
# ANNUAL ENVIRONMENTAL REPORT 2008

**GREYHOUND RECYCLING & RECOVERY LTD.**

Crag Avenue
Clondalkin Industrial Estate,
Dublin 22

**EPA Licence W0205-01**

## CONTENTS

## 1. INTRODUCTION

The following Annual Environmental Report was prepared in accordance with Condition 11.11 and Schedule E of the waste licence W0205-01, and with reference to Environmental Protection Agency guidance on Annual Environmental Reporting. This report relates to the calendar year 2007. This AER is detailing the activities carried out at the facility in the period from 1st September 2008 to 31st December 2008.

## 2. DESCRIPION OF THE SITE AND LICENSED ACTIVITIES

Greyhound Recycling and Recovery Limited (GRR), Sustainable Resource Recovery Facility at Crag Avenue, Clondalkin Industrial Estate, Dublin 22, is surrounded in Industrial Estate by various warehouses and industrial buildings. The estate is bounded to the west by the M50 Motorway, to the south by the Grand Canal, to the east by Cloverhill Road and to the north by the Dublin-Kildare railway line and Cloverhill Industrial Estate, an industrial estate managed by the IDA.
Greyhound Recycling and Recovery Limited, at Crag Avenue site commenced its operation under the Waste Licence W0205-01 in September 2007. This licence allows to carry out following activities:

- Class 11, 12, and 13 Waste Disposal Activities, in accordance with the Third Schedule of the Waste Management Act, 1996.

- Class 2, 3, 4, 8, 11, 12 and 13 Waste Recovery Activities, in accordance with the Fourth Schedule of the Waste Management Act, 1996.

Greyhound Recycling & Recovery at Crag Avenue, accepts primarily non-hazardous commercial and industrial waste, and construction and demolition waste.
Source segregated recyclables are collected throughout the island of Ireland.
The mixed Municipal Waste and Construction and Demolition Waste are mainly from the Dublin County area.

## 3. WASTE ACCEPTED 2008

Greyhound Recycling and Recovery Limited accepted the following waste streams during the reporting period:

- Commercial waste comprising of source segregated cardboard, paper, plastics, metals and wood, mixed municipal waste and mixed packaging waste
- Industrial waste comprising of source segregated cardboard, paper, plastics, metals and wood, mixed municipal waste and mixed packaging waste
- Mixed construction and demolition waste comprising of timber, metals, plastics, rubble, stones, soil and other inert materials.

## 4. WASTE QUANTITIES 2008

The Greyhound Recycling and Recovery at Crag Avenue is licensed to handle a maximum of 250,000 tonnes of waste per annum. The total quantity of material accepted and processed at the licensed facility during the reporting period was 97,000 tonne. The percentage recovery achieved on wastes handled at the facility during the reporting period was 74%. A tabulated breakdown of the quantity and composition of wastes received, recovered, and disposed of, during the reporting period shows table 4.1

4.1 Waste acceptance and dispatch

| EWC Code | Description of Waste | Waste in (tonnes) | Waste out (tonnes) | Recovery -R Disposal - D | % |
|---|---|---|---|---|---|
| 15 01 01 | cardboard & paper packaging | 23833 | 23068 | R | 23.59 |
| 15 01 02 | plastic packaging | 3253 | 3162 | R | 3.23 |
| 15 01 03 | wooden pallets | 3004 | 3020 | R | 3.09 |
| 15 01 04 | metal packaging | 30 | 16 | R | 0.02 |
| 15 01 06 | mixed packaging | 3495 | 117 | R | 0.12 |
| 17 01 01 | concrete | | 4112 | R | 4.21 |
| 17 02 01 | wood from C&D waste | | 1223 | R | 1.25 |
| 17 04 07 | metals from C&D waste | | 993 | R | 1.02 |
| 17 09 04 | mixed C&D waste | 20863 | 6136 | R | 6.27 |
| 19 12 09 | fines from C&D waste | | 4843 | R | 4.95 |
| 19 12 09 | stones from C&D waste | | 5000 | R | 5.11 |
| 19 12 10 | RDF | | 2134 | R | 2.18 |
| 19 12 12 | organic screenings | | 3691 | R | 3.77 |
| 20 01 01 | paper and newspapers | 5840 | 9119 | R | 9.33 |
| 20 01 08 | organic waste | 763 | 248 | R | 0.25 |
| 20 01 23 | fridges | 2 | 2 | R | 0.00 |
| 20 01 36 | mixed WEEE | 16 | 13 | R | 0.01 |
| 20 01 39 | non-packaging plastic from C&I and C&D waste | 1268 | 302 | R | 0.31 |
| 20 01 40 | metals | 384 | 650 | R | 0.66 |
| 20 03 01 | mixed municipal waste | | 4662 | R | 4.77 |
| | | 34881 | 25276 | D | 25.85 |
| | total | 97632 | 97787 | | |

## 5. ENVIRONMENTAL MONITORING AND EMISSIONS DATA

Monitoring of emissions from the facility during the reporting period was carried out in accordance with Condition 8 and Schedule B and C of Greyhound Recycling and Recovery Ltd. waste licence W0205-01. The location of on-site monitoring points is shown in Figure 1, Appendix 1.

**Table 5.1 Dust deposition monitoring**

| Monitoring Period | | D1 | D2 |
|---|---|---|---|
| | | ELV 350 mg/m$^2$/d | ELV 350 mg/m$^2$/d |
| From | To | mg/m$^2$/d | mg/m$^2$/d |
| 7th July 2008 | 6th August 2008 | 316 | 149 |
| 8th September 2008 | 9th October 2008 | 120 | 94 |

**Table 5.2 Foul Sewer discharge monitoring**

| Parameters | BOD | COD | Suspended Solids | Oil fats & greases | pH | Sulphates | Mineral oil | Phosphates | Detergent |
|---|---|---|---|---|---|---|---|---|---|
| ELV Grab (mg/l) | 2000 | 8000 | 2000 | 200 | 6-10 | 500 | 10 | 100 | 100 |
| 16/01/08 | 136 | 230 | 66 | 29 | 8.6 | 94 | 0.02 | 6 | 2.4 |
| 30/02/08 | 161 | 460 | 42 | 12 | 6.6 | 61 | 0.01 | 4 | 0.3 |
| 14/03/08 | 6 | 50 | 66 | 4 | 5.6 | 66 | 0.01 | 4 | 1 |
| 30/04/08 | 54 | 299 | 11 | 20 | 6.9 | 98 | 0.5 | 4 | 1.4 |
| 23/06/08 | 24 | 109 | 33 | 4 | 6.3 | 61 | - | 85 | 1.8 |
| 30/07/08 | 251 | 630 | 216 | 10 | 8 | 106 | 0.2 | 45 | 0.3 |
| 15/09/08 | 15 | 73 | 48 | <4 | 7.2 | 29 | 0.01 | <4 | 0.3 |
| 30/10/08 | 380 | 1127 | 192 | 77 | 5.5 | 127 | 0.09 | <4 | 0.3 |
| 18/12/08 | 8 | 237 | 177 | <1 | 7.7 | 34 | 0.01 | <4 | 0.3 |

**Table 5.3 Surface Water discharge monitoring**

| Parameter | pH | COD | Suspended Solids | Oils, Fats and Greases |
|---|---|---|---|---|
| 16/01/08 | 8 | 20 | 2 | - |
| 14/03/08 | 6.5 | 31 | 12 | <4 |
| 30/04/08 | 7.5 | 22 | 2 | <4 |
| 23/06/08 | 6 | 20 | 5 | <4 |
| 30/07/08 | 6.7 | 52 | 22 | <4 |
| 15/09/08 | 7.7 | 31 | 18 | <4 |
| 30/10/08 | 6.9 | 29 | 11 | <4 |
| 18 /12/08 | 7 | 127 | 27 | <4 |

## 5.4 Noise Monitoring

| Monitoring location | Day /Night period | $L_{Aeq}$ dB(A) | $L_{A90}$ dB(A) | $L_{A10}$ dB(A) |
|---|---|---|---|---|
| N1 | Day | 66.7 | 56.9 | 69.2 |
| | Night | 59.8 | 50.3 | 61.2 |
| N2 | Day | 59.2 | 51.8 | 61.0 |
| | Night | 52.2 | 46.9 | 54.8 |
| N3 | Day | 57.9 | 53.5 | 59.6 |
| | Night | 49.7 | 49.8 | 52.9 |
| N4 | Day | 63.1 | 46.2 | 65.9 |
| | Night | 64.8 | 45.1 | 66.3 |
| N5 | Day | 71.2 | 58.1 | 72.8 |
| | Night | 69.7 | 59.4 | 71.3 |

Monitoring was carried out on the 7th July 2008

# 6. RESOURCE AND ENERGY CONSUMPTION

Data on resource, energy and primary raw material consumption for the reporting period is presented in Table 6.1 (below):

Table 6.1: Resource and Energy Usage in 2008.

| Raw Material/Resource | Application | Consumption |
|---|---|---|
| Detergent | Vehicle and plant washing | 600 Litres |
| Electricity | Office and plant. | 1287462 kWh |
| Mains water | Washing, Site cleaning, NAPS washing, Hard plastic line | 4200 cubic meters |
| Hydraulic Oil | Process plant and fleet vehicles. | 20000 Litres |
| Marked Diesel | Mobile plant machinery | 220,000 Litres |

## 7. FACILITY DEVELOPMENT WORKS.

During the reporting period Greyhound Recycling and Recovery carried out a number of development projects to improve and develop the facility plant and infrastructure. A summary of the developments undertaken is presented in Table 7.1(below).

Table 7.1 Development Works undertaken during the reporting period.

| Project Objective | Works undertaken |
|---|---|
| Increase recycling/recovery of source segregated and mixed waste. | • Installation a double picking line in Shed 2 section b to improve segregation of mixed waste stream.<br>• Installation of SRF shredder<br>• Installation a Hard Plastic processing line<br>• Installation of Non-ferrous metals plant |
| Prevent any contaminants entering the surface water system. | • Installation of NS50 class 1 oil interceptor to cover catchment area in the yard 3 and part of yard 1<br>• Resurfacing yards and improvement of drainage system on South and West side of Shed1.<br>• Reconnect catchment area of Yard 2 South to sewer line.<br>• Resurfacing yard 1 East and improvement of drainage system.<br>• Installation of $4m^3$ oil interceptor for yard 1 East and connect to sewer line. |

| | |
|---|---|
| Better housekeeping of the site | • Yards repairs |
| Improve management of waste operation | • Relocate recyclable baler<br>• Installation of additional weighbridge and weighbridge office. |

## 8. ENVIRONMENTAL SYSTEMS & PROCEDURES

Greyhound Recycling and Recovery Ltd. facility at Crag Avenue hold ISO9001 and ISO14001 management system accreditations. All reviews, amendments, and implementations of quality and environmental procedures is undertaken within the framework of the ISO9001 and ISO14001 management systems.

## 9. REVIEW OF ENVIRONMENTAL OBJECTIVES AND TARGETS FOR 2008

Objectives and targets for the year 2008 are outlined in *Schedule of Environmental Objectives and Targets 2008* contained in table 9.1

| No. | Aspect(s) | Objective | Target | Status |
|---|---|---|---|---|
| 1 | Waste Management | Ensure the most efficient and environmentally sustainable management of client waste streams. | Modernise existing segregation line at the Mixed C&I waste shed to significantly increase recovery from residual waste of 25% | Completed March 2008 |
| | | | Install new hard plastic cleaning, sorting and shredding facility in the Shed 1. | Completed August 2008 |
| | | | Wood shredding facility for energy recovery product | Change of plans |
| | | | Install additional mechanical RDF line for C&D residuals and wet waste. | Change of plans |
| | | | Set up Laboratory to carry out main analysis of various RDF composition. | Completed December 2008 |
| 2 | Air | Reduce odour emissions from wet waste handling and processing activities<br>Reduce dust emissions from C&D waste handling and processing activities | Carry out full washing and regeneration of carbon at the Negative Air Pressure System (NAPS). | Completed July 2008 |
| | | | Modernize fresh air inlet system and suction openings of the NAPS. | Partially completed November 2008 |
| | | | Mist-Air system installation in the C&D shed to minimise dust creation and escape | C&D line removed |
| | | | Monthly analysis of carbon from NAPS | Not necessary |
| 3 | Water / Oil | Prevent surface water contamination | Installation of Two class 1 full retention oil separators and new surface water collection system to cover 6000$m^2$ of the yard | One installed Nov08 second in July 2009 |
| | | | Install dish channels to collect water from Yard 1 East and discharge to sewer after treatment in oil separator | Completed June 2008 |

| | | | | |
|---|---|---|---|---|
| | | | Install oil interceptor to for rain water from Yard1 East before discharge to the sewer. | Completed June 2008 |
| | | | Separate by kerbing and ramps different surface water risk pollution areas | Postponed to August 2009 |
| | | | Upgrade drainage system in the Yard 2 South. Connect discharge to sewer line | Completed September 2008 |
| 4 | Traffic | Achieve organised, efficient and safe movement of cars, trucks and machinery on site minimising noise and emissions | Upgrade site entrance | Completed June 2008 |
| | | | Addition barrier controlled exit for cars and non-commercial vehicles | Completed July |
| 5 | Infrastructure & Systems | Environmentally efficient and Safety management of waste operation | Re-surface Yard 2 Top in front of gate 5 of Shed 1 | Completed March 2008 |
| | | | Re-surface and upgrade drainage in the Yard 1 East. | Completed June 2008 |
| | | | Re-surface and upgrade drainage systems in yard to south of entrance to Mixed C&I Waste Shed | Completed September 2008 |
| | | | Upgrade existing CCTV system to take account of additional processing activities in Shed 2 and new office complex. | Postponed to 2009 |
| 6 | Resource use and Energy Efficiency | Identify opportunities for energy use reduction and efficiency. Identify opportunities for reduction in the quantity of water used on site | Implement Energy management System to be compliant with IS363 | Postponed to 2009 |
| | | | Dedicate Energy Saving Manager, Training for all staff on energy efficient practices | Postponed to 2009 |
| | | | Improve insulation in the main office block to reduce demand for cooling and heating in this building. | Not planned |
| | | | Installation of rain water retention tank. Connect the following units to the tank: truck wash, washing system of NAPS, Hard Plastic facility. | Postponed to 2009 |
| | | | Replace metal halides lamps in the sheds on energy efficient CFL/PLL lamps | Postponed to 2009 |

## 10. ENVIRONMENTAL OBJECTIVES AND TARGETS FOR 2009

| No. | Aspect(s) | Objective | Target | Status |
|---|---|---|---|---|
| 1 | Waste Management | Ensure the most efficient and environmentally sustainable management of client waste streams. | Install new SRF line to comply with the highest European quality standards of the product | June-July 2009 |
| | | | Prepare project of SRF gasification | June 2009 |
| | | | Prepare procedures for SRF processing, train all operatives allocated to this process | Commencing July 2009 |
| | | | Install additional equipment in the SRF Laboratory to carry out CV and Chloride analysis on a daily basis. | July 2009 |
| | | | | |
| 2 | Air | Reduce odour emissions from wet waste handling and processing activities | Carry out full washing and regeneration of carbon at the Negative Air Pressure System (NAPS). | June - July 2009 |
| | | | Install new NAPS suction piping system in the shed 2 section A and B. | March – April 2009 |
| | | | Installation of fast action door in shed 2 section A to prevent dust and odour escape. | May- June 2009 |
| 3 | Water / Oil | Prevent surface water contamination | Installation of second class 1 full retention oil separator for yard 2 North. Upgrade drainage system | July-August 2009 |
| | | | Retrain all operatives on Spillage Response and Bunds usage | May 2009 |
| | | | Separate by kerbing and ramps different surface water risk pollution areas | August 2009 |
| | | | Upgrade drainage system in the Yard 3 South. Connect water discharge to the existing CN50 class 1 full retention oil separator. | July 2009 |

| | | | | |
|---|---|---|---|---|
| 4 | Traffic | Achieve organised, efficient and safe movement of cars, trucks and machinery on site minimising noise and emissions | Repair existing traffic control units | May- June 2009 |
| 5 | Infrastructure & Systems | Environmentally efficient and Safety management of waste operation | Re-surface Yard 2 South in front of gate 8 | June 2009 |
| | | | Re-surface and upgrade drainage in Yard 2 North at the back of the Office building | July-August 2009 |
| | | | Re-surface and upgrade drainage in Yard 3 North. | May-June 2009 |
| | | | Build concrete loading ramp with two dock levellers for Recyclables loading | May 2009 |
| | | | Upgrade existing CCTV system to take account of additional processing activities in Shed 2 and new office complex. | May 2009 |
| 6 | Resource use and Energy Efficiency | Identify opportunities for energy use reduction and efficiency. Identify opportunities for reduction in the quantity of water used on site | Implement Energy management System to be compliant with IS363 | For completion June 2009 |
| | | | Installation of rain water retention tank. Connect the following units to the tank: truck wash, washing system of NAPS,. | August- September 2009 |
| | | | Replace Metal halides lamps in the sheds by the energy efficient CFL/PLL lamps | September 2009 |

## 11. INCIDENTS

All monitoring non-compliances were reported to the relevant authorities and recorded on incident report forms, which included appropriate corrective action measures.
There was one non-monitoring incident recorded during the reporting period. It was related to the temporary breakdown of Negative Air Pressure System in the Wet Waste shed.

## 12. COMPLAINTS

The facility received 6 complaints in total during the reporting period.
The complaints received during the reporting period were mainly related to odour and one to vermin.

## 13. ODOUR MANAGEMENT PROGRAMME

The odour management programme for licenced facility was submitted to the Agency on 25th September 2008.

## 14. METHANOL MANAGEMENT PLAN

Greyhound Recycling and Recovery Ltd has not developed planned Bio-diesel facility as submitted in Waste Licence Application.
Therefore the usage of methanol in reported period was nil.
There is no requirement to establish a Methanol Management Plan until the Bio-Diesel facility has start began operation.

## 15. AMBIENT AIR MONITORING SUMMARY

Greyhound Recycling and Recovery Ltd. did not carry out the monitoring of the emissions to air during the reported period. The planned Bio-diesel production facility has been not developed and there was no emission of the methanol to the air.

## 16. TANK AND PIPELINE TESTING AND INSPECTION REPORT

Due to the resurfacing of the most of the Greyhound Recycling and Recovery Ltd. facility yard, the pipeline testing has been postponed for the second half of 2009 year. The inspection report will be submitted to the Agency.

## 17. FULL TITLE AND A WRITTEN SUMMARY OF ANY PROCEDURES DEVELOPED BY THE LICENSEE IN THE YEAR, WHICH RELATES TO THE FACILITY OPERATION

During the 2008 reporting period, Greyhound Recycling and Recovery Ltd. has developed two additional procedures for the Environmental Management System and Quality Management System to be in compliance with licence W0205-01.

| Procedure No | Full Name of procedure | Purpose and summary |
|---|---|---|
| EP09 | Negative Air Pressure System usage and maintenance procedure | The purpose of this procedure is to give guidance on the operation, control and maintenance of the Negative Air Pressure System |
| QOP755-1a | Waste Dispatch – Export to China | This procedure is detailing requirements for export to China. This is supplementary procedure to the QOP755_1_WasteDespatch - Recyclable export. |

## 18. REVIEW OF NUISANCE CONTROLS.

During the daily odour assessment for the 2008 reporting period odour was detected on the following:

- 15 days there was a faint odour but only detected within the boundary, usually beside Negative Ai Pressure System and South Side of Shed 2.

## 19. VOLUME OF TRADE EFFLUENT/LEACHATE AND OR CONTAMINATED STORM WATER PRODUCED AND VOLUME TRANSPORTED OFF-SITE

The following amount of effluent was sent off site during the 2008 reporting period:

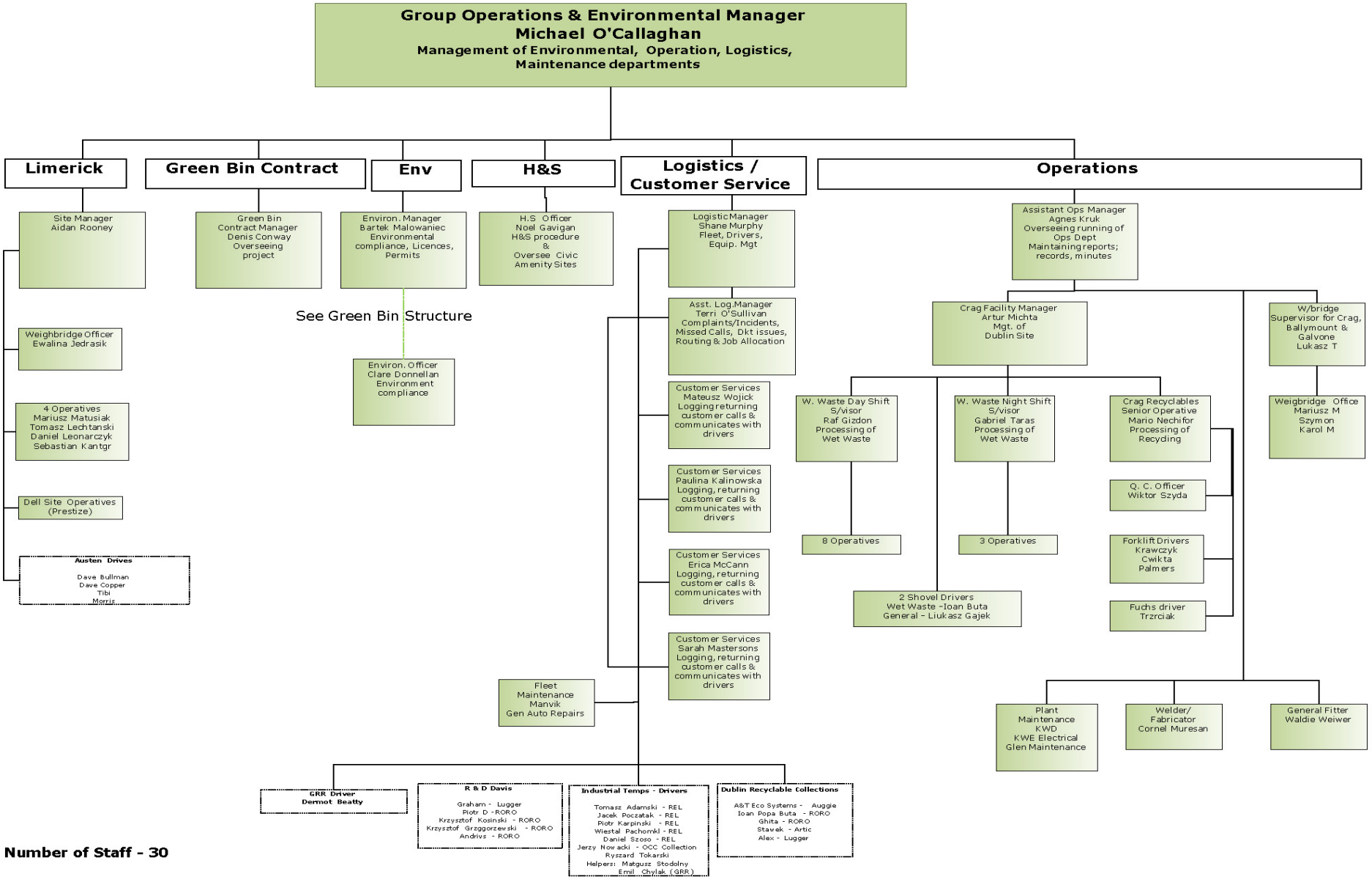
- 60 tonnes of interceptor sludge to Rilta Environmental

## 20. FINANCIAL PROVISION

Greyhound Recycling and Recovery Ltd. public and product liability indemnity limit is up to €6,500,000. In terms of environmental pollution the indemnity applies to damage to any buildings or other structures or of water or land or atmosphere caused by pollution or contamination. The policy covers pollution caused by a sudden, identifiable, unintended and unexpected event and not gradual pollution. This cover will be in excess of any environmental liability that may arise due to such incident.

All trans-frontier shipment of non-green list material undertaken by Greyhound Recycling and Recovery is effected under a financial guarantee calculated on the cost for return and disposal of material where warranted.

## 21. MANAGEMENT AND STAFFING STRUCTURE




**Number of Staff - 30**

## 22. PROGRAMME FOR PUBLIC INFORMATION

Greyhound Recycling and Recovery Limited maintains a *Public Information File* at the licensed facility. This file contains specified information relating the environmental performance of the Company. The file is available for inspection by the public on request at the facility. No public requests for information were received during the reporting period.

## 23. RESIDUALS MANAGEMENT PLAN

There are no major changes in the Residuals Management Plan which was submitted to the Agency in June 2008.