RPS-MCOS Ltd., Carnegie House, Library Road, Dun Laoghaire, County Dublin, Ireland
T +353 1 202 0870 F +353 1 202 0707 E rpsmcos@rpsgroup.ie W www.rpsmcos.ie

Administration,
Waste Management Licensing
Environmental Protection Agency
Headquarters,
P.O. Box 3000
Johnstown Castle Estate
Co. Wexford

7th April 2004

Our Ref.: MDE0163Lt0051dun
File Ref.: 350

Re: Greyhound Recycling and Recovery – Waste Licence Application

Dear Sir/ Madam,

We write on behalf of Greyhound Recycling and Recovery who wish to apply for a Waste Licence in accordance with Article 40 of the Waste Management Act, 1996.

Accordingly please find enclosed the following information:

- An original and five copies of the Waste Licence Application
- An original and fifteen copies of the Environmental Impact Statement in support of the Application
- A cheque for €19,049 as fee

Yours faithfully,

Warren Phelan
For & on behalf of RPS-MCOS

Wp/wp.

cc.
Mr. Olivier Gaillot, Environmental and Quality Manager, Greyhound Recycling and Recovery

Waste Licensing

Waste Recovery/Disposal Activities (Other than Landfill)

EPA Reg. No.: (Office use only) 205-1

Others talk about recycling - we just do it!

Waste Licence Application by Greyhound Recycling and Recovery for a Sustainable Resource Recovery Facility at Crag Avenue, Clondalkin Industrial Estate.

April 2004

Waste Licensing

Waste Recovery/Disposal Activities (other than landfill)

Application Form

EPA Ref. N°: *(Office use only)* 205-1

This document does not purport to be and should not be considered a legal interpretation of the provisions and requirements of the Waste Management Act, 1996.

Environmental Protection Agency
P.O. Box 3000, Johnstown Castle, County Wexford
Telephone: 053-60600 Fax: 053-60699

Environmental Protection Agency

Application for a Waste Licence

WASTE MANAGEMENT ACT, 1996

CONTENTS

Note: Drawings. The following guidelines are included to assist applicants:

- *All drawings submitted should be titled and dated.*
- *They should have a unique reference number and should be signed by a clearly identifiable person.*
- *They should indicate a scale and, if appropriate, the direction of north.*
- *All drawings should, generally, be to a scale of between 1:20 to 1:500, depending upon the degree of detail needed to be shown and the size of the facility. Drawings delineating the boundary can be to a smaller scale of up between 1:1000 to 1:10560, but must clearly and accurately present the required level of detail. Drawings showing the site location can be to a scale of between 1:50 000 to 1:126 720. Provide legends on all drawings and maps as appropriate.*
- *All drawings referred to by the applicant should be submitted as a bound set and referred to throughout the application.*

INTRODUCTION

A valid application must contain the information prescribed in the Waste Management (Licensing) Regulations 1997 i.e. S.I. No. 133 of 1997 as amended by S.I. No. 162 of 1998 (hereafter referred to as 'the Regulations'. The application should conform to the format set out in this application form and the *Guidance Note*. Each page of the completed application form must be numbered, e.g. *page 5 of 45*, etc. Also duplicated pages from the application form should be uniquely numbered, e.g., page 5(i) of 45, etc. **Wherever possible, information should be supplied in the spaces given in application form. Additional information can be included in clearly identifiable, numbered attachments, which should be cross-referenced with the relevant sections in the application form.** *A contents list should be included with each volume.* The applicant should refer to the *Guidance Note* in order to ensure that the application includes all the information required. Consistent measurement units must be used throughout.

It should be noted that it will not be possible to process or determine the application until the required documents have been provided in sufficient detail and to a satisfactory standard.

All questions must be answered. No waste management facility is exactly the same and hence each application will require different information. It is therefore possible that some of the sections of this application form may not be relevant to the activity concerned. **Where information is requested in the application form which is not relevant to the application, the words "not applicable" should be clearly written on the form. The abbreviation "N/A" should not be used.**

Additional information may need to be submitted beyond that which is explicitly requested on this form. Any references made should be supported by a bibliography. The Agency may request further information if it considers that its provision is material to the assessment of the application. Advice should be sought from the Agency where there is doubt about the type of information required or the level of detail.

Information supplied in this application, including supporting documentation will be put on public display and be open to inspection by any person. **Should the applicant consider information to be confidential, then the nature of this information, and the reasons why it is considered confidential should be clearly stated in an attachment to the Application Form. The information should be submitted in a separate enclosure bearing the legend "In the event that this information is deemed not to be held as confidential, it must be returned to (representative of the applicant)".**

Applicants should also note much of the information supplied on the application form may, if a waste licence is granted, form part of the licence. **Accordingly, applicants should be aware that they may be required to comply with any written statement or drawing they supply in the application.**

Applicants should be aware that a contravention of the conditions of a waste licence is an offence under s39 of the Waste Management Act 1996 as amended under S.I. No. 166 of 1998.

The provision of information in an application for a waste licence which is false or misleading is an offence under s45 of the 1996 Act as amended by S.I. No. 166 of 1998 and S.I. No 146 of 1998 (hereafter referred to as 'the Act').

GENERAL

B.1 Applicant's Details

Name*:	Mr. Brian Buckley & Mr Michael Buckley Greyhound Recycling & Recovery Ltd.
Address:	Knockmitten Lane, Western Industrial Estate, Dublin 12
Tel:	01 4508865
Fax:	01 4196882

* This should be the name of the applicant which is current on the date this Waste Licence Application is lodged with the Agency.

Name and Address for Correspondence (it must be noted that all correspondence or communications will be conducted through the correspondence name and address provided. Only application documentation submitted by the applicant and by the nominated person will be deemed to have come from the applicant.)

Name:	Greyhound Recycling & Recovery Ltd.
Address:	Knockmitten Lane, Western Industrial Estate, Dublin 12
Tel:	01 4508865
Fax:	01 4196882

Address of registered or principal office of Body Corporate (if applicable)

Address:	
Tel:	
Fax:	

If the applicant is a body corporate, the following information must be attached as **Attachment B1**:

a Certified Copy of the Certificate of Incorporation or Memorandum and Article of Association;

a) the Company's Registration Number from the Companies Registry Office; and
b) a list of the Company Directors.

State the interest of the applicant in the land which is subject to the application. The applicant is (please check):

Landowner	☐
Lessee	☐
Prospective Purchaser	☒
Other (please specify)	

Name and address of all occupiers of the land on which the Activity is situated (if different from applicant named above).

Name:	Crosbie Transcar Ltd.
Address:	Crag Avenue Clondalkin Industrial Estate Clondalkin Co. Dublin
Tel:	01 4573322
Fax:	01 4572838

Name and address of the current* owner(s) and lessees of the land, buildings and ancillary plant on which the activity is or will be situated (if different from applicant named above). A drawing showing the above details should be included.

Name:	Crosbie Transcar Ltd.
Address:	Crag Avenue Clondalkin Industrial Estate Clondalkin Co. Dublin
Tel:	01 4573322
Fax:	01 4572838

*Current at the time the application is submitted

Attachment B1

The company registration number is 266930. A Certificate of Incorporation is included overleaf.

Attachment B1

Certification of Incorporation,

Company's Registation No.

List of Directors

Number 266930

Certificate of Incorporation on change of name

I hereby certify that

REDUCE, REUSE AND RECYCLE LIMITED

having, by a Special Resolution of the Company, and with the approval of the Minister for Enterprise, Trade and Employment, changed its name, is now incorporated as a limited company under the name

GREYHOUND RECYCLING AND RECOVERY LIMITED

and I have entered such name on the Register accordingly.

Given under my hand at Dublin, this

Wednesday, the 19th day of November, 2003

for Registrar of Companies

GREYHOUND Recycling & Recovery

Others talk about recycling - we just do it!

Date: 16/03/04

To Whom It May Concern:

Greyhound Recycling and Recovery Limited register number with the Department of Enterprise, Trade and Employement is 266930.

The Board of Directors includes the following members:
Michael Buckley
Brian Buckley

Yours sincerely,

Michael Buckley.

Repak

Nationwide Collection Service:

Dublin: Knockmitten Lane, Western Ind. Est., Dublin 12. Ireland. *sales* 00 353 (01) 450 8865 *service* 00 353 (01) 450 9977 *fax* 00 353 (01) 419 6882

Limerick: Galvone Ind. Est., Limerick City, Ireland. *tel* 00 353 (061) 403333 *fax* 00 353 (061) 430999

email sales@greyhoundwaste.com www.greyhoundwaste.com

B.2 Location of Activity

Name:	Greyhound Recycling & Recovery Ltd.
Address*:	Crag Avenue
	Clondalkin Industrial Estate,
	Clondalkin
	Co. Dublin
Tel:	01 4573322
Fax:	01 4572838

* Include any townland

National Grid Reference (8 digit 4E,4N)	232, 416N 307,386 E

A Site Plan must be provided. It should be noted that the Site Plan will legally define the area to which the waste licence will relate. Waste disposal operations by the applicant outside the area of the licence will be an offence under s39 of the Waste Management Act 1996. Accordingly, it is vital that the boundary of the activity is clearly marked and identified.

Original maps of the relevant area, such as maps from the Ordnance Discovery Series, from which the site grid reference can be read and confirmed, must be included in **Attachment B.2.**

The applicant should tick the appropriate box below to identify whether the activity is located within the Shannon Free Airport Development Company (SFADCo.) area.

Attachment B.2.

A copy of the Ordnance Discovery Series Map No. 50 with an outline of the site boundary is enclosed in Attachment B.2. Refer to **Drawing DG0012 in Appendix A** to view Site Location and Ownership map for the proposed facility.

Within SFDACo. Area	**Yes** ☐	**No** ☒

B.3 Planning Authority

Give the name of the planning authority in whose functional area the activity is or will be carried out.

Name:	South Dublin County Council
Address:	County Hall
	Tallaght
	Dublin 24
Tel:	01 4149000
Fax:	01 4149101

Has the Planning Authority received written notification from the applicant of the application to The Environmental Protection Agency for a Waste Licence under Article 9 of the Waste Management (Licensing) Regulations, 1997?

Planning Authority notified	**Yes** ☒
	No ☐

Planning Permission relating to this application:-

has been obtained	☐
is being processed	☒
is not yet applied for	☐
is not required	☐

Local Authority Planning File Reference Nº:	SD03A/0838

Attachment B.3 should contain ***all*** current planning permissions, including a copy of ***all*** conditions. Copies of any EIS should also be enclosed. For existing activities, **Attachment B.3** should also contain copies of all licences and permits in force at the time of submission. Where planning permission is not required for the development, provide reasons, relevant correspondence, etc.

Attachment B.3

Copies of the EIS can be found enclosed with this waste licence application.

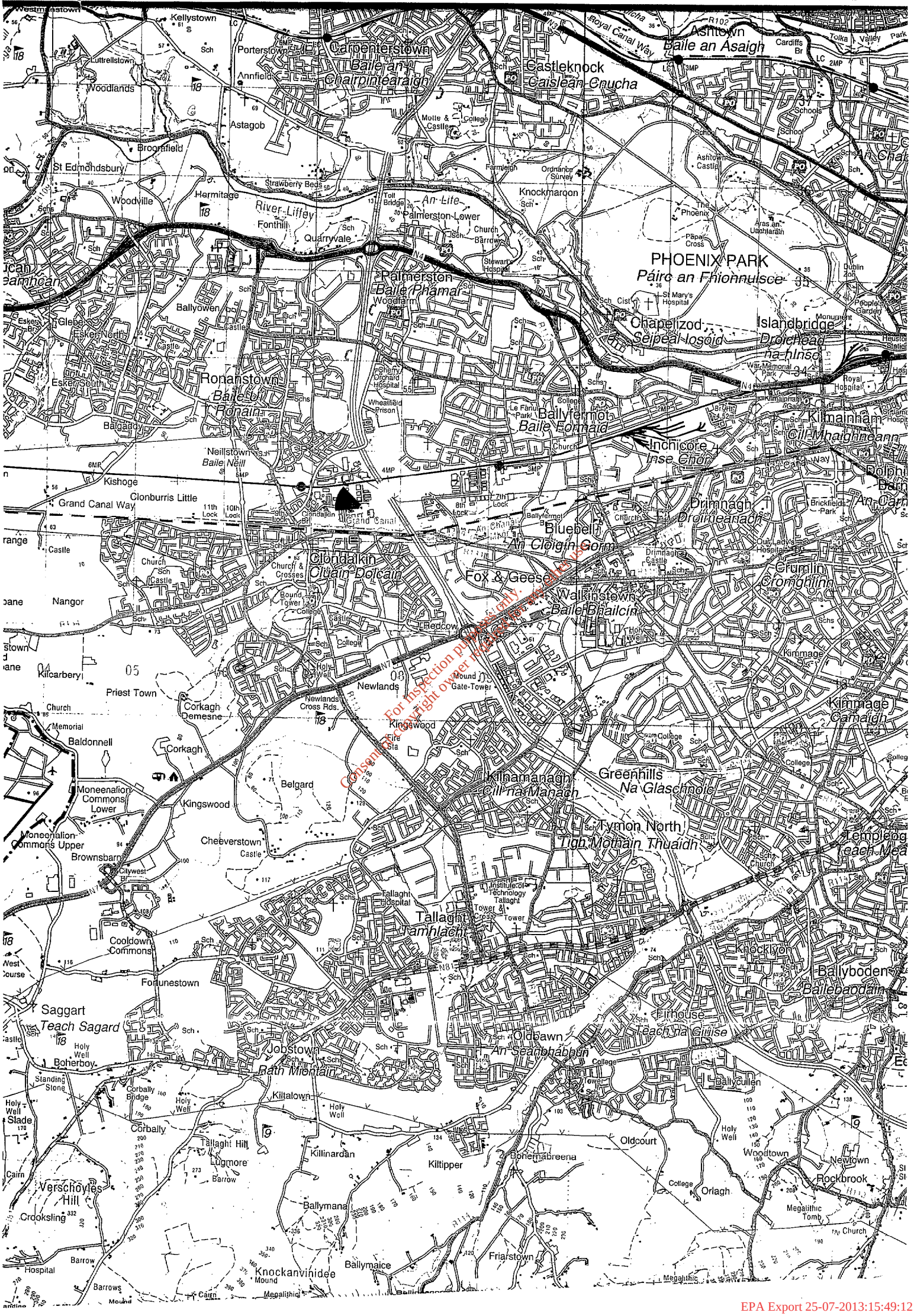
B.4 Sanitary Authority

In the case of a discharge of any trade effluent or other matter (other than domestic sewage or storm water) to a sewer of a sanitary authority, give the name of the sanitary authority in which the sewer is vested or by which it is controlled and the waste water treatment plant (if any) to which the sewer discharges.

Attachment B2

Ordnance Discover Series Map No 50

Name:	South Dublin County Council
Address:	Environmental Services Department



	County Hall
	Tallaght
	Dublin 24
Tel:	01- 4149211
Fax:	01- 4149101

Wastewater treatment plant

Name:	Ringsend WWTP
Address:	Ringsend
	Dublin 4
Tel:	
Fax:	

In the case of a discharge of any trade effluent or other matter to a sewer not vested or controlled by a sanitary authority, give the name and address of the owner(s) of the sewer and the waste water treatment plant (if any) to which the sewer discharges.

Name:	Not Applicable
Address:	
Tel:	
Fax:	

Name:	
Address:	
Tel:	
Fax:	

Waste water treatment plant

Name:	Not Applicable
Address:	

The applicant must enclose, as **Attachment B.4,** a copy of any effluent discharge licence and/or agreement between the applicant and the body with responsibility for the sewer.

B.5 Notices and Advertisements

Articles 6 and 7 of the Waste Management (Licensing) Regulations 1997 as amended requires all applicants to advertise the application in a newspaper and by way of a site notice. See *Guidance Note.*

Attachment B.5 should contain a copy of the site notice and a drawing showing its location on-site. **The original application must include the complete newspaper in which the advertisement was placed.** The relevant page of the newspaper containing the advertisement should be included with the five copies of the application. Where the Waste Management (Licensing) Regulations 1997 as amended require notice of the application to be given to the Planning Authority, a copy of this notice should also be included.

Attachment B.5

A copy of the site notice and newspaper advertisement can be found in attachment B5. The location of the site notice can be seen on **Drawing DG0012 in Appendix A.**

Attachment B5

Site Notice

Newspaper Advertisement

Fat cat pa

Dixons.

The group – which is famed for running the London congestion charging system and its disastrous handling of criminal record checks for teachers – will take over the Dixons call centre in Sheffield.

The 800 staff will become Capita workers and will handle customer services for Dixons and its other brands, including The Link, Currys and PC World.

Dixons

IF punters were ever in doubt that betting is a mugs' game, the news that bookies **William Hill** is joining the list of Britain's biggest firms will confirm it.

The £2billion outfit, with 1,600 shops, will be promoted to the FTSE 100 Index on Thursday in a shake-up sparked by the merger of healthcare group **Amersham** with US giant **General Electric**.

Meanwhile, fashion chain **New Look** will stop trading its shares on the exchange this week after the firm was bought back by its founder, Tom Singh, for £699.4million.

BANK CHIEF'S HUGE

THE boss of Lloyds TSB, Eric Daniels, has been given an "outrageous" 25 per cent pay rise that could help him towards a £6.5million bonanza.

The move sparked furious criticism of the bank, which is "exporting" 1,200 jobs to India. Lloyds defended the decision, saying he was paid less than the bosses of rival banks.

The company's annual report, released yesterday, reveals Daniels basic salary was boosted by £154,000 to £750,000 from January 1 – despite a £126m drop in profit last year.

And it vastly increases the size of bonuses he can earn this year. The bank's annual bonus scheme allows all the directors to potentially double their basic salary. But Lloyds has decided this year Mr Daniels should be eligible for up to 125 per cent of his new salary – a maximum of £937,000.

The bank's generosity to the 52-year-old does not stop there.

At its annual meeting in May it will ask shareholders to approve a new "performance shares" scheme which could double the value of directors' annual bonuses. With his new, higher basic s be worth anothe Mr Daniels.

The bank, whic £3.4billion last yea has a long-term b scheme. This al the bank to give d tors share opt worth up to 5.25 i their basic salary.

For Mr Daniels his new salary – this could be worth almost £4m. Eddie Weatherill,

T.M.B. Steel Products Limited

having its registered office at 45 Weston Park, Churchtown, Dublin 14, having ceased to trade, and having no assets or liabilities, has resolved to notify the Registrar of Companies that the Company is not carrying on business and to request the Registrar on that basis to exercise his powers pursuant to Section 311 of the Companies Act 1963 to strike the name of the company off the register.

By Order of the Board

Thomas Berrigan
Director

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTE LICENCE

NOTICE is hereby given in accordance with Articles 5 and 6 of the Waste Management (Licensing) Regulations 2000 (S.I. No.185 of 2000) that Greyhound Recycling and Recovery with head office at Knockmitten Lane, Western Industrial Estate, Dublin 12, are applying for a Waste Licence to the Environmental Protection Agency within two weeks of this date, in respect of the proposed materials recovery facility located at Clondalkin Industrial Estate, Crag Avenue, Clondalkin, Co. Dublin - National Grid Reference as follows: 232, 41BN 307, 386 E.

The classes of activity in accordance with the Third Schedule of the Waste Management Act 1996 are:-

Class 11: Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this schedule.

Class 12: Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.

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

The classes of activity in accordance with the Fourth Schedule of the Waste Management Act 1996 are:-

Class 2: Recycling or reclamation of organic substances which are not used as solvents (including composting and other bioligical transformation processes).

Class 3: Recycling or reclamation of metals and metal compounds.

Class 4: Recycling or reclamation of other inorganic materials.

Class 8: Oil re-fining or other re-uses of oil.

Class 9: Use of any waste principally as a fuel or other means to generate energy.

Class 11: Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule.

Class 12: Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule.

Class 13: Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.

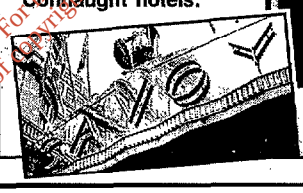
The Principal Activity at the site is Class 4 of the Fourth Schedule as detailed above.

A copy of the Waste Licence Application, the accompanying EIS and any such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the application will, as soon as is practicable after receipt by the Agency, be available for inspectiion or purchase at the EPA Regional Inspectorate Office, Richview, Clonskeagh Road, Dublin 14.

Irish snap up £750m Savoy

SWANKY London hotels Claridge's and The Savoy, both haunts of the rich and famous, have been snapped by a secretive group of Irish millionaires.

The Quinlan private group, headed by tax inspector-turned-tax adviser Derek Quinlan, fought off competition from Saudi billionaire Prince Alwaleed to buy the Savoy Group for £750million. Quinlan's investors already own the Berkeley and Connaught hotels.



FIVE-STAR: Actress-singer Martine McCutcheon models at The Savoy

CITY W CLIPS

THE watchdog Authority has fin Morgan Grenfe a dodgy shares i

And it has wa to play straight

Morgan Gr "failing to best inte a £65millio

The FS traded som its own acc known as p resulting in paying a hig

"Morgan G ultimately vantaged customer, a manager, in the they paid for trade," said the Andrew Procter.

A spokesman bank said: "We misunderstandin

YESTERDAY'S CLOSING LONDON SHARES

FOR share prices call 0906 360 9300. At any point during the FTSE100 Index and market report, key * and enter the 4-digit code to the left of each share. All LSE companies featured; for more codes call 0870 600 4226. 0906 calls charged at 60p per min.

2121	Abbey National	456.5	+5.5
2233	Alliance & Leicester	881.0	+1.0
1000	Allied Domecq	468.25	+3.0
1073	Amersham	830.0	+13.0
4949	Anglo American	1363.0	+12.0
1082	AB Foods	618.0	-3.0
1928	Arriva	369.0	-4.75
1585	AstraZeneca	2562.0	+8.0
1321	Aviva	559.0	+1.5
1585	B Sky B	678.0	-1.0
7389	BAA	527.0	+6.0
1010	BAE Systems	210.25	+2.75
1003	BAT	822.0	-8.0
1004	Barclays	490.0	+0.75
7274	BG Group	342.0	+15.0
2423	Billiton	519.5	-7.0
1008	BOC Group	924.0	-1.5
1128	BR Land Co	651.0	-0.5
1009	Boots	618.0	-5.0
1048	Brambles Ind	215.25	+0.75
1003	Bradford & Bingley	293.75	+1.25
6258	British Airways	304.0	+5.75
1121	Britannic	359.0	-3.0
1011	BP	478.0	+14.75
1012	BT	178.75	-0.75
1015	Cable & Wireless	131.75	-1.75
1016	Cadbury Schweppes	438.5	-1.5
4795	Canary Wharf	295.75	+3.5
5263	Capita Group	307.0	-1.0
7459	Carnival	2603.0	+15.0
6595	Carphone Warehouse	142.5	-2.5
1818	Centrica	231.5	-2.5
4653	Compass	353.75	-4.25
5733	Countrywide	186.0	-1.25
4530	Corus	42.0	-0.25
3973	Daily Mail Trust	683.5	-5.0
1029	Diageo	721.0	-2.0
1020	Dixons	157.0	+2.5
6514	DFS	433.5	-3.5
7525	Easyjet	306.75	+2.75
1186	EMAP	881.0	-10.0
1176	EMI	268.0	-6.25
4713	Enterprise Inns	622.0	-6.0
7733	Friends Provident	150.75	-0.5
2222	Gallaher	655.0	-3.5
1028	GKN	251.0	-0.25
1024	GlaxoSmithKline	1070.0	+3.0
1237	GUS	754.5	-2.0
1030	Hanson	433.0	-1.25
6084	Hays	129.5	+3.25
3333	HBoS	740.5	-10.5
1942	Hilton	232.5	-1.0
5929	HSBC	823.0	+4.0
1032	ICI	233.5	-2.5
1271	Imperial Tobacco	1196.0	-15.0
2145	ITV	130.5	-0.5
1429	Invensys	19.75	-0.25
5908	Kingfisher	290.5	+0.5

▶ TOURIST POUND

Australia	2.33 dollars	Malta	0.62 lira
Barbados	3.46 dollars	Mexico	19.58 pesos
Canada	2.33 dollars	N Zealand	2.69 dollars
Cyprus	0.85 pounds	Norway	12.21 kroner
Czech R	47.55 koruna	S Africa	11.29 rand
Denmark	10.87 kroner	Sweden	13.43 krona
Eurozone	1.46 euros	Switzerland	2.29 francs
HK	13.73 dollars	Thailand	68.59 baht
Jamaica	105 dollars	Turkey	2.33million lira
Japan	185 yen	USA	1.77 dollars

SOURCE: TRAVELEX.CO.UK

HOPES of no rise in interest rates this week helped the FTSE climb 0.3 per cent and energy groups were boosted by predictions that Opec will limit oil production and send prices higher.

BP gained 3.2 per cent while BG added 4.6 per cent to 342p. Sainsbury climbed 4.1 per cent on hopes it might be a takeover target with financiers

Energy

Kohlberg Krav as potential bi

Profit-takers & Wireless fo last week, send per cent.

Traders pred figures by onli

CONTACT THE DAILY MIRROR CITY TEAM ON 0044 20 7293 3472

COCK-UP King Capita has won a £90million deal to manage a call centre for electronics giant

jobs to India."

ATCHDOG EDGERS

- Financial Services d **Deutsche Bank's** arm £190,000 over ade.
- ed the entire market ith investors.
- fell was penalised for et in its customer's sts" in carrying out n order to buy shares.
- said Morgan had of the same stocks on unt, a tactic e-hedging, ie client r price. enfell isad- its und rice the SA's or the gret the ."

■ RACING channel **Attheraces** has been slammed for breaking competition law. The deal struck between 49 race courses and the broadcaster was ruled illegal by the Office Of Fair Trading.

"We need to make it clear when collective selling may breach competition law," said an OFT spokesman.

Attheraces, a joint venture between **Channel 4, BSkyB** and **Arena Leisure** has gone off air because it didn't make money.

THRESHERS off-licences could be transformed into convenience stores. Operators **Terra Firma Capital Partners**, the buy-out firm set up by financier Guy Hands, plans to invest £100million to upgrade the 2,000 stores over three years.

100 index closed up 15.1 points at 4480.7
HIGH = 4566.2 ▶ **FTSE YR LOW** = 4291.3
Sterling spot rates: £1= €1.513 $1815 ¥191.3

id Securities	1111.0	+6.0	1050	J Sainsbury	275.75	+10.75
al & General	97.25	+0.5	1421	Scottish & Newcastle	415.5	+4.75
ds TSB	427.25	+5.0	6027	Scottish & Southern	679.0	-5.5
chester United	245.5	-	6028	Scottish Power	382.5	-2.75
ks & Spencer	283.0	-1.0	4015	Severn Trent	776.5	+0.5
02	103.5	-0.25	7502	Serco	224.0	+4.5
rison	251.25	-2.0	3983	Shell	364.25	+2.75
ional Grid	429.75	-2.25	1434	Smith & Nephew	565.0	+8.5
t	1405.0	+6.0	1437	Smiths Group	655.5	-4.5
ilfern Rock	769.5	-0.5	1435	Smith W H	249.75	+1.25
Mutual	103.0	+1.75	1177	Somerfield	163.0	-0.75
rson	640.5	-5.0	1086	Stagecoach	79.0	-
dential	470.5	+2.5	1441	Standard Chart	926.5	-2.5
kitt Benckiser	1356.0	-9.0	1056	Tesco	247.5	-
d	489.0	-1.0	5983	Unilever	536.5	-2.0
tokil Initial	186.0	-1.75	4010	United Utilities	520.5	+1.0
ters	408.0	-1.0	3577	Vodafone	132.25	-0.25
Tinto	1403.0	-6.0	3288	Wolseley	850.0	-5.0
-Royce	229.75	+2.0	1131	Woolworths	40.0	-0.5
al & Sun Alliance	84.25	+1.25	7439	Trinity Mirror	584.0	+10.5
S	1681.0	-16.0				
B Miller	634.0	-2.5				

boost

Roberts seen ders.

sold off **Cable** owing its rise ng it down 1.3

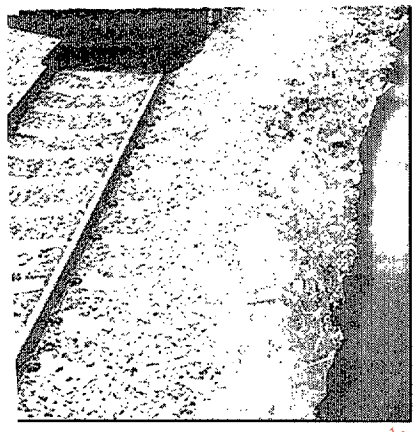
cts this week's e travel agent

Lastminute.com will be impressive, and the shares were up 8.8 per cent.

Dairy group **Arla Foods** lost 7.6 per cent on worries it might be investigated by Danish competition authorities.

Drugs delivery firm **Sky Pharma** gained 8.6 per cent on news it has won a deal for its morphine injection.

KEVAN REILLY



way it all

DREAM THERAPY BY SARAH DENING

long to do something different but ot think of anything you excel at.

t how can you know what you might at unless you start finding out?

rneys in dreams often suggest a need ve new experiences and to discover ously unknown aspects of yourself.

r dream is encouraging you to be less rned about achieving a predeter- d goal and more willing to simply the process of discovering more t your capabilities. If you start ring possibilities, you will eventually e at a destination that suits you.

time to wake up and get moving.

t ought to be you can't see how it is."
ore you can hear
no escape possible."
e system changes
born this day in 1931.

irthday predictions, dial 1550 927292.
vary and you need to enable
call: 1 550 927292
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do something daring, dare to use your wit and humour to point out the problem... For an in-depth, inspiring, personal prediction, calculated from your exact date of birth, call *1550 927292*.

Sagittarius (Nov 23 – Dec 21)

Mars is forming a right angle to Jupiter. The strong celestial suggestion is that you need to complete a process you started – but didn't finish – a while back. Don't feel daunted if, at first, you're in precisely the same position. You have learned something crucial in the meantime and circumstances too, have altered. There is hope, and plenty of it. It's simply a question of reconsidering all the factors that you are half-inclined to just take as read. Overcome your reluctance and sail to success... For an in-depth, inspiring, personal prediction, calculated from your exact date of birth, call *1550 927292*.

Capricorn (Dec 22 – Jan 20)

To what extent might you be suffering from a fear that is chiefly based on a pessimistic assumption? There are reasons to worry, I grant you. But then, since when has life on earth ever been totally devoid of anguish? Are you inadvertently seizing on a cause for concern and amplifying it to the point where you can hear, see or think about nothing else? Deal wisely and sensibly with what clearly needs attention now. But, having done your best, stop worrying. There's really no need... For an in-depth, inspiring, personal prediction, calculated from your exact date of birth, call *1550 927292*.

Aquarius (Jan 21 – Feb 19)

Some books about how to become a millionaire advise people to become big spenders. The idea behind this dangerous advice is that if you don't intensify your need for cash, you won't intensify your search for it. If the principle really does work, you must be well on your way to wealth now! What you need now is an additional source of income. Failing that, you need a way to make what you've got go further. The good news from the sky is that you are in with a chance of getting one of those two! ...For an in-depth, inspiring, personal prediction, calculated from your exact date of birth, call *1550 927292*.

Pisces (Feb 20 – Mar 20)

You are rather hoping that, if you leave someone or something alone, your problem will sort itself out. It will. You are right. What you can't be so sure of is that it will sort itself out in the way you want. There's no guarantee that you will be able to influence the outcome, even if you try with all your might – but at least you will know that you have made every possible effort. And, as you definitely can't make things worse, you may as well do what you can to make them better... For an in-depth, inspiring, personal prediction, calculated from your exact date of birth, call *1550 927292*.

Attachment included	yes ☒	no ☐	not applicable ☐

Attachment L.2 Technical Competence and Site Management

The table below gives details of duties and qualifications of site management and personnel within the company. The page overleaf also gives a flow chart of the overall organisation within the company.

Name	Position	Duties and Responsibilities	Experience /Qualifications
Brian Buckley	Director	Overall management of site	10 years experience & FAS Waste course
Michael Buckley	Director	Overall management of site	10 years experience & FAS Waste course
Eugene Doyle	General Manager	Management of site operations	15 years experience
Olivier Gaillot	Environmental &Quality Manager	EPA licence compliance, Health & Safety, Environmental Management - ISO9000, ISO14001	10 years experience & FAS Waste course
Lucy Fagan	Traffic Manager	Management of drivers, weighbridge & weigh sheets	Over 5 years experience in service/ fleet management FAS Waste course
Angie Clissold	Logistic Manager	Management of waste operatives, cleaning staff, Quality Control of incoming and out coming loads	10 years experience in waste management industry
Moira O'Riordan	Administration Manager	Office Administration	10 years experience
Chris Roe	Maintenance Manager	Maintenance & Management of fitters, welders	10 years experience

Others talk about recycling - we just do it!

GREYHOUND RECYCLING AND RECOVERY LTD

SITE NOTICE

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTE LICENCE

NOTICE IS HEREBY GIVEN in accordance with Articles 5 and 6 of the Waste Management (Licensing) Regulations, 2000 (S.I. No.185 of 2000) that Greyhound Recycling and Recovery with head office at Knockmitten Lane, Western Industrial Estate, Dublin 12 , are applying for a Waste Licence to the Environmental Protection Agency within two weeks of this date, in respect of the proposed materials recovery facility located at Clondalkin Industrial Estate, Crag Avenue, Clondalkin, Co. Dublin - National Grid Reference as follows:

232,416N 307,386 E

The classes of activity in accordance with the Third Schedule of the Waste Management Act 1996 are:-

Class 11: Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.

Class 12: Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.

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

The classes of activity in accordance with the Fourth Schedule of the Waste Management Act 1996 are:-

Class 2: Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).

Class 3: Recycling or reclamation of metals and metal compounds.

Class 4: Recycling or reclamation of other inorganic materials.

Class 8: Oil re-refining or other re-uses of oil.

Class 9: Use of any waste principally as a fuel or other means to generate energy.

Class 11: Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule.

Class 12: Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule.

Class 13: Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.

The Principal Activity at the site is Class 4 of the Fourth Schedule as detailed above.

A copy of the Waste Licence Application, the accompanying EIS and any such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the application will, as soon as is practicable after receipt by the Agency, be available for inspection or purchase at the EPA Regional Inspectorate Office, Richview, Clonskeagh Rd., Dublin 14.

B.6 Type of Activity

Specify the relevant activities in the Third Schedule or Fourth Schedule to the Waste Management Act 1996 as amended by S.I. No. 166 of 1998, to which the application relates (check the relevant box(es) and mark the principal activity with a 'P'). **Attachment B.6** should identify the principle activity and include a description of each of the other activities specified. **There can only be one principal activity.**

TABLE B.6 THIRD AND FOURTH SCHEDULES OF THE WASTE MANAGEMENT ACT 1996

Waste Management Act, 1996			
THIRD SCHEDULE **Waste Disposal Activities**		**FOURTH SCHEDULE** **Waste Recovery Activities**	
1. Deposit on, in or under land (including landfill).		1. Solvent reclamation or regeneration.	
2. Land treatment, including biodegradation of liquid or sludge discards in soils.		2. Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).	X
3. Deep injection of the soil, including injection of pumpable discards into wells, salt domes or naturally occurring repositories.		3. Recycling or reclamation of metals and metal compounds.	X
4. Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.		4. Recycling or reclamation of other inorganic materials.	P
5. Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment.		5. Regeneration of acids or bases.	
6. Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1. to 10. of this Schedule.		6. Recovery of components used for pollution abatement.	
7. Physico-chemical treatment not referred to elsewhere in this Schedule (including evaporation, drying and calcination) which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1. to 10. of this Schedule (including evaporation, drying and calcination).		7. Recovery of components from catalysts.	
8. Incineration on land or at sea.		8. Oil re-refining or other re-uses of oil.	X
9. Permanent storage, including emplacement of containers in a mine.		9. Use of any waste principally as a fuel or other means to generate energy.	X
10. Release of waste into a water body (including a seabed insertion).		10. The treatment of any waste on land with a consequential benefit for an agricultural activity or ecological system.	
11. Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.	X	11. Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule.	X
12. Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.	X	12. Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule.	X
13. Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.	X	13. Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.	X

Attachment B6 Types of Activity

Third schedule of the Waste Management Act

Waste Disposal Activities

Class 11:This activity entails the processing and bulking of wastes prior to transfer to other facilities for disposal

Class 12: This activity on-site involves the processing and baling of waste on-site prior to disposal.

Class 13: The activity involves temporary storage of residual waste at the facility prior to disposal.

Fourth Schedule of the Waste Management Act

Waste Recovery Activities

Class 2: This activity involves the processing of commercial and industrial waste. This material will be processed with a shredder and trommel with the organic fines separated out and sent off-site for composting. Wood will be separated, stored and transferred to a green waste facility for recovery. Cardboard will also be recycled.

Class 3: Metals will be separated, stored in the facility and transferred to a scrap metal plant for recovery/recycling. Beverage cans will also be recycled.

Class 8: Activities will entail the transfer and storage of waste cooking oil on-site, prior to removal off-site for recovery reprocessing. Waste oil from trucks and machines on-site will also be used to lubricate the baler wires.

Class 9: This activity refers to future long term plans to reuse waste vegetable oil on-site. GRR propose to refine the waste vegetable oil for use as a biodiesel for forklifts and other vehicles on-site. At this stage a definitive process has not been selected and GRR propose to consult with the Agency and seek agreement prior to operating such a process.

Class 11: This activity will consist of the use of refined vegetable oil as biodiesel.

Class 12: The exchange of wastes for reuse/ recycling and recovery at the facility.

Class 13: The storage of waste at the facility pending collection for further recycling and recovery.

The **principal activity** carried out at the site in accordance with the Fourth Schedule of the Waste Management Act, is as follows:-

Class 4: The sorting, separation and processing of mixed commercial industrial waste and recyclables, and dry household recyclables.

B.9 Major Industrial Hazard Regulations

State whether the activity consists of, comprises, or is for the purposes of, an industrial activity or isolated storage to which Regulations 12 to 18 of the European Communities (Major Accident Hazards of Certain Industrial Activities) Regulations, 1986 (S.I. No. 292 of 1986), as amended by the European Communities (Major Accident Hazards of Certain Industrial Activities) (Amendment) Regulations, 1989 (S.I. No. 194 of 1989) and the European Communities (Major Accident Hazards of Certain Industrial Activities) (Amendment) Regulations, 1992 (S.I. No. 21 of 1992) apply.

Regulations Apply	Yes ☐	No ☒

If yes, **Attachment B.9** should include the relevant details. Supporting information, as well as copies of any Hazardous Operation Studies (HAZOP) carried out for the site, should also be included in the attachment.

B.7 Fees

State each class of activity for which a fee is being submitted as per Part I of the Third Schedule of the Waste Management (Licensing) Regulations, S.I. No. 133 of 1997 as amended by S.I. No. 166 of 1998.

Fee (in £)	Waste Activity
£10,000 €12,700	The disposal of waste (other than hazardous waste) at a facility (other than a landfill facility) where the annual intake exceeds or is likely to exceed 100,000 tonnes
£5,000 €6,349	The recovery of waste

B.8 Quantity and Nature of Wastes

Provide the annual amount of waste accepted/to be accepted at the site. Additional information including the amounts of waste recovered and/or disposed of per annum since 1988 should be included in **Attachment B.8**. The tonnage per annum should be given of that expected for the life of the licence, with at least the next five years tonnages provided.

TABLE B.8.1 ANNUAL QUANTITIES AND NATURE OF WASTES

Year	Non-hazardous waste (tonnes per annum)	Hazardous waste (tonnes per annum)	Total annual quantity of waste (tonnes per annum)
2005	125,000	3,000	128,000
2006	175,000	3,000	178,000
2007	200,000	3,000	203,000
2008	225,000	3,000	228,000
2009	247,000	3,000	250,000

Attachment B.8

GRR propose to accept an annual intake of 250,000 tonnes of waste at the facility and the proposed facility will have an indefinite life span at this stage.

This table is indicative of the estimated annual growth on the site, however increased market growth and winning new waste contracts could result in maximum throughput tonnages being reached before the timeframe outlined in this table.

C. EXISTING ENVIRONMENT

Detailed information is required to enable the Agency to assess the current state of the environment.

This section requires the provision of information on the ambient environmental conditions at the site prior to the commencement of waste management activities or prior to an application for a licence being made for existing sites that do not have information on ambient conditions prior to commencement of waste management activities.

The information on the current state of the environment should be structured as provided for in this section. **Attachments C.1 to C.9** should include the relevant information. Further advice is given in the *Guidance Note*.

Where development is proposed to be carried out, being development which is of a class for the time being specified under article 24 of the Environmental Impact Assessment Regulations, the information on the state of the existing environment should be addressed in the EIS. In such cases, it will suffice for the purposes of this section to provide adequate cross-references to the relevant sections in the EIS.

Investigation, monitoring and testing results should be presented in the Standard Forms, where available, and included in the attachments.

C.1 Air

Attachment included	yes ☒	no ☐	not applicable ☐

Attachment C.1
RPS McHugh Planning & Environment carried out an Air Quality Impact Assessment of the proposed Sustainable Resource Recovery Facility development at Crag Avenue, Clondalkin Industrial Estate, Co Dublin. The study was undertaken in June/July 2003 and can be found in **Volume 3, Appendix 5 of the EIS** as attached.

Existing air quality environment
In the vicinity of the current brown field site there are several major roads that frequently carry large volumes of traffic. This road network includes the M50 motorway to the east, the Nangor Road to the south of the site, the Newlands Road to the west and the Cloverhill Road to the north. The road network in the immediate vicinity of the site is less congested on Crag Avenue, Besser Drive and Crag Crescent.

To the immediate south of the site with an entrance opposite that of the proposed development is a concrete tile manufacturing facility. This facility has a number of scheduled emissions (i.e. stacks and vents) and unscheduled emissions (i.e. fugitive emissions such as from dusty roads, stockpiling etc.). This may have an existing impact on PM_{10}, general dust, nitrogen oxides and sulphur oxides in the ambient air.

To the north of the site there is an existing lead works which accepts waste lead for re-casting and use in industry. As part of this facility there is a large emission point several metres high emitting waste gas from the process. This point source may have an impact on the ambient concentrations of lead and/or metal in the area. The facility is IPC licensed by the EPA under licence Register 401. The site is generally isolated from sensitive receptors, the nearest residential premises are located along Station Road and

within James Connolly Park approximately 500m to the west of the site. A baseline air quality survey was carried out in June/July 2003 to establish the existing air quality conditions.

The results of this survey are presented in **Volume 2, Section 9 and Volume 3 Appendix 5 of the EIS.** In general, benzene levels indicate contamination at all locations, probably due to the high traffic volumes experienced on the road network in the vicinity of the site. Similarly, the dominant source of NO_2 in the area appears to be from motor vehicle exhausts. All locations indicate typical suburban concentrations of SO_2 with compliance of the annual limit (EC Directive 1999/30/EC). On average the PM_{10} level determined at the site is 20.16 $\mu g/m^3$. which is in compliance with the EU limit (EU Directive 2000/69/EC). The main source of PM_{10} in the area would appear to be from motor vehicle exhausts from cars and HGV's in the immediate road network and from the surrounding major road network.

C.2 Climate

Attachment included	yes ☒	no ☐	not applicable ☐

Attachment C.2

Description of existing environment
The nearest meteorological station to Clondalkin is at Casement (approximately 5 km to southwest) and long-term measurements of wind speed/direction and air temperature for this location are representative of prevailing conditions experienced at the proposed development.

Wind
The windfield characteristics of the area are important climatological elements in examining the potential for the generation of fugitive dust emissions from the site. Fugitive dust emissions from a surface occur if the winds are sufficiently strong and turbulent and the surface is dry and loose, together causing re-suspension of particulate matter from the ground. A wind speed at ground level in excess of about 5 m/s is considered to be the threshold above which re-suspension of fine sized material from an exposed surface may occur.

The mean annual wind speed in the Casement area is approximately 5.5 m/s. The surface needs to have a relatively low moisture content for this type of dust emission to take place.

Long-term wind observations over the period 1968-1996 indicate that the prevailing wind direction, in the Casement area, is from the SW and blows NE across the proposed development.

Rainfall
Precipitation data from the Casement meteorological station for the period 1961 - 1990 indicate a mean annual total of about 711 mm. This is below average for most of the eastern half of Ireland which has between 750 mm and 1000 mm of rainfall in the year.

Temperature
The annual mean temperature at Casement (1961 – 1990) is 9°C with a mean maximum of 15°C and a mean minimum of 5°C. Given the relative close proximity of this meteorological station to the proposed development, similar conditions would be observed.

C.3 Cultural Heritage

Attachment included	yes ☒	no ☐	not applicable ☐

Attachment C.3

RPS-MCOS carried out a desktop study of the site and immediate area in May 2003. The assessment was also complimented by a site visit and walkover visual inspection in June 2003. The walkover of the site for the proposed Sustainable Resource Recovery Facility sought to inspect areas of cultural heritage potential e.g. water-bodies, land features etc. Consultation took place with Duchas The Heritage Service and the Record of Monuments and Places (RMP) was consulted. Historical maps dating back to the nineteenth century were consulted as well as previous planning files.

History of Clondalkin

The parish of Clondalkin is situated on the banks of the River Camac approximately five miles south west of Dublin City Centre. It derives its name from the gaeilge "Cluain Dolcain"-meaning Dolcan's meadow. The village has had a turbulent history as it was burned in 832 AD, 1071 and 1076. A monastic settlement was founded in the 7th Century and a round tower still stands in Clondalkin village which reaches a height of 90ft forming a focal point in the village centre.

Site Description

The site of the proposed Sustainable Resource Recovery Facility at Crag Avenue is currently utilised by Crosbie Transcar Limited as a bonded car storage and distribution facility. Almost the entire existing surface of the site is covered in concrete. There are no recorded structures within the boundary of the existing site or on existing adjacent sites. **Figure 13.1 in Volume 2 Section 13 of the EIS** shows all the recorded sites and monuments in the vicinity of the proposed development. From this it can be seen that there are no recorded sites and monuments within 1 km of the proposed site at Crag Avenue.

C.4 Ecology

Attachment included	yes ☒	no ☐	not applicable ☐

Attachment C.4

RPS-MCOS undertook a walkover of the entire site area in June 2003. The survey comprised an assessment of the vegetation in terms of plant species present on the site and an assessment of the site's potential to support species of flora and fauna.

Nearby areas of vegetation were also visually inspected. Current information regarding ecological designations was consulted prior to the site survey as well as consultation with the Eastern Regional Fisheries Board, Department of Environment, the Irish Wildlife Trust and Birdwatch Ireland.

Existing Environment

The site is currently of a hard standing nature, overlain with approximately 90% concrete and the remainder being a gravel coating. It is estimated that the site has been in industrial and commercial use for at least the past twenty years and as a result there are no natural or semi natural habitats present on it. No conservation designations apply to the site either in terms of habitat or species (flora and fauna).

An examination of previous planning records indicate that the site has been of a hard standing nature for a number of years. There are a few areas throughout the site where breaks in the concrete have allowed some common grass species and intrusive weed species to grow. However, the ongoing frequent movement of cars and heavy vehicles have kept their progression very limited. The noise levels and constant human activity and movement of vehicles act to deter animals from entering onto the site.

There is an existing hedge running up to the northern boundary of the site that screens the railway line and contains mature species of native small tree, shrub and hedge plants. However, the northern wall and the site boundary fence are high with the hedgerow and overgrowth contained.

There are no watercourses on the existing site. The Grand Canal, which is a designated Natural Heritage Area (NHA), is located approximately 300m south of the proposed development. It is separated from the site by a number of roads and several buildings. The only visible surface water close to the site is a small feeder stream which receives the drainage discharge from Crag Avenue. This stream runs down to and along the Grand Canal before it discharges into the River Camac at Bluebell Avenue. Refer to **Volume 2, Section 8 of the EIS** for more information.

C.5 Human Beings

Attachment included	**yes** ☒ **no** ☐ **not applicable** ☐

Attachment C.5

RPS-MCOS carried out a study in which the social and economic aspects of the area were appraised with particular attention given to the existing (receiving) environment at a local level, but also on regional and sub-regional levels.

The study area encompassed a radius of 0.5km of the proposed development. The sub regional describes the existing environment between 0.5km and 3km of the proposed development. While the regional existing environments describes the Dublin Region beyond 3km of the proposed development.

Regional

According to the Waste Management Plan for the Dublin Region (1998) there are approximately 3.5 million tonnes of waste arising in the Dublin Region. Approximately 53% of this waste is of construction/demolition origin, some 17% is industrial in origin while household and commercial sectors each contribute about 13% of the waste stream handled. 80% to 90% of Dublin Regions waste is being sent to landfills. To meet emerging new EU and national legislation, alternatives to landfill must be found. The Waste Management Plan for the Dublin Region recognises that this will involve the provision of additional sorting and baling facilities in the Dublin Region for recyclables collected prior to transport to markets. The proposed development will sort, bale and recycle commercial waste and thereby divert waste material away from landfills.

Sub-Regional

The existing environment under a sub regional context is discussed under the following headings with detailed information available in the EIS (see below).

- Recreational/Community Facilities
- Economic Functions
- Population
- Transportation Network

Local
A description of the existing environment within a radius of 0.5km of the proposed development is described under the headings:

- Land Use
- Transportation
- Population
- Community/Amenity Facilities
- Economic Functions

More detailed information is available in **Volume 2, Section 12 of the attached EIS.**

C.6 Hydrogeology

Attachment included	**yes** ☒ **no** ☐ **not applicable** ☐

Regional Hydrogeology
Permeability of the Lower Carboniferous Limestones is a function of the lithology, extent of dolomitisation, faulting/fracturing and degree of karstification. The Calp is defined as being very variable but dominated by low permeability, fine grained and argillaceous limestones and shales. There are more permeable strata within the unit that are thought to be responsible for the higher than expected yields that are encountered in different parts of the outcrop area.

Site Hydrogeology
Groundwater samples were taken and sent to the laboratory for analysis for a standard suite of quality indicators. The results indicate that most parameters were well inside the EC Drinking Water Regulations (2000) although some parameters e.g. alkalinity were slightly elevated. There was also some variance in a few parameters between each sample. The results are consistent with the local land use and did not demonstrate concerns for the proposed development. More information can be obtained in **Volume 2, Section 7 and Volume 3, Appendix 4 of the attached EIS.**

C.7 Landscape

Attachment included	**yes** ☒ **no** ☐ **not applicable** ☐

Attachment C.7

Landscape Context
Landscape and Visual Impact Assessment was carried out for the EIS by Brady Shipman Martin Ltd..
The site for the proposed new Sustainable Resource Recovery Facility lies within Clondalkin Industrial Estate at the suburban /industrial edge of the Ronanstown /Clondalkin area in west Dublin. The industrial estate is bound by the Dublin-Kildare rail line to the north, Cloverhill Industrial Estate further north, the elevated M50 Western Parkway to the east, the Grand Canal to the south and Cloverhill Road and residential development to the west.

Within the estate, the site has a relatively central location with industrial style warehouse development to the west, south and east. The rail line defines the northern boundary of the site. At present the site is in

use by Crosbie Transcar Ltd., a car distribution operation, which principally comprises a centrally located two-storey office building surrounded by extensive car parking.

The landscape of the surrounding environment is flat and typical of a mixed suburban character. The elevated nature of the M50 is a prominent feature while the Grand Canal, the principal amenity in the area located over 250m from the facility, is only prominent at proximity. Views to the industrial estate from the M50 are in reality only facilitated from the northbound carriageways and are typically of a passing nature as truly open views are limited to the bridge crossing of the canal.

Further north, developing roadside screening is increasingly effective in providing screening towards the estate. The screening is particularly effective when traveling on southbound carriageways or from the Cloverhill Road Overbridge. Cloverhill Road to the west, together with Clondalkin Commercial Park and Cloverhill Industrial Estate to the north of the proposed development, are well screened with existing mature rail-side and roadside trees and hedgerows.

Site Description

The site comprises 4.5 hectares and is currently operated by 'Transcar Ltd.' as a car storage and distribution facility. The entrance to the site is located to the north from Crag Avenue from a relatively central location within Clondalkin Industrial Estate.

Generally speaking, boundaries to the existing site are a mix of palisade fencing and palisade type-fencing set on concrete block walls of various heights. The entrance is comprised of understated brick wall construction with low walls and railings fronting the remainder of the site. Warehouse developments surround the site to the east, south and west. In particular to the east, warehouse/office developments of some 6 or 7m in height closely bound the site. The units all have blank walls overlooking the actual site of the proposed new development.

On the northern boundary a hedgerow of variable height (1.5 to 4.0m average) and security fence defines the site and rail boundary. The boundary detail ensures that even passing views are not possible from trains. The boundary between the rail line and Clondalkin Commercial Park further north is a mature tree-lined hedgerow over 5 or 6m in height. With regard to National Landscape Designations or Listings, there are no listings for Areas of Outstanding Landscape in the immediate area of the proposed development. The nearest is the Phoenix Park and Liffey Valley (Nr 39) some 3km to the north/north-east

Amenity uses in the wider vicinity are limited to:-

The Grand Canal, a proposed National Heritage area and associated 'Grand Canal Way', forms the southern boundary of the industrial estate. The canal, which is the principal amenity in the environs, is over 250m south of the site and existing industrial and warehouse development lies on the intervening area.

Small areas of Public Open Space in and around the various residential developments to the south, west and north of the industrial estate. All are located over 500m from the site and include:

- To the south - Yellow Meadows, Mayfield, Riversdale;
- To the south-west – Michael Collins Park, Patricks Road;
- To the west – Ninth Lock Road, Ballymanagin Lane, James Connolly Park, Cappaghmore;
- To the north-west and north – Palmerstown Woods, Collinstown Grove.

A larger park is located more distantly at Collinstown Park. There are no preserved views or additional landscape or scenic designations listed within the South Dublin Development Plan, which relate to the

environs of the site. The Grand Canal has been designated a Proposed Natural Heritage Area as indicated and is some 250m south of the site (see also section on Flora and Fauna).

In summary, the character of the site and its immediate surrounds is largely industrial or commercial in nature and the site has no visual distinctiveness either from within or outside its context. Refer to **Volume 2, Section 11 and Volume 3, Appendix 7 of the attached EIS** for more information.

C.8 Noise

Attachment included	**yes** ☒ **no** ☐ **not applicable** ☐

Attachment C.8

Existing Environment

The site is bounded to the north, south, east and west by industrial units and is accessed from the M50 and Cloverhill Road. The site is generally isolated from noise sensitive locations, the nearest residential premises are located along Station Road and within James Connolly Park to the western site boundary approximately 500m from the site.

A baseline noise survey was carried out on the 11th June 2003 to establish the existing noise climate throughout both day and night-time periods within and surrounding the site boundary. The baseline noise survey found that noise characteristics of the area are typical of an industrial estate zoned for light industrial activity. Additional noise sources emanated from nearby passing trains, overhead aircraft and banging sounds associated with industrial activity. Existing road traffic was the dominant noise source for the majority of the time. Refer to **Volume 2, Section 10 and Volume 3, Appendix 6 of the attached EIS** where more detailed information can be found.

C.9 Surface Water

Attachment included	**yes** ☒ **no** ☐ **not applicable** ☐

Attachment C.9

Existing Environment

Currently the surface water drains to a number of gullies and drains on-site and is piped into the local surface water network serving the industrial estate. The existing storm water drainage system on the site is sufficient in its capacity to efficiently collect precipitation falling on the site during flood events. The receptor for all drainage from the site is the River Camac.

FACILITY DESIGN

D.1 Infrastructure

Complete the following table detailing the facility infrastructure. **Attachment D.1** should contain the appropriate documentation. Information provided should follow the sequence, and use the headings, established in Table D.1. Additional advice on completing this section is provided in the *Guidance Note*.

TABLE D.1 INFRASTRUCTURE

Indicate whether the following infrastructure has been specified.

		y/n	Comments
D.1.a	**Facility security arrangements**	Y	See Attachment D.1.a
D.1.b	**Designs for facility roads**	Y	See Attachment D.1.b
D.1.c	**Design of hard-standing areas**	Y	See Attachment D.1.c
D.1.d	**A weighbridge**	Y	See Attachment D.1.d
D.1.e	**A wheel-wash**	Y	See Attachment D.1.e
D.1.f	**Laboratory facilities**	Y	See Attachment D.1.f
D.1.g	**Fuel storage areas**	Y	See Attachment D.1.g
D.1.h	**Waste quarantine areas**	Y	See Attachment D.1.h
D.1.i	**Waste inspection areas**	Y	See Attachment D.1.i
D.1.j	**Traffic control**	Y	See Attachment D.1.j
D.1.k	**All services**	Y	See Attachment D.1.k
D.1.l	**Sewerage and surface water drainage infrastructure**	Y	See Attachment D.1.l
D.1.m	**Plant sheds, garages and equipment compound**	Y	See Attachment D.1.m
D.1.n	**Facility accommodation**	Y	See Attachment D.1.n
D.1.o	**A fire control system, including water supply**	Y	See Attachment D.1.o
D.1.p	**Civic amenity facilities**	N	See Attachment D.1.p
D.1.q	**Any other waste recovery infrastructure**	Y	See Attachment D.1.q
D.1.r	**Any other infrastructure**	Y	See Attachment D.1.r

Attachment D.1.a Facility security arrangements

The boundaries to the existing site are a mix of palisade type fencing set on concrete block walls of various heights. The entrance comprises a brick wall construction with low walls with railings above. Railings front the remainder of the site. Warehouse developments surround the site to the east, south and west. On the eastern side, some of the warehouse/office developments are 6 or 7 meters in height. On the northern boundary a hedgerow of variable height (1.5 to 4 meters average) and security wall and fence defines the site and rail boundary. The boundary between the rail line and Clondalkin Commercial Park (further north) is a mature tree-lined hedgerow between 5 and 6 meters in height. Current security arrangements are good owing to use as a bonded warehouse for new cars – it is proposed to retain the existing system as far as possible in the new development. This includes a security tower central to the site.

It is proposed to improve and re-design the existing entrance to improve sightlines for vehicles entering/exiting the site. The boundary fencing in front of the new site office and around the site entrance will also be upgraded. GRR plan to upgrade the entire boundary fence in stages as the site develops.

Attachment D.1.b Designs for facility roads

The facility road surfaces within the site will be designed to NRA standards and will be a mix of asphalt and tarmacadam surfaces, depending on usage. A concrete yard will surround the main processing building. Details of the proposed surface treatments are shown on **Drawing DG0015 in Appendix A.** The concrete surface in place on the eastern side of the site will remain unchanged.

Attachment D.1.c Design of hard-standing areas

An examination of previous planning records indicates that the site has been of a hard standing nature for a number of years. The majority of the site is currently overlain with concrete of typical depth 250mm with small pockets of gravel coating. The majority of the existing hard-standing surface to the east of the site will remain in-situ with the remaining internal surface areas upgraded as detailed in attachment D.1.b.

Attachment D.1.d Weighbridge

GRR plan on redesigning the site entrance in order to improve access and prevent queuing outside on Crag Avenue. The improved site entrance will include the installation of entrance and exit weighbridges. This dual system will allow for flexible safe and controlled movements of HGV's in and out of the site. The location of the weighbridges and traffic control building are shown on the accompanying Site Layout Drawing **DG0013 in Appendix A.**

Attachment D.1.e Wheel wash

GRR are not planning to install a wheelwash unit on-site which is consistent with similar facilities in the region. A wash bay area will be maintained on-site next to the existing building for the cleaning of vehicles. Any vehicles that GRR deem to be unclean for road use will be prevented from leaving the site until they have been through the wash bay area. GRR also plan to clean all of their fleet at this area on a weekly basis. Crosbie Transcar Ltd currently uses this are for the cleaning of cars arriving to the site.

Water for the wash bay area will be supplied from an underground tank adjacent to the stormwater attenuation tank which will store and re-circulate rainwater collected from the site. The rainwater tank is downstream of the silt trap and oil interceptor. The tank will be supplemented by a water supply as required. Refer to the attached Services Drawing, **DG0015 in Appendix A,** for details of the site services. Cross-sectional details of the underground tank are provided on drawing **DG0018 in Appendix A.**

Attachment D.1.f Laboratory facilities

At present there are no laboratory facilities proposed for the facility in the first phase of development. However, in future developments GRR propose the development of an in-house research centre for the development of new waste processing and recovery technologies to ensure that the most environmentally efficient practices are being carried out at the site.

Attachment D.1.g Fuel storage areas

Fuel for the operation of the plant oil on-site will be stored in a fuel tank, which exists at the present Crosbie site, in a bunded area capable of holding 110% of the tank capacity. The existing tank has a capacity of 40,000l and will provide fuel for fleet and vehicles. This location can be seen on drawing **DG0013 in Appendix A.** In addition, a second fuel storage tank (7,200l in capacity) will be constructed and housed in a second bunded area. This tank will store engine oil for use on-site.

Attachment D.1.h and D.1.i Waste quarantine areas and waste inspection areas
All waste loads arriving to the site will be tipped inside the main facility building and inspected prior to processing. If staff members are satisfied that the load is not contaminated the material will be processed as required. Any loads considered to be suspect will be removed to a quarantine bay for further inspection. Waste loads will be returned to the customer if site management are not satisfied with the quality and contents of the waste load. Similar controls will be put on all recyclables/residues leaving the site. The location of the waste quarantine area is shown on drawing **DG0014 in Appendix A,** which accompanies this report. If the need arises, the waste quarantine area can be temporarily bunded using a mobile bund which will be available at the facility. GRR also plan to use mobile proprietary self-bunded storage units on-site for the storage of any hazardous materials on-site such as batteries, oil etc.

Attachment D.1.j Traffic control

Revised site entrance
The existing site entrance consists of a long, narrow entrance which restricts traffic entering/leaving the site to just one lane. GRR propose to significantly improve this existing arrangement. The entrance to the site will be widened to allow traffic flow, in particular HGV's, to pass safely in both directions. The revised entrance design will also include removing part of the boundary fence in order to improve sightlines for vehicles entering/exiting the site. The boundary fencing in front of the new site office and around the site entrance will also be upgraded, refer to attached drawing **DG0013 in Appendix A** for details.

Traffic Control Centre
The new site layout will include a traffic management and security control point which will control the movement of vehicles on and off the site. The traffic control centre will consist of a simple single storey type building, entrance and exit weighbridges and security barriers which will ensure the one way system for HGV's in operation around the facility.

Clear signage on-site will control and direct vehicles moving on-site. A slip road entrance to the main site office building has been designed to keep both staff and customer cars separate to HGV's. Staff car parking on-site is located as close to office buildings and staff quarters as possible and bike racks will be provided, refer to **DG0013 in Appendix A** for details. Pedestrian walkways will be clearly marked on-site to minimise the potential for accidents on-site. A separate pedestrian and cyclist entrance gate will provide safe access for staff to the site.

Attachment D.1.k All Services
Service infrastructure, which will serve the site is shown on drawing **DG0015 in Appendix A** and will include the following:

Three phase electricity
The power to operate the site will be provided by the local sub-station which is located on the existing site. The ESB have been contacted in relation to the site energy requirements which is estimated to be 1MW. The ESB have confirmed that the substation will have sufficient capacity to meet the future requirements.

Telecommunications infrastructure
Telecommunications infrastructure will be brought to the office building, the traffic control center and the staff building.

Water Supply
There is an existing 150mm diameter water main on Crag Avenue from where the existing site obtains its water supply. The daily demand for the site is estimated at between $35m^3$ and $45m^3$ of water per day. The existing main to the site will be maintained with additional supply mains serving the new recovery building and office building. Refer to **DG0015 in Appendix A** for details.

Stormwater Network
The existing storm water system consists of a network of pipes and gullies as shown on drawing **DG0015 in Appendix A**. The existing system will be upgraded and improved to ensure ponding does not occur on-site. A 450mm diameter pipe will connect into the local area network on Crag Avenue.

GRR plan to install an oil and silt bypass interceptor into the stormwater network to reduce contamination. The location of this system is shown on **DG0015 in Appendix A**.

GRR plan to collect and reuse rainwater from the site by using an underground tank located adjacent to storm water attenuation structure and by-pass interceptor. Water from the tank will be pumped to the workshop and to the new recovery building for cleaning purposes in the recovery building and as a supply to the wash bay area. Should the level of the tank drop below the daily demand it would be topped up by a connection to the water main. It is estimated that the rainwater system will cater for the majority of all washing needs outside of prolonged dry spells.

The Planning Authority South Dublin County Council has required storm water attenuation measures to limit discharges from the site during heavy rainfall. The limiting discharge was based on a rainfall intensity for a 20 year return period of 2 hour intensity. The site design includes two options to achieve this – Option 1 is to build an underground attenuation tank comprising of three storage cells and a 'hydrobrake' discharge control device to limit flows. Option 2 is to employ a permeable paving system on the site for hardstanding and parking areas. Details of these systems are provided in drawings **DG0015 DG0017, DG0018** and design calculations for both systems which are provided as an additional attachment at the end of this section.

A monitoring chamber will also be included downstream of the petrol/oil interceptor for sampling purposes.

Foul Sewerage
GRR will improve the onsite sewerage system in order to deal with the expansion of the site facilities. An existing system services the Crosbie site offices and is shown on **DG0015 in Appendix A**. This system will be maintained with the addition of an interceptor and monitoring point at the wash bay area (upstream of the discharge to foul sewer). In addition, a new 150 mm diameter pipe will connect into the local foul sewer on Crag Avenue network at a separate point. This pipe conveys foul water from the toilet facilities in the new recovery building and the new offices. Design calculations for the improved foul sewerage system are provided as an additional attachment at the end of this section.

Attachment D.1.l Sewerage and Surface Water Drainage Infrastructure
The proposed site drainage of sewage and surface water has been discussed in attachment D.1.k above and is shown on drawing **DG0015 in Appendix A.**

Attachment D.1.m Plant sheds, garages and equipment compound

The main building on the existing Crosbie Transcar site functions as a typical office/workshop type building. It is made up of a large maintenance garage, a cleaning bay and a dewaxing bay. There are also several small offices and a reception area within the building. Two portakabins have been attached to the main building to supplement the office space in the building. GRR plan to retain the existing building and it will function as both staff quarters for facility operatives and as a maintenance garage for vehicles. The cleaning bay area will be retained and reused as a truck wash area for waste vehicles. During the construction of the new facility and office block GRR plan to operate out of this building for an interim period.

The workshop building located along the northern boundary of the site will be retained and used similarly by GRR. There is also an elevated security/look-out building, an electricity sub-station and a second entrance to the site along the western boundary of the site. All of this infrastructure will be retained as part of the proposed development. The existing offices/workshops and garage can be seen on drawing **DG0013 in Appendix A.**

Attachment D.1.n Facility Accommodation

A new two-storey office block development will be constructed to the front of the site by the southern boundary of the site alongside Crag Avenue **(see DG0013 in Appendix A).** The building will cater for initially 30 administrative, sales and management staff and will be the reception area for all customers/visitors to the site. The office building will be approximately 600m^2 in size and will be open plan in design. See attachment D.2 for more information on the administration building. The existing Crosbie office building will be maintained as detailed in attachment D.1.m.

Attachment D.1.o Fire control system, including water supply

As detailed in attachment D.1.k a 150 mm diameter main will supply water to the site. This main will supply water to all existing and proposed buildings. In addition the supply will connect to a series of fire hydrants located across the site. The hydrants will provide sufficient water supply in the event of a fire on-site. The location of the hydrants and the design of the water supply are illustrated on **DG0015 in Appendix A.**

Attachment D.1.p Civic amenity site

There is no civic amenity site planned for the proposed facility at present. However if South Dublin County Council would consider such a facility beneficial to the local community, GRR are prepared to view any such proposals favourably.

Attachment D.1.q Other waste recovery infrastructure proposed

GRR propose to continually develop the site as the waste business grows and new technologies become available on the market. GRR are considering various development options for their business although to date no definite decisions have been finalised. When finalised GRR will prepare a Review of Waste Licence Application form and the appropriate documentation will be sent to the Agency for approval if required.

Attachment D.1.r Any other infrastructure

GRR have taken an environmental approach to the design of the proposed facility and have integrated in sustainable design features to create an energy efficient and environmentally sound building. Such features are:

Green Building Systems

A number of green building systems will be put in place including a wind turbine and solar panels to supplement power supply to the office building. A 13m high wind turbine will be positioned close to the office. (This is a small scale unit and given the industrial location it is not expected to have any impacts such as those associated with large wind farms). Solar voltaic panels will be attached to the southern face of the building.

The power generated from these green systems will be fed into a number of battery storage banks on top of the office building. The energy generated will be used to operate lighting in the office building.

Storage of Waste Vegetable Oil (WVO)

WVO will be accepted and stored at the facility. The WVO will be stored in a 40,000l tank in a bunded area capable of holding 110% of the maximum capacity. The tank and bund will be regularly inspected and maintained to prevent any leakages of oil. The tank will be located within the main building as shown on drawing, **DG0014 in Appendix A.** The material will be stored on-site until the tank is full after which it will be sent off-site for recovery.

At a later stage in the development of the facility, it is proposed by GRR to convert WVO's into biodiesel that can be used to fuel forklifts and other machinery at the facility. This is a proposal for the future and forms part of GRR's commitment to continuously improve and ensure the sustainability of the proposed resource recovery facility. Final details of the preferred process are not yet decided and will be forwarded to the Agency at a later date for its agreement prior to implementation.

Additional Attachment D.1.K

Foul Water Calculations
Option A – Surface Water Calculations
Hydrobrake Specification
Option B – Permeable Pavement Proposal

1 Foul Drainage Calculations for Waste Recovery Building and Office Building

1.1 It is proposed to lay a 150mm Concrete pipe @1:125 (Ref FP4 - FP1 on services drawing) from proposed Waste Recovery Building to an existing manhole on Crag Avenue. Levels as shown on drawing

1.2

U/S Ref	D/S Ref	U/S CL	D/S CL	U/S IL	D/S IL	L (m)	Diameter	Grad	Capacity (l/s)	Velocity (m/s)
FP4	FP3	54.9	54.29	53.6	53.02	72	150	125	13.8	0.78
FP3	FP2	54.29	54.13	53.024	52.55	59	150	125	13.8	0.78
FP2	FP1	54.13	54.05	52.552	52.41	18	150	125	13.8	0.78
FE1	Ex. F MH	54.05	54.42	52.408	52.3	13	150	125	13.8	0.78

ks = 1.5mm

1.3 Calculation of assumed flows from Waste Recovery Facility

15 No. Staff
Assume 20m³/hd/yr.....CIRIA Report - Dry Weather Flows in Sewers
Q_{staff} = 300m³/yr
Assume 365 days @ 12 hrs/day, $DWF_{domestic}$ = 0.02 L/s

Allow 5m³/day for washing down spills etc
DWF_{spills} = 0.06 L/s

DWF_{total} = 0.08 L/s

Allow 6 DWF, Q = 0.5 L/s

Therefore 150mm pipe at 1 in 125 is satisfactory for Waste Recovery Facility

1.4 Calculation of assumed flows from Office Building

40 No. Staff, Total of 55 (including Waste Recovery Facility Staff)
Assume 20m³/hd/yr.....CIRIA Report - Dry Weather Flows in Sewers
Q_{staff} = 1,100m³/yr
Assume 365 days @ 12 hrs/day, $DWF_{domestic}$ = 0.07 L/s

Allow 5m³/day for washing down spills etc
DWF_{spills} = 0.06

DWF_{total} = 0.13

Allow 6 DWF, Q = 0.78L/s

Therefore 150mm pipe at 1 in 125 is satisfactory for Waste Recovery Facility and Office Building

2 Foul Drainage Calculations for Truck Wash/Workshop Facility

2.1 It is proposed to retain existing pipework draining the workshop/future truck wash.
Consists of as follows

U/S Ref	D/S Ref	U/S CL	D/S CL	U/S IL	D/S IL	L (m)	Diameter	Grad	Capacity (l/s)	Velocity (m/s)
FE4	FE3	54.97	55.13	54.68	54.03	24	100	37	8	0.96
FE3	FE2	55.13	54.42	54.03	53.52	89	150	175	10	0.6
FE2	FE1	54.42	54.34	53.52	52.96	8	225	14	109	2.74
FE1	Ex. MH	54.34	54.51	52.96	50.77	30	225	14	109	2.74

2.2 Hydraulic Check on FE4 - FE3

This pipe will drain the toilets for the workshop.

15 No. Staff
Assume 20m³/hd/yr.....CIRIA Report - Dry Weather Flows in Sewers
Q_{staff} = 300m³/yr
Assume 365 days @ 12 hrs/day, $DWF_{domestic}$ = 0.02 L/s

Allow 6 DWF, Q = 0.5 L/s
Capacity = 8l/s

Therefore FE4 - FE3 is satisfactory

2.3 Hydraulic Check on FE3 - FE2

This link will drain the toilets and truck wash.

Water usage for truck wash = 15m³/d
Water usage for truck wash = 0.2L/s

DWF = 0.2 + 0.02 = 0.22L/s

Design Flow, 6DWF = 1.32 L/s
Capacity = 8l/s

Therefore FE3 - FE2 is satisfactory

2.4 Hydraulic Check on FE2 - FE1

As above,
Design Flow, 6DWF = 1.32 L/s
Capacity = 109l/s

Therefore FE2 - FE1 is satisfactory

2.5 Hydraulic Check on FE1 - Ex MH

As above,
Design Flow, 6DWF = 1.32 L/s
Capacity = 109l/s

Therefore FE1 - Ex MH is satisfactory

Surface Water Calculations

The Table below provides details of the surface water pipes, invert levels, manhole cover levels and deisgn pipe flows for the proposed network.

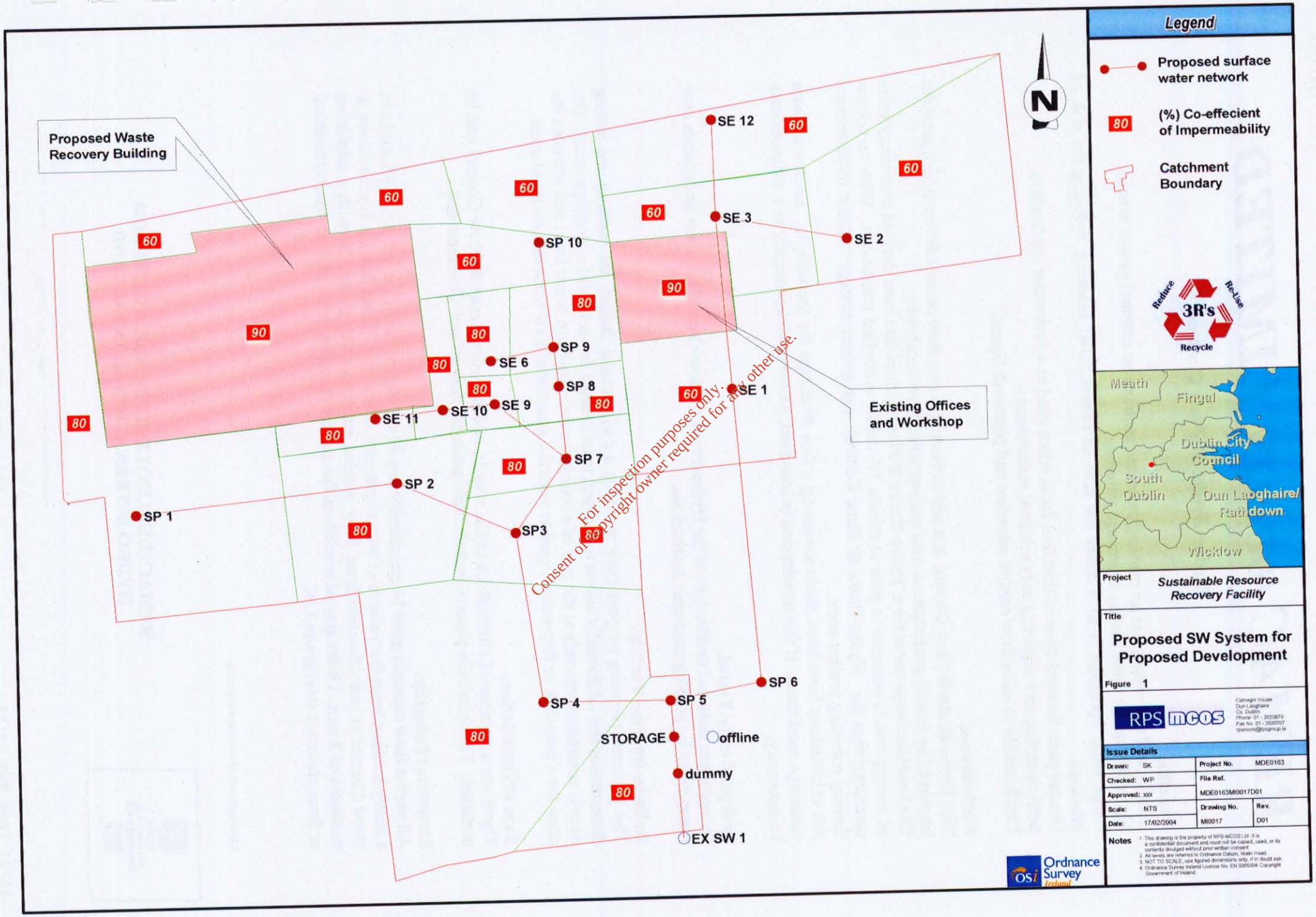
The surface water calculations were determined by the HR Wallingford modelling packagage InfoWorks. The package which is based on the Rational Method and design storm data and catchment data are inputted into the model.
The enclosed Figure 1 illustrates the catchment boundary for the site and the coefficients of impermeability inputted into the model.

Table 1 Details Calculations of the proposed Surface Water Netork

US Node ID	DS Node ID	US Cover Level	DS Cover Level	Length	Diameter	Gradient	Capacity (L/s)	US Invert Level	DS Invert Level	M20-120 Flow (m3/s)	M20-120 Velocity (m/s)	M20-120 Depth (m)	M20-120 Cumulative Flow (m³)
SP 1	SP 2	54.21	54.16	71.9	300	0.0032	0.055	52.91	52.68	0.05324	0.673	1.395	239.02
SP 2	SP3	54.16	54.29	35.3	300	0.00334	0.057	52.68	52.562	0.06964	0.881	1.339	295.19
SP3	SP 4	54.29	54.13	47	450	0.00334	0.166	52.562	52.405	0.14623	0.846	1.366	501.41
SP 4	SP 5	54.13	54.1	35	450	0.00332	0.165	52.405	52.289	0.19701	1.144	1.303	635.1
SP 5	STORAGE	54.1	54.1	10	525	0.00783	0.382	51.52	51.442	0.26204	1.089	2.103	825.71
STORAGE	New SW MH	54.1	54.3	3	300	0.003333	0.057	51.41	51.4	0.019	0.747	0.092	211.84
										Volume of Storage Required			**613.87**
SP 10	SP 9	55.08	55.1	28.6	300	0.01	0.098	54.62	54.334	0.0196	0.592	0.143	50.32
SP 9	SP 8	55.1	55.18	11	300	0.01003	0.098	54.334	54.224	0.04231	1.19	0.151	108.72
SP 8	SP 7	55.18	54.5	19.9	300	0.01001	0.098	54.224	54.025	0.04723	1.332	0.15	121.55
SP 7	SP3	54.5	54.29	24.7	300	0.05931	0.239	54.025	52.562	0.06563	0.827	1.339	168.58
SE 12	SE 3	55.18	55.25	26.5	150	0.00668	0.013	54.522	54.345	0.01231	0.621	0.657	35.93
SE 2	SE 3	55.4	55.25	36.7	150	0.00665	0.013	54.589	54.345	0.01804	0.926	0.657	53.25
SE 3	SE 1	55.25	55.13	47.2	225	0.00667	0.037	54.345	54.03	0.03823	0.892	0.627	114.54
SE 1	SP 6	55.13	54.37	80.7	225	0.00852	0.042	54.03	53.342	0.05116	1.238	0.267	152.1
SP 6	SP 5	54.37	54.1	25.5	450	0.00436	0.189	52.4	52.289	0.05114	0.624	1.302	152.1
SE 6	SP 9	55.12	55.1	17.6	150	0.00666	0.013	54.451	54.334	0.00405	0.233	0.143	10.26
SE 11	SE 10	55.02	55.02	18.6	150	0.00683	0.013	54.494	54.367	0.00379	0.348	0.089	9.47
SE 10	SE 9	55.02	55.03	14.4	150	0.00669	0.013	54.367	54.271	0.00775	0.675	0.093	19.45
SE 9	SP 7	55.03	54.5	24.6	150	0.00999	0.015	54.271	54.025	0.00995	0.587	0.139	25.37

NOTE:
SE DENOTES EXISTING SW NETWORK
SP DENOTES PROPOSED SW NETWORK

Calculation to Determine Tank Storage							
1.Calculation of the Volume of Storage Cells							
Volume of storage cell = (30* 5 * 1.517) + (0.5(0.3*30) * 5) =							
	=	250m^3					
2.Volume Loss due to Benching (Lateral)							
Area of each section =		0.06 m^2					
No. of bench sections =		10 per cell					
Total Area =	0.6 m^2						
Volume per cell = 30 * 0.6 = 18m^3							
Actual storage per cell =		232 m^3					
Total Volume =	696 m^3						
3. Volume of Low Flow Channel							
Vol = 1.448 * 2 * 15							
= 43.4 m^3							
4. Total Tank Storage Volume							
Tank Storage Vol =	696+43.4						
=	740.4 m^3						



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Hydro-Brake ® Flow Control.

Benefits.
Totally self activating, has no moving parts and requires no external power source.
Up to 30% achievable saving in storage volumes.
Large clear openings, 3 to 6 times the area of conventional controls, reducing the risk of blockage.
Greater pass-forward flow of first foul flush when used in a foul water application.
Self-cleansing and requiring only minimal maintenance.
Configurable to most flow control situation and pipework layout.

Performance.
The Hydro-Brake ® Flow Control is a self-activating vortex flow control device which provides improved hydraulic performance over conventional flow regulators.
The head/discharge curve for a Hydro-Brake ® Flow Control has been derived over many years of testing and is accurate to plus or minus 7% under controlled conditions. With its unique characteristics the Hydro-Brake ® Flow Control can reduce storage volume requirements thereby reducing project costs.
All calculations have been made assuming a free discharge for the unit, ie. no downstream surcharge conditions. If this assumption is incorrect, please advise promptly as a redesign may be necessary.

Independently Tested.
Independent tests and verification of the Hydro-Brake ® Flow Control has been undertaken over many years by leading academic institutions.

Built-In-By-Pass Facility.
The patented pivoting by-pass door provides a maintenance facility for rodding and jetting downstream and additionally allows the system to be drained down should a blockage occur. The door is controlled remotely at the pull of a stainless steel wire from cover level and obviates the need for a penstock or flap valve together with the associated civil work and material costs.

Ease of Installation.
There are a number of alternatives in the way in which Hydro-Brake ® Flow Control can be installed. These include plate mounted, rapid push-fit, flanged and slide mounted.

Structural Integrity.
All vortex flow controls must be structurally capable of dealing with the sudden application of a heavy loading from the volume of water upstream of the unit. Therefore the Hydro-Brake ® Flow Control is manufactured from fully welded stainless steel grade 304 with a minimum thickness of 3 mm. Under special conditions the unit maybe manufactured from thicker material or from stainless steel grade 316.

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Inclusions.
The quotation includes for design, fabrication, neoprene sealing gaskets, stainless steel stud anchor fixing bolts and standard installation details.
The descriptions contained in this quotation are our interpretation of your specification and are specific to the above mentioned items. Should the design criteria change or other specifications be required for any reason, we reserve the right to re-quote and to vary our price accordingly.
Hydro International Ltd. and Remac (Dublin) Ltd., pursue a policy of continuous product development and reserve the right to change their technical specification without prior notice.

Exclusions.
Civil design and construction.
Carriage and delivery to your site.
Off-loading and equipment installation at site.

Installation Inspection Service.
Where required by the local authority or the engineer we are pleased to offer an inspection service to ensure correct installation of Hydro-Brake ® Flow Control, details available on request.

Hydro-Brake ® Flow Control are exclusively designed and manufactured by **Hydro International Ltd** and supplied in Ireland by **Remac (Dublin) Ltd.**

Delivery Time:- 3 - 4 Weeks (Ex our Works Dublin)
Delivery time subject to our order confirmation.

Price:- Based on current costs, rate of exchange.
Subject to V.A.T. @ 21% and for delivery ex our Works Dublin,
Carriage to your agreed address extra.
Subject to our general conditions of sale/contract only, available on request.

Terms Payment:- Remac (Dublin) Ltd., standard terms of payment are net 30 days from receipt of invoice.
First order shall be invoiced on a pro- forma basis unless otherwise agreed.
For orders over € 5,000.00 in value, payment terms shall be agreed, by both parties prior to order acceptance, otherwise 30 days net shall prevail.

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Hydro Research & Development

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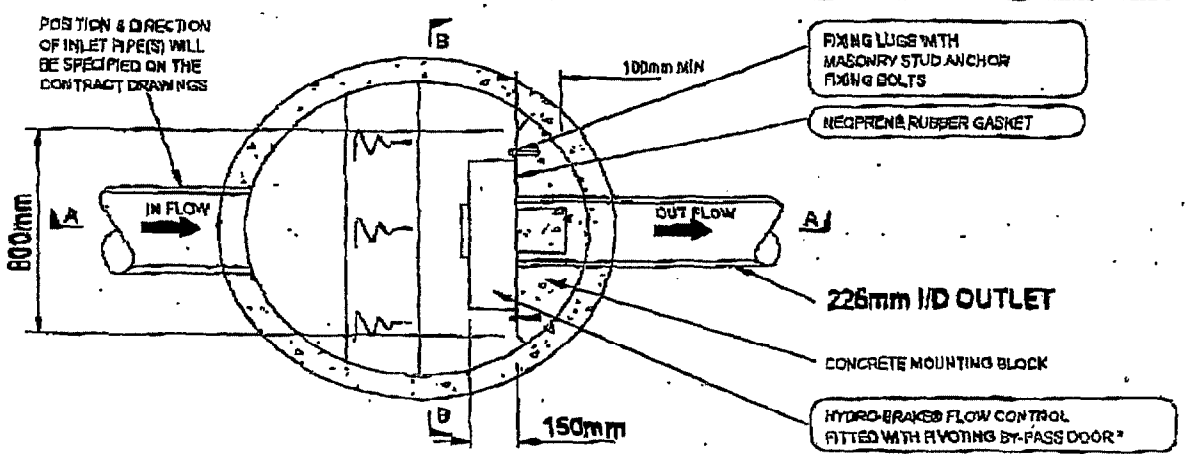
HYDRO INTERNATIONAL

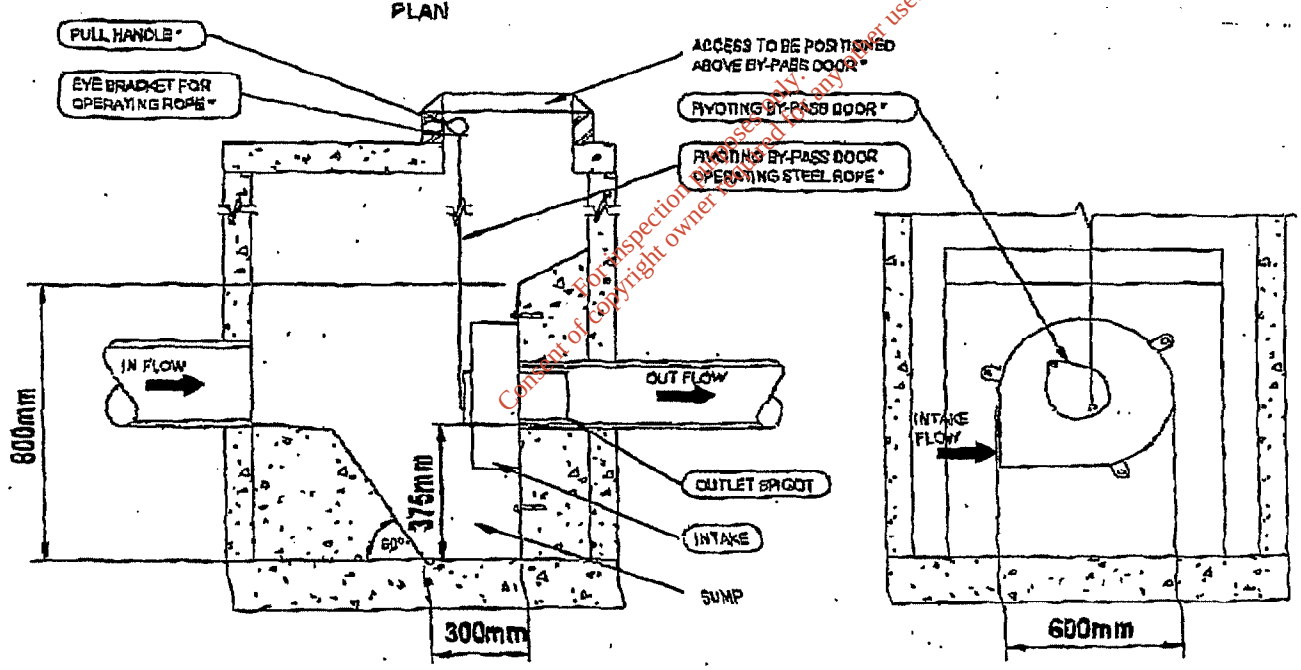
Design Layout with Approximate Dimensions of a 150 SXH Hydro-Brake® Flow Control

Project Information

Our Reference : 04-0318
Client : Remac (Dublin) Ltd
Site : 24725/O 043a



PLAN



SECTION A-A

SECTION B-B

IMPORTANT:
- UNIT OF HYDRO INTERNATIONAL SUPPLY
- THE DEVICE WILL BE HANDED TO SUIT SITE CONDITIONS
- FOR SITE SPECIFIC DETAILS AND MINIMUM CHAMBER SIZE REFER TO HYDRO INTERNATIONAL
- ALL CIVIL AND INSTALLATION WORK BY OTHERS
- * WHERE SUPPLIED

FOR ILLUSTRATIVE PURPOSES ONLY

Claire Halpenny February 12, 2004 16:11 HydroQuote Program Version 1.3.2 XSH_D_SR_(1.0) (3.0)

Tel : 01275 875371 Fax : 01275 874979

Remac (Dublin) Limited,
Tootenhill House,
Rathcoole, Co. Dublin.
Tel: 4588 440 Fax : 4588 442
Emerg No. 4580434

Hydro International

150 SXH Hydro-Brake® Flow Control

Project Information

Our reference : 04-0318
Client : Remac (Dublin) Ltd
Site : 24725/O 043a

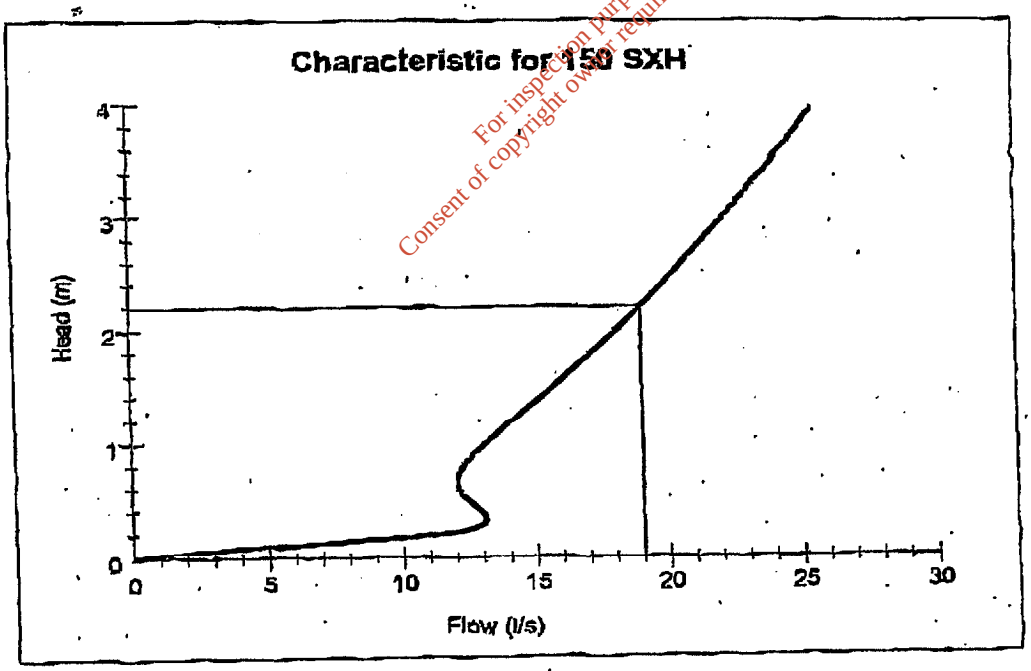
Design Criteria

Head = 2.200 m	Flush Flow = 13.102 l/s
Flow = 19.000 l/s	Kickback Flow = 12.042 l/s

Head (m)	Flow (l/s)
0.200	11.136
0.400	12.951
0.600	12.091
0.800	12.277
1.000	13.107
1.200	14.138
1.400	15.194
1.600	16.216
1.800	17.191
2.000	18.117

Head (m)	Flow (l/s)
2.200	19.001
2.400	19.845
2.600	20.655
2.800	21.435
3.000	22.187
3.200	22.915
3.400	23.620
3.600	24.305
3.800	24.971
4.000	25.620

Remac (Dublin) Limited,
Tootenhill House,
Rathcoole, Co. Dublin.
Tel: 4588 440 Fax : 4588 442
Emerg No. 4580434



Claire.Heinzelmann February 12, 2004 18:11 HydroCuote Program Version 1.3.2

PROPOSAL

for

THE USE OF HYDROPAVE

Prepared for: Ciaran Hughes, MCOS Ltd.
Prepared by: Tobermore Concrete Products Ltd., 2 Lisnamuck Road, Tobermore, County L'derry BT45 5QF
Engineer: John Knapton BSc, PhD, CEng, FICE, FIStructE, FIHT, FConsE
Date: 10th February 2004.

Specification

Terminology

A permeable pavement comprises the following components:

a) The uppermost layer is the **surface** which comprises Tobermore Hydropave permeable pavers installed over a laying course **of 6mm washed crushed microgranite.**
b) The layer directly beneath the surface is the **roadbase** which is **a Coarse Graded Aggregate** with particle sizes within the range 20mm to 6mm. The roadbase is the structural component of the pavement and ensures long term strength and stability. In this case, a layer of 1000 gauge Visqueen is provided beneath the
c) Because of heavy traffic, in this case an additional roadbase comprising 165mm thickness CBM3 over 150mm thickness DTp Type 1 sub-base material.

Specification for roadbase materials

The roadbase should comprise an upper layer of Coarse Graded Aggregate and a lower layer of Cement Bound Material.

The Coarse Graded Aggregate roadbase should have a porosity of approximately 0.32 to allow void space for water storage. The structural strength of the materials should be adequate for the loads to which it will be subjected. The aggregate roadbase should be in accordance with:

> BS882:1992. "Specification for aggregates from natural sources for concrete". British Standards Institute, London

The Coarse Graded Aggregate roadbase should comprise coarse graded crushed rock meeting the following requirements. The flakiness index, shell content and mechanical properties should be as set out in BS882 for coarse graded crushed rock. The 10% fines value should be 100kN or more. When tested in accordance with 7.2.1 of BS812: Section 103.1:1985, the amount of material passing the 75 micron sieve should not exceed 4%.

Providing the above criteria are met, the roadbase material will have a porosity of approximately 0.32 and a storage capacity in its voids (volume of voids/volume of roadbase) typically of 30% to 40%. A 40% void space means that the volume of the roadbase will need to be 2.5 times the volume of the water stored. The infiltration rate through 20mm graded crushed rock roadbase is over 70,000 litre/hectare/sec and this should be compared with the required value of 180 litre/hectare/sec.

The lower roadbase Cement Bound Material (CBM3) should be specified & installed according to the requirements of DTp "Specification for Highway Works" Series 1000, Road Pavements-Concrete and Cement Bound Materials. In particular, the material properties are defined in Table 10/8 of

that publication. Also,the Preliminary Trial as defined in Clause 17 should be undertaken, but with a trial area of 100m^2, not 400m^2 as specified in the DTp document. This trial area will be expected to become part of the completed work.

Specification for laying course and jointing material.

The large size of 20mm aggregate creates an uneven surface when compacted and has an open textured surface. To avoid the loss of laying course material into the roadbase, a laying course material which will not invade the surface of the roadbase should be used. The NUROLF trials indicated that Cloburn 6mm washed crushed micro-granite performed satisfactorily in this respect (available from Cloburn Quarry Company Ltd, Lanark, Scotland, ML11 8SR). The Cloburn material has the following properties which should be regarded as minimum acceptable values for alternative materials:

10% Fines Value	370kN (150kN or greater recommended)
Aggregate Crushing Value	14%
Aggregate Impact Value	10 (15 blows)
Plasticity	Non-plastic

A 4mm washed natural gravel performed less well and should not be used in permeable paving. Tobermore are able to advise on the availability of laying course material locally. It can be presumed that material having similar geological and mechanical characteristics, particularly grading, will perform similarly. The same material should be used for the jointing material. The NUROLF trials indicated that such material can be introduced into the joints using conventional paver installation technology.

Hydraulic Design

The thickness of a Hydropave pavement's crushed rock roadbase has to be calculated on the basis of the need to store water and also on structural requirements. In this section, the thickness calculation based on the storage of water is set out.

The depth of rainfall occurring during a 60 minutes storm recurring every five years in the UK is taken to be 20mm. Table 1 gives values of Z1 which is the ratio of the depth of rainfall occurring in a given period divided by the depth of rainfall occurring in 60 minutes. In order to calculate Z1 values, it is necessary to know "r", the ratio of rain falling in one hour divided by 24 hour rainfall. Because the one hour rainfall figure is always taken as 20mm, drier areas have higher r values. Table 2 lists r-values for cities in the British Isles.

City	r-value
Cambridge	0.45
London	0.45
Norwich	0.42
Birmingham	0.39
Bristol	0.39
Liverpool	0.39
Nottingham	0.39
Sheffield	0.39
Southampton	0.39
Dublin	***0.36***
Belfast	0.36
Cardiff	0.36
Leeds	0.33
Manchester	0.33
Newcastle	0.33
Plymouth	0.33
Edinburgh	0.27
Aberdeen	0.24
Glasgow	0.24

Table 1. r-values for some UK cities.

On this project, the total area to be drained is 31,000m^2. The local authority will permit an outflow of19 litres per second. Assuming an achieved outflow of 16 litres per second (1382 m^3/day), Table 3 has been constructed using an r value of 0.36 (Dublin)

r	Rainfall Duration									
	Minutes				Hours					
	5	10	15	30	1	2	4	6	10	24
0.12	0.22	0.34	0.45	0.67	1.00	1.48	2.17	2.75	3.70	6.00
0.15	0.25	0.38	0.48	0.69	1.00	1.42	2.02	2.46	3.23	4.90
0.18	0.27	0.41	0.51	0.71	1.00	1.36	1.86	2.25	2.86	4.30
0.21	0.29	0.43	0.54	0.73	1.00	1.33	1.77	2.12	2.62	3.60
0.24	0.31	0.46	0.56	0.75	1.00	1.30	1.71	2.00	2.40	3.35
0.27	0.33	0.48	0.58	0.76	1.00	1.27	1.64	1.88	2.24	3.10
0.30	0.34	0.49	0.59	0.77	1.00	1.25	1.57	1.78	2.12	2.84
0.33	0.35	0.50	0.61	0.78	1.00	1.23	1.53	1.73	2.04	2.60
0.36	0.36	0.51	0.62	0.79	1.00	1.22	1.48	1.67	1.90	2.42
0.39	0.37	0.52	0.63	0.80	1.00	1.21	1.46	1.62	1.82	2.28
0.42	0.38	0.53	0.64	0.81	1.00	1.20	1.42	1.57	1.74	2.16
0.45	0.39	0.54	0.65	0.82	1.00	1.19	1.38	1.51	1.68	2.03

Table 2. Z1 values for different r-values and rainfall durations

Period of rainfall	Volume of water (m3)		
	Rainfall	Outflow	Detained
30min	474	29	445
1hr	600	58	543
2hr	732	115	617
4hr	888	230	658
6hr	1002	345	657
10hr	1140	575	565
24hr	1500	1382	118

Table 3. Storage needed for different rainfall periods

Table 3 shows that the critical storage rainfall period is 4hr, after which 658m^3 of rainwater is stored. This does not take into account the lag in the flow of water to the outfall. Therefore, a storage figure of 700m^3 is taken as the requirement. This can be achieved by an area of Hydropave of 13,000m^2 assuming a Coarse Graded Aggregate thickness of 350mm. This material has a storage efficiency of 0.32 so each square metre of the material holds 0.112m^3. Assuming that the water level must be kept below the mid depth of the material, the storage capacity is reduced to 0.056m^3/m^2. Therefore, the total capacity beneath the Hydropave is 728m^3, which should be compared with the requirement of 700m^3.

This analysis is based upon a 5 year return period storm. The principle is to ensure that the Coarse Graded Aggregate never fills to more than half depth under this condition which would be expected to recurr five times during the life of the pavement. The local authority requires that the system can deal with the 20 years return period storm. It will fill to approximately 75% of the depth of the Coarse Graded Aggregate in the case of the 20 years return period storm and this should occur once during the life of the project.

The outflow of 16 litres/second can be achieved by a 10m long 100mm diameter pipe running full with a 5% gradient, or by 4No. 50mm diameter pipes of length 6m, also with a 5% gradient.

Structural design

To meet hydraulic requirements, the Coarse Graded Aggregate thickness required is 350mm. The following section checks whether this needs to be increased to accommodate the loading. Normally, for permeable paving, the load is defined as one of the categories in Table 4.

Load Category	Maximum Axle Load (kg)
Category 1 - Domestic (GVW = 2000kg)	1000
Category 2 - Light (GVW = 3500kg)	2000
Category 3 - Commercial (GVW = 7500kg)	5000
Category 4 – Infrequent maintenance (GVW = 21,000kg)	8,000
Category 5 - Heavy (GVW = 44,000kg)	11,000

Table 4. Classification of vehicles

In this case, the design criterion comprises 284 Large Goods Vehicles per day visiting the facility. The mix of vehicles suggests that on average, there will be 3 standard 8,000kg axles per vehicle when entering the site and possibly 0.5 standard axles when leaving. I have assumed that the most onerously loaded point in the Hydropave will be trafficked by all of the laden vehicles and none of the unladen ones. Over a 25 years design life, the number of standard axles is 7.8 million.

The above figure is beyond the structural capacity of the Coarse Graded Aggregate acting as the roadbase. Therefore, I recommend the additional provision of 165mm thickness of Cement Bound Material 3 (CBM3) i.e. cement bound material with an average strength of 10N/mm^2 and a minimum strength of 7N/mm^2. This brings the structural design of the pavement in line with LR1132 and with .

Therefore, the full pavement section is:

80mm Tobermore Hydropave Pavers
50mm 6mm laying course material
350mm rounded 20mm graded gravel to BS882:1992
1000 Gauge Visqueen
165mm CBM3
150mm DTp Type 1 sub-base material
5% CBR or greater subgrade

Installation Specification

Construction.

Installation should be as for conventional concrete block paving except as set out below. Hydropave should be installed according to: *BS7533: Pavements constructed with clay, natural stone or concrete pavers. Part 3: Code of Practice for laying precast concrete paving blocks and clay pavers for flexible pavements. BSI, London.* The laying course material should be a 6mm grit.

The NUROLF trials demonstrated that both the 20mm open graded roadbase material and the 6mm grit are self compacting and can be tipped into their required position and spread conventionally. The materials should be compacted only when the Hydropave pavers have been installed via a conventional plate vibrator.

Reducing clogging.

Preventing and diverting detritus from entering the roadbase and pavement surface during construction must be the highest priority. Simple practices such as keeping muddy construction equipment away from the area, installing silt fences, staged excavation, and temporary drainage swales that divert runoff away from the area will make the difference between a pavement that infiltrates well or poorly. Moreover, the pavement should not receive runoff until the entire contributing drainage area is stabilised. This should be included in the construction drawings and specifications.

Soil compaction.

As little disturbance as possible should be applied to the subgrade to ensure that its permeability is not diminished. If the subgrade is inadvertently compacted by equipment during construction, there may be a substantial loss of infiltration.

Compaction of the subgrade may be necessary to enhance the strength and stability of the subgrade so as to minimize rutting of the pavement surface from vehicular traffic. The subgrade should be compacted to at least 95% of standard proctor density for pedestrian areas and to 95% modified proctor density for vehicular applications. Where compaction has been applied to the subgrade drains in the open graded crushed rock roadbase may be required to remove water since compaction will greatly reduce the subgrade's permeability.

Open graded aggregate roadbases.

After the installation of a woven fabric over the subgrade, the roadbase material should be spread in 100 to 150 mm layers and allowed to self compact. A test section of the roadbase should be constructed and closely monitored in order to reveal any possible settlement of the pavement section, and whether crushing of the roadbase aggregate has occurred. The minimum surface tolerance of the 6mm grit laying course should be +/- 10 mm over a

3m straightedge. The roadbase surface is typically between level and 2% grade.

Hydropave should be placed and compacted immediately. This will reduce the chance of construction equipment passing over the roadbase and contaminating it. Plant operatives should avoid rapid acceleration, hard braking or sharp turns on compacted unpaved roadbase layers. If the roadbase surface is disturbed, it should be re levelled and re compacted.

Cement Bound Material 3

The material should be specified & installed according to the requirements of DTp "Specification for Highway Works" Series 1000, Road Pavements-Concrete and Cement Bound Materials. In particular, the material properties are defined in Table 10/8 of that publication. Also,the Preliminary Trial as defined in Clause 17 should be undertaken, but with a trial area of $100m^2$, not $400m^2$ as specified in the DTp document. This trial area will be expected to become part of the completed work.

Edge restraint

Recommended edge restraint for Hydropave permeable pavements on open-graded roadbases are cast-in-place and precast concrete kerbs. They should be a minimum of 150 mm wide and 120 mm deep. Consideration should be given to providing a stable race or concrete haunch under the kerbs.

Maintenance

Introduction

Hydropave pavements can become clogged with sediment over time, thereby slowing their infiltration rate and decreasing storage capacity. The rate of sedimentation depends on the amount of traffic and other sources that wash sediment into the joints, roadbase and subgrade. Since the pavement is detaining runoff that contains sediment, there may be a need to eventually clean out the joints when the infiltration is reduced to such a degree that the pavement is no longer performing its function in storing and exfiltrating water.

All permeable pavements with an open-graded roadbase should have an observation well. The well is typically a 150mm diameter perforated pipe. It has a screw cap below the surface of the pavers of at least 25 mm diameter that can be removed to observe the rate of exfiltration. The cap should lock and be vandal-resistant. The depth to invert should be marked on the lid. The observation well is located in the furthest down slope position within 1m from the sides of the pavement.

Snow can be ploughed from pavers as with any other pavement. Salt will infiltrate into the roadbase and subgrade. If an Hydropave unit cracks from soil or roadbase settlement, it can be removed and replaced. Likewise, the same units can be reinstated after repairs to the roadbase, drainpipes, liners or to underground services. Joint sealers or stabilisers should never be used.

In-service inspection check list:

- Vacuum surface openings in dry weather to remove dry, encrusted sediment. Vacuum sweeper setting may require adjustment to prevent the uptake of aggregate in the pavement openings and joints.
- Inspection after at least one major storm per year
- Maintained vegetation around pavement to filter runoff
- No standing water on the surface after storms
- Repair ruts or deformations exceeding 13 mm
- Reset pavers more than 6mm above/below adjacent units.
- Replace broken units that impair the structural integrity of the surface
- Replenish aggregate joint materials as needed
- Check drain outfalls for free flow of water
- Check outflow observation well annually

D.2 Facility Operation

Describe the plant, methods, processes and operating (including facility, plant and equipment maintenance) procedures for the activity. A development and operational history of the facility should be included.

Attachment D.2 should contain a list of all unit operations to be carried out, including a flow diagram of each unit process and any relevant additional information. In addition, include a complete flow diagram for the whole site incorporating all unit processes.

Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

Attachment D.2 Facility Operation

History of the Current Facility

The site is located in the Clondalkin industrial estate and is presently owned and operated as a Bonder Car Warehouse by Crosbie Transcar Ltd. a car distribution company. The existing operation at the site receives vehicles from Dublin Port, stores them on-site for a period of time and then distributes them nationwide to retail garages. On average, the site holds about 2,000 vehicles on-site although this number can vary substantially depending on the time of year. There is one main building which comprises offices/garage/office buildings and a second building which functions as a paint workshop. There is also a wash bay and dewaxing area which is licensed and monitored by South Dublin County Council. Most of the site is concrete underfoot with remaining areas covered with screed /gravel.

The site also has a second entrance along the western boundary of the site. The site is zoned as light industrial by the South Dublin County Development Plan 1998.

Waste Processing

GRR propose to develop the site into a large scale waste recovery facility, with all waste activities operating within a main warehouse type building. The main function of the recycling facility is to sort, separate and process all of the waste arriving to the site. The warehouse building will house all of the waste operations and processes on-site with various waste streams processed in different parts of the building. The main waste types to be accepted on-site will be commercial and industrial waste and recyclables.

Smaller quantities of organic waste, glass, wood, metal, and waste electrical and electronic equipment will also be accepted. All of the waste streams will be handled inside the facility to eliminate the potential of nuisances on-site such as odour, windblown litter, birds, vermin and leachate generation. Waste loads delivered to the facility will be tipped onto a main tipping floor area and moved internally using a large mechanical grab. The moveable grab is operated and controlled by an operative working from the machine cabin.

Waste Process Flow Charts

Flow charts detailing the various waste processes for the new site are included at the end of this section. GRR propose to design the internal layout of the waste processing machines in order to minimise the potential for double handling of the same material and to maximise the space and height provided by the building space. The configuration of the internal processes will be flexible so that it can be adapted to meet future needs as required.

It should be noted that the configuration shown is indicative and may change depending on machinery sizes, and operational techniques. An outline of the waste processing layout is shown on **Drawing DG0014 in Appendix A.**

Building Access

- **Delivery Zones**

The building has been designed with a maximum number of access points to facilitate delivery and loading of waste to and from the building. There will be eight delivery points to the main building which will enable GRR to deliver the incoming waste into various dedicated areas. This separation will facilitate efficient and quick processing of the material.

Four main areas dealing with separate waste streams enable clean packaging waste to be handled separately. Along the eastern face of the building there are 8 delivery doors allowing several vehicles to be off-loaded at any one time. Each door into the building will be 8m high and 3.6m wide and numbered to facilitate delivery movements on-site. GRR plan to direct all delivery vehicles to a particular delivery door depending on the type of waste on board. All delivery vehicles will be fully inside the building before off-loading to reduce the potential of odours and litter escaping. The delivery doors will be fast activating type doors, which can be opened and closed rapidly to contain any nuisance loads delivered to the site.

- **Loading Zones**

Initially two loading bays will be in operation- a level access door and a dock-leveller loading zone. Following waste processing the various types of waste e.g. baled packaging waste, baled plastics, organic materials, and other residues will be collected from the site. The main vehicle-loading zone will take place along the southern face of the facility. Both dock-leveller loading bay and level-entry access doors will be provided. Baled packaging and plastic waste will be loaded by forklift on to collection vehicles for export. A canopy to facilitate loading in wet conditions will cover the loading area. GRR plan to increase the number of loading access doors to four to accommodate increased loading operations when maximum waste tonnages are being handled.

Collection vehicles will also collect organic and residual waste at the northern face of the building in a covered annex of the building.

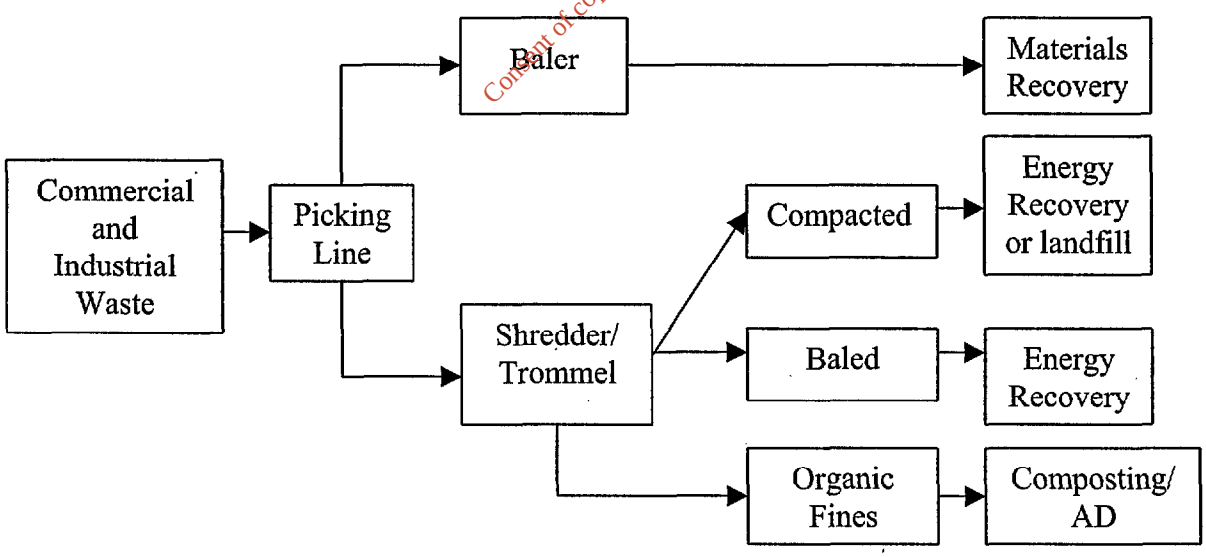
The western elevation of the building will have two loading access points through which forklift trucks will be able to load collection vehicles during busy periods. Additional access points along this side of the building will be installed if required as operations increase. Locations of the delivery points and loading zones are shown on drawing, **DG0014 in Appendix A.**

Unit Operations
The main streams for processing/baling before recovery and recycling are:

- Mixed Commercial and industrial waste including dry recyclables and Organics
- Smaller waste streams including glass, plastics, wood and metal.
- Construction and demolition waste.
- WEEE and household hazardous waste.
- Storage of waste vegetable oil.

Mixed Commercial and Industrial Waste
This waste stream requires a higher level of processing in order to separate out the various types of materials. After tipping, the material will be moved onto a conveyor belt using the mechanical grab. The belt will carry the material past a picking line from which dry packaging material will be picked by manual operatives and dropped into a storage bay. This material will be moved internally and baled. The remaining material (which may include organic material) will continue along the belt to the mechanical shredder. The shredder will cut up the material and feed it into the trommel machine. This machine is made up a large screen which will separate out the finer organic particles from the residual mixed waste.

The residual mixed waste will be moved from the trommel to a second baler or waste compactor. The second baler will again compact the waste into rectangular bales which will be wrapped in a plastic film to ensure the bales remain intact. The waste compactor will compact and load the waste directly into a waste trailer. These bales will be stored in the facility and sent on a daily basis to a reprocessor manufacturing fuel for energy recovery facilities. The separated organic fraction of the waste will be fed from the trommel into a parked trailer in the covered annex building. After filling the trailer the material will be covered and moved off-site on a daily basis and further processed at a compost facility.

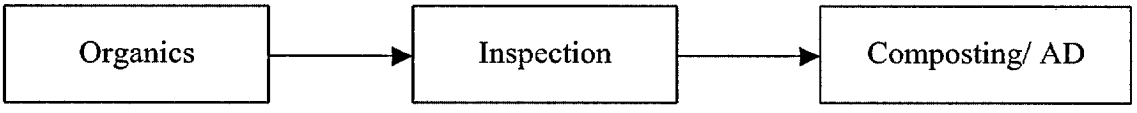


Mixed Commercial and Industrial Waste: Dry recyclables
Dry recyclables delivered to the site will require very little additional processing. The waste will be tipped onto the floor from where the grab will pick up the waste and drop it onto a conveyor belt (some waste will arrive as smaller bales which will be offloaded and opened). The belt will feed the material into a waste baler which will compact the material into rectangular bales. The bales will be wire wrapped

to keep them together and then moved using a forklift to the back of the building for storage. The bales will be collected and shipped off-site for recovery.

Mixed Commercial and Industrial Waste: Organics

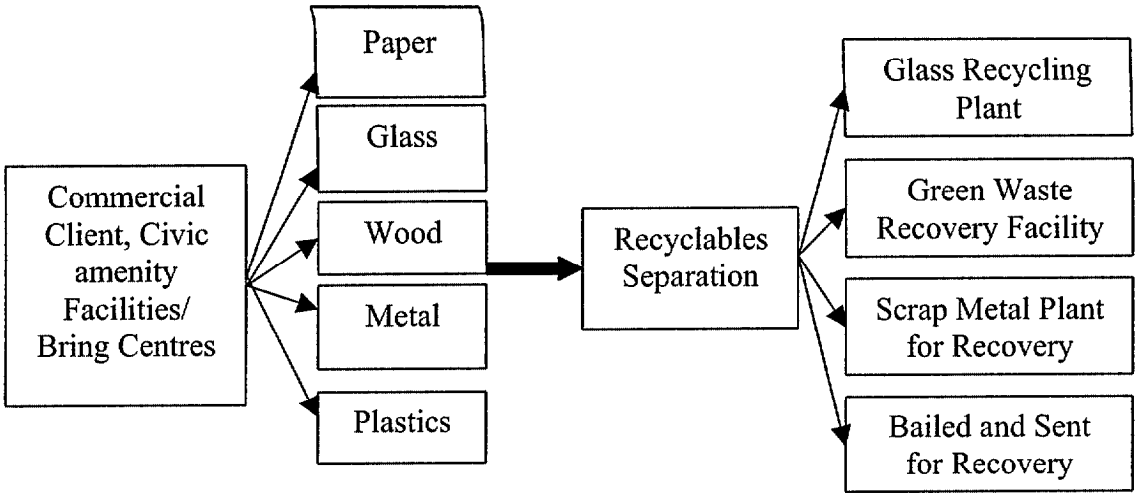
Organics will be inspected on arrival at the facility. The organics will then be loaded onto a container and sent on a daily basis to a composting or anaerobic digestion plant for recovery. If the container remains overnight at the facility it will be covered over and removed the following day.



Additional Waste Streams

Smaller quantities of glass, wood, plastics, metal, construction and demolition waste (C&D), household hazardous wastes and waste electronic and electrical equipment (WEEE) will also be accepted at the facility. These materials are generally source separated and after off-loading will be moved into separate storage bays within the facility. The materials will be stored for a period and removed off-site for recovery when a significant quantity of material has built up at the facility, refer to **DG0014 in Appendix A** for location of the waste bays. The following summarises the likely recovery options for the various waste streams:

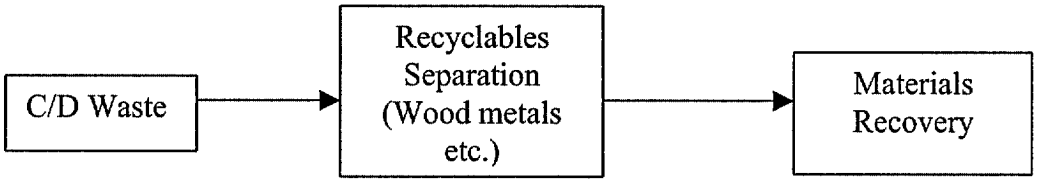
- Glass will be collected, stored and transferred to a glass recycling plant for recovery.
- Wood will be separated, stored and transferred to a green waste facility for recovery.
- Metal will be separated stored in the facility and transferred to a scrap metal plant for recovery.
- Certain grades of paper and plastic will also be separated out from the general mixed waste quantities on-site and when substantial quantities have been collected the plastic will be baled and made available for recovery.



Construction and Demolition Waste

Over the last few years GRR have invested substantial time and money into researching and developing markets for recyclable materials. It is felt that the disclosure of such markets would be detrimental for the competitiveness of the company. It is requested that certain off-site facilities be considered as commercially confidential and no disclosure of these facilities are made on the public record. GRR will maintain a full record of all off-site facilities, which can be made available for inspection by the Agency, as required.

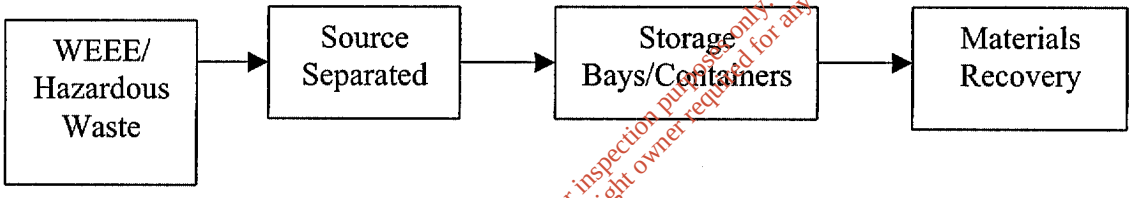
C&D waste will be accepted at the site and will be stored within the facility. Metals, wood, plastics and cardboard will be manually removed from the waste prior to storage of the remaining inert material which will be sent off-site to a licensed recovery plant.



WEEE/ Household Hazardous Waste

Small quantities of WEEE such as computer hardware will be accepted at the site. Initially it is intended to store WEE until sufficient quantities are available to make a full load for export to authorized recovery facilities. In the future, the plastic and metal material may be stripped off and recovered separately with the residual components exported abroad for recovery. If this is to be implemented, GRR will supply further details and agree arrangements in advance with the Agency.

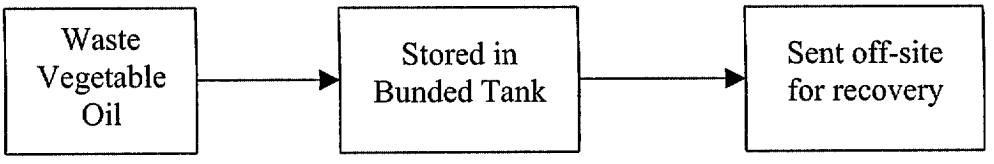
Smaller quantities of household hazardous wastes will also be accepted at the site, stored and made available for recovery. Any such material will be stored in dedicated storage areas, using proprietary self-bunded containers where necessary.



Storage of Waste Vegetable Oil (WVO)

Waste vegetable oil will be accepted at the facility where it will be stored in a 40,000l tank. The tank will be stored in a bunded area capable of holding 110% of the maximum capacity of the storage tank. In the future GRR may convert this into biodiesel as the facility develops and consult with the Agency prior to operating such a process.

However, for the present it is proposed to store the WVO at the facility and then send it off site for recovery.



Confidential Waste Recovery off-site facilities

D.3 Materials Management

Attachment.3 should contain a description of each of the process streams, based on the flow diagram given in Attachment D.2. Further advice on completing this section is given in the *Guidance Note.*

Attachment included	**yes** ☒ **no** ☐ **not applicable** ☐

Attachment D.3

The different types of waste and their associated European Waste Categorisation code is given in the table below:

Waste	EWC Code
Non-Hazardous Waste Packaging	
Paper and cardboard	15 01 01
Plastic	15 01 02
Wood	15 01 03
Metallic packaging	15 01 04
Composite	15 01 05
Mixed Packaging	15 01 06
Glass Packaging	15 01 07
Textile	15 01 09

Municipal and Industrial Waste	EWC Code
Paper and Cardboard	20 01 01
Glass	20 01 02
Biodegradable kitchen waste	20 01 08
Clothes	20 01 10
Textiles	20 01 11
Oils and fats	20 01 25
Plastics	20 01 39
Metals	20 01 40
Wood	20 01 38
Biodegradable Waste	20 02 01
Mixed municipal waste	20 03 01
Wastes from Agriculture, Horticulture, Aquaculture, Forestry, Hunting and Fishing, Food Preparation and Processing	
Materials unsuitable for consumption or processing (wastes from fruit, vegetables, cereals, edible oils, cocoa, coffe, tea and tobacco preparation and processing…)	02 03 04
Materials unsuitable for consumption or processing (waste from the baking and confectionery industry)	02 06 01

Municipal and Industrial Waste	EWC Code
Waste From Wood Processing And The Production Of Panels And Furniture, Pulp, Paper And Cardboard	
Waste bark and cork	03 01 01
Sawdust shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04	03 01 05
Wastes not otherwise specified	03 01 99
Waste bark and cork	03 03 01
Waste from sorting of paper and cardboard destined for recycling	03 03 08
Waste From The Leather , Fur And Textile Industries	
Wastes from composite materials (impregnated textile, elastomer, plastomer)	04 02 09
Waste from unprocessed textile fibers	04 02 21
Waste form processed textile fibres	04 02 22
Wastes not otherwise specified	04 02 99
Household Hazardous Waste	
Fluorescent tubes	20 01 21
Paints, inks and adhesives	20 01 27
Batteries	20 01 34
WEEE	20 01 23 20 01 35 20 01 36

Waste	EWC Code
Inert C&D Waste	
Concrete	17 01 01
Bricks	17 01 02
Tiles and ceramics	17 01 03
Mixture of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06	17 01 07
Wood	17 02 01
Glass	17 02 02
Plastic	17 02 03
Copper. Bronze. Brass	17 04 01
Mixed metals	17 04 07
Soil and stones	17 05 04
Gypsum based construction materials	17 08 02
Waste From The Mechanical Treatment Of Waste Not Otherwise Specified	
Paper and cardboard	19 12 01

Waste	EWC Code
Ferrous metal	19 12 02
Non-ferrous metal	19 12 03
Plastic and rubber	19 12 04
Wood other than that mentioned in 19 12 06	19 12 07
Textiles	19 12 08
Other wastes (including mixtures of materials) from mechanical treatment of wastes other than mentioned in 19 12 11	19 12 12

E. WASTE ACCEPTANCE AND HANDLING

E.1 Existing Waste Types and Quantities

A detailed inventory of the types and quantities of wastes currently accepted at the site should be submitted.

Attachment E.1
Since the proposed site is not an existing site this section is not applicable.

TABLE E.1.1 WASTE TYPES AND QUANTITIES

WASTE TYPE	TONNES PER ANNUM	TOTAL (over life of site) tonnes
Household		
Commercial		
Sewage Sludge		
Construction and Demolition		
Industrial Non-Hazardous Liquids		
Industrial Non-Hazardous Sludges		
Industrial Non-Hazardous Solids		
Hazardous		

TABLE E.1.2 HAZARDOUS WASTE TYPES AND QUANTITIES

HAZARDOUS WASTE	DETAILED DESCRIPTION	Tonnes Per Annum
Waste Oil		
Oil filters		
Asbestos		
Oil/Sand Mixtures or Mixtures of Oil and Other Material		
Wood Preservative Waste		
Petroleum and Gas Treatment Wastes		
Inorganic Chemical Processes Wastes		
Organic Chemical Processes Wastes		
Agrochemical Wastes		
Infectious Healthcare Waste		
Chemical Industry Waste		
Photographic Processing Waste		
Paint and Ink		
Batteries		
Fluorescent Light Bulbs		
OTHER HAZARDOUS WASTE (APPLICANT TO SPECIFY)		

TABLE E.1.3 NON-HAZARDOUS WASTE TYPES

INERT OR INACTIVE WASTE	Check (if accepted)	Additional Information
Subsoil	☐	
Topsoil	☐	
Brickwork	☐	
Stone, Rock and Slate	☐	
Clay	☐	
Natural Sand	☐	
Concrete	☐	
Pottery & China	☐	
Solid Road Planings, Solid Tarmacadam, Solid Asphalt	☐	
BIODEGRADABLE WASTE	**Check (if accepted)**	**Additional Information**
Wood & Wood Products	☐	
Paper & Paper Products	☐	
Vegetable Matter	☐	
Non-Infectious Health-Care Waste	☐	
Natural & Manmade Fibres	☐	
Road Sweepings	☐	
Gully Emptyings	☐	
Septic Tank Waste	☐	
Silt & Dredgings	☐	
Ash & Cinders	☐	
Food Stuffs	☐	
Oil/Water Mixtures	☐	
Vegetable Oil	☐	
Fats, Waxes and Greases	☐	
Animal Excrement (including paunch contents)	☐	
Animal Blood	☐	

Table E.1.4 Other Wastes

OTHER WASTES	Check (if accepted)	Additional Information
Plasterboard and Plaster	☐	
Dried Paints, Dried Varnish & Dried Lacquer	☐	
Foundry Sand & Sand Blasting Residues	☐	
Glass	☐	
Latex & Rubber Solutions	☐	
Solid, Fully Polymerised Plastics	☐	
Solid Rubber (excluding tyres)	☐	
Empty Containers	☐	
Non-Hazardous Ferrous and Non-Ferrous Metals	☐	
OTHER WASTES (APPLICANT TO SPECIFY)	**Check (if accepted)**	**Additional Information**
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	

Attachment E.1 should contain any relevant additional information.

E.2 Proposed Waste Types and Quantities

A detailed inventory of the types and quantities of wastes to be accepted at the site should be submitted.

TABLE E.2.1 WASTE TYPES AND QUANTITIES

WASTE TYPE	TONNES PER ANNUM^	TOTAL (over life of site) tonnes
Household waste collected by or on behalf of the local authority	10,000 *	
Household waste delivered to civic waste facilities and other bring facilities	10,000 *	
Other household waste		
Commercial Waste	112,000 **	
Sewage Sludges		
Construction and Demolition Waste	3,000	
Industrial Sludges		
Industrial waste not elsewhere specified	112,000 **	
Hazardous Waste	3,000 ***	

Notes

^ GRR requests that the waste licence allows the scope to vary amounts of non-hazardous waste between categories, subject to prior agreement with the agency. This is to respond to changes in market forces and to enable the company to tender competitively for waste contracts.

* Pre-Segregated Dry Recyclables – see attachment E 2

** GRR plan to accept a total of 224,000 tonnes of commercial and industrial waste annually. The eventual tonnage of each waste category may vary between categories.

*** Household and Commercial Hazardous Waste (WEEE, fridges, batteries, fluorescent tubes, etc.). GRR wishes to accept small amounts of such materials since they are generated by customers in the commercial and industrial sector. It is not intended to accept industrial hazardous wastes.

TABLE E.2.2 HAZARDOUS WASTE TYPES AND QUANTITIES

HAZARDOUS WASTE	DETAILED DESCRIPTION	Tonnes Per Annum
Waste Oil	Self-generated	20
Oil filters	Self-generated	<1
Asbestos		
Oil/Sand Mixtures or Mixtures of Oil and Other Material		
Wood Preservation Waste		
Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal		
Wastes from Inorganic Chemical Processes		
Wastes from Organic Chemical Processes		
Agrochemical Wastes		
Infectious Healthcare Waste		
Photographic Processing Waste		
Paint, inks, adhesives and resins	Accepted as household and commercial hazardous waste	*See Note
Batteries and accumulators	Accepted as household and commercial hazardous waste	*See Note
Florescent tubes and other mercury containing waste	Accepted as household and commercial hazardous waste	*See Note
OTHER HAZARDOUS WASTE (APPLICANT TO SPECIFY)		
WEEE	Accepted as household and commercial hazardous waste	*See Note

* The combined tonnages for the different types of hazardous waste to be collected will not exceed 3,000 tonnes per annum.

TABLE E.2.3 NON-HAZARDOUS WASTE TYPES

INERT WASTE	Check (if accepted)	Additional Information
Stones and Soil	☒	
Topsoil	☒	
Brick	☒	
Natural Sand	☒	
Concrete	☒	
Pottery & China	☒	
Asphalt, tar and tarred products	☒	
BIODEGRADABLE WASTE	**Check (if accepted)**	**Additional Information**
Wood & Wood Products	☒	
Paper & Paper Products	☒	
Vegetable Matter	☒	
Non-Infectious Health-Care Waste	☐	
Natural & Manmade Fibres	☒	
Street Cleaning Residues	☐	
Gully Emptyings	☐	
Septic Tank Sludge	☐	
Dredging spoil	☐	
Food Stuffs	☒	
Oil/Water Mixtures	☐	
Vegetable Oil	☒	
Oil and Fat	☐	
Animal faeces, urine and manure (including spoiled straw) effluent, collected separately and treated off-site	☐	
Animal Blood	☐	

Table E.2.4 Other Wastes

OTHER WASTES	Check (if accepted)	Additional Information
Gypsum based Constructon Materials	☒	
Dried Paints, Dried Varnish & Dried Lacquer	☒	
Foundry Sand & spent blasting grit	☒	
Glass	☒	
Latex & Rubber Solutions	☐	
Solid, Fully Polymerised Plastics	☒	
Solid Rubber (excluding tyres)	☒	
Electronic and Electrical Waste	☒	
Waste from incineration or pyrolysis of municipal and similar commercial, industrial and institutional wastes	☐	
OTHER WASTES (APPLICANT TO SPECIFY)	**Check (if accepted)**	**Additional Information**
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
	☐	
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	☐	
	☐	
	☐	
	☐	

It should be noted that an applicant may be issued with a licence which restricts the type of wastes which may be deposited. The acceptance of wastes outside those set down in the licence will be an offence under s39 of the Waste Management Act.

Attachment E.2 should contain any relevant additional information.

Attachment E.2 – Additional Information on proposed waste types

Household Source Separated Dry Recyclables
The Environmental Impact Statement (EIS) (which accompanied the Planning Application) is based on Commercial/Industrial waste as the principal waste streams. The Waste Licence Application (WLA) includes a detailed breakdown of the wastes accepted at the site including two specific elements of household waste:

Source-separated household dry recyclables: Typically this relates to material disposed off by householders in the 'green bin' as operated by various local authorities. The household green bin can accept cardboard, paper, magazines, aluminium cans, steel tin cans. It is important to emphasize that this will not include any residual mixed waste – black bag or black bin waste. With source separated waste, only a small degree of contamination is encountered – typically < 5% of materials that are not recyclable. It will only include the less odorous recyclable fraction.

Source-separated recyclables from civic amenity facilities: Recycling sites and bring facilities operated by local authorities collect various source-separated household material such as cardboard, newspapers, magazines, plastic bottles and packaging, aluminium cans, timber material, household fridges, batteries, fluorescent tubes etc. GRR would like to tender to operate the new recycling centres emerging in the region.

Comparison of Proposed Household Material and Commercial Waste

In terms of environmental impact the two recyclable household waste streams as detailed in point 1 are effectively very similar to the commercial waste streams which GRR primarily focus on. The steps in waste processing are as follows;

- Waste Delivery – Undertaken in refuse freighters and skip lorries as per section E.6.
- Waste Material – Source-separated materials are dry, free of leachate and do not generate odours, as per source separated commercial waste.
- Waste Processing – The processes undertaken such as delivering, sorting, compaction, baling and dispatch are identical to these described for commercial waste.
- End Markets – The destination for recyclables from household and civic sources is effectively the same as commercial sector.

Conclusion
Inclusion of two dedicated recyclable elements of the household waste stream is valid at the facility and is in keeping with the EIS analysis. GRR wishes to include the option of handling these waste streams so that it can compete for municipal waste recycling contracts as these arise. This is important in enabling the company to move forward on a competitive, cost effective footing in the waste industry. It will also support local authority and REPAK objectives of improving household recycling rates.

E.3 Waste Acceptance Procedures

Procedures for checking waste loads as they arrive at the facility must be included. These should follow the requirements of the Agency's Waste Acceptance Manual.

Opening times applied for the facility should be included in Attachment E.3.

A copy of these procedures and other associated documentation. should be included as **Attachment E.3.** Additional advice on completing this section is provided in the *Guidance Note.*

Attachment E.3 Waste Acceptance

Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

The facility will function twenty four hours a day, seven days a week. Staff members operating in the traffic control cabin will log all waste loads arriving at the site. The following information will be recorded for the site records:

- Description of the waste including waste types, composition, form and relevant EWC codes etc.
- The origin of the waste including all customer details.
- The weight of the waste load.

This information will be collated and inputted into a site database which will be relevant for environmental reporting and inspections by the EPA etc. All waste loads arriving to the site will be tipped out inside the main facility building and inspected prior to processing. If staff members are satisfied that the load is not contaminated the material will be processed as required. Any loads considered to be suspect will be removed to a quarantine bay for further inspection by staff. If site management is not satisfied with the quality or contents of the load it will be returned to the customer. Similar controls will be put on all recyclables/residues leaving the site.

The company has developed a documented traceability system, similar to the UK Duty of Care for all waste arriving/leaving its facility.

E.4 Waste Handling

Waste handling and the operating procedures used at the facility should be described in **Attachment E.4.** Included in the attachment should be information on the plant used on-site and on the methods and processes for handling waste on-site. Additional advice on completing this section is provided in the *Guidance Note.*

Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

Attachment E.4 Waste Handling

Cardboard and Packaging Waste

Packaging waste will be moved from the main tipping floor onto the relevant conveyor belt to be processed and baled. This material is generally dry and clean and requires minimum handling and processing. Nuisance odours should not be an issue due to the nature of the material.

Mixed Commercial and Industrial Waste
This type of material will be a mix of packaging waste, recyclables, and organic matter. GRR will operate a waste processing operation within the facility to separate out each recoverable fraction, as discussed in Attachment D.3. The organic fraction of the mixed waste has the potential to generate nuisance odours and attract nuisance birds, flies and vermin. This potential nuisance will not be an issue at the new facility for the following reasons:

All of the waste processing will be carried out within the facility which will reduce odour development and eliminate the potential for leachate generation. Mixed waste loads arriving at the facility will not be allowed to stand preventing odours from being generated and attraction of flies. The material will be moved through the waste processing system soon after the material has been tipped.

A sophisticated odour abatement system will be in operation in the facility to reduce potential odours. The organic fraction will be separated out from the mixed waste and collected in a trailer which will be parked in a covered annex building adjacent to the facility. When full this trailer will be moved off-site for further recovery. Typically 1-2 trailers will be filled on a daily basis.

Additional Waste Streams
Smaller quantities of additional waste streams such as glass, C&D waste, wood, and metal will be accepted at the site. This material will be stockpiled in storage bays in the facility prior to removal off site for further recovery.

Similarly smaller quantities of WEEE will be accepted at the site and will be partially disassembled with the metal and plastic fraction separated out for recovery.

Any wastes such as Waste vegetable oil, fluorescent tubes, batteries etc will be placed in appropriately designed storage bays, refer to **DG0014 in Appendix A** for location details.

E.5 Raw Materials and Energy

Attachment E.5 should contain a list of all raw, product and ancillary materials, substances, preparations, fuels and energy which will be utilised in or produced by the activity. The list(s) given should comprehensively describe all materials used including fuels, energy consumption, incoming wastes, intermediates, laboratory chemicals and any waste or product used in, or resulting from, the handling, processing or treatment of the incoming waste. Information on any insecticides, herbicides or rat poisons etc. should also be provided with their respective data and safety sheets. The standard forms provided should be used in the description of these materials, substances, etc. where relevant. Additional advice on completing this section is provided in the *Guidance Note*.

Attachment included	yes ☒	no ☐	not applicable ☐

Attachment E.5 Raw Materials And Energy

Water Usage
There is an existing 150mm diameter water main on Crag Avenue from where the existing site obtains its water supply.

Expected demand was computed based on the following:-

- 30 employees with a per capita consumption of 150l/h/d
- Truck washing – 15m³/d (assuming no rainwater)
- Miscellaneous usage – 15m³/d

It is estimated that daily demand will be between 35m^3 and 45m^3 of water per day. This main will satisfy the recommendations in BS 5598 (capable of supplying 1500 l/min). Calculations were carried out to check that there would be sufficient pressure at the highest proposed hydrant location, assuming normal mains pressure.

Energy Usage

It is estimated that annual consumption of electricity will be approximately 400,000 units (400,000 Kwh). This is based on current consumption at Knockmitten Lane facility of 245,000 units. This requirement will be somewhat reduced by the fact that some "eco-friendly" design elements are included with the new development as detailed in section D.1.r. The main recovery building has been designed to maximize lighting through roof panels and panels on the northern elevation.

Excavated materials

The current site is overlain with a layer of concrete that will be excavated and removed during the construction of the new buildings and services. The floor level of the main recovery building has been chosen to minimise the generation of spoil and requirement of import of stone. It is not anticipated that there will be any significant deep excavations associated with the installation of new services and the upgrading and retention of existing services (water pipes, drainage etc.) with the exception of the oil-water interceptor, the rainwater tank and the attenuation tank. Any excavated materials removed during the construction of the main recovery and recycling building will be retained and reused on-site as far as possible. Additional materials will be sent to an authorised Construction and Demolition waste recovery facility.

It is not anticipated that any blasting of ground material will be required during the construction phase.

Fuel Requirements

Road Diesel

It is expected that approximately 550,000 Litres/year of marked diesel will be used to fuel trucks and other machinery at the facility. A storage tank with a capacity of 40,000l exists on the site and GRR plan to maintain this tank. The tank is located in a bunded area as shown on drawing **DG0013 in Appendix A.**

Green Diesel

It is estimated that approximately 26,000 Litres/ year of green diesel will be used to fuel the five forklifts at the facility. GRR plan to construct a second bunded area next to the fuel point and install storage a tank approximately 7,200l in capacity. Refer to **DG0013 in Appendix A** for location details.

Engine Oil

Approximately 3,000 Litres of engine oil will also be required at the facility.

Detergent

Detergent will be used to wash the trucks at the wash bay facility and so minimise dirt from being carried out on to the local roads. It is envisaged that approximately 2,000 litres of detergent will be required at the facility annually.

Summary

A summary of all materials and approximate quantities to be used at the proposed facility is given below:

Resource	Usage per annum
Electricity	Approx. 400,000 units (Kwh)
Water	Between 35 m^3 and 45 m^3 per day (14, 600 m3/ annum)
Fuel:	
Road Diesel	550,000L
Green Marked Diesel	26,000L
Engine Oil	3,000L
Detergent	2,000L

E.6 Plant

Attachment E.6 should provide information on all plant used at the facility.

Attachment included	yes ☒	no ☐	not applicable ☐

Attachment E.6 (see also Section D2)

The final configurations of plant equipment to be used at the facility has not been decided upon at this time. However, a list of typical equipment expected to be used at such a facility is listed below. Some detailed plant specifications for some of the machinery is included at the end of this section. Refer to drawing **DG0014 in Appendix A** for detailed locations of where plant equipment is to be used.

More detailed information on plant equipment specifications will be forwarded to the agency when purchased and the facility has been fully commissioned.

Equipment to be used in the plant will generally comprise:

- 2 x-excavators fitted with grab
- 2 x balers
- 1 x Trommel
- 2 x Loading shovels
- 1 x Compactor
- 1 x Shredder
- 2 x Tractor Unit
- 5 x Forklifts for lifting baled waste
- 3 x Skip Lorries
- 4 x Articulated Trucks
- 2 x Tail lifts
- 3 x Roll on Roll off Trucks
- 3 x Trailers for transport of waste
- 1 x Road Sweeper for cleaning and maintenance of hardstanding and access areas
- Elevated conveyor belt
- Elevated Picking lines for materials segregation
- Odour control equipment
- Dust control equipment
- Mobile bunds / bunded storage tanks for waste vegetable oil.

Balers

A baler which is suited for use with all types of paper and board, commercial and industrial waste, plastics and PET will be required. A baler with low noise pumps in the style of the Balers is the preferred option. These balers can process up to 35 tonnes per hour, depending on the specification of the machine and the waste material. Bales can be wired either vertically, horizontally or a combination of both using a various number of wires. Refer to technical specification as attached.

Trommel

A style trommel will also be required at this facility. These machines usually have throughput capacity for a very wide range of materials, wider than the range of wastes due to be accepted at this facility. Depending on the waste material, these machines can process up to 200 tonnes per hour. Refer to technical specification as attached.

Shredder

Shredding technologies are improving constantly and a state-of-the-art shredder is envisaged for this facility which generates a minimum of dust and produces very low noise. It will be capable of shredding a wide range of materials from paper, cardboard, tetra-pak and organic waste to wood and depending on the material can process up to 50 tonnes per hour These machines come in two main types: diesel-powered and electricity-powered. At present, the electricity-powered machine is the preferred option as it reduces the need for large volumes of fuel to be stored on-site. Refer to technical specification as attached.

Odour and Dust Control System

A dust control system will be installed at the facility to tackle problems with dust or odour should the need arise. The system will be employed at the principal waste delivery and processing areas (e.g. shredder, trommel screen), where dust and odours may be generated. Typically the odour/dust control system it is a water-based system (which contains a component designed to destroy any pathogens in the water supply fuelling the system) in the operation of which the dust particles are encapsulated using special surfactants which absorb the dust and removed from the atmosphere. The substances used in such a system are safe.

One type of system operates on the following basis: it is a water-based system using special surfactants, in which the odorous compounds and dust particles are encapsulated and removed from the atmosphere. The substances used in such a system are safe.

Another system –The Rotary Atomiser utilises a different technique from mainstream suppression systems, which typically rely simply on spraying water through a nozzle. Instead, it produces a spray which covers a 30 linear metres by using a spinning head to produce millions of microscopic droplets of water -- up to 238 billion from a single litre. That creates a fine mist which is much more effective and uses only a tiny fraction of the water and electricity. Refer to technical specification as attached.

Equipment to Process WVO Into Biodiesel

In the initial operation, only storage is required. Proposed storage is detailed in **DG0014 Appendix A.** The tank will be stored in a bunded area capable of holding 110% of the maximum capacity of the storage tank. The equipment for processing has not yet been specified. GRR will finalise details in consultation with the Agency, and will seek agreement before commencing any conversion process or use of recovered oil.

Summary

Items of plant deemed critical to the efficient and adequate processing of waste at the facility (including *inter alia* waste loading vehicles and ejector trailers) shall be provided on the following basis:

- 100% duty capacity;
- 50% standby capacity available on a routine basis; and
- Provision of contingency arrangements and/or back up and spares in the case of breakdown of critical equipment.

The annual capacity as shown in Table 1 is based on 15 hours working day (allowing 2 hours per day for maintenance) and 6 days per week. The table below provides an estimated value on the duty capacity for the type of plant proposed for the facility. The figures are based on specification of similar type machinery in-use at the existing GRR facility.

Table 1: Capacity of each Machine

	Hourly (tph)	Annual (tpa)
Cardboard baler	22	102,960
Waste Baler	35	163,800
Trommel	50	234,000
Shredder	45	210,600
Waste compactor	50	234,000
Loading shovel	50	234,000
Grabs	50	234,000
Forklift	72	336,960

Table 2 presents the duty capacity data in relation to the proposed waste types processed at the proposed facility. The table shows that the standby capacity available on-site will meet the requirements as stipulated by the Agency.

Table 2: Capacity by waste type

Waste Type	Duty capacity (tpa)	Standby capacity (tpa)
Commercial & Industrial or Household Recyclables Waste (Waste compactor + waste baler + cardboard baler capacity)	500,760	waste compactor: 234,000 or waste baler: 163,800 or cardboard baler: 102,960
C&D waste (loading shovel capacity)	234, 000	Spare machine in stock

The detailed list of plant proposed for the site will provide GRR with the required capacity to continue waste processing during maintenance and contingency periods. The layout of the internal machinery will minimise the double handling of waste and in the event of a breakdown will be reconfigured to allow maximum waste throughput to continue.

Attachment E6

Plant Specifications

Balers

GRR propose to use a baler of similar specifications to the BOA type baler.

Balers were the first machines BOA manufactured and introduced to the market.

Hydraulic wiring device

BOA balers are a "state of the art" design that is available on the market. Their features such as the advanced cartridge hydraulic compact controls, fully automatic hydraulic wiring device, and their unique pre-press flap system, assure these presses their leading position in the market. The low noise pumps, together with the proven hydraulics, also assure many years of reliable running. These features all result in high density, easy to stack bales. Bales can be wired automatically either vertically , horizontally, or a combination of both, with a various number of wires. Depending on type of raw material the presses can press up to 35 tons per hour.

Baler model choice depends on type of raw material, desired capacity, and bale size. Bale weight can vary depending on type of raw material, bale size, and can be as high as 1200kg per bale. Balers can handle various types of materials.

BOA has the following baler program:

BOA 2200

A press suited for all types of paper and board, commercial and industrial waste, plastics, and PET. Press has two pre-press flaps. This press has the largest size hopper. This model has an impressive range to a maximum of 165Kw and 130 tons press force.

Pre-press flaps

The BOA 2200 presses are the only two presses that are manufactured with the unique twin quart cylindrical pre-press flaps.

Advantages of pre-press flaps

- The cutting of material as happens in the so-called cutting presses is superfluous. The total pressing force is used to press the bale, and not to cut the material. This results in a more homogenous high-density bale.
- The press forces are evenly distributed over the press channel and ram, resulting in lower wear and tear.
- The pre-press flaps increase the press volume. Before the main ram starts to press, the press chamber is optimally filled, resulting in a higher capacity.
- To press a bale of 1300mm length, the BOA press needs 6-8 stokes of the ram, this is in contrast to a cutting press that will need up to 16 strokes of the ram to press the same bale.
- The construction of the two pre-press flaps allows more force to be used to press extra large carton boxes (octabins) and paper tubes.

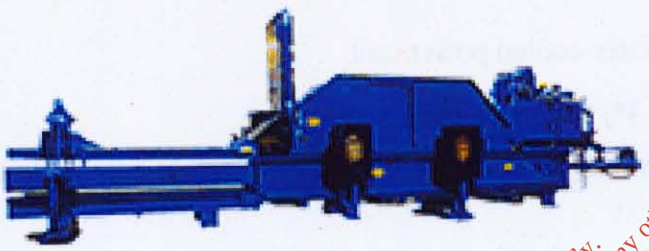
Wiring devices

Bales are wired with a relatively simple, but reliable hydraulic device. This device consists of the needles, the hydromat, and the automatic wire feeding system.

Functions

All functions of the wiring device are hydraulically driven. The movement of the needles, needed to bring the wires together is powered by a hydraulic cylinder,and the end positions are electronically controlled. A hydraulic cylinder positions the wires such that the needles can collect the wires, and bring them to their wiring position, the electronic position control then allows the hydromat to tie the wires together.

The hydromat is positioned to the tying position by hydraulic cylinders, the wires are cut with the hydraulic scissors and the wires are tied with the fingers on the hydromat. After tying the hydromat retracts to its rest position.



BOA 2200 Baler

Trommel

GRR propose to use a trommel of similar specifications to the Finlay-type trommel.

The Finlay 790 Trommel has been designed specifically for processing light demolition debris, Aggregates, Yard Waste, Topsoil and Compost 'Green Waste' applications. Developed for high production rates, it is capable of screening 200 tonnes per hour (depending on material type and condition).

Standard Features

- Remote tipping grid - optional.
- Hopper capacity 7m³ (9.2yd³).
- Variable speed belt feeder.
- Diesel powered 72kW (96Hp) water-cooled power unit.
- 2m (6'.6") Diameter x 6.8m (22'.3") length trommel screen.
- Fines discharge conveyor is swivel adjustable through 132° and height adjustable 10-23° - optional.

Technical Specifications

Reject Grid	Remote Tipping - (Optional)
Hopper Capacity	7m3 (9.2yds3)
Screen Size	2m (6'6") Diameter x 6.8m (22'3") Length - Screen angle fixed at 5 degrees
Engine Type	Deutz Water cooled Diesel
Engine Power	72kW (96HP)
Beltfeeder	1050mm (42") Belt - Variable Speed
Fines Conveyor	1000mm (40") Belt - Swivel adjustable through 132 degrees. - Height adjustable 10-23 degrees (Optional)
Stockpile Capacity	Standard - 122m3 (160yd3) Extended - 236m3 (307yd3)
Oversize Conveyor	1000mm (40") Chevron Belt. Stockpile Capacity 49m3 (64yds3)
Machine Weight	23.3 Tonnes (25.7 U.S. Tons)
Portability	5th Wheel Coupling - Twin Axle
TUV Specification	Optional

Shredder

GRR propose to use a shredder of similar specifications to the Hammel-type shredder.

Rugged design and clear layout make the Hammel Shredder the most reliable piece of equipment. The use of high-grade steel and the installation of quality engines ensure the high HAMMEL standard you have come to expect. We implement technical innovations immediately, ensuring that your shredder always reflects the latest technology.

Benefits:

- High performance
- Very low noise
- Minimum dust generation
- Low wear and tear
- No projectiles
- No fire hazard
- Customised
- High performance
- Knives are welded, not screwed on

Hammel Primary Shredder

Technical specifications:

Engine
Diesel or alternatively electric drive
Options
Load-depending rpm control for the shafts
Manual shaft speed control via potentiometer at the switch box or remote control

Operating
Via switch board or remote control
Options
Remote power unit for the electric version available

Material charge
Via hopper / tipping hopper with a clearance angle of max. 43°
Stationary machines: especially customized hopper available
Options
Hopper extension
Hopper reinforcement

Material discharge
Via discharge belt, 1,000 mm or 1,400 mm (depending on type). Discharge height 3,600 mm. Folding belt for easy transport.
Options
Belt extension: stationary version as required, mobile version up to 4,000 mm
Belt covering
Hydraulic adjustable belt height

Shafts
Configuration of the shafts depending on material that has to be processed, required throughput and final grain size

Structural design
Stationary
Semi-mobile (hook lift frame
Mobile (on tracks)

Additional equipment
Wheel axle (for moving machine on-site)
Water sprinkling system for minimizing dust generation
Magnet for metal separation
Catalytic exhaust gases conditioner

Dust and Odour Suppression

GRR propose to use a Dust and Odour Suppression system similar in specification to the probe atomiser and Aironaut or Mist-Air

The dust and odour suppression system has not been decided upon yet by GRR. However below is some information regarding the probe atomiser and Aironaut which GRR are considering purchasing for the proposed facility.

Probe Atomiser

Probe Industries' revolutionary method for combating dust -- called the Rotary Atomiser -- is set to make a major impact on one of industry's most persistent environmental problems.

Using water alone, it is also a remarkably effective way of controlling industrial odours - even more so when used in conjunction with Probe Industries' groundbreaking AiroNaut™

The Rotary Atomiser utilises a totally different technique from mainstream suppression systems, which typically rely simply on spraying water through a nozzle. Instead, it produces a spray which covers a remarkable 30 linear metres by using a spinning head to produce millions of microscopic droplets of water -- up to 238 billion from a single litre. That creates a fine mist which is much more effective and uses only a tiny fraction of the water and electricity.

This is a novel concept -- and one which companies in industries where smells and dust are a problem are rapidly recognising is far more efficient and far cheaper than other systems.

The system is highly reliable in use and can be employed in any location, inside or outside, and needs far less maintenance and cleaning than traditional nozzles. The range of situations in which Probe Industries can provide the best solution is simply huge.

Rotary Atomisers are already being used by most of Britain's water companies, major waste companies and food processors. The impressive client list is set to grow enormously.

How it works

The Atomiser uses centrifugal action by a spinning inner mesh to force droplets on to an outer mesh which "cuts" the water into atoms. The droplets produced are thinner than a human hair and the fine spray from a single atomiser head can cover up to 30-linear-metres.

Normal spray systems produce "poly-dispersed" water, with droplets of different sizes, some of which are too big or small to be effective.

Probe's Rotary Atomisers produce a "mono-dispersed" spray, with all droplets of an optimal, uniform size that the operator can choose.

AiroNaut

A major breakthrough in keeping industrial odours suppressed by "capturing" them rather than simply masking them has been pioneered by Probe Industries.

The company's sophisticated AiroNaut solution is designed to be heavily diluted in water and sprayed -- ideally using Probe's Rotary Atomisers -- on to odour-producing chemicals in the air. It combines with the chemicals to make them safe and odourless and then pulls them down to the ground.

Normally the only answer is to spray a pleasant fragrance to mask the unpleasant one -- Probe takes a more scientific and effective approach. AiroNaut is a very exciting product, and one which is certain to be widely taken up.

Why it matters

Industrial odours are a major environmental problem. They can create an unpleasant working environment, which is obviously of concern to those who are required to work there. Of great concern also is the affect such odours may have on residents who live near industrial premises.

More importantly, long-term exposure to industrial odours is a kind of passive form of pollution. There is the prospect of long-term damage to health, with the environmental and legal issues which that would raise.

How AiroNaut helps

Spraying a continuous aerosol of AiroNaut is an effective and low-cost method of odour control, even in difficult situations such as industrial premises and sewerage works. In fact the product is so effective that if it is used properly, the smell is entirely eradicated by the time it reaches the outer limits of the area sprayed.

In order to work, AiroNaut must be applied using an accurate and precise spraying system which produces microscopic droplets of a consistent size. Ultrasonic, air assisted and misting nozzles can be used, but Probe Industries strongly suggests that AiroNaut is used with its Rotary Atomiser system.

How AiroNaut works

AiroNaut works by using special surfacant reagents which help the minute water droplets to take up the organic substances which produce smells -- something which does not normally happen. This is done by creating "clusters" of molecules inside the droplets which trap the odours which then fall to the ground with the water rather than returning to the air as gas.

AiroNaut itself is completely safe and has been tested for all major hazards.

F. ENVIRONMENTAL NUISANCES

Control measures for all potential environmental nuisances should be submitted.

Attachments F.1 to F9 should provide information on how potential environmental nuisances are to be controlled. Additional advice on completing this section is provided in the *Guidance Note*.

F.1 Aerosol Control

Control method specified	**yes** ☒	**no** ☐	**not applicable** ☐
Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

F.2 Bird Control

Control method specified	**yes** ☒	**no** ☐	**not applicable** ☐
Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

F.3 Dust Control

Control method specified	**yes** ☒	**no** ☐	**not applicable** ☐
Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

F.4 Fire Control

Control method specified	**yes** ☒	**no** ☐	**not applicable** ☐
Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

F.5 Litter Control

Control method specified	**yes** ☒	**no** ☐	**not applicable** ☐
Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

F.6 Odour Control

Control method specified	**yes** ☒	**no** ☐	**not applicable** ☐
Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

F.7 Roads Cleansing

Control method specified	**yes** ☒	**no** ☐	**not applicable** ☐
Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

F.8 Traffic Control

Control method specified	**yes** ☒	**no** ☐	**not applicable** ☐
Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

F.9 Vermin Control

Control method specified	**yes** ☒	**no** ☐	**not applicable** ☐
Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

Attachment F.1 and F.6 Aerosol Control and Odour Control

The potential for odour and aerosol emissions may be minimised by a series of design features, work practices and mitigation measures. Each of these measures is outlined briefly below:

- All waste handling operations will take place indoors within the enclosed facility. Use of roller shutter doors will minimise exposure to outside environment.
- Site layout will be designed to ensure operations are as far as possible from the nearest sensitive receptors.
- All work surfaces and tipping floors will be cleaned daily to prevent odours and aerosols.
- Residence time for waste, including non-odorous will be kept to a minimum before transfer.
- A suitable masking agent/deodorant system will be installed to minimise the impact of odours.
- Use of fast acting doors.

Given that all waste process operations will be carried out indoors and given that the nearest sensitive receptor identified is located approximately 500m away from the site, it is not anticipated that there will be a significant impact as a result of fugitive odour emissions and aerosols.

Attachment F.2 and F.9 Bird and Vermin Control

Specific attention will be given during the operation of the facility to reduce the potential nuisance of pests. The following procedures will be followed to prevent any problems with pests at the proposed site.

- All waste delivered to the proposed facility will be removed by the end of the each day.
- The tipping floor will be washed and litter picked up on a daily basis.
- All operations, including waste handing, will be performed inside the enclosed facility.
- Bird-deterrent measures including fixing wire mesh to horizontal surfaces where birds can gather will be installed.
- All vehicles especially refuse collection vehicles to and from the facility will be covered.
- Any cracks or openings on the surface of the site will be eliminated or screened to prevent entry of pests.

- A routine visual inspection of the facility for potential pest habitats will be carried out and corrective action taken when needed.
- Professional licensed pest control specialists with expertise in controlling specific pest populations, and using rodent baits/ poison and insect sprays will be hired when needed.

As the site will be unsuitable for rodents and given the mitigation measures mentioned above, it is unlikely that this will be an issue of likely concern.

Attachment F.3 Dust Control

Dry periods of weather can lead to the generation of dust. Dust is expected to be generated primarily during the construction phase of the proposed development. Measures are outlined in the EIS to mitigate construction impacts in general (see **EIS Volume 2 Section 9**). During the operation phase waste deliveries will occur within the main building and mainly consist of dry solid material, packaging etc. The facility also accepts small quantities of Construction and Demolition waste which has the potential to generate dust, although loading and processing will occur indoors.

Mitigation Measures

The following mitigation measures will be employed to prevent or minimise the impact of dust arising at the proposed facility:

- All waste activities will be carried out indoors
- Facility roads will be cleaned regularly with street-sweeping equipment.
- Waste delivery vehicles will be washed to remove dust-generating dirt.
- An odour control system will be installed over entrances with mist sprays/odourisers. These also suppress dust.
- Buildings will also be aligned away from the line of the prevailing wind.
- Dust suppression systems fitted with odour neutralising compounds will be installed over tipping floor, to keep dust down.
- All waste will be removed daily and the tipping area washed to minimise the impact of dust.
- Organic material will be separated from the mixed waste and then tipped into an enclosed lorry in an enclosed section of the facility. Automated doors and curtain skin metal to separate processes in the proposed facility will prevent dust escaping to the outside.

F.4 Fire

Emergency response procedures will be prepared and submitted to the EPA as part of the Environmental Management Programme. All site operators and staff will be made aware of the dangers of fires and how to treat them.

Precautions to be taken in order to ensure fire safety:-

- Fire alarm and defence systems will be fitted in the reception area.
- All operatives will receive basic instruction on fire safety and protocol.
- A number of operatives are to attended fire officer training courses. At least one of these fire officers will be on-site at all operational times.
- A Fire Safety Drill and a Code of Practice will be developed by the site management. All staff will be fully trained with this code.
- The fuel storage area will be positioned a distance from the reception building within a bunded enclosure.

- The phone number of the local fire station will be posted in the reception area at all times. A spare set of keys to be used in an emergency will be available at the security gates. Security will also be issued emergency call out numbers for the site management team and a full set of plans and drawings of the main infrastructure for the facilities.

The following actions will be taken in the event or suspicion of fire on-site:

- Waste arriving on the site, which is observed to be smoking, will be directed to the emergency storage area. It will then be inspected by the management who will decide whether to extinguish it themselves or alert the fire authorities.
- If fire is discovered within the facility the area will be isolated to stop it spreading. The site manager will be contacted immediately. All personnel will evacuate the area to a safe location until the fire brigade is called. Facility staff will not return to work until such a time the fire officer deems it safe to do so.
- If a fire occurs on-site the EPA will be informed of such instances by phone and will be followed by a full written report detailing the incident.

F.5 Litter Control

Wind blown litter either from the proposed site, or from vehicles traveling to and from the site, may become unpleasant and classified as a nuisance. However, waste will be baled, wrapped securely and placed in enclosed articulated lorries before exiting the facility, which will help reduce the impact of litter.

Mitigation Measures

Implementation of some of the following control measures will minimise the potential of litter problems:

- All waste handling and processing will be carried out in the enclosed facility only.
- All incoming and outgoing vehicles will be covered.
- A daily litter patrol of the site and nearby roads will be carried out by a site operator, and a daily inspection sheet completed. Litter on-site, around the perimeter, on immediately adjacent properties and on approaching routes will be collected immediately. The doors of the facility will be positioned away from litter producing material stored inside the facility.
- The building will be positioned so that the prevailing southwesterly winds do not blow through the facility and carry litter outside. Windbreaks will be erected to deflect wind away from the waste handling areas.
- Regular cleaning of the tipping floor and good housekeeping practices will minimise the amount of loose waste blown outside.
- A sweeper will be purchased for the facility and used daily to remove litter

With these mitigation measures in place, it is envisaged that there will be no significant impact associated with litter from the proposed Sustainable Resource Recovery Facility.

F.7 Road Cleansing

Control of mud and debris on site and approach roads will be achieved by a number of means:

- Facility roads will be cleaned regularly with street-sweeping equipment.
- Waste delivery vehicles will be washed before they leave the proposed facility to remove dust-generating dirt.
- A wash-bay facility is situated on the site, to be used by collection/ delivery fleet on a regular basis to maintain trucks clean

F.8 Traffic Control

The following measures can be used to control the traffic into and out of the site.

- The onsite traffic office will monitor the entrance and exit of vehicles.
- There will be a free flow of traffic into and out of the facility by widening the entrance road, separating entrances and exits to the site, one-way traffic flow, clear sign posting and markings.
- There will be adequate parking spaces on the site of the proposed development. The traffic control point is set back from the main entrance which will prevent the queuing of vehicles on the state roads. All queuing will take place onsite where there is enough capacity for parking.
- Buildings and roads will be positioned to reduce intersection, the need to reverse vehicles and sharp turns.
- It will be ensured that the fleet is flexible to respond to the requirements of the local traffic network.
- Refuse Collection Vehicles and Articulated lorries will avoid rush hour traffic by scheduling off-peak movements to and from the site.
- A clean and well serviced fleet will be maintained at all times.

A traffic impact assessment was carried out as part of the EIS, refer to **Volume 3 Appendix 3** for details and recommendations.

G. DECOMMISSIONING AND AFTERCARE

A description should be furnished of the existing or proposed measures for the closure, decommissioning, restoration, remediation and aftercare of the facility concerned after the cessation of the activity in question. Additional advice on completing this section is provided in the *Guidance Note.* Provide a description of the existing or proposed measures to minimise any detrimental impact on the environment after the activity, or part of the activity, ceases operation.

G.1 Decommissioning

Attachment G.1 should include details of the decommissioning procedures. The appropriate documents and drawings should be provided.

Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

Attachment G.1 Decommissioning

Any hazardous or non-hazardous waste stored on-site will be removed from the site and recovered through the usual channels in the event of decommissioning of any operation.

All plant machinery and vehicles will be removed from site if the site and depot operation is decommissioned.

Waste recovery activities will continue to be required to meet our national recycling and recovery targets in the foreseeable future and as such there is no time limit for closure of the facility at present. In any event the facility could easily be converted into commercial and light industrial units in keeping with the land use of the area.

G.2 Aftercare Management Plan

Attachment G.2 should include details of the management of the site after cessation of waste management activities. Remediation requirements and long-term commitments to site management should be itemised.

Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

Attachment G.2
All emissions will continue to be monitored after decommissioning until such a time that GRR and the agency are content that the facility has been fully decommissioned and there is no potential for the release of further emissions into the environment.

H. ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Information on the potential environmental impacts of the development and the proposed mitigation measures are required. For new developments, predictions need to be made of the potential impacts. For existing facilities, data obtained from investigations and environmental monitoring should be used to assess the current level of emissions from the site and their impacts. This information must be provided under the headings below. Additional advice on completing this section is provided in the *Guidance Note.*

Attachments H.1 to H.10 should include information on the potential impacts of the development and on the mitigation measures proposed. Emissions should be characterised using the standard forms where provided.

Where development is proposed to be carried out, being development which is of a class for the time being specified under article 24 of the Environmental Impact Assessment Regulations, the environmental impacts and mitigation measures should be addressed in the EIS. In such cases, it will suffice for the purposes of this section to provide adequate cross-references to the relevant sections in the EIS.

H.1 Air

Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

Attachment H.1
Odours, fugitive dust emissions and emissions from road traffic (Benzene, NO_x, SO_x,, and PM_{10}) may have a potential impact on air quality at the proposed development.

Odours
The storage on-site of any organic wastes for long periods of time may give rise to offensive odours, particularly in spells of dry and warm weather. However the potential for odour emissions will be mimimised by a series of design features, work practices and mitigation measures. Each of these measures is outlined briefly below:

- All waste operations will be housed indoors minimizing odour emissions.
- The use of roller shutter doors will minimise exposure to outside environment.
- The site layout is designed to ensure that the waste recovery building is located as far away from the nearest sensitive receptors.
- Daily cleaning of all work surfaces and floors.
- Residence time for waste, including non-odorous will be kept to a minimum before transfer for further processing.
- GRR will utilise a sophisticated odour abatement system to reduce the impact of potential smells.
- No storage of any organic waste susceptible to give rise to offensive odours for more than 24hours.

As all waste process operations will be carried out indoors and given that the nearest sensitive receptor identified approximately 500m away from the site it is not anticipated that there will be a significant impact as a result of fugitive odour emissions.

Road Traffic

Emissions of pollutants from road traffic can be controlled by either controlling the number of road users or by controlling the flow of traffic. For the majority of vehicle-generated pollutants, emissions rise as speed drops, although the opposite is true for oxides of nitrogen. Emissions are also higher under stop-start conditions when compared with steady speed driving. The free flow of the traffic as a result of the scheme is essential in order to minimise the generation of traffic related pollutants.

A screening model was used to assess whether any significant impact on sensitive receptors may occur. This examined daily traffic counts for the traffic in the area of the proposed development. The screening model predicted that pollutant concentrations in the immediate vicinity of the site would not be adversely affected by the operation of the proposed development. In terms of both long-term pollution and regional pollution, the potential impact to air quality as a result of the proposed development was not considered significant. For more information refer to **Section 10, Volume 3 of the attached EIS.**

Dust

Emissions of dust from HGV movements on the site as a result of site working practices may frequently occur. A dust minimisation plan will be implemented and the potential impacts of fugitive dust emissions are expected to be minimal.

Due to the nature of the work involved during the construction activities quantities of dust may be generated particularly in drier weather conditions. This problem is exaggerated when vehicles transporting sands/gravels/soils etc. to and from the site have the potential to cause an environmental nuisance several kilometres from the facility.

However, if the construction contractor adheres to good working practices and dust mitigation measures the levels of dust generated will be minimal and are unlikely to cause an environmental nuisance.

Good working practices and mitigation measures are outlined below.

- Daily cleaning and maintenance of site roads.
- Daily watering of any road that has the potential to give rise to fugitive dust during dry and/or windy conditions.
- Speed restriction applied to site roads (5 mph)

- Public roads outside the site should be regularly inspected for cleanliness, and cleaned as necessary.

More detailed information is available in **Volume 3, Appendix 5 of the accompanying EIS.**

H.2 Climate

Attachment included	yes ☒	no ☐	not applicable ☐

Attachment H.2

Impact on Macro Climate

Motor vehicles are a major source of atmospheric emissions thought to contribute to climate change. A concern would be the additional emissions generated from vehicles that will be attracted to this proposed development and the potential for increases in air pollutants, which may contribute to climate change. However, during site visits it was observed that there was already a high number of Heavy Goods

Vehicles (HGVs) in the vicinity of the proposed development. Smooth inflow and outflow of traffic incorporated into the site design and future improvements to existing road will result in free flowing traffic which will reduce the impact arising from vehicle emissions, compared to the emission pattern associated with congested driving conditions. It is also proposed to promote the use of more sustainable fuels by replacing some of the fossil fuels by recycled Waste vegetable oils.

More detailed information on the Impact of Climate can be found in **Volume 2, Section 9.6 of the EIS** as attached.

Impact on Micro Climate
Microclimate is defined as the spatial distribution of temperature, light, shade and rainwater runoff. The physical structure of the warehouse will produce slight changes in shelter. There are no plants on the site of the proposed development that will be affected by this slight change in the microclimate. There are also no particularly sensitive life forms that will suffer. The scheme will not have a significant effect on shading or temperature profiles at the nearest residential properties.

Mitigation Measures
The proposed Sustainable Resource Recovery Facility will have no impact on the climate or microclimate at the site and therefore no mitigation measures are proposed.

H.3 Cultural Heritage

Attachment included	yes ☒	no ☐	not applicable ☐

Attachment H.3

Potential Impacts
As no recorded items of archaeology or cultural heritage have been recorded on the site or in the immediate vicinity it is not anticipated that any significant impacts will occur during the construction or operation of the proposed development. Areas that traditionally have archaeological potential such as bogs, drains/streams and larger watercourses are absent from the site of the proposed development. Given the location and nature of the site, and the fact that very little excavation is envisaged apart from laying of drains and services and attenuation structure and in the area of the new waste building, it is not envisaged that the proposed development will impact on items of historical, archaeological or architectural significance or interest. **Refer to Volume 2, Section 13 of the EIS** as attached.

Mitigation Measures
No mitigation measures are required during the construction and operation of the proposed development.

H.4 Ecology

Attachment included	yes ☒	no ☐	not applicable ☐

Attachment H.4

Terrestrial Flora and Fauna
Considering that the existing nature of the site is hard-standing (approximately 90% concrete cover and 10% gravel), the overall impact on terrestrial ecology is deemed to be minimal. It is proposed to create a 'green area' within the site boundary which will be landscaped accordingly. The 'greening' of a hard-

standing environment within an industrial estate in conjunction with the implementation of appropriate landscaping measures and overall layout design of the proposed Sustainable Resource Recovery Facility will help promote and encourage the development of the overall ecological environment and may lead to an increase in localised biodiversity, resulting in an overall improvement in ecological value.

Aquatic Environment

There are no watercourses in the existing area. However, in order to prevent or reduce the potential risk of contamination of water quality in adjacent watercourses a number of steps will be incorporated into the design and construction phase as well as the operational phase.

It is a requirement of the Eastern Regional Fisheries Board that proper attenuation measures and petrol/oil interceptors are installed to ensure only clean uncontaminated surface waters discharge to the public surface water network. The main operational and all waste activities will occur in the recovery warehouse and therefore will not release any leachate since the waste is predominately dry packaging. Any spills will be collected by the on-site suction sweeper and disposed of off-site.

The existing storm water drainage system on the site is sufficient in its capacity to efficiently collect precipitation falling on the site during flood events. In addition, measures to attenuate storm flows have been included in accordance with the requirements of the Planning Authority. The receptor for all drainage from the site is the River Camac. An interceptor when installed will help improve the water quality of the discharge.

Residual Impacts

It is envisaged that when the proposed development reaches its operational stage and that the landscaping measures proposed are allowed to mature, the terrestrial ecological value of the site will improve.

Following the implementation of the appropriate mitigation measures as discussed it is not envisaged that the proposed development will have any significant negative impacts on water quality or ecology (terrestrial or aquatic).

H.5 Human Beings

Attachment included	yes ☒	no ☐	not applicable ☐

RPS-MCOS carried out a study of the potential impacts associated with the proposed Sustainable Resource Recovery Facility on social and economic activity in the area. The study identified the likely significant impacts to affect the social and economic functioning of the study area as a result of the proposed development. Impacts were assessed and mitigation measures proposed.

The regional, sub-regional and local socio-economic impacts of the proposed development when it is operational are examined under the headings:

Operational Impacts

- Regional impact
- Sub-Regional impact
- Local impact on communities
- Impact on local community/amenity facilities
- Impact on the local economy
- Local impact on road users

- Local impact on traffic volumes

Regional Level

At a regional level, the proposed development will have a beneficial impact on industrial and commercial facilities in the Dublin Region by recycling waste that previously would have been sent to landfill.

Sub-Regional Level

The existing Waste Transfer Facility at Knockmitten Lane employs approximately 30 people. It is expected that the new Sustainable Resource Recovery Facility will create employment on a sub regional level by employing an additional 30-50 people on a phased basis as the business develops.

Local Level

GRR has consulted with residents and interests group including public information days for the local community and businesses through the planning and design of this facility.

Communities

The values of houses in the vicinity are unlikely to be impacted as a result of the proposed development.

Community/Amenity Facilities

Impacts of the proposed development on Community and Amenity facilities within 500m of the proposed site are discussed below.

- Grand Canal

Drainage from the proposed facility will enter a small stream to the southwest, which will meet the River Camac further downstream, at Bluebell Avenue. The proposed facility will have no impact on the Grand Canal's water quality, fishing or boat users.

- Grand Canal Way

No significant impacts are anticipated on patrons of this walk along the Grand Canal.

Changes in Traffic Patterns

In general if the proposed development is not built (do nothing scenario) the future capacity problem with the T junction station between Station Road and Newlands Road will still arise next year. The following summary illustrates the level of impact in terms of traffic movements by the proposed RRR facility:

- For the initial 3-5 years of operation GRR will not be adding to the existing levels of traffic in the Clondalkin area. Within this timeframe a number of major transportation projects such as the Dublin Port Tunnel, LUAS, and the Outer Ring Road should be in operation and should have a significant impact on the current levels of traffic in the area.

- Similarly the planned widening of the hump-back bridges on Cloverhill and Newlands Road by Irish Rail will provide further improvements for local traffic and traffic accessing the site. (Full details of the future road improvements are provided in **Volume 2, Section 6 of the EIS**).

- Traffic congestion at peak time is a cause of local concern. GRR propose where possible to avoid peak hours for their fleet. The numbers of cars using the facility is relatively modest compared with other potential uses of 4.5 ha of industrially zoned land – e.g. manufacturing or assembly facilities - which would generate more peak time car traffic from workers.

- Finally the majority of heavy goods vehicles associated with the development will be smaller than those associated with the current site use.

- The detailed Traffic Impact Assessment for the site is presented in **Volume 3, Appendix 3, of the EIS.**

More information on the 'Impact on Human Beings' can be found in **Volume 2, Section 12 3, Appendix 3 of the EIS.**

Construction Impacts

The short-term socio-economic impacts that can potentially be generated during the construction phase are considered under the following headings:

- Road Users;
- Facilities and their Users;
- Local Economy;

Road Users

Construction near existing roads can temporarily disrupt road users and the extent of this disruption depends on the type and duration of the works. Works vehicles using or crossing public roads can also disrupt motorists, cyclists and pedestrians.

Facilities and their Users

Local business in the Clondalkin Industrial Estate can be affected by the nuisances of noise and dust during the construction of the facility. The construction phase of the facility may cause temporary disruptions to water and electricity supplies, and disrupt access to properties. Businesses located adjacent to the proposed development are likely to be particularly sensitive to these temporary construction impacts.

Local Economy

Construction of the Sustainable Resource Recovery Facility will generate employment for construction employees and will increase economic activity. Employees at the proposed facility may purchase their lunch at Pop's deli, which is approximately 250m from the proposed development, and this may generate an increased turnover. Local businesses that supply construction goods are likely to also experience an increased turnover.

H.6 Hydrogeology

Attachment included	yes ☒	no ☐	not applicable ☐

Attachment H.6

Construction Impacts and Mitigation Measures

Potential impacts on the geology and hydrogeology during the construction phase of the project are detailed below:

- Contamination of soil and groundwater by leakages and spillages.
- Compaction of soils will occur as a result of construction traffic.
- Blasting for excavation purposes is not anticipated.
- If it is necessary to excavate to below groundwater level, temporary dewatering techniques may need to be employed and this may impact on the local groundwater table.

- Excavation to the groundwater table will have the effect of increasing the vulnerability of the groundwater table to extremely high.

The following mitigation measures should be taken into account:

- Care to be taken while managing construction vehicles to ensure no spillages/leakages escape into the ground.
- Record any local abstractions of the groundwater and monitor during any temporary dewatering on-site.
- Due care to be taken if excavations are to go to the groundwater table to ensure that no spillages/leakages escape into the exposed groundwater.

Residual Impacts and Mitigation Measures

Potential residual impacts on the geology and hydrogeology of the project are detailed below:

- Contamination of soil and groundwater from sensitive activities of the project such as in the vicinity of the tipping areas and handling of waste from around the site including the offices and workshops.
- Compaction of soil and the potential for settlement should be nominal due to the nature of the subsurface conditions.
- Due consideration to be given to the type of backfill material used should excavation proceed to depths at or below the standing water table.

The following mitigation measures should be taken into account.

- All wet wastes which might arise should only be handled on impermeable surfaces to avoid the possibility of groundwater contamination.
- When considering suitable backfill in areas of excavation the material should have permeability equal to or lower than the surrounding material to ensure low vulnerability of the underlying groundwater.

H.7 Landscape

Attachment included	yes ☒	no ☐	not applicable ☐

Attachment H.7

Visual Impact of the Development

Landscape and Visual Impact Assessment was carried out for the EIS by Brady Shipman Martin Ltd. Refer to **Volume 3, Appendix 8 of the EIS**. Given the presence of surrounding warehouse/commercial development and despite the 15.4m height of the main building, the proposal will have no appreciable visual impact beyond the boundaries of the Clondalkin Industrial Estate. The proposed wind turbine has been located centrally within the site and as such will be fairly hidden amongst the surrounding built structures. While limited, certain locations may have line of sight views to the proposed development, especially the upper roof of the main building. In such instances distance and intervening screening or built development together with the nature of the surrounding context will ensure no adverse visual impact or any deterioration to existing views. This would include any views of a passing nature, which may arise from the M50 Motorway to the east.

Within the estate, visual impacts will be most pronounced during the construction stage while general construction and visual disturbance is at its greatest. However, given the industrial context of the

surrounds it is not considered that such construction will have any adverse or result in any deterioration to existing views.

On completion of construction it is considered that there will be no appreciable change or alteration to the visual environment.

Impact on Landscape Character

Setting the development within an existing industrial/commercial area with surrounding buildings comprising a range of heights and uses will ensure that the proposed buildings will be adequately incorporated in to the existing landscape. Therefore it is not anticipated that there will be an impact on existing landscape character. A landscaping master-plan, which has been produced for the development, will help to improve the aesthetic quality of the site when fully mature. Refer to **Volume 3, Appendix 8 of the EIS.**

It is not anticipated that Illumination will have a negative impact in the context of the existing industrial environment of the proposed development.

Other Impacts

There will be no impact on landscape planning aspects. The proposed development avoids, in its entirety, any impact on trees and woodlands to be protected or preserved, amenity, landscape or scenic designations or listed views or prospects.

There will be no impact on trees or woodlands. The entire site is already developed to building, hardstanding and parking use and has no tree or shrub planting. The only planting on or near the site lies along the northern boundary of the site, which runs along the Dublin to Kildare Rail-line. The development does not propose any interference with this boundary planting, which is to be retained in full.

Mitigation Measures

Construction Stage

Contracts will be drawn up in accordance with the Environmental Impact Statement to ensure good working practices that will help reduce any negative impacts arising from the construction period and to ensure that machinery operates within the scheme construction area.

Storage areas should be located so as to avoid impacting on surrounding properties and such areas will be fully re-instated at the end of the construction contract. The works will have continuous monitoring so as to ensure adequate protection of areas outside of the construction works.

Lighting Mitigation

For the purposes of mitigation, it is recommended that horizontal cut-off light fittings should be used to minimise any potential that might exist in terms of increased illumination.

Landscape Mitigation Measures

The following landscape mitigation measures are recommended for the proposed development:

- Avoidance of any impact to the hedgerow boundary with the Dublin to Kildare rail line to the north of the site.
- Upgrade and refurbish existing entrance and fronting boundary wall/railing.
- Carry out heavy standard lime (*Tilia Cordata* 'Greenspire') tree planting within the verge along Crag Avenue.

Residual Impacts
It is considered that, given the 'developed' context of the proposed scheme and the presence of existing roads along much of the proposed scheme, no residual or permanent landscape or visual impacts of an adverse residual nature will arise as a result of the development.

H.8 Noise

Attachment included	yes ☒	no ☐	not applicable ☐

Attachment H.8
RPS Mc Hugh Planning & Environment carried out a Noise Impact Assessment of the proposed development at Crag Avenue. The study was undertaken in June 2003. Detailed information regarding the potential impacts on noise and proposed mitigation measures can be found in **Volume 2, Section 10 and Volume 3, Appendix 6 of the attached EIS**. Some details are given below.

Potential Impacts
When considering a development of this nature, the potential noise impacts on the surrounding environment must be considered for each of two distinct stages; the short-term impact of the construction phase and the longer term impact of the operational phase.

Construction Noise
The construction phase will involve the use of a variety of equipment including excavators, breakers, lifting equipment, dumper trucks, compressors and generators. There will be vehicular movements to and from the site that will, out of necessity, make use of existing roads. All of these construction activities have the potential to generate noise and vibration.

Therefore in order to minimise the impact on nearby sensitive locations, it is usual to limit the times of day and week during which it is permissible to carry out construction work that could create high levels of noise. These are normally set down by the local authority and are typical 08:00 to 18:00 hours Monday to Friday, 09:00 to 13:00 hours on Saturday and none on Sunday or bank / public holidays.
Higher noise levels are generally accepted during the construction phase than the operational phase, as these works are temporary in nature. Furthermore, if construction noise does not exceed the existing ambient noise climate (LAeq) by more than 10dB, it is unlikely to cause complaints.

Operational Noise
Once operational, the main sources of noise impact associated with the development will be additional vehicles on the existing road system, vehicle movements within the site and noise from the operation of the site.

Road Traffic
Increased traffic, particularly from heavy goods vehicles (HGV) during the operational phase of the proposed development, has the potential to increase noise levels at noise sensitive locations along the routes surrounding the site. The nearest residential estates which would potentially be affected by operational traffic are James Connolly Park and Palmerstown Woods along Cloverhill Road and properties along Station Road.

A traffic assessment has been carried out by RPS-MCOS of current and predicated flows at the Crag Avenue site assuming a worse case scenario of the site operating at full capacity. In general the number of

HGV's on surrounding routes is predicated to increase should the development proceed with the number of light good vehicles (LGV's) is predicted to decrease. However it should be noted that RRR employs a combination of HGVs including:

- Skip Loaders – Typically 6m in Length
- Rear End Loaders - Typically 9.7m in Length
- Front End Loaders – Typically 9.7 m in Length
- Articulated Vehicles – Typically 13m in Length

By contrast Crosbie Transcar employs almost exclusively Car Transporters which are typically **16.5m in length**. In addition there is a significant contrast in the level of noise from a car transporter as compared to smaller HGV's. The impact on traffic is very different depending on what type of vehicle is involved – that is why in the EIS, traffic impact was assessed using the 'PCU' (passenger car unit) approach. A chart illustrating the various types of vehicles detailed above is included at the end of this section. .

As stated previously, traffic congestion at peak time is a cause of local concern. RRR plan to stagger their fleet movements so as to limit the number of vehicles travelling on the local access roads during peak hours. This practise reflects current procedures, which are in place at their existing operation at Knockmitten Lane.

Importantly, evening and night-time waste collections are expected to become mandatory for city centre businesses in the future, which will see waste collections and traffic movements increasingly change to off-peak hours. This pattern may also emerge in other parts of the Dublin region.

The numbers of cars using the facility is relatively modest compared with other potential uses of 4.5 ha of industrially zoned land – e.g. manufacturing or assembly facilities - which would generate more peak time car traffic and noise from workers.

Waste Transfer Facility

The operation of the waste transfer facility will involve the delivery, sorting, baling and storing of waste materials. Each on-site process has the potential for noise generation. The combined noise level from all sources operating within the facility has been assessed assuming all machinery is operating simultaneously for 100% of the time. In order to ensure that noise levels from the operation of the facility do not significantly impact the nearest residential properties, reference has been made to BS4142 1997 '*Method for rating industrial noise affecting mixed residential and industrial areas*'. It is proposed that the specific noise from combined operating equipment do not increase existing background noise levels at the nearest noise sensitive locations by more than 5dB(A). The lowest background day time noise level was 49dB LA90 measured at location N4. Location N5 recorded the lowest night time background level of 43dB LA90. Therefore if operating noise from the facility does not exceed 54dB LAeq during the day time period and 48dB LAeq during the night time period at the nearest residences, the operational noise impact will be of marginal significance.

Mitigation

Of the likely impacts described above, the greatest potential impact will be from construction works, and increased traffic flows.

Construction Phase

With regard to construction activities, the main contractor will need to refer to BS5228: *Noise control on construction and open sites*, which offers detailed guidance on the control of noise from construction activities.

It is proposed that various practices be adopted during construction, including:

- limiting the hours during which site activities likely to create high levels of noise or vibration are permitted. These should be clearly outlined in the contractors document and specified by South Dublin County Council;
- selection of plant with low inherent potential for generation of noise and/or vibration;
- erection of temporary barriers around items such as generators or high duty compressors;
- siting of noisy/vibratory plant as far away from sensitive properties as permitted by site constraints and the use of vibration isolated support structures where necessary.

Controlling noise from construction works at neighbouring dwellings to no more than 10dB greater than the existing ambient (LAeq) noise levels will normally ensure local residents are not significantly impacted by noise. With regard to the existing noise levels noted previously, if construction noise does not exceed 72dBLAeq at location N4, the quietest location, noise impacts will be minimal. Although not quantified at this stage, the number of additional vehicles associated with the construction works is not expected to affect the present road traffic noise levels.

Operational Phase

During the operational phase of the development, the total noise from all internal operations should be designed to not significantly affect the existing ambient noise over both day and night time periods. If the equivalent continuous sound level (LAeq) of the plant noise at the nearest noise sensitive premises is limited to 54dB(A) during the daytime period (08:00 to 22:00 hours) and 48dB(A) during the night time period (22:00 to 08:00 hours) the impact of noise from this source will be not significant. Predictions of typical noise levels from the operation of the facility have been assessed with reference to previous measurements made on the existing Greyhound Recycling & Recovery Ltd. site at Knockmitten Lane. It is anticipated that with attenuation provided by the building construction and distance attenuation between the site boundary and the nearest residential properties, this guidance level will be achieved.

With respect to any mechanical plant required to service the building, the following mitigation measures may be applied:

- Air handling plant if required should be located at roof level and adequately screened by the use of acoustic louvres and acoustic enclosures.
- Generator (standby and peak usage) if required should be located at ground level. The use of acoustic screens at the perimeter of plant area and adequate noise control to the unit should be considered.

It is also proposed that the following noise and vibration control principles will be employed:

- splitter attenuators or acoustic louvres providing free ventilation to plant areas;
- solid barriers screening any external plant;
- anti-vibration mounts on all reciprocating plant.

Residual impact

Construction Phase

During the construction phase of the project the noise impact will vary depending on the location of noise sensitive properties to the development. Limiting noise levels to 72dB LAeq at the most sensitive

dwelling surrounding the development site (Location N4) through the use of guidelines within BS5228 and limited hours of operation, will ensure noise during this short term phase is kept to a minimum.

Operational Phase

Once fully operational, traffic flows along surrounding routes will not experience any significant increase in noise levels above those predicated for the "do nothing" scenario.

A worst-case scenario would entail the full operation of the development with all plant operating continuously at full load. This has been assessed within the body of the report. The operation of the development is not predicated to give rise to any significant increases in traffic noise levels along surrounding routes. Noise from operational equipment and mechanical services are additional potential noise sources from the development. The operation of mechanical and electrical plant during worst-case scenario would be the same under normal operating conditions. With careful site design and the use of proven noise control techniques, noise from this source will be kept to a minimum.

H.9 Discharge to Surface Water

Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

In order to prevent or reduce the potential risk of contamination of water quality in adjacent watercourses a number of steps will be incorporated into the design and construction phase as well as the operational phase. It is a requirement of the Eastern Regional Fisheries Board that proper attenuation measures and petrol/oil interceptors are installed to ensure only clean uncontaminated surface waters discharge to the public surface water network. The main operational warehouse will not release any leachate since waste is predominately dry packaging. All waste will be handled on impermeable surfaces. Any spills will be collected by the on-site suction sweeper and disposed of off-site.

The existing storm water drainage system on the site is sufficient in its capacity to efficiently collect precipitation falling on the site during flood events. The receptor for all drainage from the site is the River Camac. Silt trap and by-pass interceptor when installed will help improve the water quality of the discharge.

In compliance with requirements of South Dublin County Council, attenuation measures will be installed to limit peak discharge of storm water to 6 l/s/ha for a 20-year return period rainfall event. This will be achieved either by an attenuation tank and flow limiting device, or alternatively by the use of permeable paving systems in car park and hardstanding areas. Refer to **Additional Attachment D.1.K** for design details of each system and drawings **DG0015, DG0017 and DG0018 in Appendix A.**

Rainwater Collection and Reuse

It is proposed to collect and reuse roof and surface runoff from the proposed MRF to minimise water consumption. It is proposed that roof water will be filtered using inline down pipe filters. The water will then be drained to an underground tank, downstream of the silt-trap and by-pass interceptor and upstream of the attenuation structure. The water would be further filtered on the pump intake. Water would be distributed to the truck wash and to taps in the MRF. The outlet for rainwater will be clearly labelled as "non-potable" and used for washing and for road sweepers etc.

Should the level of the tank drop below the daily demand it would be topped up by a connection to the water main. During long periods of rainfall excess water will be spilled to the surface water network. It is estimated that the rainwater system will cater for approximately 50% of all washing needs outside of prolonged dry spells.

Attachment H.8

Vehicle Chart

The proposed use of this rainwater is for truck washing and cleaning only and the pipework and tappings will be marked as such.

Refer to Drawings **DG0015** (for location details) and **DG0018** (for cross-sectional details of the tank) in **Appendix A** .

H.10 Discharge to Sewer

Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

Attachment H10

Impacts

It is not envisaged that discharges from the facility to the foul sewer will cause any significant impacts on the environment. Apart from 'domestic' wastewater (from washing facilities, sinks and toilets), these discharges consist only of washings from trucks and cars entering and exiting the facility and therefore do not contain any noxious pollutants.

Mitigation Measures

It is proposed to place a silt trap and an interceptor followed by a sampling chamber before the point of discharge of the wash-bay to foul sewer. The sampling chamber will be used to collect a sample of discharge to monitor for quality and flow rates of the discharge according to values specified by the agency. The silt trap will prevent significant amounts of silt from being carried to foul sewer. The interceptor will also prevent the possibility of fats, oils and greases from being carried to foul sewer and hence prevent the possibility of discharges with a high BOD and COD loading. Refer to **Drawing DG0015** for location details.

Typical RRR Fleet

Typical Skip truck ~ 6m in length.

Typical RORO vehicle ~ 8m in length.

Typical FEL vehicle ~ 10m in length.

Typical RRR Fleet

Existing Crosbie Fleet

Typical Car Transporter ~ 16m in Length

Typical REL vehicle ~ 10m in length.

Typical Artic vehicle ~ 13m in length.

Typical Export Container ~ 10m in length.

I. MANAGEMENT PLANS

Applications for existing facilities should include a Conditioning Plan which should be consistent with all other details in the application. Additional advice on completing this section is provided in the *Guidance Note.*

I.1 Conditioning Plan

Attachment I.1 should comprise the Conditioning Plan. All facilities currently accepting wastes should submit a Conditioning Plan for the upgrading of existing operations and for continual improvement in environmental performance.

Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

Attachment I.1
A Conditioning Plan describes the measures to be taken to improve the operation of an existing facility and its impact on the surrounding environment. When the facility is in full operation a conditioning plan will be prepared and submitted to the EPA within 12 months. However some of the main areas for improvement will include:

- The area will be fully landscaped within 12 months.
- An interceptor for wastewater and surface water will be built in 4 months of the facility being fully commissioned.
- The site entrance will be upgraded, improving turning movements and sightlines for all vehicles.
- The site boundary fence will be upgraded.

I.2 Environmental Management System (EMS)

If the facility is an existing one and if an Environmental Management System has been developed, copies of such a system should be included with the application as should any other relevant written operating procedures associated with the facility.

Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

Attachment I.2
An Environmental Management System encompassing the whole facility will be made available to EPA within 12 months of operation.

J. ENVIRONMENTAL MONITORING

Programmes for environmental monitoring should be submitted as part of the application. These programmes should be provided as **Attachments J.1 to J.9**. Monitoring programmes for the Construction, Operation and Post-Closure Phases should be included. Monitoring programmes to be included are listed below. Additional advice on completing this section is provided in the *Guidance Note*. A drawing showing the locations of all monitoring points should be provided.

Monitoring Locations
All proposed monitoring locations for the facility are given in the table below and identified on drawing, **DG0016 in Appendix A.**

Dust	Foul Water	Noise	Surface Water
D1	F1	N1	SW1
D2		N2	
		N3	
		N4	
		N5	

J.1 Dust

Monitoring Programme specified	**yes** ☒	**no** ☐	**not applicable** ☐
Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

Attachment J.1 Dust
It is recommended that the monitoring of dust particles and deposition on-site be undertaken three times a year. The specifications and locations of the monitoring program are set out in the table below.

Parameters	Monitoring Locations	Monitoring Frequency	Analytical Methods
Dust ($mg/m^2/day$)	D1 Note 1 D2. Note 2	Three times annually	Standard Method - VDI2119

Note 1: D1:- Site entrance
Note 2: D2:- Eastern boundary next to facility warehouse

J.2 Ecological

Monitoring Programme specified	**yes** ☐	**no** ☐	**not applicable** ☒
Attachment included	**yes** ☐	**no** ☐	**not applicable** ☒

J.3 Groundwater

Monitoring Programme specified	**yes** ☐	**no** ☐	**not applicable** ☒
Attachment included	**yes** ☐	**no** ☐	**not applicable** ☒

J.4 Air

Monitoring Programme specified	**yes** ☐	**no** ☐	**not applicable** ☒
Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

Attachment J.4 Air

Base line air quality monitoring regarding Benzene, SO_2, NO_2, and PM_{10} concentrations at locations in the vicinity of the proposed facility was carried out and the results of which are available in **Volume 2 Section 9.3 of the attached EIS**. Generally, the results showed the air quality was typical of an industrial estate and a screening model predicted that the pollutant concentrations in the immediate vicinity of the site will not be adversely affected by the operation of the proposed facility. Therefore, no regular monitoring for air quality is proposed.

Sewer Discharge

Monitoring Programme specified	**yes** ☒	**no** ☐	**not applicable** ☐
Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

Attachment J.5 Sewer Discharge

The flow and quality of the discharge from wash-bay to foul sewer will be monitored according to the specifications for quality parameters and flow rates stipulated by the Agency.

J.6 Meteorological Data

Monitoring Programme specified	**yes** ☐	**no** ☒	**not applicable** ☒
Attachment included	**yes** ☐	**no** ☒	**not applicable** ☒

J.7 Noise

Monitoring Programme specified	**yes** ☒	**no** ☐	**not applicable** ☐
Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

Attachment J.7 Noise

The site is generally isolated from noise sensitive locations. The nearest residential premises are located along station road and within James Connolly Park to the western site boundary approximately 500m from the site.

During the construction phase even though there will be increased vehicular traffic to the construction site, the number of additional vehicles is unlikely to have any affect on the existing flows of traffic on Cloverhill Road and Station Road. Consequently the existing noise climate will remain nominally unaffected during this stage and therefore no additional noise monitoring will be required.

Operational noise monitoring locations are given in the table below. See also **Figure 10.1 in Section 10.3.2,Volume 2 of the attached EIS for exact monitoring locations.**

Parameter	Monitoring Location Note 1	Monitoring Frequency Note 2	Analytical Methods Note 3
L $(A)_{EQ}$ [30 minutes]	N1, N2, N3, N4, N5	Annually	Standard
L $(A)_{10}$ [30 minutes]	N1, N2, N3, N4, N5	Annually	Standard
L $(A)_{90}$ [30 minutes]	N1, N2, N3, N4, N5	Annually	Standard
Frequency Analysis (1/3 Octave band analysis)	N1, N2, N3, N4, N5	Annually	Standard

Note 1: N1 Along entrance gates to the site
N2 Mid eastern boundary adjacent to warehouse units in neighbouring site.
N3 Mid western site boundary adjacent to workshop of neighbouring facility
N4 Palmerstown woods
N5 James Connolly Park

Note 2: To be carried out for both daytime and night time operations.

Note 3: International Standards Organisation ISO 1996. Acoustics- description and measurement of environmental noise. Parts 1, 2 and 3.

J.8 Odours

Attachment J.8 Odour

No regular monitoring for odours is proposed. However if complaints of malodours are received from occupiers of the industrial units near the site boundary these will be investigated on a case by case basis. The recommended waste management practices should minimise the need to undertake ambient short-term monitoring.

Monitoring Programme specified	**yes** ☒	**no** ☐	**not applicable** ☐
Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

J.9 Surface Water

Attachment J.9 Surface Water

Monitoring for surface water will take place at the point of discharge to the Receptor- that being the local authority surface water drainage pipe on Crag Avenue. The following surface water monitoring programme for the proposed facility is given in the table below:

Parameter	Monitoring Location Note 1	Monitoring Frequency	Analytical Methods
PH	SW1	Quarterly	Electrometry
Biological Oxygen Demand & Chemical Oxygen Demand	SW1	Quarterly	Standard Method Note 2
Suspended Solids	SW1	Quarterly	Standard Method Note 2
Mineral Oils	SW1	Quarterly	Standard Method Note 2
Fats, Oils and Grease	SW1	Quarterly	Standard Method Note 2

Note1: SW1:- At point of discharge to Surface Water network

Note 2: "Standard methods for the Examination of Water and Wastewater".

Monitoring Programme specified	**Yes** ☒	**no** ☐	**not applicable** ☐
Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

K. CONTINGENCY ARRANGEMENTS

Describe the existing or proposed measures, including emergency procedures, to prevent unauthorised or unexpected emissions and minimise the impact on the environment of any such emissions. Additional advice on completing this section is provided in the *Guidance Note*.

Attachment K.1 should contain the documentation requested above. The information should be summarised in the standard form supplied. Emergency procedures should be numbered and referenced to in the standard form.

Attachment K.1

The following emergency procedures will be followed in the event of an emergency situation arising on the site. An emergency situation would be a

(e) fire on the site

(f) a spill of fuel or other contaminants

(g) a serious accident

(h) an explosion or discovery of a suspicious item etc.

Fire Emergency Procedures

1. Evacuate immediate area within the site. Inform other site users.
2. Remain upwind of hazard area.
3. Contact the safety/site supervisor and advise them that an emergency situation has occurred and give them details of the emergency situation. The site/safety supervisor will: -
   - Assess the situation and decide whether or not to use fire extinguishers/water hoses on-site to quench any minor fire incident. For all other situations the Fire Brigade, Ambulance or Gardaí will be contacted by dialling the Emergency 999 number.
   - Ensure that the site entrance and facility roads are not obstructed or blocked by parked vehicles, which could prevent the emergency vehicles gaining access to the site.
   - Prevent all vehicles from entering the site
4. All personnel on the site will report to the Designated Assembly Point where the site supervisor can confirm that all personnel are accounted for.
5. Inform the Emergency Services on their arrival of the diesel and oil store on-site and the presence of any hazardous wastes on-site. All areas of the site shall remain closed until the Safety/Site Supervisor gives the all clear.
6. All areas of the site shall remain closed until the safety site operator gives the all clear.

Contamination Spill

In the event of a contamination spill on-site the following procedures will be followed:

1. Contact the site supervisor and advise that a chemical/contamination spill has occurred.

2. The site supervisor will assess the situation and decide on the appropriate action. If necessary other emergency bodies such as the Fire Brigade, the Gardaí, Ambulance and South Dublin County Council will be contacted.

3. In the event of a major spillage, the containment booms will be removed from storage and placed around the spill area. The area will be then treated with spill/contaminant absorbing material. When all contaminants have been absorbed the material will be removed from site and the area thoroughly cleaned. The decision to remove the booms will be made by the site/safety supervisor only. If the situation demands, the site will remain closed while the site clean-up is in operation.

4. In the event of a minor spillage the use of the containment booms may not be required. The spill absorbing material should be used as required and the area thoroughly cleaned afterwards.

Site/Industrial Accident

In the event of an accident on-site the following procedures should be followed:

- In the event of a serious accident occurring on-site the first aid officer will be contacted immediately. Another member of staff should contact the emergency services by dialling 999. The casualty will be attended to with due care until the arrival of the emergency services.
- If a minor accident occurs on-site, the first aid officer will be contacted and the casualty brought to the site office for treatment. The site first aid box will be stored carefully in the site office and all staff informed of its whereabouts.

Emergency Contact Numbers

A list of the emergency numbers as shown in the table below will be posted in a prominent position for all staff members. The following locations should all have a copy of the notice:

- Administration Office
- Traffic Control Centre /Security
- Entrance and exits points of the resource recovery warehouse
- Workshop
- Staff Quarters

Table 1: Emergency Numbers

Emergency Service	Emergency Number	Local Number
Fire Brigade	999	01 4571155
Gardai	999	01 6667600
Ambulance	999	01 6709111

Recording/Reporting of Emergencies and Accidents

Attachment included	yes ☒	no ☐	not applicable ☐

A log of any such emergencies of accidents will be kept by the site supervisor and retained at the site office. The Agency will also be notified and a written report then sent to the Agency in due course.

L. STATUTORY REQUIREMENTS

This section refers to the applicant's compliance with s40(4) of the Waste Management Act. Additional advice on completing this section is provided in the *Guidance Notes*.

L.1 Offences and Convictions

Note: this section only applies to applicants who are not local authorities.

Has the applicant or another relevant person* been convicted under the Waste Management Act 1996 of offences as prescribed in Regulations.

Yes ☐ No ☒

* examples of persons who fall within the definition of "another relevant person" are employees of the applicant or directors, managers, secretaries or other similar officers of the applicant.

If yes, give full details of each offence:

Offence	Person/Body Corporate	Date	Court	Fine	Costs

The possession of significant offences may preclude an applicant from successfully applying for a waste licence. Hence an applicant possessing convictions under the 1996 Act should carefully set own any factors which the Agency should take into account in assessing whether the applicant should be allowed to hold a licence.

Attachment L.1 should contain the documentation requested above, along any relevant additional information.

Attachment included	yes ☐	no ☐	not applicable ☒

L.2 Technical Competence and Site Management

Details of the applicant's experience and qualifications, along with that of other relevant employees, should be summarised as shown below. Statements of duties, responsibilities, experience and qualifications should be submitted for each position named below. Additional information, including the management structure and an organisational chart, should be included in **Attachment L.2.**

Attachment L2

GRR Organisational Chart

L.3 Financial Provision

Attachment included	yes ☒	no ☐	not applicable ☐

Attachment L.2 Technical Competence and Site Management

The table below gives details of duties and qualifications of site management and personnel within the company. The page overleaf also gives a flow chart of the overall organisation within the company.

Name	Position	Duties and Responsibilities	Experience /Qualifications
Brian Buckley	Director	Overall management of site	10 years experience & FAS Waste course
Michael Buckley	Director	Overall management of site	10 years experience & FAS Waste course
Eugene Doyle	General Manager	Management of site operations	15 years experience
Olivier Gaillot	Environmental &Quality Manager	EPA licence compliance, Health & Safety, Environmental Management - ISO9000, ISO14001	10 years experience & FAS Waste course
Lucy Fagan	Traffic Manager	Management of drivers, weighbridge & weigh sheets	Over 5 years experience in service/ fleet management FAS Waste course
Angie Clissold	Logistic Manager	Management of waste operatives, cleaning staff, Quality Control of incoming and out coming loads	10 years experience in waste management industry
Moira O'Riordan	Administration Manager	Office Administration	10 years experience
Chris Roe	Maintenance Manager	Maintenance & Management of fitters, welders	10 years experience

The Waste Management Act 1996 requires all applicants to demonstrate to the Agency that they are in a position to meet any financial commitments or liabilities incurred by the carrying on of the disposal activities relating to this application. Information to show compliance with section 40(7)(c) of the Waste Management Act of 1996 with regard to **private companies** should be provided and should include details as set out in the *Guidance Note.*

Attachment L.3 should contain the documentation requested above and any relevant additional information.

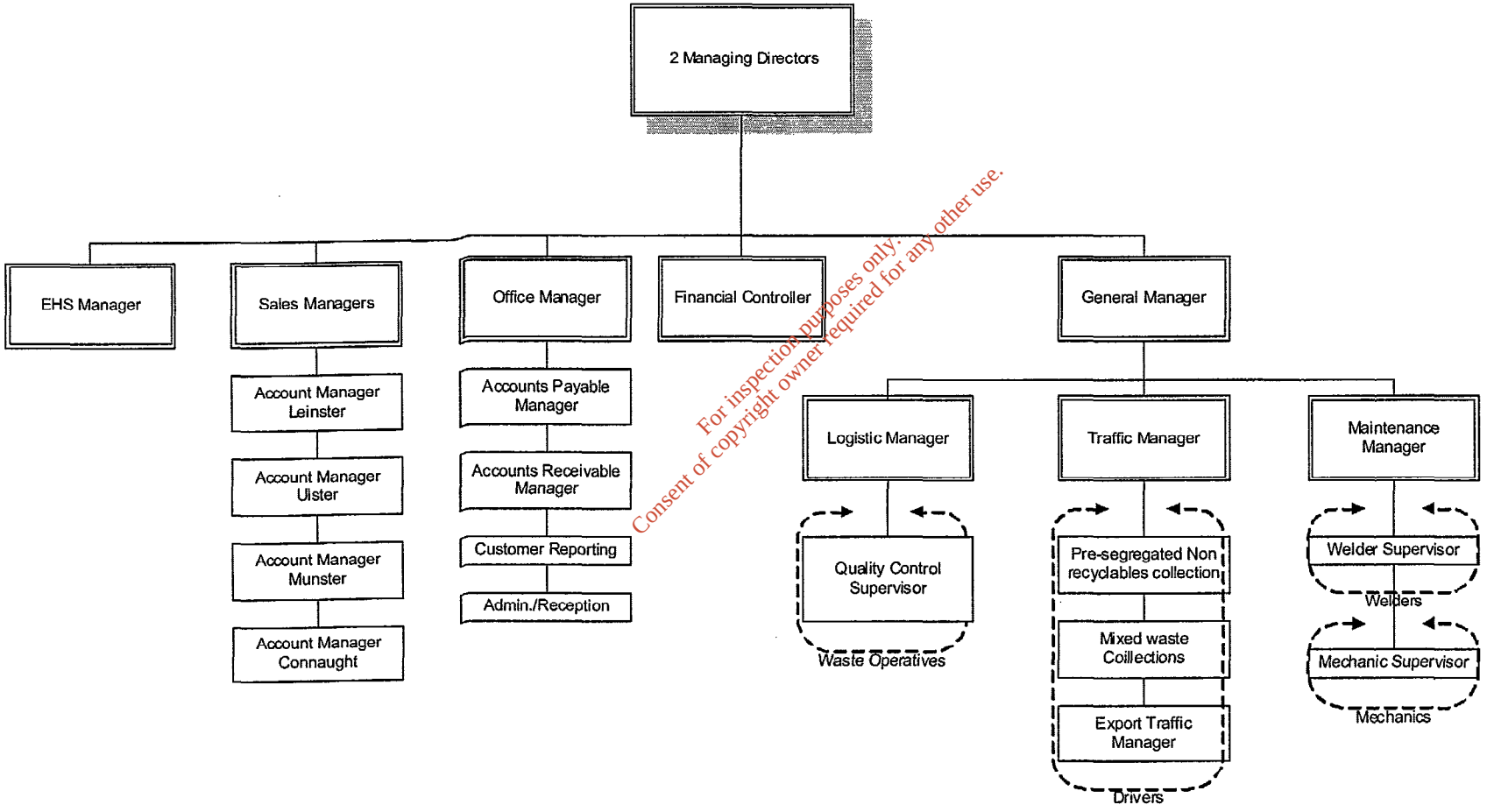
Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

Attachment L.3 Financial Provision

GRR conducts its affairs in a professional and exemplary manner and has sufficient funds to own and operate the facility. Financial provisions may be required for decommissioning, aftercare and environmental pollution incidents. GRR are fully aware of their responsibilities in this matter and are committed to providing the necessary finances should the need arise.

Confirmation of the sound financial standing of GRR is included in attachment L3.

Greyhound Recycling & Recovery
Head Office Organisation Chart



Attachment L3

Bank Reference

AIB Bank

Naas Road Business Bank
Naas Road
Dublin 22

Telephone (01) 403 4284
Facsimile (01) 464 1644
www.aib.ie

12th December 2003

TO WHOM IT MAY CONCERN

Re: Greyhound Recycling & Recovery Ltd
formally known as Reduce, Reuse & Recycle Ltd

The above Company is a long standing client of AIB Bank and has always conducted its affairs in a professional and exemplary manner.

This is a properly constituted private limited company, the management of which are highly honourable and trustworthy and we would consider this company to be of sound financial standing.

This information is given in strict confidence for private use only, and without any guarantee of responsibility on the part of the Bank or any of its officials

M. CHECKLIST

Articles 12 and 13 of the Waste Management (Licensing) Regulations, 1997 (S.I. No. 133 of 1997) set out the information which must, in all cases, accompany a waste licence application. In order to ensure that the application fully complies with the legal requirements of Articles 12 and 13 of the 1997 Regulations, all applicants should **complete** the following. In each case, refer to the attachment number(s) of your application which contain(s) the information requested in the appropriate sub-article.

Article 12(1) In the case of an application for a waste licence, the application shall -

(a) give the name, address and, where applicable, any telephone number and telefax of the applicant and, if different, any address to which correspondence relating to the application should be sent and, if the applicant is a body corporate, the address of its registered or principal office,

LOCATION	B1	
CHECKED	Applicant ☒	Official ☐

(b) give the name of the planning authority in whose functional area the relevant activity is or will be carried on,

LOCATION	B3	
CHECKED	Applicant ☒	Official ☐

(c) in the case of a discharge of any trade effluent or other matter (other than domestic sewage or storm water) to a sewer of a sanitary authority, give the name of the sanitary authority in which the sewer is vested or by which it is controlled,

LOCATION	B4	
CHECKED	Applicant ☒	Official ☐

(d) give the location or postal address (including where appropriate, the name of the townland or townlands) and the National Grid reference of the facility or premises to which the application relates,

LOCATION	B2	
CHECKED	Applicant ☒	Official ☐

(e) describe the nature of the facility or premises concerned including, in the case of an application in respect of the landfill of waste, the geological and hydrogeological nature of the land,

LOCATION	D2	
CHECKED	**Applicant** ☒	**Official** ☐

(f) specify the class or classes of activity concerned, in accordance with the Third and Fourth Schedules of the Act,

LOCATION	B6	
CHECKED	**Applicant** ☒	**Official** ☐

(g) specify the quantity and nature of the waste or wastes which will be recovered or disposed of,

LOCATION	B8	
CHECKED	**Applicant** ☒	**Official** ☐

(h) specify the raw and ancillary materials, substances, preparations, fuels and energy which will be utilised in or produced by the activity,

LOCATION	E5	
CHECKED	**Applicant** ☒	**Official** ☐

(i) describe the plant, methods, processes and operating procedures for the activity,

LOCATION	E6 & D2	
CHECKED	**Applicant** ☒	**Official** ☐

(j) provide information for the purpose of enabling the Agency to make a determination in relation to the matters specified in paragraphs (a) to (d) of section 40(4) of the Act,

LOCATION	A.1.6	
CHECKED	**Applicant** ☒	**Official** ☐

(k) give particulars of the source, location, nature, composition, quantity, level and rate of emissions arising from the activity and, where relevant, the period or periods during which such emissions are made or are to be made,

LOCATION	A.1.7 & H1	
CHECKED	**Applicant** ☒	**Official** ☐

(l) give details, and an assessment of the effects, of any existing or proposed emissions on the environment, including any environmental medium other than that into which the emissions are to be made,

LOCATION	F1, F3 & F6	
CHECKED	**Applicant** ☒	**Official** ☐

(m) identify monitoring and sampling points and indicate proposed arrangement for the monitoring of emissions and the environmental consequences of any such emissions,

LOCATION	A.1.8 & J1 – J9	
CHECKED	**Applicant** ☒	**Official** ☐

(n) describe any proposed arrangements for the off-site treatment or disposal of solid or liquid wastes,

LOCATION	A.1.9	
CHECKED	**Applicant** ☒	**Official** ☐

(o) describe the existing or proposed measures, including emergency procedures, to prevent unauthorised or unexpected emissions and minimise the impact on the environment of any such emission,

LOCATION	F1, F3, F6 & K1	
CHECKED	**Applicant** ☒	**Official** ☐

(p) describe the proposed measures for the closure, restoration, remediation or aftercare of the facility concerned, after the cessation of the activity in question,

LOCATION	A.11 ,G1 & G2	
CHECKED	Applicant ☒	Official ☐

(q) give a non-technical summary of information provided in relation to the matters specified in paragraphs (e) to (p) of this subsection,

LOCATION	A1	
CHECKED	Applicant ☒	Official ☐

(r) state whether the activity is for the purposes of an industrial activity or isolated storage to which Regulations 12 to 18 of the European Communities (Major Accident Hazards of Certain Industrial Activities) Regulations, 1986 (S.I. No. 292 of 1986), as amended by the European Communities (Major Accident Hazards of Certain Industrial Activities)(Amendment) Regulations, 1989 (S.I. No. 194 of 1989) and the European Communities (Major Accident Hazards of Certain Industrial Activities)(Amendment) Regulations, 1992 (S.I. No. 21 of 1992) apply,

LOCATION	B9	
CHECKED	Applicant ☒	Official ☐

Article 12(3) Without prejudice to Article 13(1), an application for a licence shall be accompanied by -

(a) a copy of the relevant page of the newspaper in which the notice in accordance with article 6 has been published,

LOCATION	B.5	
CHECKED	Applicant ☒	Official ☐

(b) a copy of the text of the site notice erected or fixed in accordance with article 7,

LOCATION	B.5	
CHECKED	Applicant ☒	Official ☐

PROVIDED Y/N	Y	
CHECKED	Applicant ☒	Official ☐

Article 13 Where a development requires an Environmental Impact Assessment to be carried out, 15 copies of the environmental impact statement should accompany this application.

EIA REQUIRED ? Y/N	Y	
CHECKED	Applicant ☒	Official ☐
15 COPIES OF EIS INCLUDED ? Y/N	Y	
CHECKED	Applicant ☒	Official ☐
LOCATION	Enclosed	
CHECKED	Applicant ☒	Official ☐

(c) where appropriate, a copy of the notice given to a local authority under article 9,

LOCATION	B3	
CHECKED	**Applicant** ☒	**Official** ☐

(d) a copy of such plans, including a site plan and location map, and such other particulars, reports and supporting documentation as are necessary to identify and describe, as appropriate -
(i) the position of the notice in accordance with article 7,

LOCATION	Appendix A (DG0012,13, 14)	
CHECKED	**Applicant** ☒	**Official** ☐

(ii) the point or points from which emissions are made or are to be made, and

LOCATION	Appendix A (DG0015)	
CHECKED	**Applicant** ☒	**Official** ☐

(iii) the point or points at which monitoring and sampling are or are to be undertaken,

LOCATION	Appendix A (DG0016)	
CHECKED	**Applicant** ☒	**Official** ☐

(e) such fee as is appropriate having regard to the provisions of articles 41 and 42.

INCLUDED Y/N	Y	
CHECKED	**Applicant** ☒	**Official** ☐

Article 12(4)(a) An application shall be accompanied by 5 copies of the application and of all accompanying documents and particulars as required under sub article (3).

N. DECLARATION

Declaration

I/we hereby make application for a licence/revised waste licence, pursuant to the provisions of the Waste Management Act 1996 and Regulations made there under.

I/we certify that the information given in this application is truthful, accurate and complete (see note below).

I/we have no objection to the provision by the Agency or local authority of a copy of the application or parts thereof to any person.

Signature:	Michael		
Print name:	MICHAEL	BUCKLEY	
Date:	07-04-04		
Position in organisation:	DIRECTOR		
On behalf of (name of organisation):	GREYHOUND	RECYCLING &	RECOVERY

Note:

- *in the case of a partnership, all partners should sign the declaration; and,*
- *if the application is signed by an agent/consultant, the proposed licence holder must also sign and date the declaration.*

Company/local authority stamp or seal:

Note: Applicants are advised that a person who makes a statement in a licence application which is false or misleading is guilty of an offence under s45 of the Waste Management Act 1996. The contravention of this section may lead to a fine or, if convicted on indictment, imprisonment or a fine or both.

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