



THE RECYCLING VILLAGE LTD

Administration,
Office of Climate, Licensing & Resource Use,
Environmental Protection Agency,
Johnstown Castle Estate,
Co. Wexford



12th September 2013

Dear Mr. Geoghegan,

In response to your email, received 11th September 2013, please find below and attached, the details you requested:

1. The Air Emissions Points A1 and A2 referenced in the original application have been consolidated into one Air Emission Point A1. The 12 digit grid reference for the point is 53°39'48"N 06°24'27"W.
2. Please find attached Revised Attachment E – Emissions, including revised relevant tables and map.
3. Results of atmospheric emission monitoring have been included in Revised Attachment E – Emissions, please see attached.
4. No air dispersion modelling of emissions has been carried out for the site.
5. Heavy metals were not measured in dust deposition surveys carried out on samples collected at points D1-D4 in 2012 or in 2013.
6. Two types of filters to mitigate air emissions are used on site:
CRT Line Filters: 24"x24"x2" Pleated Panel Filter, Grade G4
FPD Line Filters: 24"x24"x2" SARF Carbon Filter
The filters are in positions in a straight line between grid reference 53°39'27"N 06°24'40"W and 53°39'48"N 06°24'27"W, and our Air Emissions monitoring procedures are attached.

I hope to have provided you with all required information, however if you require any further information, or clarification of any of the information provided, please do not hesitate to contact me,

Yours Sincerely,

Nikita Coulter BSc MSc EnvDip
Environmental Compliance Officer



Unit 21, Duleek Business Park, Commons, Duleek, County Meath
Tel: 041-686 2366 Fax: 041-686 2367 Email: admin@therecyclingvillage.ie
Vat No: IE 6394465C Waste Permit No: WFP/MH/11/0005/01

**REVISED ATTACHMENT E
EMISSIONS**

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E.1. Emissions to Atmosphere

E.1.a. Details of all Point Emissions to Atmosphere

There is one point emission source to the atmosphere from the facility as shown on the attached Site Plan – Emissions Monitoring, Plan Ref: 12039-LA-05, i.e.:

- A1 Air Emission Point

The point A1 is the emission point for both the CRT Dismantling Line extraction duct and the FPD Dismantling Line extraction duct. The emissions were analysed by a third party laboratory for particulates and for heavy metals.

The results are shown in the following table.

Emission Point Reference: A1 Main Stack Emission Point				
13/08/2013				
Substance	Emission Limit Value	Periodic Monitoring Result	Units (Reference Conditions 273 K, 101.3 kPa)	Stack Flow Rate Nm ³ /Hr
Particulates	None	1.92	mg/Nm ³	8.335
Arsenic	None	<0.002	mg/Nm ³	8.335
Cadmium	None	<0.003	mg/Nm ³	8.335
Chromium	None	<0.036	mg/Nm ³	8.335
Cobalt	None	<0.001	mg/Nm ³	8.335
Copper	None	0.234	mg/Nm ³	8.335
Lead	None	0.184	mg/Nm ³	8.335
Manganese	None	0.009	mg/Nm ³	8.335
Antimony	None	<0.003	mg/Nm ³	8.335
Nickel	None	0.018	mg/Nm ³	8.335
Thallium	None	<0.001	mg/Nm ³	8.335
Vanadium	None	<0.001	mg/Nm ³	8.335
Phosphorus	None	<0.002	mg/Nm ³	8.335
Mercury	None	<0.001	mg/Nm ³	8.335
Total Metals	None	0.4943	mg/Nm ³	

E.1.b. Fugitive and Potential Emissions

As part of the existing Waste Permit, The Recycling Village Ltd. carries out dust deposition monitoring at the following site boundary locations as shown on the attached Site Plan – Emissions Monitoring, Plan Ref.: 12039-LA-05, i.e.:

Monitoring Location	Description of Location
D1	Corner site boundary at the main site entrance gate
D2	Corner site boundary at the yard entrance gate
D3	Corner site boundary at the rear of the yard
D4	Corner site boundary at the rear of the building

The results of the most recent site boundary dust deposition surveys are presented below.

Location	Solids (mg/l)	Total Volume (l)	Total Solids/Sample (mg)	Dust Deposition (mg/m ³ /d)	Nuisance Limit (mg/m ³ /d)
Jan – Feb 2013					
D1	<2	2.0	<4	2.4	350
D2	<2	4.0	<8	4.8	350
D3	<2	2.0	<4	2.4	350
D4	2	4.0	8	4.8	350

The above dust deposition results are all in compliance with the permit limit of 350mg/m³/day and show that there is no issue with dust deposition at the site boundary.

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E.2. Emissions to Surface Water

There are no process effluent emissions from the facility. Emissions to surface water arise from yard run off which drains into an interceptor prior to discharge to surface water as shown on attached Site Plan – Emissions Monitoring, Plan Ref: 12039-LA-05.

As part of the existing Waste Permit, The Recycling Village Ltd take quarterly samples of the effluent from the final chamber of the interceptor sump for analysis by a third party laboratory.

The results of previous analyses are presented below.

Parameters	Units	Sept 2012	Dec 2012	Feb 2013	Jun 2013
Ammonia	mg/L as N	0.597	0.2	1.1	0.227
BOD	mg/L	7.64	7.82	3.94	<2
Mineral Oil	mg/L	2.66	0.238	2.34	0.013
pH	pH Units	7.57	7.5	7.7	7.5
Total Suspended Solids	mg/L	36.3	5.56	27	9
Arsenic	ug/L	0.99	0.538	2.13	0.3
Cadmium	ug/L	3	1.32	3.89	2.3
Chromium	ug/L	5.78	10	15.7	3.1
Cobalt	ug/L	n/a	n/a	n/a	0.4
Copper	ug/L	n/a	n/a	n/a	20.7
Lead	ug/L	128	21.4	15.1	184.1
Manganese	ug/L	n/a	n/a	n/a	26.9
Mercury	ug/L	n/a	n/a	n/a	0.1
Nickel	ug/L	n/a	n/a	n/a	14.9
Tin	ug/L	n/a	n/a	n/a	6.9
Titanium	ug/L	n/a	n/a	n/a	32.2
Iron	mg/L	0.343	0.0381	0.0272	n/a

As part of the existing Waste Permit, The Recycling Village Ltd must take a further annual sample of the effluent from the final chamber of the interceptor sump for analysis by a third party laboratory for the presence of VOC's, glycol and pesticides.

The results of the most recent annual analysis are presented below.

Parameters	Units	Feb 2013
VOC's	ug/L	<1
Glycol	mg/L	<10
Pesticides	ug/L	<0.01

E.3. Emissions to Sewer

There are no process effluent emissions from the facility to sewer.

There are effluent emissions from the site toilets, canteen and staff changing rooms to the local authority foul sewer as shown on attached Site Plan – Emissions Monitoring, Plan Ref: 12039-LA-05.

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E.4. Emissions to Groundwater

The Recycling Village Ltd facility and external yard are covered in concrete to prevent potential soil and groundwater pollution from spillages and leaks.

There are no emissions to groundwater from the facility and there are no groundwater monitoring boreholes at the site.

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E.5. Noise Emissions

As part of the existing Waste Permit, The Recycling Village Ltd carries out annual noise monitoring at the following site boundary locations as shown on the attached Site Emissions Monitoring Plan Ref: 12039-LA-05.

Monitoring Location	Description of Location
N1	Corner site boundary at the main site entrance gate
N2	Corner site boundary at the yard entrance gate
N3	Corner site boundary at the rear of the yard
N4	Corner site boundary at the rear of the building

The results of the most recent noise survey carried out in January 2013 are presented below.

Location	Weather	Start Time	Duration	LAeq	Comments
N1	Dry, Cloudy, No Wind	10:05	30 mins	60.8	Site operational. Noise from adjacent sites fridge units.
N2	Dry, Cloudy, No Wind	11:15	30 mins	60.1	Site operational. Noise from forklifts in yard and lorries visiting site.
N3	Dry, Cloudy, No Wind	12:15	30 mins	52.1	Site operational. Noise from RV facility.
N4	Dry, Cloudy, No Wind	12:50	30 mins	65.8	Site operational. Noise from glass cleaning machine and intermittent use of compressor.
N1	Dry, Cloudy, No Wind	13:35	30 mins	62.5	Site operational. Noise from adjacent sites fridge units.
N2	Dry, Cloudy, No Wind	14:30	30 mins	66.2	Site operational. Noise from forklifts in yard and lorries visiting site.
N3	Dry, Cloudy, No Wind	15:05	30 mins	48.4	Site operational. Noise from forklifts in yard and lorries visiting site.
N4	Dry, Cloudy, No Wind	15:45	30 mins	56.9	Glass cleaning machine and compressor not in use. Noise from angle grinding in neighbouring unit.



The day-time boundary LAeq noise levels recorded ranged between 48.4 dB (A) and 66.2 dB (A). Waste Permit WFP/MH/11/0005/01 specifies a day-time noise emission limit value of 55 dB (A).

The noise environment that surrounds the monitoring locations is a complex one with several different businesses operating simultaneously that all have an effect on the noise in the immediate area in and around the facility.

Although the day time noise levels recorded at some of the site boundary monitoring locations were above the day time Waste Permit limit of LAeq 55 dB (A), the facility is located within a purpose built industrial estate away from sensitive locations. Consequently noise emissions from the facility are unlikely to have a negative impact on sensitive locations beyond the site boundary.

Page Number: 1 of 2
ISO Clause No.: 4.5.1
Ref. no. EMS 11 04
Rev. Number: 1

Prepared By: N. Coulter
Approval By: N. Madden
Effective Date: 12/09/2013

Sig.: 
Sig.: 

TITLE: Air Emissions Monitoring

1.0 PURPOSE

1.1 The purpose of this procedure is to establish and maintain a procedure for carrying out air emissions monitoring surveys at the facility stack (A1).

2.0 SCOPE

2.1 The scope of this procedure relates to the monitoring of air emissions from the facility stack with a view to monitoring the performance of air emission abatement measures that have been installed at the facility.

3.0 Related Documents

- 4.5.1 ER 004 Site Environmental Monitoring Programme
- Site Plan – Emission Monitoring Ref: 12039-LA-05
- 4.5.1 EMS 11 09 Air Extraction Rate Monitoring Procedure
- 4.5.1 EMS 11 10 Air Filter Exchange Procedure
- 4.3.1 ER 003 WEEELabex
- Site Monitoring Folder

4.0 Responsibility

- 4.1 It is the responsibility of the Managing Director to ensure that adequate resources are allocated for this procedure to be implemented.
- 4.2 It is the responsibility of the Environmental Compliance Officer to ensure that this procedure is carried out.

5.0 Procedure

- 5.1 The Recycling Village Ltd will appoint an external environmental monitoring service to carry out an air emissions monitoring survey at the facility.
- 5.2 Monitoring will be carried out annually and the air emissions will be analysed by a third party laboratory for dust and heavy metals.
- 5.3 Air emissions sampling will be carried out at the site stack location A1 (see Site Plan – Emission Monitoring Ref: 12039-LA-05):
- 5.4 The external environmental monitoring service will produce a report for The Recycling Village Ltd. The report and the laboratory results shall be inspected by the Environmental Compliance Officer to ensure compliance with air quality standards and to compare results with previous air emission monitoring surveys.



ISO 14001 – ENVIRONMENTAL MANAGEMENT SYSTEM

Page Number:	2 of 2	Prepared By:	N. Coulter	Sig.:
ISO Clause No.:	4.5.1			
Ref. no.	EMS 11 04	Approval By:	N. Madden	Sig.:
Rev. Number:	1	Effective Date:		



TITLE: Air Emissions Monitoring

- 5.5 Where corrective actions are deemed to be necessary, the Environmental Compliance Officer shall call an emergency Environmental Management Meeting to consult with the Environmental Management Team.
- 5.6 A copy of the report and laboratory results will be retained in the Environmental Compliance Officers office in the Site Monitoring Folder.
- 5.7 The results of the annual air emissions monitoring survey shall be reported to the relevant Authority as part of the Annual Environmental Report.

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Page Number: 1 of 2
ISO Clause No.: 4.5.1
EMS Ref. No.: EMS 11 09
Rev. Number: 0

Prepared By: N. Coulter
Approval By: N. Madden
Effective Date: 12/09/2013

Sig.: 
Sig.: 

TITLE: Air Extraction Rate Monitoring Procedure

1.0 PURPOSE

1.1 The purpose of this procedure is to monitor the rate of extraction of the fans on the FPD and CRT dismantling lines.

2.0 SCOPE

2.1 The extraction rate of the fans will diminish as the filters require changing. Regular monitoring of the extraction rate gives a clear indication that the filters require changing (EMS 11 10).

3.0 RELATED DOCUMENTS

- 4.5.1 EF 23 Air Extraction Rate Monitoring Record
- 4.5.1 EMS 11 10 Air Filter Exchange Procedure
- 4.3.1 ER 001 Environmental Aspects Register
- Cabin Air System General Layout ref. REC-012-L001
- Ground Floor Plan ref. 12039-LA-04
- 4.3.2 ER 003 WEEELabex

4.0 RESPONSIBILITY

4.1 It is the responsibility of the Managing Director to ensure that adequate resources are allocated for this procedure to be implemented.

4.2 It is the responsibility of the Environmental Compliance Officer to ensure that this procedure is carried out.

5.0 PROCEDURE

5.1 A handheld windspeed monitoring system is used to monitor the air extraction rate from the ventilation systems of the CRT dismantling line and the FPD dismantling line.

5.2 The extraction fans for the CRT and FPD lines are temporarily shut down, in sequence, while the top valve on the stack emission monitoring station (A1) is opened.

5.3 The windspeed monitoring system is held in the air flow for 10 seconds per extraction unit and the out flow rate is recorded in meters per second (m/s) for the CRT extraction fans and the FPD extraction fans, individually.

5.4 Once monitoring is complete the top valve on the stack emission monitoring station is closed and the extraction fans are turned on again.

5.6 Air Extraction Rates are logged into EF 23 on the Server for comparative purposes.



Page Number:	2 of 2	Prepared By:	N. Coulter	Sig.:
ISO Clause No.:	4.5.1			
EMS Ref. No.:	EMS 11 09	Approval By:	N. Madden	Sig.:
Rev. Number:	0	Effective Date:		

TITLE: Air Extraction Rate Monitoring Procedure

- 5.7 A low reading on the CRT fan extraction rate may indicate that the filters are clogged, while an unusually high reading may imply that the filters are defective.

- 5.8 A trigger point is to be determined for FPD filter exchange.

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Page Number: 1 of 2
 ISO Clause No.: 4.5.1
 EMS Ref. No.: EMS 11 10
 Rev. Number: 0

Prepared By: N. Coulter

Sig.: 

Approval By: N. Madden

Sig.: 

Effective Date: 12/09/2013

TITLE: Air Filter Exchange Procedure

1.0 PURPOSE

- 1.1 The purpose of this procedure is to ensure the safe and environmentally friendly exchange of the filters on the CRT and FPD air extraction system with a view to abating fugitive emissions from production.

2.0 SCOPE

- 2.1 The CRT filters require regular changing to ensure that the maximum amount of dust and heavy metals can be extracted from the operational zone and contained to ensure that both occupational health standards and environmental standards are maintained.
- 2.2 Regular monitoring of the air extraction rate (EMS 11 09) shall indicate when the FPD filters require changing.

3.0 RELATED DOCUMENTS

- 4.3.1 ER 001 Environmental Aspects Register
- 4.3.2 ER 003 WEEELabex
- 4.5.1 EMS 11 09 Air Extraction Rate Monitoring Procedure
- 4.5.1 EF 23 Air Extraction Rate Monitoring Record
- Cabin Air System General Layout Ref. REC-012-L001
- Ground Floor Plan Ref. 12039-LA-04

4.0 RESPONSIBILITY

- 4.1 It is the responsibility of the Managing Director to ensure that adequate resources are allocated for this procedure to be implemented.
- 4.2 It is the responsibility of the Environmental Compliance Officer to ensure that this procedure is carried out.

5.0 PROCEDURE

CRT Line Filters - 24"x24"x2" Pleated Panel Filter, Grade G4

- 5.1 Date new filters with replacement date with a marker
- 5.2 Filters are replaced during downtime by a designated employee with correct PPE (including half face dust mask with 6915 and 6925 3M Brand filters, or equivalent, and gloves)
- 5.3 Ensure that all fans are off and the doors to the isolation booth are closed.
- 5.4 Remove old filters and insert new filters.
- 5.5 Vacuum up any spillages using heavy duty HEPA Model vacuum cleaner.

Page Number: 2 of 2 Prepared By: N. Coulter Sig.:
ISO Clause No.: 4.5.1
EMS Ref. No.: EMS 11 10 Approval By: N. Madden Sig.:
Rev. Number: 0 Effective Date:

TITLE: Air Filter Exchange Procedure

- 5.6 Turn on fans and observe them functioning.
- 5.7 Replace any potentially faulty filters and plug gaps around filters with draft excluder tape.
- 5.8 Old filters are placed in a storage receptacle with date facing up. A lid is placed on the receptacle and the receptacle is placed in Secure Store 5 awaiting collection by a designated disposal company (TBC)

FPD Line Filters – 24"x24"x2" SARF Carbon Filter

- 5.9 Same procedure as for changing the CRT filters, however there is no dust in the FPD isolation booth and no vacuum cleaner.
- 5.10 FPD filter replacement timescale TBC.
- 5.11 Use filters in face mask that are specific for operations involving Mercury vapours (6096 A1HgP 3R 3M Brand or equivalent).

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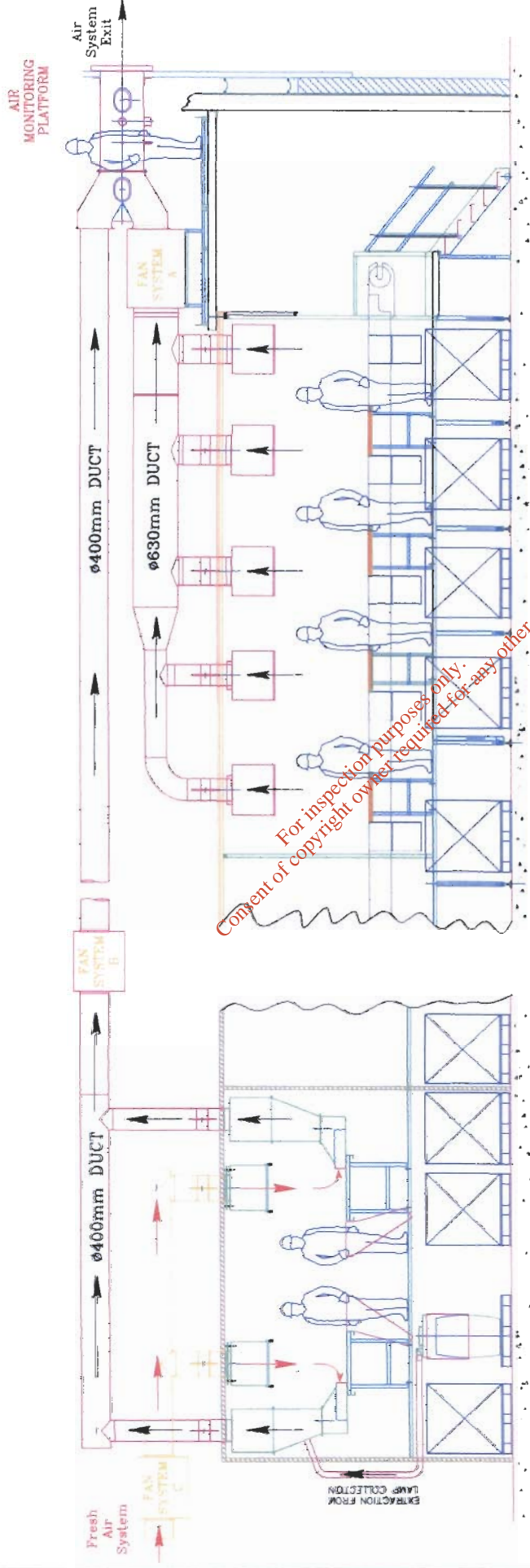
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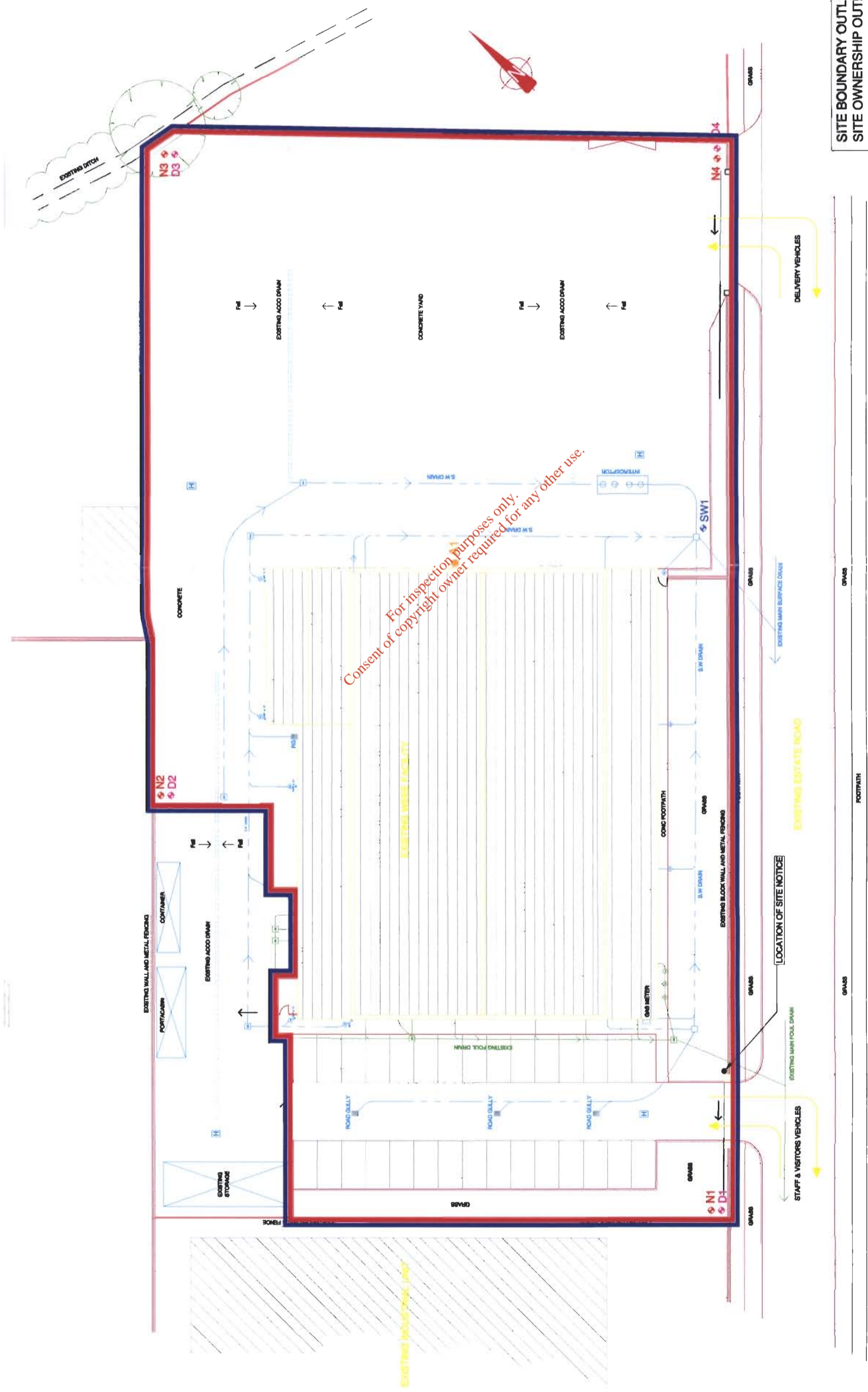
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SYSTEM A (Ventilated Air Out)
Cabin Size 7550x2660x2940mm
Cabin Volume 59Mtr.s Cubed
Fan DA 15/15 2.2kW
Hoods 900x600x700mm (5) off
Filters 24"x24"x2" Pleated Panel
Air Velocity at Exit Duct: 3.4 M/S
Air Extraction: 4200 m³/hour
Air Changes per Hour: 71
(assumes filters are in good condition)

SYSTEM C (Fresh Air In)
Cabin Size 4975x4000x2500mm
Cabin Volume 50Mtr.s Cubed
Fan Aspirator V230 730m³/Hour
Hoods (2) off
Fresh Air in: 730m³/hour

SYSTEM B (Ventilated Air Out)
Cabin Size 4975x4000x2500mm
Cabin Volume 50Mtr.s Cubed
Fan BUPE 10-10 55 Duet Fan
Hoods 900x600x700mm (2) off
Filters 24"x24"x2" SARF Carbon Filter
Air Velocity at Exit Duct: 2.9 M/S
Air Extraction: 3500 m³/hour
Air Changes per Hour: 70
(assumes filters are in good condition)

Village Engineering Limited	Unit 10B Castlecreeper Business Park, Kilkeny Rd., Castlecreeper, Co. Wickliffe.	CLIENT Recycling Village	TITLE Cabin Air System General Layout	WORKS No. 0 DRAWN T.L CHECKED N.L	SCALE 1:60(a3) DRAWING No. REC-012-L001	DATE 14/05/13 REV. 1
				File: REC-12-L001		



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- SITE BOUNDARY OUTLINED IN RED
- SITE OWNERSHIP POINT OUTLINED IN BLUE
- A1 AIR EMISSION POINT SHOWN THUS
- ◆ N1 - N4 NOISE MONITORING LOCATIONS SHOWN THUS:
- ◆ D1 - D4 DUST MONITORING LOCATIONS SHOWN THUS:
- ◆ SW1 SURFACE WATER RUN OFF LOCATION SHOWN THUS:

THE RECYCLING VILLAGE LTD. Unit 21, Duleek Business Park, Duleek, Co. Meath.	TITLE Site Plan - Emissions Monitoring		WORKS No. 0	DATE 01/05/13	DRAWN	REV.
			SCALE nts	01/05/13	CHECKED	1
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