



**ANNUAL ENVIRONMENTAL REPORT 2009
GALWAY CITY COUNCIL DEPOT
EPA WASTE LICENCE W166-1**

**Environmental Department
Galway City Council
City Hall
College Road
Galway
091 536556**

January 2010

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DRAWING AER/03 – Recycling Centre

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1.0 INTRODUCTION

This is the fifth Annual Environmental Report (AER) to be submitted to the Agency relating to Waste Licence W166-1 granted on 16th of March 2004 for Galway City Council Depot, Sandy Road, Liosban Industrial Estate, Galway. Galway City Council (GCC) operates the site. *Drawing AER/01 Site Boundary* shows the location.

1.1 Policy Statement

Galway City Council is committed to meeting all conditions set out in EPA Waste Licence W166-1.

1.2 Reporting Period

1st January 2009 – 31st December 2009.

2.0 SITE DESCRIPTION

2.1 Site Layout & Waste Types Accepted

The recycling facility comprises of a four areas as can be seen in *Drawing AER/03*

Recycling Centre:

The public area of the recycling centre facilitates for the disposal of WEEE, Bottle Banks, Clothes Banks, Fluorescent tubes, Batteries, Waste Cooking & Engine Oil, Large Plastics, Waste Metal, Large Timber and recently added Paint. A hazardous waste collector attends the site numerous times throughout the year taking aerosols, pesticides, obsolete medicines etc.

The second area caters for the disposal of WEEE for the Commercial Sector and waste separated from Bulky Goods.

The third area is for the staff of Galway City Council. This covers the Road Sweeper/ Street Cleanings, Environment, Community Wardens, Drainage, Housing, Parks and Roads Departments. Each department separates their waste into designated areas, mainly Construction & Demolition, Timber, Metal, Hard Plastics, Glass, Tyres, Municipal Waste, Green Waste, Deceased Animals, Inspection and Quarantine. More recently the landfill waste collected by Galway City Councils refuse vehicles deposit their waste here.

The fourth area is for the clean dry recyclable waste that is collected by the Galway City Council. This is a domestic source separated municipal waste system and is deposited within the main building in the Depot as shown in *Drawing AER/01 Site Boundary*.

2.2 Waste Types, EWC Codes & Quantities of Waste Accepted

The following table shows the waste materials accepted on-site, the relevant EWC codes and the total tonnage (9397.91 tonnes) from 1st January – 31st December 2009:

Table 2.1: Type, Codes & Quantities of Waste accepted

Waste Type	EWC codes	Quantities 2009 (tonnes)
Clean Dry Recyclable Waste	15 01 01,	3102.74
	20 01 01,	
	15 01 02, 15 01 05, 15 01 04	
Mixed Municipal Waste	20 03 01	2220.43
Street Sweepings	20 03 03	1492.64
Construction & Demolition	17 05 04, 17 01 01	1270.6
Waste Electrical & Electronic Equipment	16 02 11*, 20 01 23*, 20 01 36, 16 02 14, 16 02 13*, 20 01 35*	830.21
	17 02 01	
	20 03 07	
	17 04 07	
Bulky Goods	17 04 07	136.08
Waste Metals	20 01 39	91.1
Waste Plastic	15 01 07	36.76
Glass	16 06 01*, 16 06 04, 20 01 34, 20 01 33*	20.42
	16 06 01*, 16 06 04, 20 01 34, 20 01 33*	
	13 02 08*, 20 01 26*	
Batteries	20 01 11	17.14
Waste Oil	20 01 21*	8.69
Waste Textiles	16 01 03	2.54
Fluorescent Tubes		1.55
Waste Tyres		294 No.
Hazardous Material Total		9.83
Aerosols	16 05 04*	0.13
Paint Cans	20 01 27*	9.36
Obsolete Medicines	20 01 32	0.18
Bases/ Alkaline	20 01 15*	0.02
Detergents	20 01 29*	0.09
Pesticides	20 01 19*	0.05

The Waste Acceptance and Handling Procedures for the site are given in *Appendix A: Procedures*. The monthly quantities of waste accepted into the facility and removed out from the facility from January 2009 to December 2009 are included in *Appendix B: Waste Ins and Outs*.

3.0 ENVIRONMENTAL MONITORING

Emission limits are set out in Schedule D of the licence for the following: Noise; Dust Deposition; Surface Water and Foul Water. The locations of these monitoring points are set out in the attached, *Drawing AER/02 Monitoring Locations*.

3.1 Noise Emissions
 Results to follow.

3.2 Dust Emissions
 Results to follow.

3.3 Surface Water Emissions
 The surface water network collects the roof water from the main building and surface water from the south and east of the site. Surface water monitoring was required to be carried out at the locations SW1, SW2 and SW03 as shown on *Drawing AER/02 Monitoring Locations* and agreed with the agency. Samples were taken twice over the course of the year; individual results are attached as *Appendix C*. See *Table 3.3* for average results.

Table 3.3: Summary of Emissions to Surface Water

Parameter	Units	SW1	SW2	SW3
pH	pH Units	7.65	7.6	7.65
Biological Oxygen Demand	mg/L	1	1	1
Suspended Solids	mg/L	<10	<10	11.5
Electrical conductivity	µS/cm	412.5	497	1415
Ammonium NH4	mg/L	0.22	0.21	0.18
Fats, Oils, Grease	mg/L	12.25	10.0	10
Total Phosphate	mg/L	<0.2	<0.2	<0.2

3.4 Foul Water Emissions

The foul water network collects all foul discharge from the site, surface water from the wash bay areas and the main recycling yard. Foul water monitoring was required to be carried out at the location FW3 as agreed with the Agency and is shown on the *Drawing AER/02 Monitoring Locations*. Monitoring was carried out twice over the year; the individual results are attached as *Appendix D*. See *Table 3.4* for summary of results.

Table 3.4: Summary of Emissions to Foul Water

Parameter	Units	FW'3
pH	pH Units	7.95
Biological Oxygen Demand	mg/L	422
Suspended Solids	mg/L	1607.5
Ammonium Nitrogen	mg/L	127.10
Fats, Oils, Grease	mg/L	58
Total Phosphorus	mg/L	8.05

4.0 SITE DEVELOPMENT WORKS:

4.1 Development Works Undertaken during 2009

From September the Grey Refuse Trucks started storing their waste in the Recycling Centre where Trehy Hauliers then collect it and dispose of it at Ballydonagh Landfill.

A new paint collection area is currently under construction in the Public side of the Recycling Centre as agreed with the EPA. A sink-like drainage area has been constructed in which the paint flows to IBC's set in the Staff area of the Recycling Centre. The area will have an overhead canopy and all areas will be bunded. Plastic paint cans are compacted and stored in 660 litre wheelie bins. Envya collect the IBC's and bins when required.

The Clean Dry Recyclables Store has a new covered walkway around its inner perimeter. Please see *Drawing AER/05 Site Survey* and *Drawing AER/03 Site Layout* for as-built drawings of the site.

4.2 Development Works Proposed for 2010

There are no proposed works for 2010.

5.0 ENVIRONMENTAL OBJECTIVES & TARGETS FOR 2009:

OBJECTIVE	TARGET
<p><u>Update Environmental Management System</u></p> <p>An up to date Environmental Management System is required to include Schedule of Objectives and Targets, Emergency Response Procedures, Corrective Action Procedures and An Awareness and Training Programme.</p> <p><u>Emergency Response Procedure</u></p> <p><u>Records Management</u></p>	<p>December 2010</p> <p>Ongoing 2010</p> <p>Ongoing 2010</p>

6.0 PROCEDURES DEVELOPED BY LICENSEE FOR THE RECYCLING CENTRE

The following procedures have been written or updated in the reporting year. Please see *Appendix A* for relevant documents.

6.1 Waste Acceptance and Handling Procedures

This document sets out the waste acceptance and handling procedure for the materials entering the facility.

6.2 Emergency Response Procedure (work in progress)

The site, which was previously a compost facility, has been changed to a recycling centre and as a result requires a whole new Emergency Response Procedure. This document addresses any potential emergency situations that might arise at Galway City Council Depot and provides for the minimisation of the effects of any emergency on the environment. An Emergency Response Team is being created and the final EMP will be sent ASAP.

6.3 Duties of the Foreman

This document outlines the responsibilities of the foreman to aid in the changeover of foremen during the reporting period.

6.4 Monitoring of Water and Foul Water Emissions

This document outlines procedures for monitoring water and wastewater emissions at the Recycling Centre as required by the licence.

6.5 Monitoring of Drainage Network

This document is a checklist that accompanies *Drawing AER/ 03 Monitoring Locations*. All pipelines have been labelled to aid the Foreman in checking the network.

7.0 ENVIRONMENTAL INCIDENTS AND COMPLAINTS SUMMARY

7.1 Incidents

There were no incidents reported to the Agency during the year 2009.

7.2 Register of Complaints

There were no complaints received during the year 2009.

8.0 OTHER REPORTS

8.1 Financial Provisions/ Budget

Provision of €312,400.00 was in place for expenditure at the facility at the beginning of January 2009. €144,748.56 is the total spent between January and December 2009.

8.2 Staffing Structure and Management

There were no changes to staff during the year 2009. In 2010 Michael Garvey will take over Monitoring and Reporting from Deirdre O'Neill.

Facility Manager: Theo McLoughlin

Monitoring/ Reporting: Michael Garvey

Deputy Site Manager: Jimmy O'Connor

Yard Foreman: Brian Kelly

General Operative: Noel Monaghan

8.3 Communications Programme

There is a sign erected on the front fence of the depot giving contact details for members of the public who wish to enquire about the facility.

8.4 Staff Training

Staff at the facility has been trained in the procedures applicable to the facility. There are annual training sessions with regard to the Safety Statement. Training in procedures is given as they arise or as amendments are made.

APPENDIX A PROCEDURES

- A) WASTE ACCEPTANCE AND HANDLING PROCEDURES**
- B) EMERGENCY RESPONSE PROCEDURES**
- C) DUTIES OF THE FOREMAN**
- D) MONITORING OF WATER AND WASTEWATER EMISSIONS**
- E) MONITORING OF DRAINAGE NETWORK**

PROCEDURES

A) WASTE ACCEPTANCE AND HANDLING PROCEDURES

PURPOSE

To set out the waste acceptance and handling procedure for the materials entering the Facility at Galway City Council

SCOPE

The following waste streams enter the facility; storage areas can be seen in *Drawing AER/03 Recycling Centre*:

1. Clean Dry Recyclable Waste (Green Bin Waste)
2. Mixed Municipal Waste
3. Waste Wood
4. Waste Metals
5. Waste Plastics
6. Waste Electrical & Electronic Goods
7. Household Hazardous Waste: Waste Cooking & Engine Oils, Paint, Batteries, Fluorescent Tubes and Textiles
8. End of Life Tyres
9. Glass Jars & Bottles
10. Bulky Goods
11. Street Cleaning
12. Construction and Demolition Waste

APPLICABLE DOCUMENTATION

EPA Waste Licence 166-1

Reference: Condition 5.2 of the Waste Licence

EQUIPMENT AND MATERIALS

ICB 3CX

Telescopic Loading shovel

Trommel - Screener

A wood-chipping machine may be hired onto the site

RESPONSIBILITIES

The Facility Manager is responsible for the implementation of this procedure.

PERFORMANCE

The City Council Site Operatives are to perform the tasks outlined in the procedure.

RECORD KEEPING

The keeping of records will be maintained as required in Condition 10.2 of the Waste Licence.

PROCEDURE

1. Clean Dry Recyclable Waste (Green Bin)

This waste from the Green Bin collection service enters the facility and is weighed at the weighbridge. The waste is then deposited in an enclosed area to await its daily collection from Re-Gen Recycling.

2. Mixed Municipal Waste

Galway City Council provide 4No. Refuse Trucks for the collection of Grey Bin waste, this is weighed in and then deposited in the yard where it is transferred to Trehy Haulage Trucks.

Mixed municipal waste consists of waste from the bulky goods collection, litter collected by the Litter Management Unit, the City Council's Housing, Roads, Drainage and Parks Departments. It is weighed at the weighbridge and then stored in a skip before being collected by Trehy for landfill.

3. Waste Wood

This waste comes in from the bulky goods collection, the Litter Management Unit, the City Council's Housing, Roads, Drainage and Parks Departments. The skip is also accessible from the public area for large items of domestic timber. It is stored on site to await collection by Barma Waste.

4. Waste Metals

This waste comes in from the bulky goods collection, the Litter Management Unit, the City Council's Housing, Roads, Drainage and Parks Departments. The skip is also accessible from the public area for large items of domestic metal/ steel. It is stored onsite where it awaits collection from Barma Waste.

5. Waste Plastics

This waste comes in from bulky goods collections, the public, by the City Council Litter Management Unit, the City Council's Housing, Roads, Drainage and Parks Departments. The skip is accessible from the public area for large items of domestic plastic. It is stored onsite while it awaits collection from Barma Waste.

6. Waste Electrical & Electronic Goods

This waste comes in from bulky goods collections, the commercial sector, the public and litter collected by the City Council Litter Management Unit. The waste is weighed in at the weighbridge. The waste is then deposited in a covered storage area where it separated into individual sections and awaits collection from KMK Recycling.

7. Household Hazardous Waste: Waste Cooking & Engine Oils, Batteries, Fluorescent Tubes, Textiles, Aerosols and Paint Cans

The public deposits Waste Oil, Batteries, Paint, Fluorescent Tubes and Textiles into the Recycling Centre. Staff in the Housing Department, Community Wardens and Litter Management Unit also collect these materials whilst doing clean-ups.

Waste Oils and Paints are stored in specialised containers and Batteries, Fluorescent Tubes and Textiles are stored in enclosed containers.

Enva collect waste engine oil while Agri-Energy collect waste cooking oil. Paint is now taken in at the Recycling Centre where there is a unit for the cans to drain into IBC's. Areas under the drainage unit and IBC's are banded. Enva collect the IBC's and empty paint can bins.

KMK Recycling collects Fluorescent Tubes and Batteries whilst collecting WEEE. Chemcar visit the site regularly and offer their services for the collection of Pesticides, Medicines, Detergents, Paint, Fluorescent Tubes, Aerosols, Oil and Batteries. Materials are accepted, packed and segregated for transfer to facilities that can properly treat these substances.

8. End of life Tyres

The waste comes in litter collected by the City Council Litter Management Unit and Community Wardens. These are stored in an outside designated area until Crossmore Transport collects it.

9. Glass Jars & Bottles

The public deposit Glass Jars & Bottles into the Recycling Amenity Centre. Rehab collects the specialised containers as is needed. Various Galway City Council Departments collect glass and deposit the glass into a skip where it awaits collection from Walsh Waste.

10. Bulky Goods

Galway City Council provides a Bulky Goods service, which is weighed in on entry to the Recycling Amenity Centre. The waste is then separated into individual sections. Metals, Timbers, Plastics, Recyclables and WEE are removed and separated into their designated areas. The remainder is sent to landfill.

11. Street Cleaning

Galway City Council provides a fleet of 5No Street Cleaners, which deposit their load in the yard after they has been weighed in. This in turn is screened into inert, soil & grit and oversized waste which goes to Carrowbrowne, Parks (horticultural use) and landfill.

12. Construction and Demolition Waste

This waste comes in from City Council's Roads, Drainage, Grave Yards and Parks Department. The waste is weighed in at the weighbridge. The waste is then deposited into an area where it awaits transfer from Maddens or Noel Flaherty Hauliers to a pre-approved site.

PROCEDURES

C) DUTIES OF THE FOREMAN

GENERAL

The area of the facility is the whole of the Galway City Council Depot (as set out in the Licence).

The foreman must be present at all times during its operational hours.

Gates shall be locked shut when the facility is unsupervised.

No smoking shall be allowed in the waste handling area for the waste transfer building or the recycling centre.

All collection areas, drums etc must be labelled to clearly indicate their contents.

The recycling centre is to be used by private vehicles only; it is not to be used by commercial waste disposal contractors.

All commercial vehicles must be registered with Galway City Council before depositing WEEE at the facility.

Encourage all Departments using the facility to segregate waste as much as possible.

DAILY OPERATIONS

Public Recycling Area

Ensure:

- Operating hours are from 2pm – 4pm daily and 9am – 1pm on Saturdays.
- The public are segregating the waste correctly.
- There is only the correct waste going into the plastic, metal and wood skips i.e. large hard plastics only (no water bottles, polystyrene), only small wood items (as bulky goods look after larger items).
- Driveway is kept clear at all times round the site.
- There are labelled litterbins beside the bottle banks for waste plastic bags & boxes.
- There are labelled litterbins beside the waste oil tanks for waste containers.
- There is a first aid kit in the cabin.

Waste Electrical & Electronic Equipment

- During operational hours of the public recycling centre, all WEEE should be immediately segregated into the appropriate cages and containers. Each cage must be

removed to the rear designated sheds once it has been filled and replaced with an empty cage with appropriate sign attached.

- During operational hours for the commercial sector, all electrical goods must be placed correctly into containers. These containers should be within the covered areas to comply with WEEE Ireland regulations.

Construction & Demolition Area

- Must be maintained and all stockpiles contained to minimise dust generation.

Street Cleanings Area

- Must be stockpiled to minimise dust and aerated thoroughly weekly (this must be done on a daily basis so as the total pile is completed by week end).

Dry Recyclables Store

- This store is solely for the purpose of recyclable waste transfer from refuse vehicles to waste recovery operators. Under no circumstances is this store to be used for any purpose.
- The floor of the waste transfer building used for storage of waste for disposal shall be cleaned of all waste at the end of each working day.

Housekeeping & Litter Control:

- All loose litter and other waste within or in the vicinity of the facility shall be removed immediately.
- All areas within the Recycling Centre should be kept clean, swept daily and washed down. (N.B around cabin and weighbridge)

Waste Inspection Area & Quarantine Area

- Must be maintained and kept clear at all times.

WEEKLY OPERATIONS

- Inspections of the drainage system, interceptors, banded areas, hydrants must be carried out and fill in data sheets with results. Notify facility manager if leakages/ blockages occur.

- Keep written details of any problems with vermin, birds, flies etc and report to Facility Manager.

CHEMCAR

Check Environmental Department for Chemcar dates – approx 4 times a year. The public will ask this frequently. Items which can be brought when Chemcar is on-site only are cleaning agents, paint, poisons, thermometers, medicines, insecticides, paint stripper, bleaches etc.

In preparation for the arrival of Chemcar, the area between the C&D, tyres and street cleaning bays will need to be cleaned. The truck parks there and unloads the containers onto the public area by using the ramp.

WEIGHBRIDGE OPERATION

- Zero the weighbridge monitor on a daily basis as temperature conditions alter the readings.
- All delivery dockets and weigh-in slips must be collected in an envelope weekly and delivered to Environmental Department.
- All waste arriving at the facility must be weighed, documented and directed to the appropriate area within the facility. Any waste deemed unsuitable must be temporarily stored in the waste quarantine area under appropriate conditions to avoid putrefaction, odour generation, vermin and other nuisance.

Keep written details of:

1. Galway City Council outdoor staff starting up, their name, department and which vehicle they will be driving.
2. Any new vehicles that will be using the weighbridge, their tare weigh, department, and licence plate number.
3. Any drivers and vehicles that will be no longer using the facility, redeem their key fob and return to Environmental Department.
4. Any problems that arise with the weighbridge and report to Environmental Department immediately.

CONTACT DETAILS – WASTE CONTRACTORS

KMK Metals – WEEE, batteries	057 9324092 / 086 8166994 (Koi)
Barna Waste – Metal, Wood, Plastic	091 771619 / 091 553491
Walsh Waste – Municipal, Glass	1850 224488 / 091 840840
Rehab – Glass	021 4317195
Envya – Engine & Cooking Oil	1850 504504 / 057 8678600
Dog Pound – Michael Higgins	091 - 757094
Crematorium	01 2722142
Maddens – Construction & Demolition	087 2933093 (George)
Crossmore Transport – Tyres (over 100)	022 25363
Thortons – Dry Recyclables	01 6235133

PROCEDURES

D) MONITORING OF WATER AND WASTE WATER EMISSIONS

Monitoring of waters is carried out either for compliance assessments bi-annually or as part of ambient water quality surveys. Sampling for laboratory analysis involves taking grabs samples from pre-set monitoring locations by the EPA as seen in *Drawing AER/02 Monitoring Locations*.

1. Appropriate containers must be used; these are available at the laboratory carrying out the analysis with 1litre bottles being the minimum volume.
2. Laboratories should be notified in advance that there would be samples delivered for analysis. Samples that require BOD analysis must be brought in between Wednesday and Friday, as it requires a 5day test period.
3. All bottles should be clearly labelled with Galway City Council, monitoring location details and date.
4. Take care when filling the bottles so as not to touch sidewalls of pipeline.
5. Ensure all details are recorded on a field sheet such as date, location, weather and where on-site data is available such as ph, temperature, flow etc.
6. Take care not to cross contaminate samples.
7. If possible samples should be checked on site for pH, dissolved oxygen and conductivity, as field readings are not as accurate as laboratory readings.
8. Any instruments used should be calibrated before use.
9. Samples should be placed in a cool bag while being transported and should be delivered within 24hours to ensure accurate analysis.
10. During delivery of samples to the laboratory, give as much information as possible to assist in analysis.

Details to be taken during sampling:

- Location
- Date and time
- Sample type (FW, SW etc)
- Grab/ split samples
- Flow
- Any measurements taken (pH, dissolved oxygen etc)
- Calibration details
- Analytical requirements (EPA licence, specific to site etc)
- Any other relevant information

Schedule of monitoring

Water and Waste Water:

June & October (weather permitting)

Sampling Parameters

Surface Water:

Samples should be tested on:

Biological Oxygen Demand, Suspended Solids, pH, Electrical Conductivity, Ammoniacal Nitrogen, Mineral Oils, Fats, Oils & Grease.

The trigger levels for surface water discharges from the facility measured at monitoring point SW/03 are: BOD 25mg/l, Suspended Solids 35mg/l and Minerals Oils 5mg/l.

No substance shall be discharged in a manner or at a concentration which following initial dilution causes tainting of fish or shellfish.

Waste Water:

Samples should be tested on:

Biological Oxygen Demand, Suspended Solids, pH, Ammoniacal Nitrogen & Total Phosphorus.

No substance shall be present in emissions to sewer in such concentrations as would constitute a danger to sewer maintenance personnel working in the sewerage system or as would be damaging to the fabric of the sewer or would interfere with the biological functioning of downstream wastewater treatment works.

PROCEDURES

E) MONITORING OF DRAINAGE NETWORK



Galway City Council
 City Hall
 College Road
 Galway

Department: Environmental
Phone: 091 536595
Fax: 091 568146

Site: Recycling Centre
Date: _____

Contact: _____
Phone: _____
Email: _____

Manhole Details	Type	Network	Observations
SW3 - SW4	Pipe	Surface Water	
SW4 A - B	Interceptor	Surface Water	
SW4 - SW5	Pipe	Surface Water	
SW5 - SW5A	Pipe	Surface Water	
SW5A - SW5B	Pipe	Surface Water	
SW5 - SW6	Pipe - Int	Surface Water	
SW6	Interceptor	Surface Water	
SW6 - SW7	Int - Pipe	Surface Water	
SW7 - SW8	Pipe	Surface Water	
SW8 - SW8A	Pipe	Surface Water	
SW8 - SW9	Pipe	Surface Water	
FW3 - FW4	Pipe	Foul Water	
FW4 - FW4A	Pipe	Foul Water	
FW4A - FW4B	Pipe	Foul Water	
FW4 - FW5	Pipe	Foul Water	
FW5 - TANK	Pipe - Tank	Foul Water	

Other Comments:



Galway City Council
 City Hall
 College Road
 Galway

Department: Environmental
 Phone: 091 536595
 Fax: 091 568146

Site:
 Date:

Contact
 Phone:
 Email:

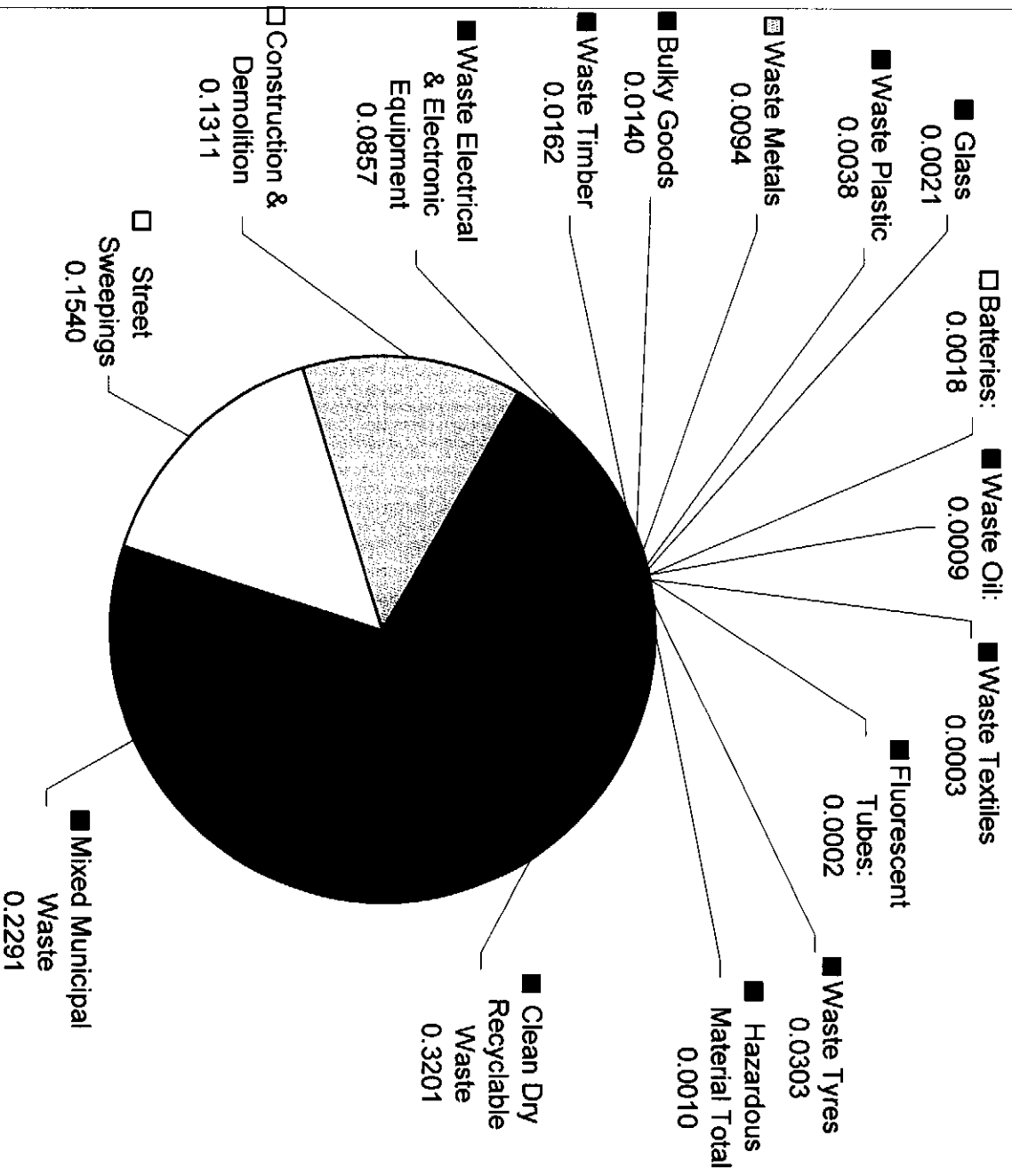
Location	Sample Point	Time	Observations
Terryland River Upstream	SW1		
Terryland River Downstream	SW2		
On-Site Garage Entrance (MH)	SW3		
On-Site Garage Entrance (MH)	FW3		

EPA Analytical Requirements:

Foul Water
 Biological Oxygen Demand
 Suspended Solids
 pH
 Ammonical Nitrogen
 Total Phosphorous
 Other:

Surface Water
 Biological Oxygen Demand
 Suspended Solids
 pH
 Ammonical Nitrogen
 Electrical Conductivity at 20degrees
 Mineral Oils
 Fats, Oils & Grease
 Other:

Waste Type	EWC codes	Quantities 2009 (tonnes)
Clean Dry Recyclable Waste	15 01 01, 20 01 01, 15 01 02, 15 01 05, 15 01 04	3102.74
Mixed Municipal Waste	20 03 01	2220.43
Street Sweepings	20 03 03	1492.64
Construction & Demolition	17 05 04, 17 01 01	1270.6
Waste Electrical & Electronic Equipment	16 02 11*, 20 01 23*, 20 01 36, 16 02 14, 16 02 13*, 20 01 35*	830.21
Waste Timber	17 02 01	157.18
Bulky Goods	20 03 07	136.08
Waste Metals	17 04 07	91.1
Waste Plastic	20 01 39	36.76
Glass	15 01 07	20.42
Batteries:	16 06 01*, 16 06 04, 20 01 34, 20 01 33*	17.14
Waste Oil:	13 02 08*, 20 01 26*	8.69
Waste Textiles	20 01 11	2.54
Fluorescent Tubes:	20 01 21*	1.55
Waste Tyres	16 01 03	294
Hazardous Material Total		9.83
Aerosols:	16 05 04*	0.13
Paint Cans:	20 01 27*	9.36
Obsolete Meds:	20 01 32	0.18
Bases/ Alkaline:	20 01 15*	0.02
Detergents:	20 01 29*	0.09
Pesticides:	20 01 19*	0.05



Galway City Council Recycling Centre
 Waste Quantities 2009

Galway City Councils Recycling Centre Waste Figures 2009 - Inwards

Month	Bulky Goods GCC (tons)	Community Warden Waste GCC (tons)	Dog Warden GCC (tons)	Drainage Waste GCC (tons)	Grave Yard Waste GCC (tons)	Housing Waste GCC (tons)	Parts Waste GCC (tons)	Roads Waste GCC (tons)	Road Sweepings GCC (tons)	Street Litter GCC (tons)	Waterworks Waste GCC (tons)	WEEE Commercial GCC (tons)	Landfill Waste GCC (tons)	Recycling GCC (tons)	TOTAL INWARDS
January*	17.72	2.68	0.16	1.48	8.80	26.17	37.46	63.38	219.76	37.99	1.70	19.92		260.38	687.60
February*	12.64	2.18	0.38	1.66	5.26	27.53	25.32	22.72	223.82	34.24	1.32	20.02		243.68	620.77
March*	14.50	2.20	0.12	1.22	8.68	28.62	14.88	182.04	215.44	32.24	0.00	2.10		252.60	754.64
April*	16.90	6.34	0.38	21.76	11.18	30.45	11.00	92.90	221.36	38.24	2.54	11.10		238.86	703.01
May*	7.88	5.08	0.06	2.68	8.24	30.31	23.32	19.42	249.68	52.08	0.46	12.82		241.04	653.07
June*	7.50	8.54	0.30	0.30	11.72	23.91	1.60	29.44	161.82	45.60	1.00	17.46		256.40	565.59
July*	2.72	6.48	0.42	2.32	10.80	21.23	8.32	113.44	171.82	47.26	0.78	28.53		260.96	675.08
August*	3.22	5.42	0.34	13.58	21.74	30.16	28.62	75.08	150.08	45.06	0.90	8.61		239.44	622.25
September	5.42	2.32	0.20	5.66	11.26	26.08	30.16	128.34	122.68	50.16	0.16	3.20	168.78	269.20	823.62
October	8.62	5.44	0.32	6.56	12.50	17.65	26.06	50.84	150.52	25.50	0.06	1.28	395.40	244.68	945.43
November	18.74	4.10	0.54	0.00	4.22	14.32	21.18	120.50	194.58	36.90	0.00	7.14	493.86	236.93	1153.01
December	20.22	3.04	0.32	0.00	4.40	11.61	3.42	38.68	135.78	49.82	0.00	8.28	519.94	253.40	1048.91
Total	136.08	53.82	3.54	57.22	118.80	288.04	231.34	936.78	2217.34	495.09	8.92	140.45	1577.98	2997.57	9262.97

Galway City Councils Recycling Centre Waste Figures 2009 - Outwards

Month	Treh Waste Lanofill	Walsh Waste Municipal	Walsh Waste Glass	Glass Rehab	Barna Metal	Barna Timber	Barna Plastic	Barna Bulky Goods	Thorntons/ Regen Recyclables	Wals Waste Recyclables	Rd Swp Screenings (Commercial) Barna Waste	Rd Swp Screenings C.browne	WEEE KMK Metals	Batteries KMK Metals	Flourescent Tubes KMK Metals	Textiles GCC (tons)	Maddens C + D Waste
January		45.78	2.22	2.61	6.30	18.62	2.10	17.72	285.10				87.19	2.47		0.50	54.64
February		38.98			5.64	9.46	1.66	12.64	252.16				59.95	0.95			64.30
March		42.16			8.74	25.00	2.14	14.50	250.72				52.46	1.89	0.52		
April		43.32	1.76		7.38	15.08	2.24	16.90	265.54		395.66	62.88	63.66	2.02	0.16		77.24
May		36.12		2.68	6.88	9.42		7.88	250.22		77.56	365.44	58.74	1.85	0.41		351.08
June		53.88	2.12		10.64	9.82	4.34	7.50	241.74				60.54	0.74	0.08		
July		48.06			8.00		2.98	2.72	273.66				80.17	1.59			223.80
August		0.00				11.44		3.22	227.74				57.73	0.71			55.70
September	251.30	33.67	2.80		13.52	21.54	4.94	5.42	255.74			564.40	74.36	1.44	0.20		81.46
October	478.84			2.95	12.40	25.20	5.72	8.62	253.92				89.44	1.63			158.42
November	535.56				8.90	11.60	2.20	18.74	223.62	44.12			71.05	0.94	0.12		131.68
December	592.76		3.28		2.70		8.44	20.22	268.68	9.80			74.92	0.91	0.06	2.04	72.28
Total	1858.46	341.970	12.180	8.24	91.10	157.18	36.76	136.08	3048.84	53.92	473.22	992.72	830.21	17.13	1.55	2.54	1270.60

Month	Animals Pet Crematorium (No.)	Tyres Crossmore Transport (No.)	Waste Engine Oil Enva (Ltr)	Waste Vegetable Oil Agri/Energy (tons)	Paint Chemcar (MT)	Aerosols Chemcar (tons)	Waste Oil Chemcar (tons)	Obsolete Medicines Chemcar (tons)	Bases/ Alkalines Chemcar (tons)	Detergents Chemcar (tons)	Pesticides Chemcar (tons)
January	10.00										
February	7.00										
March			750.00								
April	4.00				4.488	0.117	0.037	0.150		0.075	0.026
May			2000.00								
June			1000.00	1500.00							
July			1000.00								
August											
September			1200.00								
October					4.874	0.016		0.028	0.017	0.014	0.024
November			2500.00								
December		294 (No.)									
Total	21.000	294.000	8450.000	1500.000	9.362	0.133	0.037	0.178	0.017	0.089	0.050

APPENDIX B

WASTE STREAMS AT GALWAY CITY COUNCIL DEPOT

A) SUMMARY OF WASTE QUANTITIES OUTWARDS

B) PIE-CHART OF WASTE QUANTITIES OUTWARDS

C) DETAILED MONTHLY SUMMARY OF WASTE INWARD & OUTWARDS

APPENDIX C

SURFACE WATER MONITORING



OFFICIAL PUBLIC ANALYST'S LABORATORY REPORT

Fidhneamhach na Seirbhíse Skáinte

Health Service Executive

Mr. Rory Mannion, PUBLIC ANALYST

e-mail publicanalystlab@hse.ie

Telephone: (091) 58 11 22

Fax: (091) 58 12 12

Public Analyst's Laboratory,

University Hospital,

Seamus Quirke Road,

Galway, Ireland

Date Printed: 01/07/2009

Lab Ref: 19/06/2009 10:00:00

Sampling Point: Private

Sanitary Authority Galway City Council

Marked: SW 1 - Upstream, Galway City Council at Terryland River

Requested by: Deirdre O'Neill

Receipt Number P.O.N 400086543

Date & Time Sampled 19/06/2009 10:00:00

Date Received: 19-June-2009

REPORT TO: Deirdre O'Neill

Environmental Department

Galway City Council

City Hall

Galway

Parameter	Units	Result
Suspended Solids	mg/L	<10
Fats, Oils & Greases	mg/L	13
Biochemical Oxygen Demand (B.O.D.) @ 20°C	mg/L	1
pH	pH units	7.5
Ammonium as NH ₄	mg/L	0.14
Conductivity @ 20°C	µS/cm	382

Report Status

Authorised

* Denotes a non-accredited Test.

Note 1. This report shall not be reproduced except in full, without written approval of the laboratory.

Note 2. This test report relates only to the sample tested.

Note 3. Any opinions, remarks and/or interpretations expressed above are outside the scope of accreditation.

Dr. Christopher Laffey

Executive Analytical Chemist



OFFICIAL PUBLIC ANALYST'S LABORATORY REPORT

Párlaimint na Seirbhíse Sláinte

Health Service Executive

Mr. Rory Mannion, PUBLIC ANALYST

e-mail publicanalystlab@hse.ie

Telephone: (091) 58 11 22

Fax: (091) 58 12 12

Public Analyst's Laboratory,

University Hospital,

Seamus Quirke Road,

Galway, Ireland

Date Printed: 01/07/2009

Lab R

Sampling Point: Private

Sanitary Authority Galway City Council

Marked: SW 3 Onsite, Galway City Council at Terryland River

Requested by: Deirdre O'Neill

Receipt Number P.O.N 400086543

Date & Time Sampled 19/06/2009 00:00:00

Date Received: 19-June-2009

REPORT TO: Deirdre O'Neill

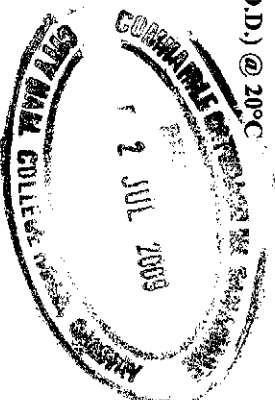
Environmental Department

Galway City Council

City Hall

Galway

Parameter	Units	Result
Suspended Solids	mg/L	13
Biochemical Oxygen Demand (B.O.D.) @ 20°C	mg/L	1
pH	pH units	7.6
Ammonium as NH ₄	mg/L	0.06
Conductivity @ 20°C	µS/cm	1415



Dr. Christopher Laffey

Executive Analytical Chemist

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Féilimneacht na Seirbhíse Sláinte
Health Service Executive

Lab Rea Námh 09 13-11-2009

OFFICIAL PUBLIC ANALYST'S LABORATORY REPORT

Mr. Rory Mannion, PUBLIC ANALYST
e-mail publicanalystlab@hse.ie
Telephone: (091) 58 11 22
Fax: (091) 58 12 12

Public Analyst's Laboratory,
University Hospital,
Seamus Quirke Road,
Galway, Ireland

Date Printed: 27/11/2009

Sanitary Authority Galway City Council

Sampling Point: Private
Marked: SW1 - Upstream Recycling Centre, Terryland River

Requested by: Deirdre O'Neill

Receipt Number 400089488

Date & Time Sampled 13/11/2009 11:30:00

Date Received: 13-November-2009

REPORT TO: Deirdre O'Neill

Environmental Department

Galway City Council

City Hall

Galway

Parameter	Units	Result
Suspended Solids	mg/L	<10
Fats, Oils & Greases	mg/L	11.5
Dissolved Oxygen (O ₂) @ 20 °C	mg/L	8.3
Biochemical Oxygen Demand (B.O.D.) @ 20°C	mg/L	1
Chemical Oxygen Demand	mg/L	23
*Total Phosphate as P	mg/L	<0.2
pH	pH units	7.8
Ammonium as NH ₄	mg/L	<0.30
Conductivity @ 20°C	µS/cm	443
Nitrate as NO ₃	mg/L	<20.0
Nitrite as NO ₂	mg/L	0.20

Report Status Authorised

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Note 3: Any opinions, remarks and/or interpretations expressed above are outside the scope of accreditation

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Red type indicates a result that does not comply with the Parametric Value or Range.

Dr. Christopher Laffey
Executive Analytical Chemist



OFFICIAL PUBLIC ANALYST'S LABORATORY REPORT

Heilbrunnacht na Seabhíse Sláinte

Health Service Executive

Mr. Rory Mannion, PUBLIC ANALYST

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Telephone: (091) 58 11 22

Fax: (091) 58 12 12

Public Analyst's Laboratory,

University Hospital,

Seamus Quirke Road,

Galway, Ireland

Date Printed: 27/11/2009

LABORATORY NUMBER: 06092009

Sampling Point: Private

Sanitary Authority Galway City Council

Marked: SW2 - Downstream Recycling Centre, Terryland river

Requested by: Deirdre O'Neill

Receipt Number 400089488

Date & Time Sampled 13/11/2009 11:30:00

Date Received: 13-November-2009

REPORT TO: Deirdre O'Neill

Environmental Department

Galway City Council

City Hall

Galway

Parameter	Units	Result
Suspended Solids	mg/L	<10
Fats, Oils & Greases	mg/L	<10
Dissolved Oxygen (O ₂) @ 20 °C	mg/L	7.7
Biochemical Oxygen Demand (B.O.D.) @ 20°C	mg/L	1
Chemical Oxygen Demand	mg/L	<10
*Total Phosphate as P	mg/L	<0.2
pH	pH units	7.8
Ammonium as NH ₄	mg/L	<0.30
Conductivity @ 20°C	µS/cm	562
Nitrate as NO ₃	mg/L	<20.0
Nitrite as NO ₂	mg/L	0.30

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Page 1 of 1

Dr. Christopher Laffey

Executive Analytical Chemist



Reidhmeannacht na Seirbhíse Sláinte
Health Service Executive

OFFICIAL PUBLIC ANALYST'S LABORATORY REPORT

Mr. Rory Mannion, PUBLIC ANALYST
e-mail publicanalyzerlab@hse.ie
Telephone: (091) 58 11 22
Fax: (091) 58 12 12

Public Analyst's Laboratory,
University Hospital,
Seamus Quirke Road,
Galway, Ireland

Date Printed: 27/11/2009

Lab Ref: **REAN1109018382009**

Sampling Point: Private
Marked: SW3 - Recycling Centre, Terryland River
Requested by: Deirdre O'Neill

Sanitary Authority Galway City Council

Receipt Number 400089488

Date & Time Sampled 13/11/2009 11:30:00

Date Received: 13-November-2009

REPORT TO: Deirdre O'Neill

Environmental Department

Galway City Council

City Hall

Galway

Parameter	Units	Result
Suspended Solids	mg/L	10
Fats, Oils & Greases	mg/L	10
Dissolved Oxygen (O ₂) @ 20 °C	mg/L	8.3
Biochemical Oxygen Demand (B.O.D.) @ 20°C	mg/L	1
Chemical Oxygen Demand	mg/L	<10
*Total Phosphate as P	mg/L	<0.2
pH	pH units	7.7
Ammonium as NH ₄	mg/L	<0.30
Conductivity @ 20°C	µS/cm	2500
Nitrate as NO ₃	mg/L	<20.0
Nitrite as NO ₂	mg/L	0.20



Signature of Dr. Christopher Laffey
Circular stamp: GALWAY CITY COUNCIL, ENVIRONMENTAL DEPARTMENT, 13 DEC 2009

Dr. Christopher Laffey
Executive Analytical Chemist

Report Status: Authorised

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APPENDIX D

FOUL WATER MONITORING



OFFICIAL PUBLIC ANALYST'S LABORATORY REPORT

Fedhneannacht na Seirbhíse Sláinte
Health Service Executive

Mr. Rory Mannion, PUBLIC ANALYST
e-mail publicanalystlab@hse.ie
Telephone: (091) 58 11 22
Fax: (091) 58 12 12

Public Analyst's Laboratory,
University Hospital,
Seamus Quirke Road,
Galway, Ireland

Date Printed: 01/07/2009

Lab No: 19-06-2009-09

Sampling Point: Private
Marked: FW 3 - On site. Galway City Council Depot
Requested by: Deirdre O'Neill

Sanitary Authority Galway City Council
Receipt Number P.O.N 400086543
Date Received: 19-June-2009

Date & Time Sampled 19/06/2009 10:30:00

Date Received: 19-June-2009

REPORT TO: Deirdre O'Neill
Environmental Department
Galway City Council
City Hall
Galway

Parameter	Units	Result
Suspended Solids	mg/L	960
Fats, Oils & Greases	mg/L	50
Biochemical Oxygen Demand (B.O.D.) @ 20°C	mg/L	620
*Total Phosphate as P	mg/L	10.0
pH	pH units	8.3
Ammonium as NH ₄	mg/L	197.00

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Dr. Christopher Laffey
Executive Analytical Chemist



OFFICIAL PUBLIC ANALYST'S LABORATORY REPORT

Mr. Rory Mannion, PUBLIC ANALYST
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Telephone: (091) 58 11 22
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Public Analyst's Laboratory,
University Hospital,
Seamus Quirke Road,
Galway, Ireland

Redhneamhacht na Seirbhíse Sláinte
Health Service Executive

Date Printed: 27/11/2009

Lab Ref: 107361-087-2009

Sampling Point: Private
Marked: FW3 - Recycling Centre
Requested by: Deirdre O'Neill

Sanitary Authority Galway City Council

Receipt Number 400089488

Date & Time Sampled 13/11/2009 11:30:00

Date Received: 13-November-2009

REPORT TO: Deirdre O'Neill
Environmental Department
Galway City Council
City Hall
Galway

Parameter	Units	Result
Suspended Solids	mg/L	2255
Fats, Oils & Greases	mg/L	66
Biochemical Oxygen Demand (B.O.D.) @ 20°C	mg/L	244
Chemical Oxygen Demand	mg/L	1430
*Total Phosphate as P	mg/L	6.1
pH	pH units	7.6
Ammonium as NH ₄	mg/L	57.20
Conductivity @ 20°C	µS/cm	947
Nitrate as NO ₃	mg/L	<20.0
Nitrite as NO ₂	mg/L	<0.20

Report Status Authorized

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Note 3: Any opinions, remarks and/or interpretations expressed above are outside the scope of accreditation.

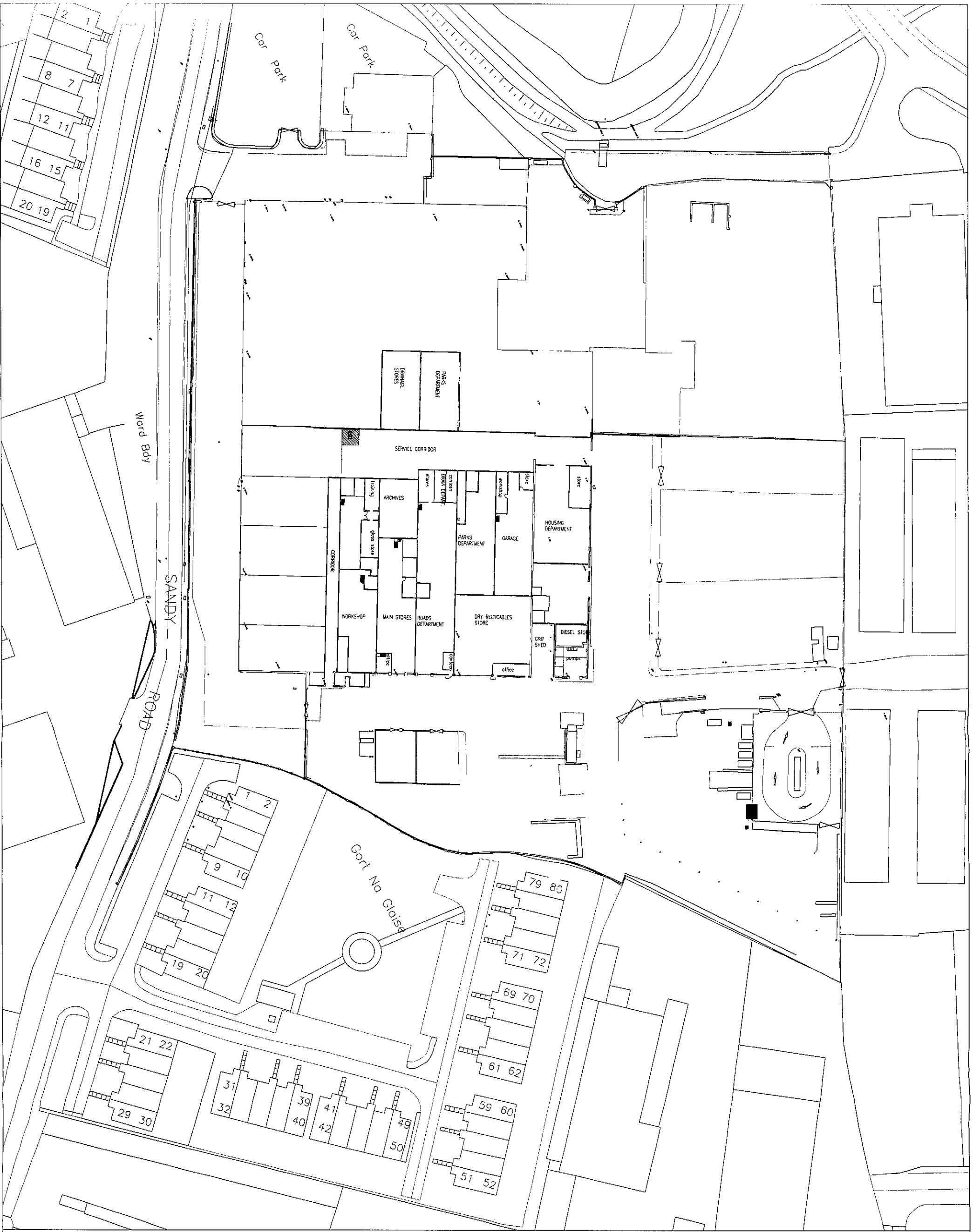
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Red type indicates a result that does not comply with the Parametric Value or Range.

Dr. Christopher Laffey
Executive Analytical Chemist

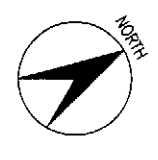
DRAWING AER/01

SITE BOUNDARY


**Galway City Council
Galway City Council Depot, Sandy Road
EPA Waste Licence 166-1**



NOTES:
 1. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.
 2. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.
 3. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.
 4. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.
 5. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.



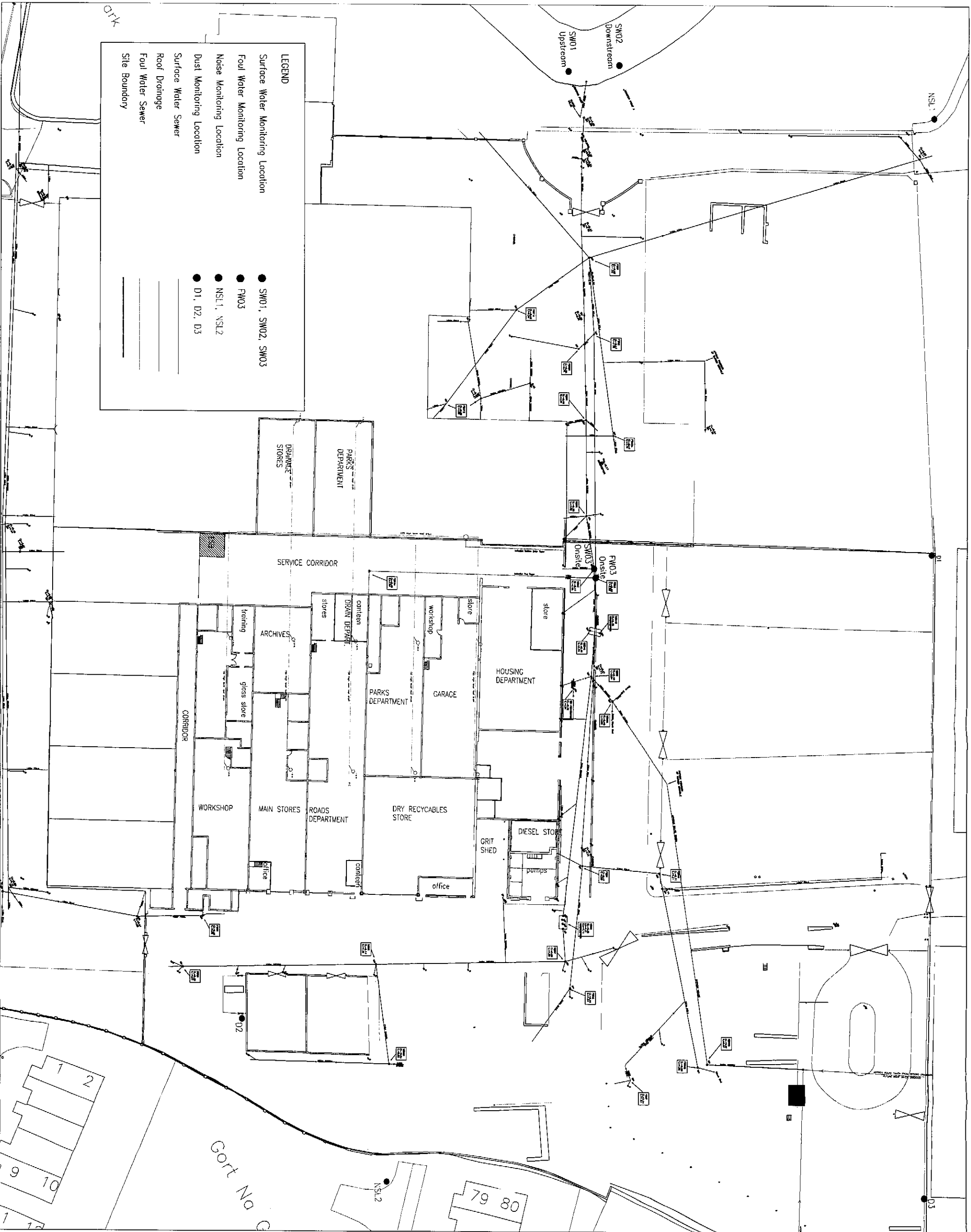
Site Boundary

 ENVIRONMENT DEPARTMENT Galway City Council, City Hall, College Road, Galway, Phone: (091) 536 400 Fax: (091) 544 191	
PROJECT:	GALWAY CITY COUNCIL RECYCLING CENTRE
TITLE:	SITE BOUNDARY
EPA LICENCE:	166-1
DRAWING NO.:	1
DRAWN BY:	DEIRDRE O'NEILL
DATE:	03/02/2010
SCALE:	1/1000 @ A3

DRAWING AER/02

MONITORING LOCATIONS

**Galway City Council
Galway City Council Depot, Sandy Road
EPA Waste Licence 166-1**



LEGEND

- SW01, SW02, SW03
- FW03
- NSL1, NSL2
- D1, D2, D3

Surface Water Monitoring Location

Foul Water Monitoring Location

Noise Monitoring Location

Dust Monitoring Location

Surface Water Sewer

Root Drainage

Foul Water Sewer

Site Boundary



NOTES:
 Do not scale from this drawing. Work out from proposed dimensions.
 All dimensions are in meters unless otherwise stated.
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 Drawing Number: 2009/10004/0001/001/001

PROJECT: GALWAY CITY COUNCIL RECYCLING CENTRE

STAGE: EPA LICENCE 166-1

TITLE: SITE MONITORING LOCATIONS

DRAWING NO.: 1

DATE: 03/02/2010

DRAWN BY: DEIRDRE O'NEILL

CHK. BY: ST/LOFT

APP. BY: MTS

ENVIRONMENT DEPARTMENT
 Galway City Council, City Hall, College Road, Galway.
 Phone: (091) 534 400 Fax: (091) 544 191

DRAWING AER/03

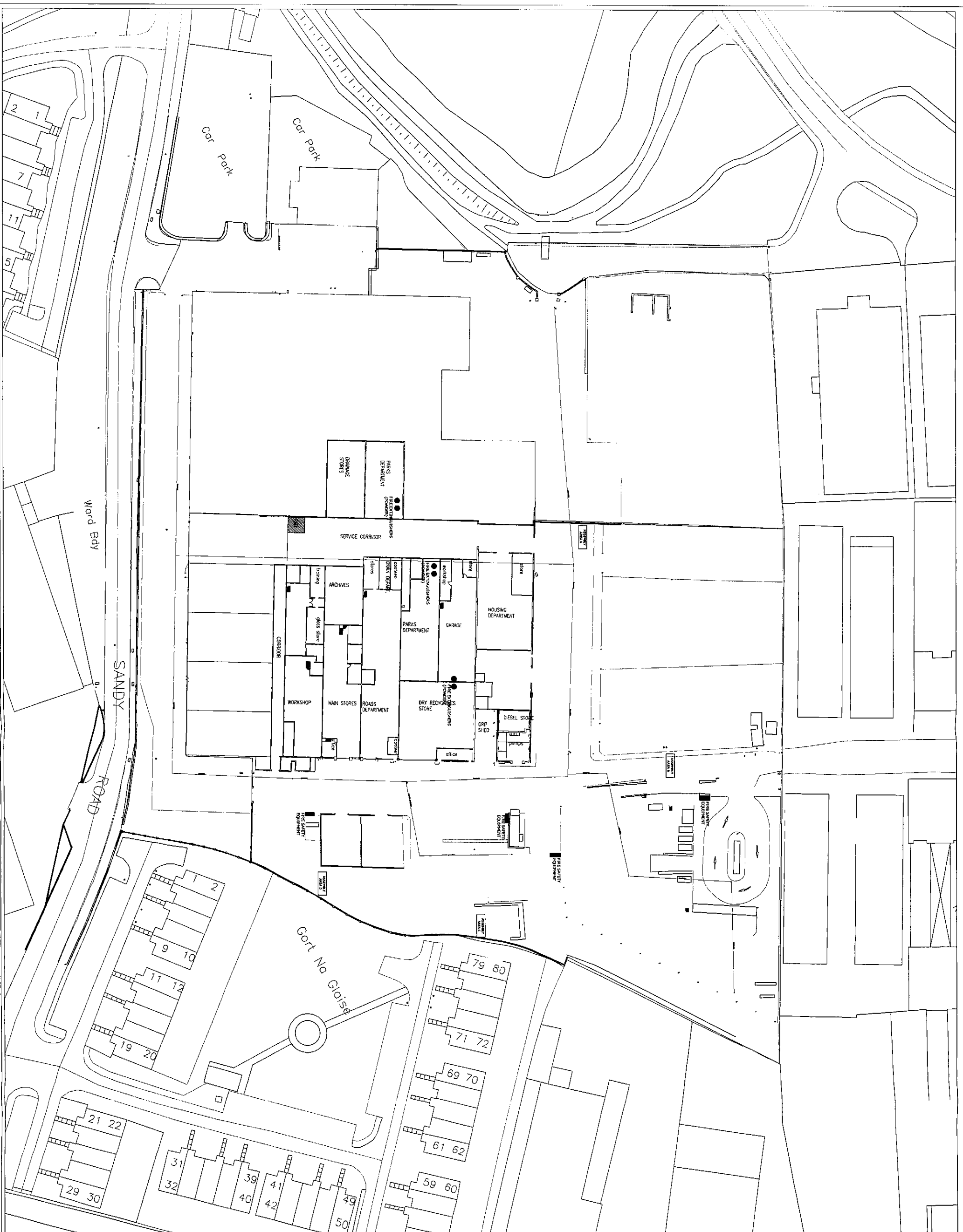
SITE LAYOUT

**Galway City Council
Galway City Council Depot, Sandy Road
EPA Waste Licence 166-1**

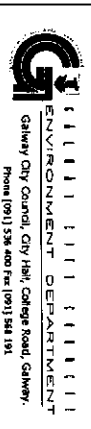
DRAWING AER/04

Emergency Response Plan

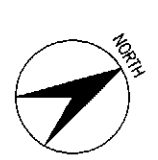
**Galway City Council
Galway City Council Depot, Sandy Road
EPA Waste Licence 166-1**



PROJECT: GALWAY CITY COUNCIL RECYCLING CENTRE
 TITLE: EPA LICENCE 166-1
 WATERMAIN & FIRE HYDRANT LAYOUT
 DRAWN BY: DEIRDRE O'NEILL
 DATE: 03/02/2010



NO.	REV.	DATE	DESCRIPTION
1			



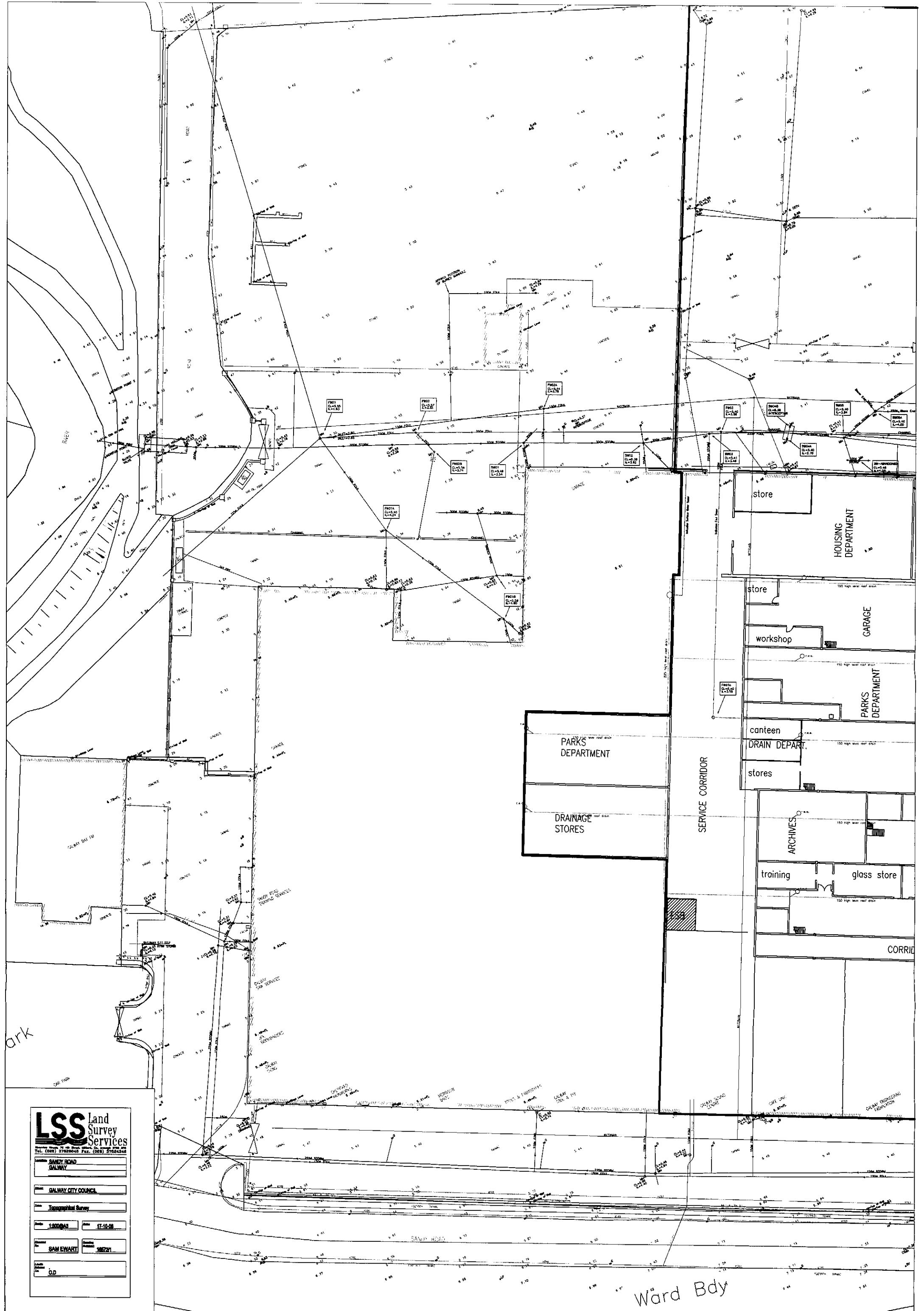
Site Boundary
 Watermain

NOTES:
 1. This drawing is for the purpose of the EPA Licence 166-1.
 2. All proposed work shall be carried out in accordance with the relevant standards.
 3. The client is responsible for ensuring that the site is suitable for the proposed work.
 4. The client is responsible for ensuring that the site is suitable for the proposed work.

DRAWING AER/05

SITE SURVEY

**Galway City Council
Galway City Council Depot, Sandy Road
EPA Waste Licence 166-1**



LSS Land Survey Services
 Sandy Road Galway
 Galway City Council
 Topographical Survey
 1200041 17-10-08
 SAM EWART 166721
 G.D.

Ward Bdy