	0.9	1.26	0.86	1.5	1.8	1.18	1.38	0.94	0.6
Wood	2923.25	2453.89	1858.21	774.78	483.98	484.98	270.11	66.02	140.06
Ink Cartridges	0	0	0	0	0.66	0.58	1.16	0.28	0.36
Gas Cylinders	9.96	7.24	3.74	4.73	2.82	1.71	3.6	3.54	4.46
Metal Packaging	0							0.2	0.92
Total Civic Amenity	19788.6	17570.98	15,797.12	13,855.12	13,283.40	12729.35	13,816.15	14,487.60	14,764.10

Table 5-2 Composition of Waste Received at the Civic Amenity Facility

For inspection purposes only.
Consent of copyright owner required for any other use.

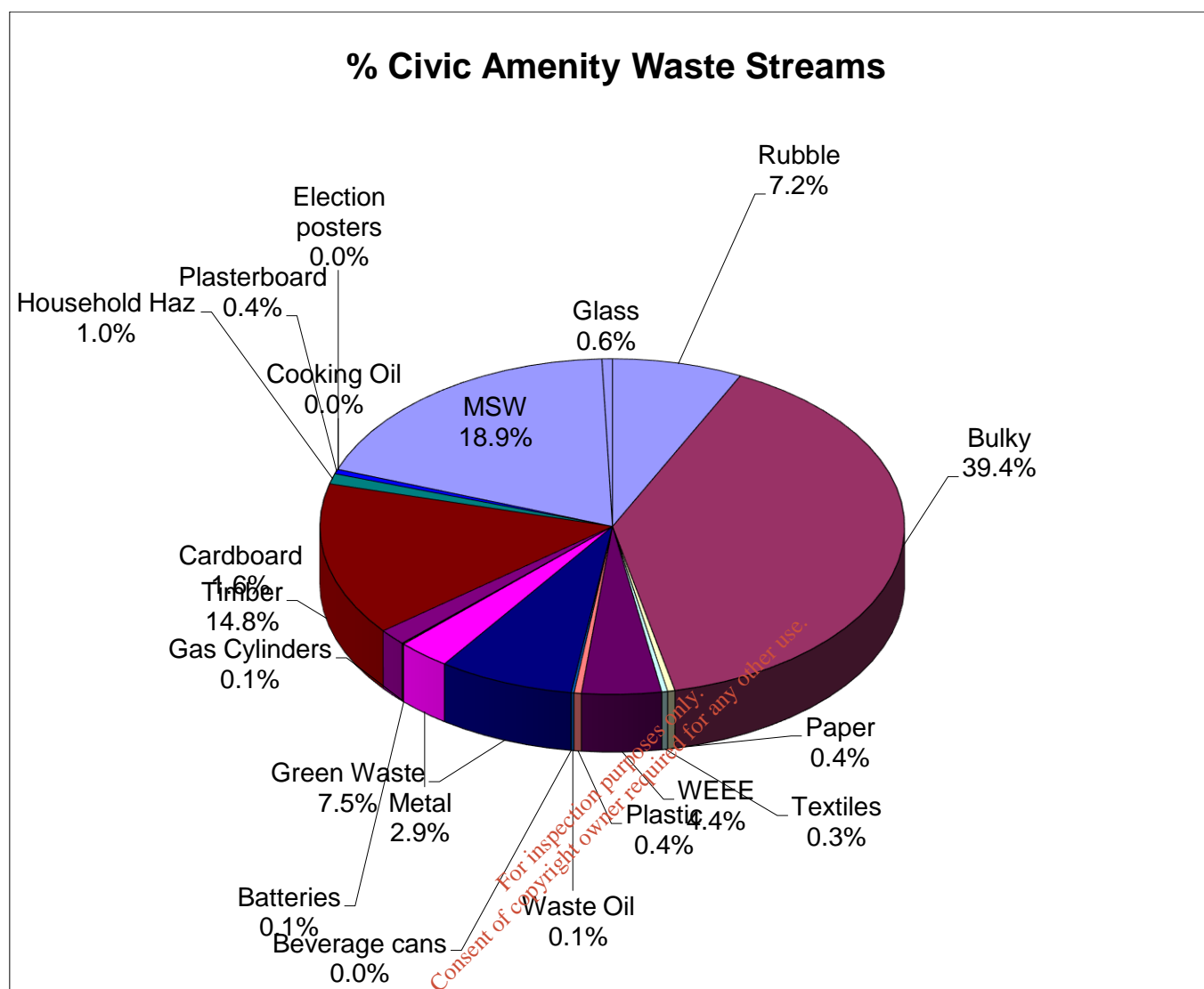


Figure 5.2 Recyclable Waste Types Received at the Civic Amenity Facility

5.3 Waste Received and handled

Waste received at the baling facility during the reporting period amounted to 123,096.4 tonnes, which is 201383.6 tonnes below the Licence limit of 324,480 tonnes per annum

The following figure is a summary of the waste movements to and from the facility. Small differences in quantities entering and leaving the site are due to the 4% allowed tolerance error on the weighbridge (Class III accuracy: Source EN45501: 1992).

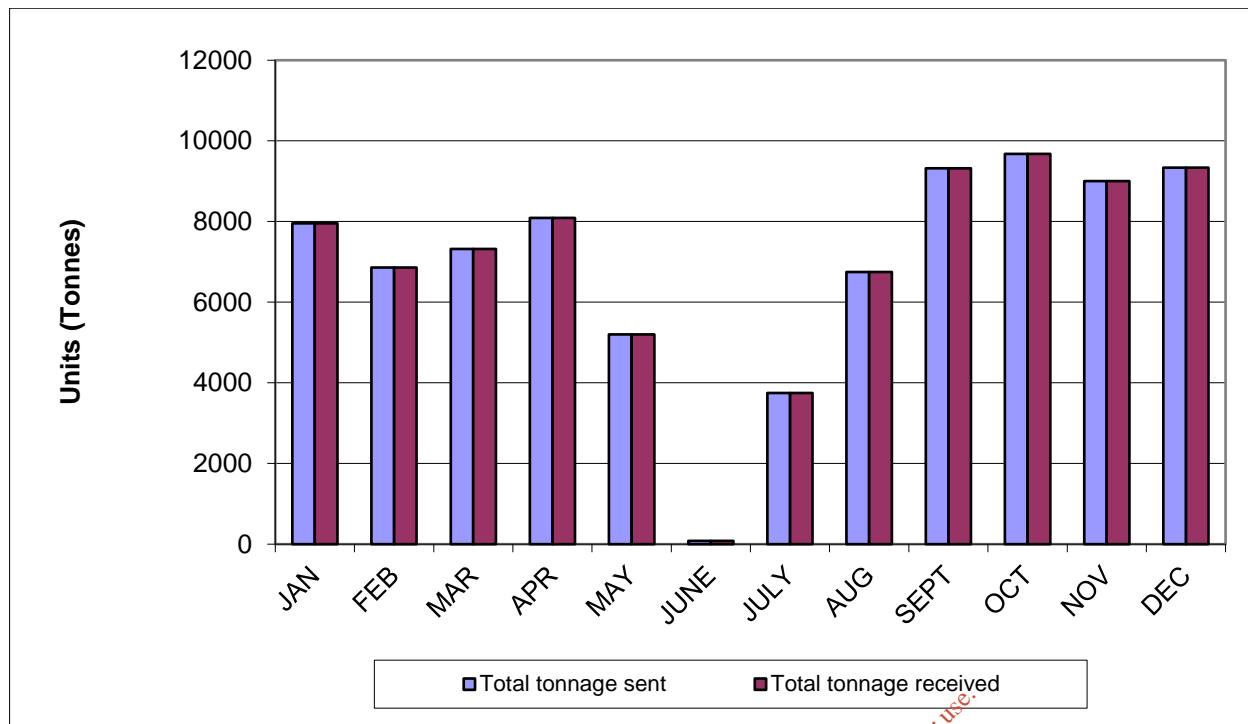


Figure 5.3 Tonnage Received and Sent in 2018 to the Baling Station and to Incineration or recovery

For inspection purposes only.
Consent of copyright owner required for any other use.

6. NUISANCE CONTROL

6.1. Odour Control

Historically odour was the largest source of nuisance for the facility resulting in 100% of all complaints received at the facility.

6.1.2 Daily Odour monitoring

In compliance with Condition 10.3 of the Waste Licence, a daily odour inspection of the facility environs is carried out and staff of the Council's Environmental Services Department keeps a written record.

6.1.3 Quarterly Odour Monitoring

In Compliance with Schedule D.6 of the Waste Licence, an independent contractor carries out quarterly odour monitoring.

6.1.4 Odour Emission control system

The in-situ odour emission control system is a dry dust filtration and annular bed activated carbon filtration system. The annular activated carbon filtration unit provides improved guaranteed odour removal efficiencies and also provide an increase in treatment capacity for the facility.

- Increased design treatment capacity of approximately 25,000 m³/hr and a maximum increased treatment capacity of up to 30,000 m³/hr.
- Increased odour threshold concentration performance to 300 OuE/m³.
- Continuous performance independent of cyclic odour loading.
- Elimination of dust and particulate plugging of the bed medium through the use of a regenerative self-cleaning dust filtration plant.

6.2. Litter Control

In compliance with Condition 7.4 of the Waste Licence, the licensee removes any litter in or around the facility immediately. A watering/sweeping machine is present on site at all times. No complaints were received at the baling station for litter nuisance.

6.3. Dust Control

In compliance with Condition 7.6 of the Waste Licence, in dry weather the roads and hard standing areas are sprayed with water as and when required. No complaints were received at the baling station for dust nuisance.

6.3.1. Dust Monitoring

In Compliance with Schedule D.6 of the Waste Licence, an independent contractor carries out dust monitoring three times a year.

For inspection purposes only.
Consent of copyright owner required for any other use.

7. ENVIRONMENTAL INCIDENTS AND COMPLAINTS

7.0 Incidents Summary

Condition 11.2 of the Waste Licence requires that the licensee shall make written records of the environmental incidents. There was 1 incident recorded during the reporting period.

7.1. Complaints Summary

There was no complaints received from local residents or commercial interests during the reporting period.

7.2. Corrective Action

7.2.1 Surface Water

- ❖ The current cleaning procedures of the site have been reviewed with stringent and improved cleaning regime has been implemented including the weekly manual cleaning of all gullies and the fortnightly jetting of gullies and sewer-lines
- ❖ The procurement of an additional road-sweeper which will routinely sweep the site daily in conjunction with the forklift mounted 'multisweeper'.
- ❖ Full time cleaning / compliance operative has been employed.
- ❖ All cleaning and jetting frequency of all foul and surface water lines, along with all gullies has been increased.

7.2.2 Odour

- ❖ An activated carbon odour control unit is in place to treat malodorous air.
- ❖ Daily odour inspections conducted.
- ❖ Quarterly Odour monitoring conducted by independent consultants.
- ❖ The activated carbon was replaced in September 2018.
- ❖ The dust filters were replaced in October 2018.

7.3. Non-Compliance Summary

3 non-compliances were received at the facility during the Reporting period,. However, as part of a Compliance Investigation from Q4 2017 there were a number of exceedances of Licence Limits as points SWE1A and SWE1B during the first 6 months of 2018. As a result of improved cleaning regimes and so engineering works on site these issues were address and the C.I. closed in Q3 2018.

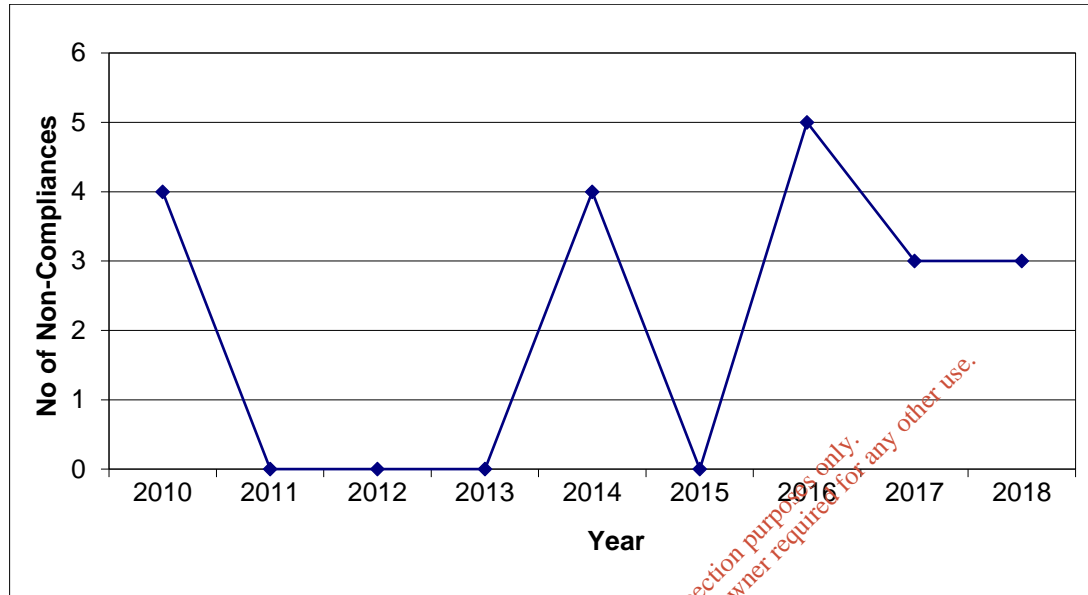


Figure 7.1 Number of Non Compliances

8. ENVIRONMENTAL MANAGEMENT PROGRAMME

8.1. Report

In compliance with Condition 2.3 of the Waste Licence, a review was carried out of the Environmental Management Plan (EMP); the reviewed EMP was last submitted to the Agency for agreement on the 31st March 2012. The Agency asked that no EMP plan was to be submitted to them after 2012. A review of The Environmental Management Plan was conducted in 2016 and a copy kept onsite at the facility. Site operational procedures are described in the EMP.

The schedule of Environmental Objectives and Targets for the reporting year, and a proposal for the forthcoming year, are summarised below.

8.1.1. Schedule of Environmental Objectives and Targets

A detailed Schedule of Environmental Objectives and Targets for the reporting period is presented in Table 8.1.

8.1.2. Achievement of Environment Objectives and Targets

In all cases the Council has made significant efforts to achieve all of the targets set by the individual objectives. Not all targets were achieved within the reporting period but corrective measures were put in place when difficulties were encountered. A summary of the targets achieved is presented in Table 8.1.

The overall responsibility for achieving these objectives and targets lies with the Senior Engineer of South Dublin County Council and Managing Directors of the Facility Management. Items referred to within these objectives are site specific and are the combined responsibility of the Council's Environmental Manager and The Facility Management.

Objective/ Target	Description	Status
Objective 1	To ensure continued implementation of the environmental Policy	
Target 1.1	Continue to conduct Environmental Training refresher course for all Baling Station Staff.	Achieved- Ongoing.
Target 1.2	Refresher Forklift Training	Achieved
Target 1.3	Refresher Front End Loader Training	Achieved
Target 1.4	Refresher teleporter training	Achieved
Target 1.5	MEWP training	Achieved
Objective 2	To promote public awareness of the facility and encourage use of the civic amenity/recycling facilities	
Target 2.1	Further expansion of recycling facilities at the Civic Amenity Facility by increasing the number of waste types accepted for recycling.	Achieved
Target 2.2	Upgrade signage at entrance gate and within the Civic Amenity	Achieved
Target 2.3	Introduce pay by weight for MSW in Civic Amenity	Not Achieved
Target 2.4	Introduce Mattress recovery and recycling	Achieved
Target 2.5	Introduce Public awareness recycling flyer	Achieved

Objective 3	To Continue site development/improvement	
Target 3.1	Install designated MSW disposal area	Achieved
Target 3.2	Install extra CCTV	Achieved
Objective 4	To minimise the environmental impact arising from nuisance caused by the facility	
Target 4.1	Reduction of water consumption	Achieved
Target 4.2	Decrease in the use of electricity	Achieved
Target 4.3	Undertake energy audit of the facility	Not-Achieved
Objective 5	To comply with Emission Limit Values in Schedule E of Waste Licence	
Target 5.1	Reinstall Bio-Tubes to all interceptors to reduce OFG levels.	Not Achieved
Target 5.2	Replace Activated Carbon in odour control system.	Achieved
Objective 6	To successfully control emergencies at the facility	
Target 6.1	Review and update of safety statement, site health and safety plan and site risk assessments	Achieved
Target 6.2	Introduce new Environmental Response Plan	Achieved
Target 6.3	Introduce new Health and Safety response Plan	Achieved

Table 8-1 Achievement of Environment Objectives & Target

8.2. Proposal

Target Number	Description	Time Frame	Responsibility
Target 1.1	Continue to conduct Environmental Training refresher course for all Baling Station and Civic Amenity Staff	September 2019	Facility Manager
Target 1.2	Refresher Front End Loader Training	June 2019	H&S Manager
Target 1.3	MEWP training	If required	H&S Manager
Target 1.4	Fire Extinguisher training	August 2019	H&S Manager
Target 1.5	First Aid Refresher training	June 2019	H&S Manager
Target 2.1	Further expansion of recycling facilities at the Civic Amenity Facility by increasing the number of waste types accepted for recycling.	November 2019	Env. Manager
Target 2.2	Introduce pay by weight for MSW in Civic Amenity (if required by legislation)	December 2019 (if required by legislation)	Env. Manager
Target 2.3	Facilitate school tours and awareness visits	If requested	Env. Manager
Target 3.1	Review layout of Civic Amenity to ensure ease of use.	September 2019	Facility Manager
Target 4.1	Reduction of water consumption	December 2019	Facility Manager.
Target 4.2	Decrease in the use of electricity	December 2019	Env. Manager
Target 5.1	Replace Activated Carbon in odour control system.	August 2019	Env. Manager.
Target 5.2	Replace dust filters in Odour control system	August 2020	Env. Manager
Target 5.3	Review and improve foul and surface water cleaning regime.	June 2019	Facility Manager.
Target 5.4	Carry out bund integrity testing	June 2019	Env. Manager / Facility Manager.
Target 6.1	Review and update of safety statement, site health and safety plan and site risk assessments	July 2019	H&S Manager
Target 6.2	Conduct Emergency response training with staff	June 2019	Env. Manager
Target 6.3	Fire Drill	July 2019	H&S Manager

Table 8-2 Proposed Environment Objectives & Targets for 2018

The Environmental Objectives and Targets proposed for the forthcoming year (listed in Table 8.2 proposed environment objectives and targets) are based on the requirements of the current Waste Licence. However, should the Agency grant a revised licence within this period, the proposed schedule would in turn require revision to reflect any new conditions.

8.3 Operational and Environmental Procedure

Documented operating procedures for the Waste transfer station, which are described in detail in the Environmental Management Plan are sub-divided as follows: -

- Standard Operating Procedures
- Environmental Procedures
- Emergency Response Procedures

A brief summary of these is provided below.

8.1.3. Standard Operating Procedures

Standard Operating Procedures have been developed for each of the routine operations conducted at the facility. The purpose of these is to ensure that routine tasks are carried out in the same manner each time they are undertaken, even if different operators perform them. Their implementation will encourage quality as well as safe work practices. Regard is also had for the site specific Safety Statement when carrying out any operations at the facility.

The routine operations identified are as follows:

- SOP 001- Weighbridge operation
- SOP 002- Waste Acceptance at the Waste transfer and Civic Amenity Facility
- SOP 003- Compaction of waste
- SOP 004- Loading and shunting of containers
- SOP 005- Environmental Monitoring;
- SOP 006- Housekeeping;
- SOP 007- Operation Of Odour Control System
- SOP 008- Operation/Maintenance Of Wastewater Treatment Works
- SOP 009- Opening/Closing Of Waste Reception Shutters
- SOP 010- Weekly Drainage Inspection
- SOP 011- Fuel Storage and Pollution Control Inspection
- SOP 012- Weekly Interceptor Inspection
- SOP 013- Monthly Over ground Inspection Form
- SOP 014- Emergency Generator Operation/Maintenance
- SOP 015- Nuisance Inspection

8.3.2. Environmental Procedures

Environmental procedures have been developed in order to maintain the Environmental Management System and to ensure continued improvement in the operation and management of the facility. Environmental Procedures are subject to change on evaluation.

The Environmental Procedures are as follows:

- EPROC 001- Corrective Action Procedures
- EPROC 002- Awareness and Training Procedures
- EPROC 003- Incident Response and Reporting Procedures
- EPROC 004- Complaints Procedures

8.3.3. Emergency Response Procedures

Condition 10.1 of the Waste Licence requires that a written Emergency Response Procedures (ERP) be submitted. An updated document describing these procedures was updated in June 2015. Emergencies have been defined as unexpected events, which prohibit the waste processing operation or reduce waste processing capacity, or any occurrence resulting in non-compliance with the conditions of the Waste Licence. Potential emergencies at the facility can be grouped under the following headings: -

- Inability to process waste.
- Inability to transport waste to receiving facility.
- Threats to staff health and safety.
- Threats to the environment.

The ERP document, which is maintained in the facility office, contains detailed procedures and a list of emergency contact numbers to be used in the event of an emergency. A copy of the Council's "Major Emergency Plan" is also maintained in the facility office.

8.3. **Management and Staffing Structure**

The Council, as the licensee, operates the facility under the terms of an agreement with Panda Waste Services. The organisational structure for the facility is shown in Figure 8.1.

Operations at the facility are carried out in two distinct areas, namely the Waste Transfer Station and the Civic Amenity Facility. The Management Committee, the Environmental Manager, the Facility Manager have delegated responsibilities for operations management and supervision in both areas.

Each of the positions identified in Figure 8.1 are discussed in detail in Section 6 of the Environmental Management Plan for the reporting year. Details of the relevant experience and qualifications for each person named, as well as arrangements for absence in the case of annual leave, illness and other absences, are maintained in the facility office and have also been forwarded to the Agency as required by Condition 2.2.

A file consisting of training records for each employee is also maintained in the facility office.

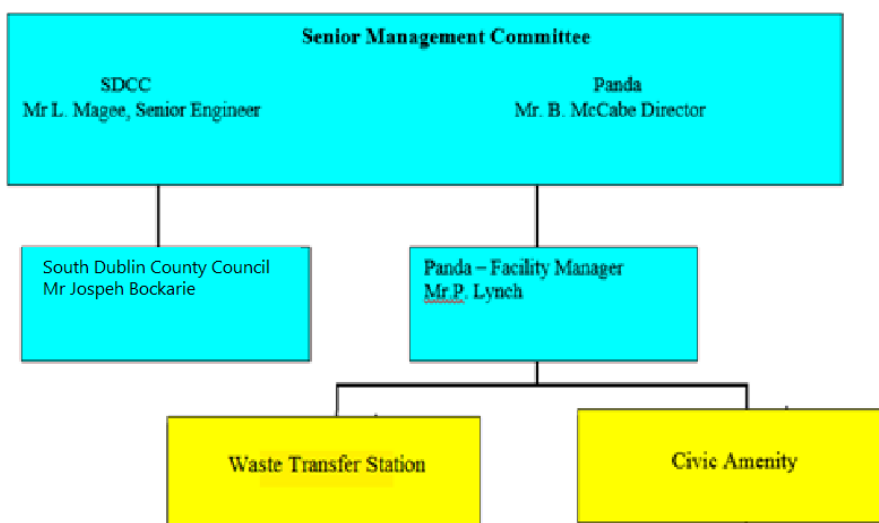


Figure 8.1 Management and Staffing Structure

9. TANK AND BUND TESTING

Condition 3.13.5 of the Waste Licence requires that tank and bund testing be carried out once every three years. All Bunds on-site were tested to BS8007: 1987 between November and December 2015. At the end of 2015 reporting period all onsite Bunds met the requirements. Due to procurement issues the testing was not carried out in 2018 and is scheduled for Q2 2019.

10. RESOURCE CONSUMPTION SUMMARY

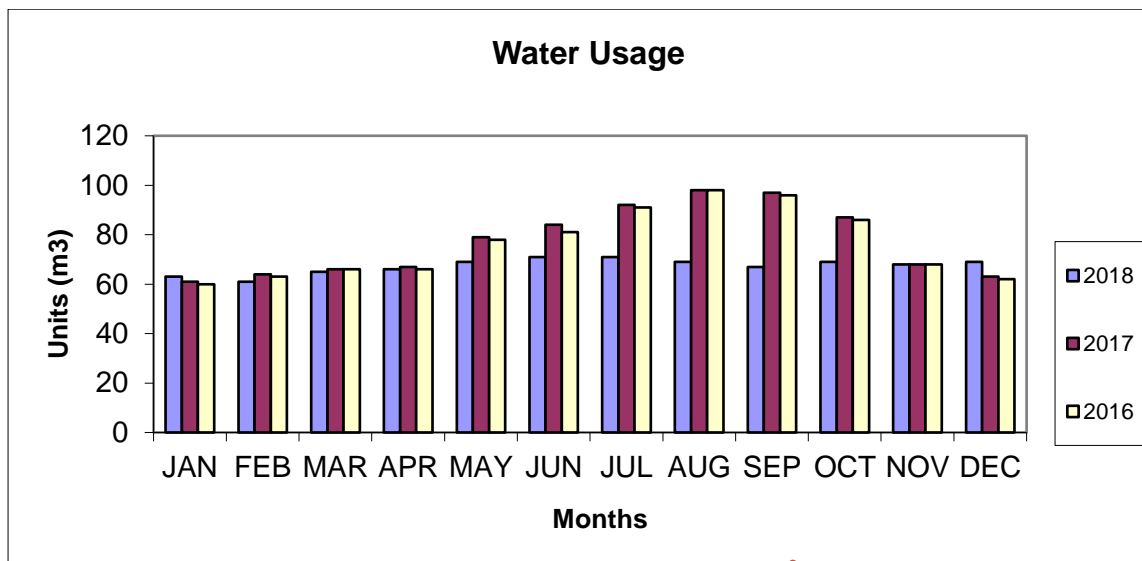
Resources consumed at the facility include electricity, water, diesel fuel, steel wire, cleaning products, odour products and hydraulic oil. The principle consumers of energy at the facility are summarised in Table 10.1. Resource consumption is also presented in table 10.2 and figures 10.1 - 10.4.

Plant Item	Resource Used
Baling/ Ancillary Equipment	Electricity
Odour Control System	Electricity and Water
Mobile Plant	Green Diesel
Road Transfer Fleet	White Diesel

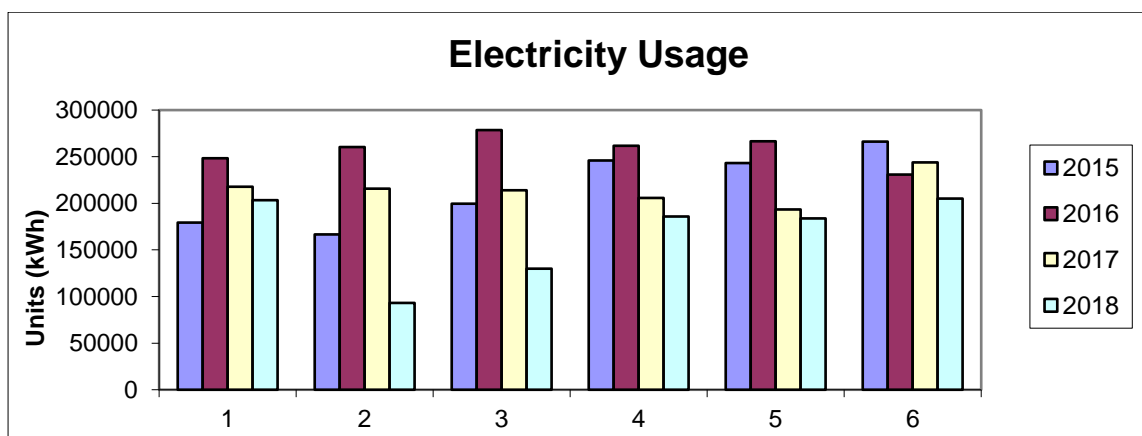
Table 10-1 Principle Resource Consumers

Resource	Quantity Used
Diesel Fuel	50,319 litres
Electricity	1,000,524 kWh
Water	808 m ³
Plastic Wrap	0

Table 10-2 Energy and Resources (January 2018 – December 2018)

**Figure 10.1 Water Use**

For inspection purposes only.
Consent of copyright owner required for any other use.

**Figure 10.3 Electricity Consumption (bi-monthly comparison)**

11. REPORT ON PUBLIC INFORMATION FILE

During the 2018 reporting period there was no application received to see the public inspection file.

Pertinent documentation available for public inspection include:

1. Environmental Record File
2. Environmental Monitoring Reports File (Volumes 1-4)
3. Complaints Register
4. Waste Licence
5. Environmental Management Plan
6. Emergency Response Procedures

Members of the public, who wish to view information describing environmental performance of the facility in 2018, can do so by phoning the facility. The facility contact numbers are posted on the main facility entrance sign. The names of the appropriate personnel are as follows:

Mr. Pat Lynch
Panda Waste Management
Facility Manager

Mr. Joseph Bockarie
South Dublin County Council
Senior Executive Engineer

For inspection purposes only.
Consent of copyright owner required for any other use.

12. SITE OPERATIONS

12.1. Duty and Standby Capacity of Waste Handling Plant

With the introduction of licence W0003-03 the maximum quantity of municipal waste to be accepted at the facility has decreased to 324,480 tonnes. In compliance with condition 1.7 of the waste licence the hours of operation has been increased 6:30a.m. to 9:00 p.m. Monday to Saturday inclusive.

All waste received in the Waste Transfer Station, since bailing of waste ceased in May 2017, has been bulked transferred with the vast majority sent to the Dublin Waste to Energy facility in Ringsend. The total tonnage of waste received at the Waste Transfer Station was 123096.4 tonnes. As the licence permits 324,480 tonnes per annum it meant there was an additional unused capacity of 201303.6 tonnes.

Given the aforementioned tonnage accepted in the facility, this means the facility was running at 38% capacity

12.2. Ventilation plant capacity and Spares

The Odour emissions control system was installed 10th December 2007 on the receiving and waste areas of the facility. The unit was installed to the following performance design:

• Volume Flow Rate	100,000 m ³ /hr
• Inlet Odour Capacity	5,000 OUE/m ³
• Outlet Odour Concentration	150 OUE/m ³
• Temperature	Ambient
• Relative Humidity	50-100 %
• Stack Height	12m
• Stack Diameter	1.6m

Spares for the odour and emissions control system are kept on site in the western storage area, these include:

Fan Spares:

Component	No. off
Bearing set for fans	2 No.

Dustfilter Spares:

Filter Cartridge	4 No.
Diaphragms	20 No.
Solonoids	20 No.

Carbon Spares:

5 Tonnes

13. ENVIRONMENTAL LIABILITIES AND DECOMMISSIONING

13.1. Decommissioning Plan

As per licence condition, 12.2 a Financial Provision for decommissioning is in place by the Council. A copy of the decommissioning plan is available for viewing at the facility office by appointment.

13.2 Environmental Liability Risk Assessment

As per licence condition 14.1, an Environmental Liability Risk Assessment is in place by the Council. A copy of the Environmental Liability Risk Assessment is available for viewing at the facility office by appointment. The assessment details measures taken in relation to the prevention of environmental damage. A cost of 1,224,606 has been quantified. These costs, along with the costs of the subsequent post incident remedial works, will be recouped from the facility insurance policy.

For inspection purposes only.
Consent of copyright owner required for any other use.

APPENDIX

For inspection purposes only.
Consent of copyright owner required for any other use.

Parameter	Sample Point	Licence W0003 (mg/l)	Feb	June	Sept	Dec
pH	1(us)	5.5 - 9.0		7.38	7.89	7.9
	2(us)	5.5 - 9.0		7.45	8.18	7.98
	3(ds)	5.5 - 9.0		7.48	8.18	8.08
BOD	1(us)	25.0		64	<2	<2
(mg/l)	2(us)	25.0		58	<2	<2
	3(ds)	25.0		48	<5	<2
COD	1(us)	150.0		121	8	5
(mg/l)	2(us)	150.0		106	<2	6
	3(ds)	150.0		4	12	6
Suspended Solids	1(us)	35.0		39	<2	16
(mg/l)	2(us)	35.0		14	<2	<2
	3(ds)	35.0		37	<2.5	<2
Mineral Oil	1(us)	5.00		0.1428	<0.025	<0.025
	2(us)	5.0		0.1962	<0.025	<0.025
	3(ds)	5.0		0.1403	<.025	<0.025

*us – upstream of baling centre

ds – downstream of baling centre

Table 12-1.1 Surface Water Monitoring Results 2018

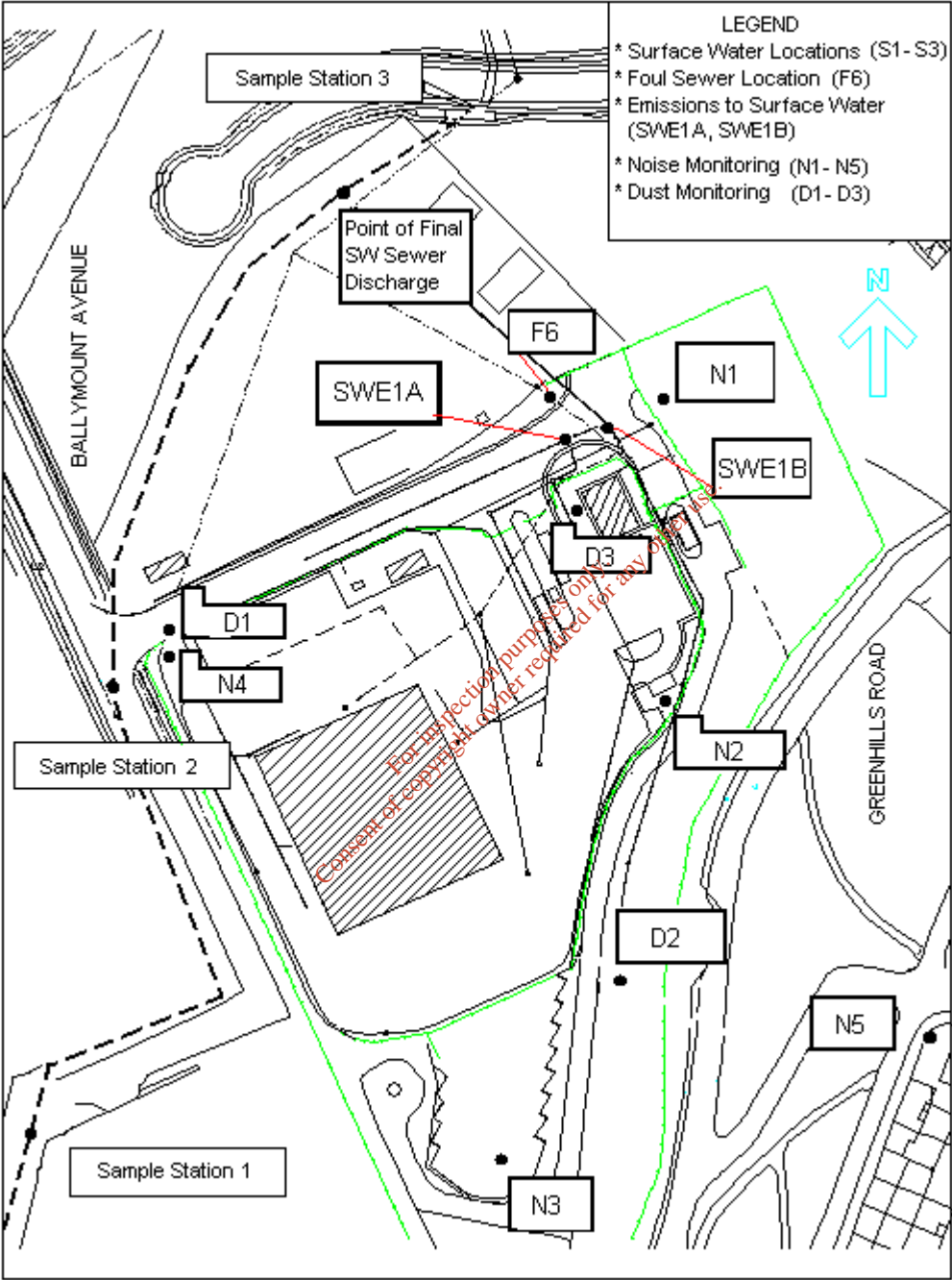


Figure 12.1 Monitoring Location Map