

Waste Licensing, Environmental Protection Agency, P.O. Box 5000, Johnstown Castle Estate, County Wexford. ENVIRONMENTAL PROTECTION
AGENCY
2 2 SEP 2008

Oxigen Environmental Ltd 3 Williamsons Place Dundalk Co. Louth Ireland

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admin@oxigen.ie MAIL www.oxigen.ie WEB

19th September 2008

Re: Waste Licence Application for proposed Integrated Recycling Facility at Corranure, Co. Cavan by Oxigen Environmental Ltd.

Dear Sir/Madam,

Please find enclosed a Waste Licence Application and accompanying Environmental Impact Statement for the development of an Integrated Recycling Facility at Corranure landfill in Co Cavan. A cheque in the amount of €40,000 is attached in respect of the application fee.

The Waste Licence Application is presented in one volume.

Included is one original and two copies of the Waste Licence Application and 2 copies on CD.

The Environmental Impact Statement (EIS) is presented in four parts, namely:

- Non-technical summary
- Main EIS Report
- Appendices
- Drawings

We have enclosed three hard copies of the EIS and 18 soft copies of the EIS on CD as required.

In September 2007 Cavan County Council entered into a Contract for Sale Agreement with a third party private waste management firm, Oxigen Environmental Ltd, whereby Cavan County Council agreed to sell certain lands in the townlands of Corranure and Lismagratty subject to the necessary licences and planning permissions being in place. The lands to be sold subject to the contract terms include Cell 3 and Cell 4 at Corranure Landfill which are currently licensed under the existing Waste Licence W0077-02.

Oxigen is a trademark of Oxigen Environmental Limited incorporating Wheel Bin Services Limited Registered in Ireland No. 315604



Directors
Sean Doyle
Peter McLoughlin
Mary Doyle
Aidan Doyle
Gerry Fee
Denis Cremins

The Agreement includes for a sharing of leachate and landfill gas infrastructure by both parties with the landfill gas flare units and the leachate storage tank and lagoon remaining in their existing locations on lands to be transferred to Oxigen Environmental Ltd. under the terms of the Contract for Sale Agreement.

In September 2007 Cavan County Council also entered into a Concession Agreement with Oxigen Environmental Ltd. to allow Oxigen Environmental Ltd. operate the existing landfill facility as an interim arrangement until the contract of sale is completed or terminated.

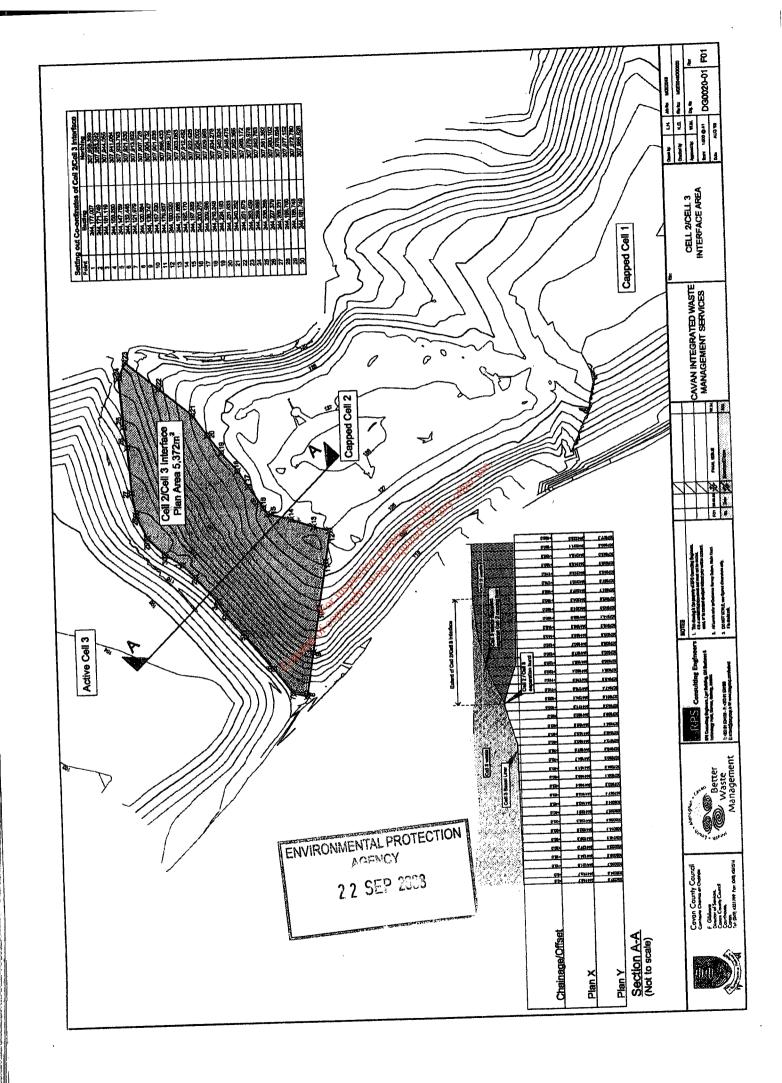
In September 2008 Cavan County Council and Oxigen Environmental Ltd. both entered into a separate legal contractual agreement whereby both parties agree to offer the EPA joint and several liability in respect of any environmental issue relating to the Cell 2 / Cell 3 Interface Area as defined by the attached drawing DG 0020-01 Rev F01.

Yours Sincerely,

Joan Harrington

Consent of copyright owner required for any other Oxigen Environmental Ltd

EPA Export 26-07-2013:01:35:01



Oxigen Environmental Ltd.



Cavan Integrated Recycling Facility, Corranure, Co. Cavan



Waste Licence Application September 2008



Waste Licence Application Form



This document does not purport to be and should not be considered a legal interpretation of the provisions and requirements of the Waste Management Acts 1996 to 2003.

Environmental Protection Agency
P.O.Box 5000, Johnstown Castle Estate, County Wexford
Telephone: 053-60600 Fax: 053-60699

Environmental Protection Agency Application for a Waste Licence

WASTE MANAGEMENT ACTS 1996 to 2003

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INTRODUCTION

A valid application must contain the information prescribed in the Waste Management (Licensing) Regulations 2004 (SI No. 395 of 2004). The applicant is strongly advised to read the Application Guidance Notes for Waste Licensing, available from the EPA.

The applicant must conform to the format set out in the guidance notes for applications. 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. The basic information should for the most part be supplied in the spaces given in application form and any supporting documentation should be supplied as attachments, as specified. Consistent measurement units must be used throughout.

The applicant should note that the application form has been structured so that it requires information to be presented in an order of progressive detail.

When it is found necessary, additional information may be provided on supplementary attachments which should be clearly cross referenced with the relevant sections in the main document.

While all sections in the application form may not be relevant to the activity concerned, the applicant should look carefully through all aspects of the form and provide the required information, in the greatest possible detail.

All maps/drawings/plans must be no larger than A3 size and scaled appropriately such that they are clearly legible. In exceptional circumstances, where A3 is considered inadequate, a larger size may be requested by the Agency.

Information supplied in this application, including supporting documentation will be put on public display and open to inspection by any person. Should the applicant consider information to be confidential, this 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". In the event that information is considered to be of a confidential nature, then the nature of this information, and the reasons why it is considered confidential (with reference to the "Access to Information on the Environment" Regulations) should be stated in the Application Form, where relevant.

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.

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Articles 12 and 13 of the Waste Management (Licensing) Regulations, 2004 (S.I. No. 395 of 2004) 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 2004 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, the operator of the facility concerned), the address to which correspondence relating to the application should be sent and, if the applicant or operator is a body corporate, the address of its registered office or principal office,

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

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(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,

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(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,

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(e) describe the nature of the facility or premises concerned, including the proposed capacity of the facility or premises, and in the case of application in respect of a landfill of waste, the requirements specified in Annex 1 of the Landfill Directive,

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(f) specify the class or classes of activity concerned, in accordance with the Third and Fourth Schedules of the Act, and in the case of an application in respect of the landfill of waste, specify the class of landfill in accordance with Article 4 of the Landfill Directive,

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(g) specify, by reference to the relevant European Waste Catalogue codes as presented by Commission Decision 2000/532/EC of 3 May 2000, the quantity and nature of the waste or wastes which will be treated, recovered or disposed of,

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

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(i) describe the plant, methods, processes, ancillary processes, abatement, recovery and treatment systems and operating procedures for the activity,

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

LOCATION		
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(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,

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(l) give details, and an assessment of the effects, of any existing or proposed emissions on the environment, including any environmental medium other than those

into which the emissions are, or are to be made, and of proposed measures to prevent or eliminate or, where that is not practicable, to limit or abate such emissions,

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

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(n) describe any proposed arrangements for the prevention, minimisation and recovery of waste arising from the activity concerned,

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

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(p) 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.

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

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- (r) in the case of an application in respect of the landfilling of waste, give particulars of -
- (i) such financial provision as is proposed to be made by the applicant, having regard to the provisions of Articles (7)(i) and (8)(a)(iv) of the Landfill Directive and section 53(1) of the Act, and

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(ii)	such charges as are proposed or made,	having regard to the requirements of
sect	tion 53A of the Act,	

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(s) state whether the activity is for the purposes of an establishment to which the European Communities (Control of Major Accident Hazards involving Dangerous Substances) Regulations, 2000 (S.I. No. 476 of 2000) apply,

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in the case of an activity which gives rise or could give rise to an emission into an aquifer containing the List I and II substances specified in the Annex to Council Directive 80/68/EEC of 17 December 1979, describe the existing or proposed arrangements necessary to give effect to Articles 3,4,5,6,7,8,9 and 10 of the aforementioned Council Directive,

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(u) include a non-technical summary of information provided in relation to the matters specified in paragraphs (a) to (t) of this sub-article,

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Article 12(4) Without prejudice to Article 13(1) and (2), an application for a licence shall be accompanied by

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

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

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

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(d) a copy of such plans (appropriately scaled and no larger than A3 size), including a site plan or plans and location map or maps, 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,

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

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

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(e) such fee as is appropriate having regard to the provisions of articles 40 and 41.

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Article 12(5)(a) & (b) An application shall comprise 1 signed original of the application and 2 copies in hardeopy format plus 2 copies of all files in electronic searchable PDF format on CD-Rom.

HARDCOPIES PROVIDED Y Y/N	60				
Y/N	HARDCOPIES PROVIDED	Y			
[15] 11 (1) (15) (15) (15) (15) (15) (15) (15) (15)	VN				
CHECKED Applicant Official		A 10 .4	15/1	Official	
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CD OF PDF FILES PROVIDED? Y/N	Y			
CHECKED	Applicant	\boxtimes	Official	

Article 13 Where a development requires an Environmental Impact Assessment to be carried out, 1 signed original and 2 copies in hardcopy format of the environmental impact statement plus 16 copies in electronic searchable PDF format on CD-ROM should accompany this application.

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III <u>23</u>	Official	

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16 CD versions of EIS, as	Y			
PDF files, PROVIDED?				
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PROCEDURES

It is recommended that pre-application consultations with the Agency are undertaken before a formal submission of the waste licence application.

The procedure for making and processing of applications for waste licences, and for the processing of reviews of such licences, appear in the Waste Management (Licensing) Regulations 2004 (S.I. No. 395 of 2004) and are summarised below. The application fees that shall accompany an application are listed in the Second Schedule to the Regulations.

Prior to submitting an application the applicant must publish in a local newspaper, and erect on site, a notice of intention to apply. An applicant, other than a local authority in whose functional area the development is located, must also notify the Local Planning Authority, in writing, of their intention to apply.

An application for a licence must be submitted on the appropriate form (available from the Agency) with the correct fee, and should contain relevant supporting documentation as attachments. The application should be based on responses to the form, supporting written text and the appropriate use of tables and drawings. Where point source emissions occur, a system of unique reference numbers should be used to denote each emission point. These should be simple logical, and traceable throughout the application.

The application form is divided into a number of sections of related information. The purpose of these divisions being to facilitate both the applicant and the Agency in the provision of the information and its assessment. Attachments should be clearly numbered, titled and paginated and must contain the required information as set out in the application form. Additional attachments may be included to supply any further information supporting the application. Any references made should be supported by a bibliography.

All questions should 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

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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. This 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 be aware that a contravention of the conditions of a waste licence is an offence under Section 39 of the Waste Management Acts 1996 to 2003.

The provision of information in an application for a waste licence which is false or misleading is an offence under Section 45 of the Waste Management Acts 1996 to 2003.

Note: <u>Drawings</u>. The following guidelines are included to assist applicants:

All drawings submitted should be titled and dated.

• They should have a <u>unique reference number</u> and should be signed by a clearly identifiable person.

• They should indicate a scale and 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 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. All drawings should, however, be A3 or less and of an appropriate scale such that they are clearly legible. Provide legends on all drawings and maps as appropriate.

The provision of information in an application for a waste licence, which is false or misleading, is an offence under s45 of the Acts.

SECTION A NON-TECHNICAL SUMMARY

A Non-Technical Summary is to be submitted. The summary should include information on those aspects outlined in the Guidance Note and must comply with the requirements of Article 12 (1) (u) of the Waste Management (Licensing) Regulations, S.I. 395 of 2004.

The Non-Technical Summary should form Attachment A.1.

Attachment A.1 Non-Technical Summary

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SECTION B GENERAL

B.1 Applicant's Details

Name*:	Oxigen Environmental Ltd.	
Address:	Merrywell Industrial Estate	
	Ballymount Road Lower	
	Dublin 22	
Tel:	01 4659868	
Fax:	01 4567192	
e-mail:	jdowdall@oxigen.ie	

^{*} This should be the name of the applicant which is current on the date this Waste Licence Application is lodged with the Agency. It should be the name of the legal entity (which can be a limited company or a sole trader). A trading/business name is not acceptable.

Name and Address for Correspondence

Only application documentation submitted by the applicant and by the nominated person will be deemed to have come from the applicant.

Name:	As Above		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Address:		and the same of th	
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Tel:		:01 trou	
Tel: Fax:		Dect Wife	
e-mail:		of ith din	

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

Address:	1st Floor, Block 4
	Quayside Business Park
	Mill Street
	Dundalk, Co. Louth
Tel:	042 9330789
Fax:	042 9396730
e-mail:	admin@oxigen.ie

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

- a) a Certified Copy of the Certificate of Incorporation or Memorandum and Article of Association;
- b) the Company's Registration Number from the Companies Registry Office; and
- c) 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	\boxtimes
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:	Cavan County Council	
Address:	Courthouse	
	Cavan	
	Co.Cavan	
Tel:	049 4378300	
Fax:		
e-mail:		

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). An appropriately scaled drawing ($\leq A3$) showing the above details should be included in Attachment B1.

Name:	Cavan County Council
Address:	Courthouse
	Cavan
	Co. Cavan
	Fig Alle
Tel:	049 4378300
Fax:	n serie
e-mail:	CO,

^{*}Current at the time the application is submitted

B.2 Location of Activity

Name:	Corranure Landfill
Address*:	Lismagratty and Corranure Townlands
	Cootehill Road
	Cavan
Tel:	049 4372700
Fax:	049 4372554
e-mail:	

^{*} Include any townland

National Grid Reference	244488E 307729N
(8 digit 4E,4N)	

Location maps (\leq A3), appropriately scaled, with legible grid references should be enclosed in **Attachment B.2.** The site boundary must be outlined on the map in colour.

Attachment B.2 Location of Activity

Refer to Drawings

Drawing No. 02	The Site Layout Plan
Drawing No. 01	The Site Location Map
Drawing No. 01A	The Site Location
Drawing No. 15	The Services Plan
	insortion
	For With

B.3Planning Authority

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

Name:	Cavan County Council	
Address:	Courthouse	
	Cavan	
Tel:	049 4331799	
Fax:	049 4378729	

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?

Planning Authority notified	Yes 🛛
	No 🗌

Planning Permission relating to this application:-

has been obtained	
is being processed 🔼	
is not yet applied for \square	چ
is not required	itertise.
Local Authority Planning	and art of
File Reference Nº:	See of to.
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Attachment B.3 should contain the most recent planning permission, including a copy of all conditions, and the required copies of any EIS should also be enclosed. For existing activities, Attachment B.3 should also contain copies of of the most recent waste licence and any 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 Planning Authority

The Environmental Impact Statement is included in the application Planning Permission is subject to a decision by An Bord Pleanala The existing Waste Licence W077-02 is included

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 or other body, 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.

Name:	Cavan County Council - Cavan Waste Water Treatment Plant	
Address:	Courthouse	
	Cavan	
Tel:	049 4331799	
Tel: Fax:	049 4351981	

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.

Attachment B.4 Sanitary Authority

Copy of Effluent Discharge Licence/agreement between applicant and the body with responsibility for the sewer

B. 5 Other Authorities

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

		0.00
Within SFADCo. Area	Yes 🗌	No X
		201

The applicant should indicate the **Health Board Region** where the activity is or will be located.

Name:	North Eastern Health Board
Address:	Health Service Executive North Eastern Area
	Administrative Head Office
	Kells Co. Meath
Tel:	046 9280500
Fax:	046 9241459

B.6 Notices and Advertisements

Articles 6 and 7 of the Waste Management (Licensing) Regulations 2004 requires all applicants to advertise the application in a newspaper and by way of a site notice. See *Guidance Note*.

Attachment B.6 should contain a copy of the site notice and an appropriately scaled drawing (\leq A3) 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 original and three copies of the application.

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Attachment B.6 Notices and Advertisements

Copy of the Site Notice Copy of Newspaper Advertisement Refer to Drawing No. 2 Site Layout Plan for locations of site notices

The newspaper advertisement was placed in the following newspaper:

The Irish Independent
Date: 9th September 2008

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B.7 Type of Waste Activity, Tonnages & Fees

B.7.1 Specify the class or classes of activity in Table B.7.1, in accordance with the Third Schedule or Fourth Schedule to the Waste Management Acts 1996 to 2003, to which the application relates (check the relevant box(es) and mark the principal activity with a 'P').

Attachment B.7 should identify the principle activity and include a brief technical description of each of the other activities specified. There can only be one principal activity.

TABLE B.7.1 THIRD AND FOURTH SCHEDULES OF THE WASTE MANAGEMENT ACTS 1996 TO 2003

Waste Manage	emen	t Acts 1996 to 2003	
THIRD SCHEDULE Waste Disposal Activities	Y/N	FOURTH SCHEDULE Waste Recovery Activities	Y/N
Deposit on, in or under land (including landfill).		Solvent reclamation or regeneration.	
Land treatment, including biodegradation of liquid or sludge discards in soils.		 Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological processes). 	Y
3. Deep injection of the soil, including injection of pumpable discards into wells, salt domes or naturally occurring	. 0	Recycling or reclamation of metals and metal compounds.	Y
repositories. 4. Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.	Jun Oses	34. Recycling or reclamation of other inorganic materials.	P
Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment.	Y	5. Regeneration of acids of 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 5 or paragraphs 7 to 10 of this Schedule.		Recovery of components used for pollution abatement.	
7. Physico-chemical 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 5 or paragraphs 8 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.	
Permanent storage, including emplacement of containers in a mine.		Use of any waste principally as a fuel or other means to generate energy.	Y
10. Release of waste into a water body (including a seabed		The treatment of any waste on land with a consequential benefit for an agricultural activity or ecological system.	
insertion). 11. Blending or mixture prior to submission to any activity	Y	11. Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule.	Y
referred to in a preceding paragraph of this Schedule. 12. Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.	Y	12. Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule.	Y
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.	Y	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.	Y

TABLE B.7.2 MAXIMUM ANNUAL TONNAGE

The maximum annual tonnage of waste to be handled at the site should be indicated and the year to which the quantity relates indicated.

Maximum Annual Tonnage (tpa)	335,000
Year	2012

B.7.3 FEES

State each class of activity for which a fee is being submitted as per Part I of the Second Schedule of the Waste Management (Licensing) Regulations 2004, S.I. No. 395 of 2004. Note: two fees are required if disposal and recovery are to occur.

Waste Activity	Fee (in €)
Disposal of Waste (appropriate	30,000
disposal activity 1.1 – 3.3)	
Recovery of Waste (4)	10,000
Total	40,000

TABLE B.7.4 (FOR A LANDFILL APPLICATION)

STATE WHICH OF THE FOLLOWING IS RELEVANT TO THE CURRENT APPLICATION.

V 10-	
(a) landfill for hazardous waste	
(b) landfill for non-hazardous waste	
(c) landfill for inert waste	

B.8 SEVESO II DIRECTIVE

State whether the activity is for the purposes of an establishment to which the European Communities (Control of Major Accident Hazards involving Dangerous substances) Regulations, 2000 (S.I. No. 476 of 2000), apply.

Regulations A		

If yes, Attachment B.8 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.

SECTION C MANAGEMENT OF THE FACILITY

Advice on completing this section is provided in the Guidance Note.

C.1 Technical Competence and Site Management

This information should form Attachment C1.

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 C 1.**

Name	Position	Duties and Responsibilities	Experience /Qualifications
James Dowdall	Group Env Manager	Processing, compliance and site issues on all Oxigen sites	MSc in Chemistry Over 20 yrs waste mgt industry
Paul Williams	Landfill Manager	Day to day site operations Waste acceptance and public relations	Over 20 yrs experience in waste management industries
Joan Harrington	Compliance Officer	Compliance with the Licence requirements	BSc. (H) Env. Science & Technology 5 years experience

C.2 Environmental Management System

Environmental Management System (EMS)

Each facility will establish and maintain an Environmental Management System (EMS) supported by the appropriate organisation and procedures as specified in EN ISO 14001:1996 Environmental Management Standards and the European Commission's Eco Management and Audit Scheme (EMAS).

In establishing these systems, the main objectives will be:

- to develop an efficient and cost effective EMS, which compliments the EPA Waste Management Licence;
- to implement an EMS by reference to proposed procedures and systems;
- to achieve effective environmental risk management for each facility, having regard to existing and future environmental legislation;
- to provide a framework for establishing and reviewing environmental targets and objectives for each facility.

C.3 Hours of Operation

Attachment C 3 should contain details of hours of operation for the waste facility, civic waste facilities and other facilities.

- (a) Proposed hours of operation.
- (b) Proposed hours of waste acceptance/handling.
 - (c) Proposed hours of any construction and development works at the facility and timeframes (required for landfill facilities).
- (d) Any other relevant hours of operation expected.

C.4 Conditioning Plan

Attachment C.4 Conditioning Plan

A Conditioning Plan has been prepared by Cavan County Council and submitted to the EPA, this will be revised and reissued by Oxigen Environmental Ltd. on receipt of a Waste Licence.

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SECTION D INFRASTRUCTURE & OPERATION

D.1 Infrastructure

Complete the following table detailing the site 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 application Guidance Note.

	on Guidance Note. 1.1. Infrastructure	y/n	Comments
	Site security arrangements including gates and fencing	Y	EIS Sec 2.4.1
	Designs for site roads	Y	Section 2.4.2
	Design of hardstanding areas	Y	Section 2.4.3
	Plant	Y	Attachment D1
D.1.e	Wheel-wash	Y	Section 2.4.7
D.1.f	Laboratory facilities	N	Not applicable
D.1.g	Design and location of fuel storage areas	Y	Section 2.4.4
D.1.h	Waste quarantine areas	Y	Section 2.4.5
D.1.i	Waste inspection areas	Y	Section 2.4.6
D.1.j	Traffic control	Y	Attachment D1
D.1.k	Sewerage and surface water drainage infrastructure	Y	Section 2.4.9 & 2.4.10
D.1.l	All other services	Y	Attachment D1
D.1.m	No. of the second secon	Y	Section 2.4.11
D.1.n	Site accommodation	Y	Section 2.4.12
D.1.0	A fire control system, including water supply	Y	Attachment D1
D.1.p	Civic amenity facilities	Y	Section 2.5.6
D.1.q	Any other waste recovery infrastructure	N	
D.1.r	Composting infrastructure	Y	Section 2.5.8
D.1.s	Construction and Demolition waste infrastructure	Y	Section 2.5.7
D.1.s	Incineration infrastructure (if applicable). Provide information to fulfil Article 4 (2) & (3) of the Incineration of Waste Directive	N	
D.1.u	Any other infrastructure	N	Not Applicable

D.2 Facility Operation

In Attachment D 2 describe the plant, methods, processes and operations of the waste facility, as required by the Guidance Note.

Attachment included	yes 🛚	no	not applicable

Attachment D.2

- (a) Attached a list of all unit operations to be carried out together with a plan of the site indicating the locations of the activities and identifying all building and facilities.
- (b) Flow diagram of process, detailing management and maintenance plans
- (c) Emissions to the environment during normal working hours, malfunction or interruption of services. Id. Each abatement, treatment or recovery system, describe its purpose and mode of operation
- (d) Laboratory facilities

Earlieged on the reduced for any other use.

LANDFILLS

The following Sections D3 to D7 should only be completed for Landfill Applications. Reference should be made to the Agency landfill manual 'Landfill Site Design (2000)' when completing this section.

D.3 Liner System

Complete the following table regarding the liner system to be used for the landfill/landfill extension and detail the information requested as Attachment D.3. Items D3c to D3g should only be completed for immediate projects only (ie Years 1 & 2). A schedule of Liner construction activities for the medium to long term need only be listed in item D3a below, since Condition 3 of any licences granted will provide reporting requirements for any future projects.

TABLE D.3 LINER SYSTEM

		y/n	Comments
D.3.a	Provide information to fulfil Annex 1 of the Landfill Directive	Y	Attachment D3
D.3.b	What type of liner system is specified?	Y	Attachment D3
D.3.c	Has a Quality Control Plan been specified?	·Ý	Attachment D3
D.3.d	Has a Quality Assurance Plan been specified?	Y	Attachment D3
D.3.e	Have independent, third-party supervision, testing and controls been specified?	Y	Attachment D3
D.3.f	Have basal gradients for all cells and access ramps to the cells been designed?	Y	Attachment D3
D.3.g	Has a leak detection survey been specified?	Y	Attachment D3

D.4 Leachate Management

Complete the following table detailing leachate management arrangements. Further information should be included in Attachment D.4.

TABLE D.4.1 LEACHATE MANAGEMENT ARRANGEMENTS

		y/n	Comments
.	Is there a Leachate Management Plan?	Y	Attachment D4
D.4.a	Have annual quantities of leachate been calculated?	Y	Attachment D4
D.4.b	Has the total quantity of leachate been calculated?	Y	Attachment D4
D.4.c D.4.d	Have the size of the cells been specified taking account of the water balance calculations?	Y	Attachment D4
D.4.e	Has a leachate collection system been specified?	Y	Attachment D4
D.4.f	Has a leachate storage system been specified?	Y	Attachment D4
D.4.g	Has a system for monitoring the level of leachate in the waste been designed?	Y	Attachment D4
D.4.h	Is leachate recirculation proposed/practised?	N	Attachment D4
D.4.i	Has leachate treatment on-site been specified?	N	Attachment D4
D.4.j	Has leachate removal been specified?	Y	Attachment D4

D 5 Landfill Gas Management

All landfill sites should have suitable arrangements for the management of landfill gas. Attachment D.5 should contain the appropriate documentation. Information provided should follow the sequence, and use the headings, established in Table D.5. Items D5g to D5m should only be completed for immediate or current gas collection projects only (ie Years 1 & 2). A schedule of gas management aspects for the medium to long term need only be listed in item D5f below, since Condition 3 of any proposed decision/licence will provide reporting requirements for any future projects.

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Table D.5. Landfill Gas Management

able D	5. Landfill Gas Management	y/n	Comments
D.5a	Is there a Landfill Gas Management Plan? Provide estimates of the volumes of landfill gas which will be produced by the waste disposed of in the site for the next 20 years, and compare to the EPER list for methane:	Y	Attachment D5
D.5b	Is there a passive venting system?	N_	Attachment D5
D.5c	Does the passive system cover all of the filled area?	N	Attachment D5
D.5d	Have gas alarm systems been installed in the site buildings?	Y	Attachment D5
D.5e	Have measures been installed to prevent landfill gas migration (e.g. barriers)?	Y	Attachment D5
D.5f	Has a time-scale been proposed for the installation of landfill gas infrastructure?	Y	Attachment D5
D.5g	Is gas flaring undertaken at the site?	Υ	Attachment D5
D.5h	Is there an active (i.e., pumped) landfill gas extraction system?	Y	Attachment D5
D.5i	Does the active system cover all of the filled area?	Y	
D.5j	Is landfill gas used to generate energy at the site?	N	Attachment D5
D.5k	Have emissions from the flarestack and utilisation plant been assessed for source, composition, quantity and level and rate?	Y	Attachment D5
D.51	Has a maintenance programme for the control system been specified?	Y	Attachment D5
D.5m	Has a condensate removal system been designed?	Y	Attachment D5

D.6 Capping System

Complete the following table detailing the design of the capping system. Attachment D.6 should contain the appropriate documentation. Items D6e to D6k should be completed for immediate projects only (ie Years 1 & 2). Condition 10 of any proposed decision/licence will provide reporting requirements for capping requirements beyond this timeframe.

Table D.6 Capping System

		y/n	Comments
D.6a	Has the daily cover been specified?	Ÿ	Attachment D6
D.6b	Has the intermediate cover been specified?	Y	Attachment D6
D.6c	Has the temporary capping been specified?	Y	Attachment D6
D.6d	Has the Capping System been designed and does it meet the requirements of the Landfill Directive Annex 1 (3.3)?	Y	Attachment D6
D.6e	Does the Capping System include a flexible membrane liner?	Y _O S NO	Attachment D6
D.6f	Have all capping materials been specified?	Y	Attachment D6
D.6g	Has a Method Statement for construction been produced?	N	Attachment D6
D.6h	Has a Quality Control Plan been produced?	N	Attachment D6
	Has a Quality Assurance Plan been produced?	N	Attachment D6
D.6i D.6j	Has a programme for monitoring landfill stability been developed?	Υ	Attachment D6
D.6k	Has a programme for monitoring landfill settlement been developed?	Y	Attachment D6

SECTION E EMISSIONS

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.

The applicant should address in particular any emission point where the substances listed in the Schedule of S.I. 394 of 2004 are emitted.

E.1 Emissions to Atmosphere

Details of all point emissions to atmosphere should be supplied. Table E.1.(i) (for Landfill Gas Flare emissions) must be completed for all landfills with a flare. Complete Table E.1(ii) and E.1(iii) for all other main emission points, including stack sources (incinerator stacks, landfill gas utilisation plants, air handling unit emissions etc.). Complete Table E.1(iv) for minor/fugitive/ground emission points.

E.2 Emissions to Surface Waters

E.3 Emissions to Sewer

E.4 Emissions to Groundwater

E.5 Noise Emissions

E. 6 Environmental Nuisances

Attachment E.6 should contain the appropriate documentation. Information provided should follow the sequence, and use the headings as relevant established in Table D.6. Additional advice on completing this section is provided in the Guidance Note

TABLE E.6 ENVIRONMENTAL NUISANCES

Bird Control	Control method specified	yes x	no	not applicable
	Attachment included	yes x	no[not applicable
Dust Control	Control method specified	yes x	no	not applicable
	Attachment included	yes x	no[]	not applicable
Fire Control	Control method specified	yes x	no[_]	not applicable
	Attachment included	yes x	no[]	not applicable
Litter Control	Control method specified	yes x	no[_]	not applicable
	Attachment included	yes x	no[]	not applicable
Traffic Control	Control method specified	yes x	no[not applicable
	Attachment included	yes x	no[not applicable
Vermin Control	Control method specified	yes	no[not applicable
	Attachment included	yes x	no[]	not applicable
Road Cleansing	Control method specified	yes	no[_	not applicable
	Attachment included	yes x	no 🗌	not applicable

SECTION F. CONTROL & MONITORING

F.1: Treatment, Abatement and Control Systems

Describe the proposed technology and other techniques for preventing or, where this is not possible, reducing emissions from the installation/facility. Details of treatment/abatement systems (air and effluent emissions) should be included, together with appropriately scaled schematics ($\leq A3$) as appropriate.

For each Emission Point identified complete Table F.1 of the Annex, and include detailed descriptions and appropriately scaled schematics (≤A3) of all abatement systems.

Attachment F.1 Treatment, Abatement and Control Systems

The treatment, abatement and control systems for the proposed MRF and BTF will be submitted on final design.

F.2- F. 9. Monitoring and Sampling Points

Section 2.9 of the EIS describes the proposed monitoring programmes to be established at the Integrated Recycling Facility.

All environmental monitoring will be carried out under the conditions of the Waste Licence for the facility issued by the Agency. Emission Limit Values (ELV) will be set by the Agency for many of the parameters to be monitored. Exceeding these values will be judged by the Agency to be a noncompliance with the Waste Licence.

It should also be noted that the monitoring programme as outlined below may be changed by the conditions of the Waste Licence but it is envisaged that it will be largely similar to that outlined herein.

F.2 Air - to include Dust, Odour

Monitoring Arrangements specified	yes	х	no	not applicable
Monitoring points identified, (plus 12-	yes	x	no	not applicable
figure grid references)				not applicable
Attachment included	yes	X	no	not applicable

Monitoring of surface water shall be carried out at not less than two points, one upstream from the waste facility and one downstream.

Monitoring Arrangements specified	yes x	no	not applicable
Monitoring points identified, (plus 12- figure grid references)	yes x	no	not applicable□
Attachment included	yes x	no	not applicable

F.4 Sewer Discharge

Monitoring of sewer discharge shall be carried out at the point specified by the local authority/Agency.

Monitoring Arrangements specified	yes x	no	not applicable
Monitoring points identified, (plus 12- figure grid references)	yesx	no	not applicable
Attachment included	yes x	no	not applicable

F.5 Groundwater

Groundwater monitoring is required at all landfill facilities and certain other waste facilities depending on waste activities and the underlying aquifer vulnerability.

Monitoring Arrangements specified	yes	x see in o	not applicable
Monitoring points identified, (plus 12-figure grid references)	yes of	Xedit no	not applicable
Attachment included	S yes x	no	not applicable
F.6 Noise	Yills		
e e e e e e e e e e e e e e e e e e e			

F.6 Noise

Monitoring Arrangements specified	yes	х	no	not applicable
Monitoring points identified, (plus 12- figure grid references)	yes	x	no	not applicable
Attachment included	yes	X	no[not applicable

F.7 Meteorological Data

Monitoring Arrangements specified	yes x	no	not applicable
Monitoring points identified, (plus 12- figure grid references)	yes x	no	not applicable
Attachment included	yes x	no	not applicable

Application for Landfills require the additional Attachments F.7 to F.8, to be completed:

F.8 Leachate

Monitoring Arrangements specified	yes	x	no	not applicable
Monitoring points identified, (plus 12-	yes	x	no	not applicable
figure grid references)				
Attachment included	yes	X	no	not applicable

F.9 Landfill Gas

Complete each of the following tables to show whether information has been included on aspects of landfill gas monitoring. Attachment F.9 should also contain information to show whether the data given in Tables F.9.(a) and F.9(b) below represents actual or anticipated data. Complete Table F.9 as follows:

Table F.9 (a) Landfill Gas Monitoring for existing landfill gas flares / utilisation plants

able F.9 (a) Landfill Gas Parameter	Concentration (mg/Nm³)	Proposed Frequency of Analysis	Information Included Y/N	Method of Analysis	Information Included Y/N
			113		
Inlet Methane (CH ₄) % v/v		Continuous	Yother	Infrared Analyser	Y
Carbon dioxide (CO ₂) %v/v		Continuous office	Y	Infrared Analyser	Y
Oxygen (O ₂) % v/v		Continuous	Y	Infrared Analyser	Y
Outlet	. 055	ctionner,			Y
Volumetric Flow Rate	2269	Continuous	Y	T31	1 Y
SO ₂	118	Annually	Y	Flue gas analyser	1
Nox	10 asent of	Annually	Y	Flue gas analyser	Y
со	51 CORP	Continuous	Y	Flue gas analyser	Y
	<0.1	Not Applicable		Isokinetic	
Particulates	-				
TA Luft Class I, II, III organics	<u> </u>	1			
Hydrochloric acid	ļ <u>.</u>	 			
Hydrogen Fluoride			<u></u>		

Table F.9(b) Landfill Gas Monitoring

Parameter	Proposed Fr Analysis	requency of	Information Included Y/N	Method of Analysis	Information Included Y/N
Methane (CH ₄) % v/v	Gas boreholes / vents/ wells/ perimeter locations monthly	Facility Office	Y	Infrared analyser/Flame	Y
Methane (CH4) /6 V/V			V	Ionisation detector As above	Y
Carbon Dioxide (CO2) % v/v	monthly	weekly	Y	electrochemical	Y
Oxygen (O2) % v/v	monthly	weekly	V	Standard	Y
Atmospheric Pressure Temperature	monthly monthly	weekly weekly	Y	Standard	Y

Table F 9 (c) Landfill Gas Infrastructure

ible F.9 (c) Landfill (Equipment	Monitoring Frequency	Information Included Y/N	Monitoring Action	Information Included Y/N
as Collection System	Daily checks	Y	Quality/Quantity	Y
as Control System	Continuous	Y	Quality/quantity	Y

Monitoring Arrangements specified	yes	х	no	not applicable
Monitoring points identified, (plus 12- figure grid references)	yes	X	no co	not applicable.
Attachment included	yes	N.	jino_	not applicable
	Dection	ior,		
Consent of conv	ight o			
took.)			
(Alisent				
C				

SECTION G RESOURCES USE & ENERGY EFFICIENCY

G.1 Raw Materials, Substances, Preparations and Energy

Attachment	yes x	no	not applicable
included			

G.2 Energy Efficiency

A description of the energy used in or generated by the activity must be provided in **Attachment G.2**.

Attachment	ves x	no	not applicable
	•		
included			

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SECTION H MATERIALS HANDLING

H.1 Waste Types and Quantities – Existing & Proposed

TABLE H.1(A). QUANTITIES OF WASTE IN RELATION TO EACH CLASS OF ACTIVITY APPLIED FOR

Waste Management Act 3rd Schedule (Disposal) Activities		Waste Management Act 4th Schedule (Recovery) Activities			
Class of Activity Applied For	Quantity (tpa)	Class of Activity Applied For	Quantity (tpa)		
Class 1		Class 1			
Class 2		Class 2	65000		
Class 3		Class 3	5,000		
Class 4	1,000	Class 4	175,000		
Class 5	89,000	Class 5			
Class 6	1000	Class 6			
Class 7	1000	Class 7	, 1150		
Class 8		Class 8	other use.		
Class 9		Class 9	1000		
Class 10		Class 10	as off of a		
Class 11	5000	Class 11	10000		
Class 12	10000	Class 12 dill	1000		
Class 13	20000	Class 13 not	20000		

TABLE H.1(B) ANNUAL QUANTITIES AND NATURE OF WASTE

	Conseil	Wilder of Whole	
Year	Non-hazardous waste (tonnes per annum)	Hazardous waste (tonnes per annum)	Total annual quantity of waste (tonnes per annum)
2009	90,000	100	90,000
2010	180,000	100	180,000
2011	280,000	100	280,000
2012	335,000	100	335,000

TABLE H.1 (C) WASTE TYPES AND QUANTITIES

WASTE TYPE	TONNES PER ANNUM (existing)	TONNES PER ANNUM (proposed)	TOTAL (over life of site) tonnes
Household	60,000	125,000	
Commercial	20,000	70,000	
Sewage Sludge		5,000	
Construction and Demolition	5,000	100,000	
Industrial Non- Hazardous Sludges		35,000	
Industrial Non- Hazardous Solids	5,000		
Hazardous *(Specify detail in Table H 1.2)			
Inert Waste imported for restoration purposes		35,000	

* TABLE H.1.2 HAZARDOUS WASTE TYPES AND QUANTITIES

HAZARDOUS WASTE	DETAILED DESCRIPTION * REFERENCE SHOULD BE MADE TO THE RELEVANT EUROPEAN WASTE CATALOGUE CODES AS PRESENTED BY COMMISSION DECISION 2000/532/EC	Tonnes Per Annum (Existing)	(Tonnes Per Annum Proposed)
Waste Oil	vis 08 18	20	
Oil filters	16 01 07	15	<u> </u>
Asbestos	Non Applicable		
Paint and Ink	20 01 28	30	
Batteries	16 06 01		
Fluorescent Light Bulbs	20 01 21	5	
Contaminated Soils			Commence the control of the Control
OTHER HAZ	CARDOUS WASTE (APPLICANT	ΓO SPECIFY)	

H.2 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. A copy of these procedures is included

Attachment H.2.

Waste Acceptance Procedures are attached

Waste handling and the operating procedures used at the facility including waste treatment processes should be described in Attachment H.3. Included in the attachment should be H.3 Waste Handling information on the plant used on site and on the methods and processes for handling waste onsite. Special requirements hold for contaminated soil facilities, see Guidance Note.

Attachment H3

Waste Handling Procedures

In addition, an application for a Landfill requires Section H.3.a to be completed:

H.3a Waste Handling at the Landfill Facility

State whether all waste will be subject to treatment prior to landfilling. Provide information as to the quantities of biodegradable municipal waste and how the targets of the Landfill Directive (1999/31/EC) relating to that waste type are to be achieved. In particular describe how the following will be achieved:

- (a) a reduction by 16/07/06 to 75% by weight of the total amount of biodegradable municipal waste produced in 1995 or the latest year before 1995 for which standardised Eurostat data is available;
- (b) a reduction by 16/07/09 to 50% by weight of the total amount of biodegradable municipal waste produced in 1995 or the latest year before 1995 for which standardised Eurostat data is available;
- (c) a reduction by 16/07/16 to 35% by weight of the total amount of biodegradable municipal waste produced in 1995 or the latest year before 1995 for which standardised Eurostat data is available;
- (d) Evidence should be provided to show that energy will be used efficiently.

Waste Handling at the Landfill facility

With respect to biodegradable municipal waste and agri-industrial waste (biowaste), EU and Irish waste management policy and legislation now require that biowaste be diverted from landfill to alternative waste management methods at increasing rates over the coming years. The proposal currently put forward by Oxigen Environmental includes the recovery of 180,000 tonnes per annum of C&D and C& I waste and 65,000 tonnes of biological municipal waste, which would otherwise contribute to waste produced for disposal. Each facility will be specifically designed, utilising the best available technologies (BAT).

Oxigen intend to supply a third collection for their residential customers in Cavan, Longford, Monaghan, Leitrim, and Westmeath for the collection of biological waste which is already underway in Dundalk, Co.Louth Oxigen were the first waste company to introduce Brown Bins in the North East Region. This will further increase the recycling rates within the customer area. This will run alongside the current wheelie bin service.

All waste collected by Oxigen is brought to their recycling facility for segregation and storage prior to despatch to other recycling facilities, which includes recycling of cardboard, paper, wood, metals and C&D waste.

A civic amenity area is currently in operation at Corranure landfill. Since the civic amenity site opened in 2002 the quantity of waste recycled has increased substantially annually, with a total of 1,616.42 tonnes being recycled in 2007. This centre provides a valuable recycling service to the local community and continues to expand and develop to further improving recycling rates.

There may be some residual wastes generated from the processes in Biological Treatment Facility and in the C&D/C&I Waste Recovery Facility, depending on the final process used. Any

residual waste generated will be sent to the Landfill for disposal. The residual waste will be weighted at the main weighbridge facility before disposal.

H.4 Waste Arisings

Waste Arisings should be considered for all contaminated soil applications. Details of all waste materials generated on the site including, name, description and nature as well as the source(s) should be identified. The quantities of each type of waste generated on an annual/monthly basis should be calculated and stated in Tables H.1(i) and H. 1(ii) of the application form. Applicants should also provide conversion factors used to relate volume (m³) and tonnage (t) for their waste stream.

Table H.1.i Not Applicable

Table H.1 ii Quantities of waste to be generated is unknown currently but will be submitted at a later date.



SECTION I EXISTING ENVIRONMENT & IMPACT OF THE FACILITY

Detailed information is required to enable the Agency to assess the existing 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 the receipt of a review application.

Where development is proposed to be carried out, being development which is of a class for the time being specified under Article 24 (First Schedule) 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 crossreferences to the relevant sections in the EIS.

I.1. Assessment of atmospheric emissions

Describe the existing environment in terms of air quality with particular reference to ambient air quality standards.

Provide a statement whether or not emissions of main polluting substances (as defined in the Schedule of S.I. 394 of 2004) to the atmosphere are likely to impair the environment.

Give summary details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.

Attachment I.1 should also contain full details of any dispersion modelling of atmospheric emissions from the activity, where required.

1.2. Assessment of Impact on Receiving Surface Water

Describe the existing environments in terms of water quality with particular reference to environmental quality standards or other legislative standards. Table I.2(i) should be completed

Provide a statement whether or not emissions of main polluting substances (as defined in the Schedule of S.I. 394 of 2004) to water are likely to impair the environment.

Give summary details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.

Full details of the assessment and any other relevant information on the receiving environment should be submitted as Attachment I.2.

I.3. Assessment of Impact of Sewage Discharge.

Give summary details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.

Full details of the assessment and any other supporting information should form Attachment I.3.

I.4 Assessment of impact of ground/groundwater emissions

The scope and detail of this assessment will depend to a large extent on the extent and type of ground emissions at any site, which in turn are related to the risk. Details should be included in **Attachment I.4**. Comprehensive guidelines are contained in the *Application Guidance Note*, and include particular requirements for landfill and brownfield facilities.

Describe the existing groundwater quality. Tables I.4(i) should be completed.

I.5 Ground and/or groundwater contamination

Summary details of known ground and/or groundwater contamination, historical or current, on or under the site must be given.

Full details including all relevant investigative studies, assessments, or reports, monitoring results, location and design of monitoring installations, appropriately scaled plans/drawings (≤A3), documentation, including containment engineering, remedial works, and any other supporting information should be included in **Attachment** 1.5.

I.6 Noise Impact.

Give details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.

Ambient noise measurements

Complete Table I.6(i) in relation to the information required below:

- (i) State the maximum Sound Pressure Levels which will be experienced at typical points on the boundary of the operation. (State sampling interval and duration)
- (ii) State the maximum Sound Pressure Levels which will be experienced at typical noise sensitive locations, outside the boundary of the operation.
- (iii) Give details of the background noise levels experienced at the site in the absence of noise from this operation.

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Prediction models, appropriately scaled maps (\leq A3), diagrams and supporting documents, including details of noise attenuation and noise proposed control measures to be employed, should form Attachment I.6.

I.7 Assessment of Ecological Impacts & Mitigation Measures

The ecology of the site and the surrounding area should be assessed in the vicinity of the largescale waste facilities such as landfill or incinerator developments. An assessment of the ecology should form **Attachment I.7.** Comprehensive guidelines are contained in the *Application Guidance Note*.



SECTION J ACCIDENT PREVENTION & EMERGENCY RESPONSE

Describe the existing or proposed measures, including emergency procedures, to minimise the impact on the environment of an accidental emission or spillage.

Also outline what provisions have been made for response to emergency situations outside of normal working hours, i.e. during night-time, weekends and holiday periods.

Describe the arrangements for abnormal operating conditions including start-up, leaks, malfunctions or momentary stoppages.

Supporting information should form Attachment J.

Attachment included	yes x no not applicable

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SECTION K REMEDIATION, DECOMMISSIONING, RESTORATION AND AFTERCARE

Describe the existing or proposed measures to minimise the impact on the environment after the activity or part of the activity ceases operation, including provision for post-closure care of any potentially polluting residuals.

For Landfill Applications, capping proposals are required, and reference should be made to the Landfill Manual on 'Restoration and Aftercare' published by the Agency, when completing this section.

Attachment included	yes	х	no	not applicable

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SECTION L STATUTORY REQUIREMENTS

L. 1 Section 40(4) WMA

Indicate how all the requirements of Section 40(4)[(a) to (i)] of the Waste Management Acts 1996 to 2003 will be met.

Applicants should also describe how the proposed facility will comply with the requirements of BAT. In particular reference should be made to the considerations referred to in Annex IV of Council Directive 96/61/EC concerning integrated pollution prevention and control.

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

	Trool Tri			
Aftachment included	T COL AL		not applicable	
	AC2 V	noL.		

Fit and Proper Person

The WMA in Section 40(4)(d) specifies that the Agency shall not grant a licence unless it is satisfied that the applicant (if the applicant is not a local authority) is a fit and proper person. Section 40(7) of the WMA specifies the information required to enable a determination to be made by the Agency.

- Indicate whether the applicant or other relevant person has been convicted under the Waste Management Acts 1996 to 2003, the EPA Act 1992 and 2003, the Local Government (Water Pollution) Acts 1977 and 1990 or the Air Pollution Act 1987.
- Provide details of the applicant's technical knowledge and/or qualifications, along with that of other relevant employees (Link to Section C.1 of the application).
- Provide information to show that the person is likely to be in a position to meet any financial commitments or liabilities that may have been or will be entered into or incurred in carrying on the activity to which the application relates or in consequence of ceasing to carry out that activity (Link to Section K of the application).

Supporting information should be included as Attachment L 2 with reference to where the information can be found in the application.

Attachment included	yes x no	not applicable

Attachment L.2 Fit and Proper Person

Qualifications
See Section C1 of this Waste Licence Application form

Financial Commitments

Attached is a copy of auditor letter stating the net assets of the company

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SECTION M DECLARATION

Declaration

I hereby make application for a licence / revised licence, pursuant to the provisions of the Waste Management Acts 1996 to 2003 and Regulations made thereunder.

I certify that the information given in this application is truthful, accurate and complete.

I give consent to the EPA to copy this application for its own use and to make it available for inspection and copying by the public, both in the form of paper files available for inspection at EPA and local authority offices, and via the EPA's website. This consent relates to this application itself and to any further information, submission, objection, or submission to an objection whether provided by me as Applicant, any person acting on the Applicant's behalf, or any other person.

(on behalf of the organisation)	<u> </u>
Print signature name:	
Position in organisation: GROUPINE ENVIRONMENTAL MANAGE	
Position in organization . (A) MIN ENVIRONAL MENTAL MARKET	ER.
Fol Copyris	
Company stamp or sea	ıl:

Attachment A

A.1 Non-technical Summary

Consent of copyright owner required for any other use.

1. INTRODUCTION

This non-technical summary is prepared in accordance with Article 12(1) (u) of the Waste

Management (Licensing) Regulations S.I. 395 of 2004

Article 12(1)

(a) The name, address and contact details of the applicant are:

Oxigen Environmental Ltd.,

Merrywell Industrial Estate,

Ballymount Road Lower,

Ballymount,

Dublin 22

Tel: 01 4659868

Fax: 01 4567192

Name of Contact: Mr. Jim Dowdall

(b) The planning authority in whose functioning area the activity will be carried out on is Cavan County Council. An application for planning permission for the proposed development has been sent to An Boro Reanála.

- (c) The sanitary authority relevant to the proposed development is Cavan County Council Cavan Waste Water Treatment Plant.
- (d) The location of the proposed development is Corranure Landfill, Lismagratty and Corranure Townlands, Co. Cavan.

The National Grid Reference for the proposed development is: 244488 E, 307729 N

- (e) Oxigen Environmental proposes to develop an Integrated Recycling Facility. The Recycling Facility will consist of the following waste management facilities:
 - Landfill of 90,000 tonnes per annum Development of Phase 3 (Cells 3 and 4)
 - Civic Amenity Centre and associated infrastructure
 - Materials Recovery Facility (MRF) processing 180,000 tonnes per annum.
 - Biological Waste Treatment Facility (including Mechanical Biological Treatment) treating up to 65,000 tonnes per annum of segregated domestic and commercial organic waste.

(f) The relevant activities to which this application relates as specified in the Third and Fourth Schedule of the Waste Management Acts 1996 to 2003 are detailed below.

Waste Man	agem	ent Acts 1996 to 2003	
THIRD SCHEDULE	Y/N	FOUNTH COHEDINE	,
Waste Disposal Activities		Waste Recovery Activities	Y /
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 processes).	Y
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.	Y
4. Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.	Y	4. Recycling or reclamation of other inorganic materials.	P
5. Specially engineered landfill, including	Y	5. Regeneration of acids or bases.	
placement into lined discrete cells which are capped and isolated from one another and the environment.		itelise.	
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 5 or paragraphs 7 to 10 of this Schedule.	ses only Quited	Recovery of components used for pollution abatement.	
7. Physico-chemical treatment not referred to		7. Recovery of components from catalysts.	
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 5 or paragraphs 8 to 10 of this Schedule (including evaporation, drying and calcination).			
8. Incineration on land or at sea.		8. Oil re-refining or other re-uses of oil.	
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.	Y
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.		referred to in a preceding paragraph of this Schedule.	Y
activity referred to in a preceding paragraph of this Schedule.		activity referred to in a preceding paragraph of this Schedule.	Y
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.		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.	Y

Third Schedule (Waste Disposal Activities)

- Class 4 Surface Impoundment, including placement of liquid or sludge discards into pits, ponds, or lagoons

 This activity is limited to the storage of leachate at the facility pending its disposal at another appropriate facility
- Class 5 Specially engineered landfill, including placement into lined discrete cells which capped and isolated from one another and the environment Disposal of non-hazardous waste in current phase 3- Cell 3 and in future Cell 4.
- Class 11 Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this schedule

 This refers to the processing of waste on site. The MRF facility will process with up 180,000 tonnes per annum.
- Class 12 Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.

 To allow for repackaging of waste accepted at the Civic Amenity site and MRF facility and the dispatch of processed waste and unacceptable wastes to alternative disposal facilities.
- 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. This refers to the MRF facility and the processing of waste. To allow for the recycling/recovery activities and temporary storage prior to removal from site, and also the temporary storage of unacceptable wastes in the waste quarantine area and storage for use in development and/or restoration purposes.

Fourth Schedule (Waste Recovery Activities)

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

The proposed development will comprise of a BTF for the conversion of up to 65,000tonnes per annum of a range of organic residues to compost. This activity allows for the recovery/recycling of organic materials including paper, timber, cardboard, green waste, and other wastes as agreed by the Agency.

- Class 3 Recycling or reclamation of metals and metal compounds

 This constitutes the remainder of the construction and demolition waste.

 This activity allows for the recycling or reclamation of metals and metal compounds.
- Class 4

 Recycling or reclamation of other inorganic materials

 This is the principal activity. The proposed facility will deal with 180,000tonnes of MRF waste, which will be sourced from existing demolition contracts and third parties. This activity also applies to the recovery or reclamation of glass, clothing and other inorganic wastes at the civic amenity site.
- Class 9
 Use of any waste principally as a fuel or other means to generate energy
 For the future possibility of landfill gas utilisation and also if an Anaerobic
 Digestion process is developed, the biogas produced can be used in a
 Combined Heat and Power(CHP) plant to produce electricity and heat
 through a gas engine and steam boiler.
- Class 11 Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule

 This activity allows for the use of recovered materials (e.g C&D Waste) for the development/restoration of the facility.
- Class 12 Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule
 Exchanges of wastes for recycling and recovery at the proposed facilities and the civic amenity facility
- 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.

 To include 65,000tonnes of segregated domestic and commercial organic waste from the Biological Treatment Facility and 180,000tpa from the MRF Facility. This activity allows of the recycling/recovery activities and the temporary storage of unacceptable wastes in the waste quarantine area and for use in development and/or restoration purposes.

(g) The following is the nature and quantity of the waste which will be treated/recovered/disposed of at the proposed development:

Proposed Waste Types and Quantities

Waste Type	Tonnes per Annum (Proposed)	Total (Over life of site) tones
Household (20 03 01)	125,000	
Commercial (20 03 01)	70,000	
Sewage Sludge (19 08 05)	5,000	
C&D (17 00 00)	100,000	
Ind. Non-haz Sludges	35,000	
Inert waste (imported for restoration)	35,000*	Fire.

Proposed Annual Quantities and Nature of Waste

Year	Non-hazardous waste (tonnes per annum)	Hazardous Waste(tonnes per annum)	Total annual quantity of Waste (tonnes per annum)
2009	90,000 nsent di	100	90,000
2010	180,000	100	180,000
2011	280,000	100	280,000
2012	335,000	100	335,000

1.1 Proposed Development

In 2005 Cavan County Council (CCC) sought Expressions of Interest (EOI) from waste management contractors for the design, build, operation and finance of an integrated waste management facility to be provided on a site adjacent to Corranure Landfill, County Cavan. Oxigen Environmental Ltd. (OEL) responded to this EOI and was subsequently short-listed. In March 2005 CCC issued invitation to Tender (ITN) documentation in respect of this project. In 2007 OEL were given 'preferred bidder' status and in subsequent negotiations agreed a deal to develop the facility in accordance with the ITN and also for the purchase of the landfill subject to licensing and planning.

Cavan County Council are currently the licensed operators of Corranure Landfill under EPA Waste Licence Register No. W077-02 for Corranure Landfill, Cootehill Road, Cavan, Co. Cavan. This waste licence was granted in May 2005 for the intake of 90,000 tonnes per annum and was managed by Cavan County Council staff until October 2007. Oxigen Environmental Ltd. are currently operating the site under a concession agreement and managing all activities, with Cavan County Council retaining responsibility for the completed Cells 0, 1 and 2.

In accordance with the Waste Management (Licensing) Regulations, 2004 (S.I. No. 395 of 2004), Oxigen Environmental are applying for a licence to the Environmental Protection Agency and for planning approval to An Bord Pleanala to operate the active landfill, which includes Cell 3 together with the development of Cell 4, proposed development of a Materials Recovery Facility (MRF) and a Biological Waste Treatment Facility (BTF). As required Oxigen Environmental Ltd. have prepared an Environmental Impact Assessment /Statement (EIA/EIS) and a Waste Licence Application in respect of this proposed development.

The Integrated Waste Recycling Facility will consist of the following waste management facilities:

- Landfill of 90,000 tonnes per annum Development of Phase 3 (Cells 3 and 4)
- Civic Amenity Centre and associated infrastructure
- Materials Recovery Facility (MRF) for Construction and Demolition Waste Recovery /Commercial and Industrial Facility processing 180,000 tonnes per annum.
- Biological Waste Treatment Facility (including Mechanical Biological Treatment) treating up to 65,000 tonnes per annum of segregated domestic and commercial organic waste.

Oxigen Environmental Ltd. intend to develop the Integrated Recycling Facility including a Materials Recovery Facility (MRF) capable of processing household dry recyclables, construction and demolition waste, commercial and industrial waste, a composting (Mechanical Biological Treatment) facility capable of processing a variety of bio-waste streams. The residual landfill will provide an engineered, managed and environmentally safe facility for the disposal of residual waste.

The landfill will accept non-hazardous residual waste, which has been subject to treatment, including waste arising from the waste recovery facilities. The landfill will have a capacity of 90,000 tonnes per annum (which is the same as the existing capacity) and currently has a life expectancy of approximately four years. The composting facility will have a capacity of 65,000 tonnes per annum.

2. BACKGROUND

2.1 Site Location

The site is located within the townlands of Corranure and Lismagratty adjacent to the Cavan-Cootehill Road (R188). It is situated ca. 3 km to the north-east of Cavan Town. The predominant land use surrounding the site is one of agricultural pastureland. The original landfill is located in a valley. An elevation stretches to the north-east to a height of approximately 135m. The terrain of the southwest reaches a height of approximately 130m. It is located at a height of approximately 108m to the south and 90m to the north. There is a visible peak in the middle of the location. The peak has a height of approximately 114m.

The current licensed operational landfill site is approximately 14.5ha. in size with adjacent lands of approx 33.02 ha, consisting of a haphazard field pattern enclosed by hedgerows and small clumps of woodland. The Lismagratty Stream runs to the northwest of the landfill. The Corranure Stream runs to the southwest along the boundary of the landfill. The landfill site accepts mainly municipal solid waste collected from domestic and commercial sectors in County Cavan and neighbouring counties.

There are approximately 12 residences within 500m from the boundary of the landfill site. Four of these houses are under the ownership of Cavan County Council and one of these houses is occupied. All access to the landfill site is along the R188 Cavan-Cootehill Regional Road which is of a good standard with relatively high traffic flows. The location of the landfill does not affect the town directly or indirectly, with a civic amenity site provided at the landfill for the recycling regarizements of the general public.

2.2 Site Suitability

Site investigations and desktop studies have shown that the ground conditions at this site render it extremely suitable for the deposition of non-hazardous waste provided that the correct mitigation measures are put in place. The main mitigation measures will be the provision of a basal lining system for each cell, which consists of a layer of low permeability Bentonite Enhanced Sand (BES) overlain by a High Density Polyethylene (HDPE) liner.

2.3 Site Layout

The facility will consist of a number of elements namely:

Existing:

- Landfill area and associated infrastructure
- Civic Amenity Centre
- Main Administration Building
- Weighbridge
- Wheelwash

Proposed:

- Materials Recovery Facility (MRF) consisting of a C&D waste reception and processing area, an aggregate stockpile area, to include a Dry Recyclables area
- Biological Waste Treatment Facility (BTF) and associated wheel wash
- Secondary Administration Building

The design of this layout incorporates the current active landfill and civic amenity facility, Cell 3 is currently in operation with completion of this cell expected by the end of 2009. Cell 4 will then commence with expected life span of 2.5 years. The existing weighbridges and wheelwash will be utilised by all onsite facilities, however an additional weighbridge will be added for sole use for the BTF. The internal roadways are designed to provide ease of flow of traffic, with a sufficient road area to provide ease of queuing and congestion at the public road. Sufficient area is available for stockpiling excavated material and processed C&D waste with scope for landscaping and further expansion if required.

The site is accessed via the Cavan-Cootehill Road (R188) and is serviced by electricity from the national grid. The existing telecommunications network provides services to the main office building and weighbridge. The water main connection will be sufficient to cater for peak demands of the proposed facility. This connection will not impact on the water supply of the locality.

The proposed development will connect to the existing foul sewer, which discharges to Cavan County Council treatment works. Leachate containment provisions ensure that waters that may have come in contact with waste is not discharged into the surface water system within the vicinity of the site, but collected and stored in the leachate tank. The foul sewer drainage network will remain completely separate from the surface water system.

Surface water runoff from the hard standing areas will be collected in the drainage channels. Surface water will be collected and re used for on- site activities such as wheelwash or dust spraying.

An office building houses all administrative activities and staff facilities

2.3.1 Engineered Landfill

The active phase Cell 3 has approximately four years of waste acceptance remaining. This facility would be regarded as of medium size in an Irish context.

The finished phases will be capped with a low permeability capping system, which will serve to prevent the uncontrolled migration of landfill gas and the infiltration of rainfall into the waste body thereby minimising the quantity of leachate generated. On final capping the site will be allowed to re-colonise to natural species. This final capping will also allow for the collection of clean surface runoff, which will be diverted via a surface water swale and settlement lagoons to discharge to the existing surface water system and possibly for reuse. On completion of landfill operations an aftercare/monitoring programme will be put in place.

2.3.2 Biowaste Treatment Facility

Oxigen also intends to develop a Biowaste Treatment Facility as an integral part of the facility at Corranure. Once operational, this facility will deal primarily with separately collected biowaste from household, commercial and industrial sources. The initial short-term objective of this facility will be to produce compost suitable for usage for landscaping and for the restoration of the landfill. Additional market opportunities will be developed in the medium to long term, which will allow for a more beneficial end use of higher quality compost. The facility will be designed for an overall capacity of biowaste of 65,000 tonnes per annum and will comprise an Enclosed Composting System and Anaerobic Digestion System.

The composting plant will comprise a fully enclosed dedicated warehouse type building with all treatment processes, including acceptance of waste, composting, refinement and storage of final products carried out within the building, which will be under negative pressure. Thus, the facility will, in effect, be an 'in-vessel' composting system no matter what technology is finally chosen. The building will have a height varying from approx. 15 to 18m.

The design and layout of the anaerobic digestion (AD) facility will be based on extensive operational experiences in Europe. The final design and the construction of the AD will be subject to specialist contract. The primary objective of the AD facilities is to produce a liquid fertiliser (digested slurry) with beneficial agricultural characteristics, and as a secondary objective generate revenues from the sale of electricity produced from biogas.

2.3.3 Materials Recovery Facility

Oxigen has extensive experience in the design and build of facilities for materials recovery. This experience will be brought to bear in the design and construction of this facility at Corranure. Best Available Technology will be utilised in the installation of equipment for the recovery of household dry recyclables into separate fractions such as paper, plastic, steel and aluminium and both Construction and Demolition waste and Commercial and Industrial waste into recyclable fractions such as wood, plastic, cardboard, stone, soil etc. All of this equipment will be located and operated indoors in purpose built buildings and the best environmental technologies will be employed to ensure that this facility will not give rise to nuisances.

The processing area will incorporate screens and crushers, and a stockpiling area for storage of segregated material. The types of crushing unit and screen to be utilised will depend on the type of waste entering the facility and the end-use of the recovered material. Timber shredders and magnetic units can be provided for treatment of wood wastes and the recovery of metals. The design of the MRF will have to comply with both Irish and European legislation and to comply with all conditions and emission limits of the planning permission and the waste licence.

2.3.4 Ancillary Infrastructure

The proposed facility will include the ancillary infrastructure such as site entrances, site roads, administration building, reception kiosk, weighbridges, wheel wash, waste quarantine and inspection areas.

2.4 Description of Infrastructure

2.4.1 Security and Control/Access

The main entrance to the site is from the Cavan-Cootehill Road (R188). This will be a common entrance to traffic going to each facility as it links directly to the site road, which will be adequately signposted to direct traffic to the relevant facility. Fencing and security gates will be constructed around the entire site to ensure the site is secure. This will be inspected and maintained regularly to ensure integrity.

During operation hours, Oxigen Environmental Ltd. staff will supervise entry to the facility. The operation of the BTF will be continuous; however, all facilities will only be open for waste acceptance and waste processing (i.e., pre-treatment, waste handling, compost turning, crushing, screening etc.) during the hours of operation. Outside operation hours, the Main Integrated Recycling Facility gate will be locked and monitored by CCTV. Security arrangements will be extended to enclose the entire site.

2.4.2 Road Network/Internal Roads 💉

Access to the landfill is via the R188 Cavan-Cootehill Road. Cavan County Council is responsible for the maintenance of this road. The Cavan-Cootehill Regional Road (R188) has a deceleration turning lane provided for traffic approaching from Cavan Town, similarly a dedicated right turning lane has been implemented from approach from the opposite direction. Warning signs have been placed on approaches to the site to warn drivers of Heavy Goods Vehicles movements ahead.

Access to the site will be via the main entrance gates during operation hours. The general public access will be confined to the reception area and the Civic Amenity Area. The access road is of tarmac construction and a speed limit of 10km applies.

The access road to the landfill, MRF and BTF will be of substantial construction and will be surfaced to allow for proper dust suppression and cleaning. Adequate drainage will be provided and all surface water will be discharged to a petrol /oil interceptor before discharge to the surface water management system. An unpaved service road will be constructed around the perimeter of the proposed extension area.

2.4.3 Other Associated On-Site Infrastructure

On-site infrastructure related to the proposed and existing development includes:

- Hard Standing Areas
- Fuel Storage
- Waste Quarantine Area
- Waste Inspection Area
- Wheel Wash
- Weighbridge and Weighbridge Office
- Sewage Drainage Infrastructure.
- Plant, Sheds, Garages and Equipment Compound
- Administration Buildings
- Landfill Gas Infrastructure
- Flaring of Landfill Gas
- Utilisation of Landfill Gas
- Landfill Leachate Infrastructure
- Landfill Leachate Collection
- Storage Infrastructure for Leachate
- Raw Material/Energy/Plant

Details and technical information relating to intrastructure is contained in the main body of the EIS.

2.5 Potential Nuisances

Potential nuisances such as odours, dust, noise, litter, vermin, etc will be addressed with the implementation of the operation plan whereby all activities will be carried out in a controlled manner minimising the possibility of these nuisances. The proposed facility will be operated within the conditions of any Waste License granted by the Environmental Protection Agency or planning permission granted by An Bord Planeala.

3. EXISTING ENVIRONMENT

3.1 Existing Site

3.1.1 Landscape and Topography

Mitchell & Associates undertook an assessment of the visual effects of the proposed development on the surrounding area and a photomontage was completed of the proposed MRF and BTF buildings.

Topography

The subject site slopes from the boundary of the R188 at a height of between 112 and 113m upwards to the ridge of the reinstated landfill from at a highest point of over 127m. From this point the land slopes down in a north-west direction to the low point of the reinstated land form at a height of 113m. The land to the north-west of this point is currently in operation and with varying heights, with the highest point at present being to the west of the site at a height of 118m.

Slope Regime

The site morphology indicates large area of steeper slopes in the southern portion of the subject, adjacent to the existing landfill operation on the reinstated landfill area.

3.1.2 Existing Vegetation

The existing vegetation consists of hedgerows and small clumps of woodland, the predominant species being Hawthorn (Crataegus Moonogyna), Bramble (Rubus Fruiticosus), Gorse (Ulex Europaeus), and with some Ash (Fraxinus Excelsior) and Holly (Hex Aquifolium).

There is a hedgerow along the boundary at the R1B8 Regional Road which consists of Alder (Alnus Glutinora). The main ground-cover over the site is rough grassland.

3.1.3 Existing Land Use and Existing Dwellings

The existing landfill and Civic Amenity area is located to the south of the site, with associated infrastructure adjacent to the landfill.

The predominant land use surrounding the site is one of fallow agricultural pastureland. There are isolated farmhouses scattered around the landscape, the only other land use, being existing landfill. There are approximately 12 residences within 500m from the boundary of the landfill site. Four of these houses are under the ownership of Cavan County Council. The site is located in the Corranure townlands, the land area is approx. 47.5 hectares in total. The primary land use in the vicinity of the landfill is agriculture. The majority of the area surrounding the proposed development is designated as rural, characterised by scattered individual dwellings.

3.1.4 Visual Analysis

The landscape locally is visually-dominated by the existing landfill and its associated buildings. It is situated in the middle of agricultural pastureland with a haphazard field pattern enclosed by hedgerows and small clumps of woodland. Areas of steep slopes are confined to the existing landfill site and southern end of the subject site. Views into the site are confined along the R188 Regional Road and to a laneway giving access to the existing farm buildings. There are also views into the site from isolated housing units surrounding the site located to the west, the east and south-east of the site.

3.2 Human Beings

Cavan County is predicted to grow its economy in both rural and urban areas. The population of Cavan as recorded in the 2002 Census of Population was 56,416, which is an increase from the previous census of 52,994 in 1996.

The site is approximately 3km from the centre of Cavan town and approximately 5 km from the town of Ballyhaise. The population density of Cavan Town is 2,080 to 4690 sq Km, with the surrounds 120 to 2,080 sq Km. Cavan town is one of the major centres of employment in the County. The town contains some small to medium sized industry but the population is largely rural with the predominant activity being agriculture.

The site is currently a non hazardous landfill and Civic Amenity Site with the remaining area currently fallow agricultural lands. The site is not adjacent to any area of high natural beauty, high quality landscape character, views or prospects, listed buildings, scenic routes, amenity use designated areas, proposed Natural Heritage Area, Special Areas of Conservation or Special Protection Areas. In addition, it does not interfere in any manner with the cultural heritage of the area.

There is no reason to expect the population is more (or less) vulnerable to health effects from the proposed development than humans located elsewhere in the county.

3.3 Flora and Fauna

The site lies in drumlin country where low rounded hills create an undulating topography with a north or north-west grain. Streams form part of the north-eastern and western boundaries and both flow north into the Annalee and Erne catchment. The soil is heavy so that the fields become full of rushes if not mown regularly, and are generally used for extensive grazing

The habitats on site are predominantly wet grassland with earth banks between the fields, usually with hedgerows. In places there are drainage ditches, an artificial pond and, around an old farmstead with recolonising bare ground. The streams are eroding and upland in character and that on the north-eastern end has cut a sizeable valley where oak-ash-hazel woodland is developing.

3.3.1 Overall Evaluation

The habitats encountered on the site are widespread and very typical throughout the Irish countryside and none of the habitats recorded are of high conservation value. The site contains species typical of drumlin country and very widely distributed in Cavan and adjacent parts of Roscommon, Meath and Longford. There are no habitats or species of significant interest in a county sense though the stream valley in the north-eastern corner retains a good selection of woodland organisms and is locally valuable.

The site is not included in any designated area and is unlikely to be so in the future. Likewise it does not contain habitats or species listed as of special interest by the EU Habitats Directive (92/43/EEC) or by the Birds Directive (79/409/ EEC). There are no plants included in the Flora Protection Order 1999 though most of the bird species have general protection under the Wildlife Act 1976.

3.4 Geology, Hydrogeology and Hydrology

3.4.1 Geology

The site comprises of over-grown grassed agricultural land, in fields bounded by hedgerows. The lands surrounding the site are of agricultural use. Corranure Landfill is mapped as being underlain by lythotypes belonging to the Longford-Down Inlier. fault-bounded Tracts.

Soil Type 25 is the most extensive soft type which features in the area. Soil Type 25 is comprised of 50% Gleys, 40% Acid Brown Earths and 10% Interdrumlin Peats and Peaty Gleys. The predominant soil (50%) is an imperfectly to poorly drained Gley of loam to clay loam texture and of medium base status.

The main associated soil (40%) consists of a moderately well-drained Acid Brown Earth of loam to clay loam texture and low base status. This soil is friable and structure is usually fairly well developed. However, the lower horizons tend to be plastic when wet with less well developed structure.

The use range of the principal soil is limited. It is more suitable to pasture than to arable cropping. Poaching may be a serious limitation to pasture utilisation in wetter periods whilst growth is also somewhat restricted in spring and autumn. The associated soil can be utilised for arable crops and pasture. From the physical standpoint, it is moderately suited to tillage. However, frequency and degree of drumlin slopes is a limitation to machinery use.

In the interdrumlin flats Peat and Peaty Gleys account for 10% of the soils in Soil Type 25. These have serious drainage problems due to high water tables and poor porosity and cannot be greatly improved unless these issues are rectified. Their main use is for summer grazing.

The surface layer in the landfill extension area consists of firm to stiff brown sandy, gravelled clay with boulders and cobbles (boulder clay). Sporadic layers of sand or gravel may also occur. On average the boulder clay possesses a thickness 10 to 15 m.

Boulder clay close to the surface (approx. 1 to 4 m below the surface) consists of a gravely clay distinguished by higher proportions of gravel and sand and includes the soil formation zone.

Below the boulder clay are middle Ordovician rock from the Coronea formation and the Red Island formation. These consist of fractured highly weathered shale, fractured jointed greywacke and broken fractured fine to medium grained sandstone.

The bottom of the waste body is below the elevation of the surrounding ground level thus indicating that the waste was originally used to backfill the Lough that was present.

3.4.2 Hydrogeology

The GSI has provided a provisional classification of the two bedrock formations underlying the proposed extension area. This classification for both the Coronea and the Red Island Formation is "Poor Aquifer, Generally Unproductive except for Local Zones (PI)".

With the presence of overburden thickness generally in excess of 10m except for the area to the east near R04 where the boulder clay has a thickness of 8m. This implies a general vulnerability rating of low.

3.4.3 Hydrology

All locations sampled and analysed have contaminant concentrations lower than the action level where remediation would be required. Some parameters do fall between the optimum and action levels and the results show a general trend of a higher concentration further downstream from the site. Therefore it can be concluded, the landfill is the not the sole contributing source of contamination with local activities a major factor in the water quality of the area.

3.5 Air Quality

Existing atmospheric emissions include: Area sources: uncontrolled landfill gas emissions from fissures in completed areas and also from recently tipped waste in operational Cell 3. Emissions generated from waste trucks and other vehicles travelling along the access and internal haul roads to the tipping area such as dust, sulphur dioxides and nitrogen dioxides.

Dust monitoring for 2008 shows a significant increase in compliance with the licence emission limit values, with all monitoring points being compliant with the exception of the monitoring point located adjacent to the Cootehill Road which is the furthest point away from activities on site. This is due to measures having been put into place by the operator to reduce dust emissions on site and site access roads.

There are no significant emission sources of sulphur dioxide in the area, as houses in the locality would be either low-sulphur distillate oil or peat. Diesel fuel used by road vehicles also has very low sulphur content.

Landfill gas and odour emissions at the existing facility are well within the limits set out by the waste licence and complaints of odour in the area have been significantly reduced since being taken over by the current operator (the applicant).

3.6 Noise and Vibrations

Intermittent sources of noise include tipping vehicle and reverse sirens at the active working face, with vehicle stalling on the weighbridge. At the existing landfill road traffic is the greatest background source of noise in the area. Current landfill activity takes place between the hours of 08:00 and 17:00 weekdays and between the hours of 8:00 and 13:00 on Saturdays. Ground vibration is not anticipated to cause an issue.

3.7 Traffic

All traffic to the site is from the Cavan-Cootekill Road (R188). The general surfacing and structure of the road is considered good. A turning lane has been provided for traffic from both sides entering the landfill.

There have been no serious accidents at the landfill site entrance since construction of the improved junction during the remediation works carried out in 2002.

3.8 Climate

Prevailing winds are from a south westerly direction; approximately 60% of winds are from the western sector with an incidence of calm 'slack' wind conditions of about 5%. The annual average wind speed at Clones is 4.4 m/s with less than 6% of the hourly observations recording wind speeds over 9 m/s.

The local rainfall pattern is important as it affects the moisture content of the surface of internal haul roads and hence potential for fugitive dust emissions from the road surface. Clones weather station shows a mean annual rainfall of 984 cm.

The area has an average daily temperature of 9 degrees Celsius.

3.9 Archaeology and Cultural Heritage

The proposed building areas and Cell 3 and 4 proposed for development have been largely modified and excavated to natural subsoils during the lifetime of Corranure landfill.

3.10 Material Assets

The waste recycling and processing facility and biological treatment plant does not require any major modifications to the existing telecommunications or electricity supplies in the area.

The proposed development will reduce the need to transport larger volumes of waste greater distances for treatment and disposal.

The site is not over overlooking or shadowing any existing development and it is unlikely the development will cause a decrease in adjoining property values, given the existence of an already established landfill.

4 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.1 Landscape and Topography

4.1.1 Potential Impacts

Construction impacts relate to ground disturbance, hedgerow removal and erection of buildings. However the requirement to further increase the capacity of the Corranure Landfill Site will have an insignificant impact on the landscape.

4.1.2 Proposed Mitigation Measures

The planting of the mound with a natural pattern of scrub woodland will serve to mitigate the apparent mass in the landscape. It is intended that the utilization of a scrub woodland mix of Hawthorn, Alder, Beech, Oak and Blackthorn will create a stable and visually appropriate plant community on the flanks of the mound. The remaining areas of mounding will be covered by an appropriate mix of wild grasses and wildflowers as a low ground cover and visual foil to the scrub-woodland.

Best landfill management and operational practices in accordance with EPA Guidelines will ensure that the development of the proposed facilities at Corranure Landfill will have no adverse impact on the surrounding lands

4.2 Human Beings

4.2.1 Potential Impacts

For an effect on human health outside the development there must be emissions from some type from the site. The main possible emissions include

- Noise
- Traffic
- Landfill gas
- Leachate
- Wind-blown litter
- Vermin and insects

4.2.1.1 Noise

Noise levels will increase in the immediate vicinity during the construction period due to increased traffic and construction work. The noise will not be sufficient to induce hearing loss in those environmentally exposed. Any effects are likely to be related mainly to annoyance. The relatively short-term construction period minimises the risk of any health effects.

In summary it is concluded that noise levels at the nearest sensitive location (occupied residential premises) will not significantly deviate from the current background day time noise levels. Due to the existing background noise levels existing at the site, it is contended that the proposed development will not impact on the surrounding environment.

4.2.1.2 Traffic

No public roads or pedestrian routes will be changed by the proposed development and all traffic will use existing roads and access points.

A traffic impact assessment was conducted in order to assess the potential impacts of additional traffic movements generated during operation of the facilities (EIS Section 3.8: Traffic). The proposed facilities will initially result in total, some 242 movements created by the provision of the new facilities, 122 HeV & 120 others, would be created over the working day. This would average 17 movements per hour, the worst periods would be the 7.30 to 8.30 period in the morning (journey to work and outward truck movements) and the 5.00 to 6.00 pm period in the evening trucks to base and journey home) when an estimated 40 trips (32 car & 8 HGV movements) would be generated. As such the worst case scenario from a traffic aspect would be that an estimated 302 additional trips would be generated per day or 50 in the peak hours. It was concluded that the increased landfill traffic will not have a large impact on peak hour flows on the R188.

4.2.1.3 Landfill Gas

Odour, in most instances, does not represent any direct harm to human health but can be very disturbing. Landfill gas contains the gases carbon dioxide and methane as major constituents. Both gases show extremely low toxicity and are natural constituents of the lower atmosphere. Landfill gas also contains trace amounts of other gaseous compounds generated during the microbial degradation of organic waste. Some of these compounds, though not occurring in toxic concentrations, can be sensed by humans because of the low smelling threshold for such compounds, e.g., for hydrogen sulphide.

4.2.1.4 Leachate

Groundwater in many areas is a major source of drinking water. The quality of groundwater, therefore, has to be protected rigorously. The lining system of the Cells 3 and 4 of Corranure Landfill in addition to the large depths of in-situ low permeability clay will

prevent any leachate from reaching groundwater thus making sure that groundwater quality, human health, and the environment will not be affected by the proposed development

4.2.1.5 Wind Blown Litter

Windblown litter can be an issue at a landfill facility where the proper control measures are not in place

4.2.1.6 Vermin and Insects

Rodents can be harmful since they may transfer pathogenic viruses, micro-organisms, parasites etc. and may, therefore, represent an important factor for the spreading of various diseases. Control of rodents is a mandatory prerequisite for any waste management facility. Vermin control specialists are currently employed on site this will be extended as the site develops.

Flies and birds can also pose a problem, where they are attracted to raw waste which has not yet been covered.

4.2.2 Proposed Mitigation Measures

The design and operation of the proposed site will be in accordance with the Landfill Directive, Animal By Products Regulations, Guidance Documents and the EPA licence, which will minimise emissions from the site.

Mitigation measures introduced to reduce the environmental nuisances of dust, odour, litter, traffic, vermin, birds, leachate and landfill gas will greatly reduce the level of concern for the health of the local community surrounding the landfill. These measures are currently in place at the existing facility in accordance with an Environmental Management Plan for the landfill as per Waste Licence W077-02 and will be incorporated to include the proposed development once in operation.

The absence of hazardous waste entering the site will significantly reduce the likelihood of substances that could be toxic in low levels appearing in leachate. Groundwater and particularly drinking water will not be contaminated given proper operation and mitigation. The provision of a composite lining system within each cell will ensure that the groundwater reservoir will be protected from leachate contamination.

Landfill gas is contained and collected as completely as possible. Operations on the site involve minimisation of the area of the site exposed at any time to enable better control of landfill gases. A landfill gas collection and flaring system is currently active at the landfill. The absence of hazardous waste entering the site will significantly reduce the likelihood of substances that could be toxic in low levels appearing in the landfill gas.

The following operation procedures are implemented and will continue to be implemented on a daily basis as mitigating measures against vermin and pests:

- The landfill working area will be kept as small as possible (max. 25metres wide)
- The waste will be compacted with a high tonnage steel wheel compactor
- Active waste disposal areas will be temporarily covered by approximately 0.3 m of soil when there is no disposing of waste taking place for a lengthy period of time
- Waste lorries transporting waste to the site will be covered appropriately
- All waste will be stored indoors or in sealed containers were possible prior to removal off site and waste activities and site procedures will incorporate vermin prevention measures
- Fly nuisance will be minimised by the rapid removal of degradable waste offsite, the washing of the floor in the buildings with disinfectant and the covering of all stored waste onsite.

4.3 Flora and Fauna

4.3.1 Potential Impacts

The principal habitat occurring on the site is wet grassland. This habitat is considered to be of low ecological value. Part of this habitat will be removed during construction of the proposed development, but much of the lands will remain in their current state and be unaffected by the proposed developments.

Fauna recorded on the site are regarded as common and widespread. It is unexpected to have an increase in scavenging birds and mammals that are currently on the landfill site. The proposed development will not have any significant impact on the existing fauna. The proposed development will involve the removal of some internal hedgerows, but the

majority of the hedgerows will remain. The majority of the habitat will be removed in localised areas as part of the development works, resulting in a moderate permanent impact on the local ecology.

4.3.2 Proposed Mitigation Measures

The following measures are recommended to reduce the impact of hedgerow removal:

- Clearing of hedgerows will be undertaken outside the nesting period from March 1st to August 31st
- The trees and hedgerows planted, before, during and after the proposed developments life span, will consist of species representative of those in the surrounding environs

Strict controls will be implemented to avoid pollution or sedimentation of the streams during the construction phase. Measures include the construction of surface water attenuation ponds, silt traps and any other measures deemed necessary.

A comprehensive landscaping programme is to be undertaken on the proposed site. The

programme will be conducted on a phased basis and will consist of native woodland boundary planting. Species chosen will be native and reflect the species composition of the surrounding hedgerows.

4.4 Geology, Hydrogeology and Hydrology

4.4.1 Potential Impacts

The proposed development will involve the removal of the subsoil's at the site to facilitate construction of Cell 4 and create level platforms for the proposed buildings, the development will result in permanent covering of part of the site with roadways, paths and other impervious surfaces. Lands north of the site will remain as fallow lands.

A possible hydrological risk is limited to the surface water on location, which feeds directly into the receiving waters from the gravely clay close to the surface. This possible risk must be avoided via appropriate technical measures. The design and position of monitoring facilities (position and expansion of the groundwater wells) must take into account this potential danger.

There will be no direct discharges to groundwater or any groundwater abstractions as part of the proposed integrated facility.

4.4.2 Proposed Mitigation Measures

The removal of subsoil is an inevitable consequence of implementing the proposed development, this will be done in accordance with the Waste Management Act and Regulations. Topsoil and other soils will be stockpiled to be used as cover material and for final landscaping of the development. New leachate drains installed on site will be constructed in accordance will applicable building standards thereby minimising the potential for leaks in underground pipes.

All fuels will be stored in fully bunded areas in accordance with relevant environmental guidelines and recognised standards and tested in accordance with the waste licence conditions. All vehicles will be serviced and fuelled in appropriately designated areas which will be fully contained to prevent spillages into the surface water network. Appropriate measures such as spill kits etc. will be at designated locations on the site.

The measures that will be adopted in order to protect groundwater are:-

- To provide containment of the base and the sides of the landfill
- To provide a leachate collection and removal system in order to maintain a low leachate head.

4.5 Air Quality

4.5.1 Potential Impacts

The potential impacts to air quality due to the proposed development are:

- Dust
- Landfill Gas
- Odour
- Aerosols

4.5.2 Proposed Mitigation Measures

The measures to control and reduce emissions include:

- Tipping of waste material shall be restricted to a designated area of the active cell.
- Waste material will be covered daily with suitable inert material, such as subsoil, stone, rocks, bricks, crushed concrete etc., to control emissions of dust and malodours from the surface of the active cell. At the end of each week, the tipped material will be covered with a layer of inert material, with a minimum depth of 150mm.
- When the surface of the cell has reached the design height it will be capped, restored and re-seeded with grass.
- Burning of any waste material on-site shall be prohibited.
- Mobile plant equipment used on site will be regularly maintained to prevent excessive exhaust emissions of particulates and other pollutants.
- Haul roads within the landfill extension will be covered with compacted hardcore to reduce dust emissions from trucks travelling to and from the tipping area.
- The public road near the entrance to the landfill and hard-paved road surfaces within the site reception area will be maintained to ensure any spillages of material from vehicles entering or leaving the site will be promptly removed to reduce dust emissions from the road surface.
- A mobile water sprayer will be employed during dry weather conditions to reduce dust emissions from the access road and haul roads within the landfill site.
- During dry spells if dust is being generated, stockpiles will be kept moist.
- All trucks departing from the site will pass through the wheelwash, which shall be maintained with the silt removed on a regular basis.
- All gas or leachate collection boreholes will be capped and inspections carried out at regular intervals to inspect the completed cells for leaks and uncontrolled venting of landfill gas.
- Regular inspections will be carried out of completed cells to identify and eliminate, where practicable uncontrolled emissions of landfill gas

4.6 Noise and Vibrations

4.6.1 Potential Impacts

The proposed development consists of:

- The construction of all the proposed activities
- The operation of the completed facilities
- The subsequent road traffic flow associated with the operation of these facilities

The maximum noise levels predicted will occur during the construction phase of the development and will pertain for short periods only and restricted to day light hours, typically between 8am and 6pm.

The main noise sources during the operational phase of the facility are likely to include:

- Vehicles entering the site
- Civic Amenity and employee vehicles entering and leaving the site
- Loading shovel
- Screening Equipment

4.6.2 Proposed Mitigation Measures

A 3.5m topsoil berm will be constructed along the northeast of the site in line with house locations and around the processing and stockpiling areas of the MRF. As the site develops mitigation measures will be assessed and implemented as necessary.

There are several mitigation measures that can be put in place to further reduce noise levels impacting on the receiving environment, this will include:

- Proper training of operators in equipment use to minimise noise generation, excessive revving of engines, ensuring that vehicles are operated with noise control hoods closed and equipment turned off when not in use.
- Proper maintenance of vehicles and equipment, checking the efficiency of silencers, lubrication of bearings
- The control of on-site activities through the implementation of good management practices will combine to ensure the noise generated at the site will not have any undesirable effects on the existing neighbouring environment
- The closure of all doors on the main plant buildings
- A speed limit of 10km per hour applies to the site

There are no off-site vibration effects. No amelioration measures are required.

4.7 Traffic

4.7.1 Potential Impacts

The potential catchment area for the facility includes counties Cavan, Monaghan, Louth, Meath, Westmeath, Kildare, Laois, Longford and Leitrim. Waste collectors within the immediate catchment of the facility will be delivered directly to the facility in refuse collection vehicles. Each refuse collection vehicle will carry between 7 to 12 ton loads, depending on the nature of the waste. The refuse collection vehicles will deliver mixed residual waste, source separated recyclable waste as well as source separated organics. Note: Each load results in two movements, arrival and departure. Each movement is a single trip. A maximum of 335,000 tonnes will be accepted annually with no more than 1070 tonnes per day being accepted.

Potential impacts include:

- Accidents
- Litter
- Queues
- Congestion

4.7.2 Proposed Mitigation Measures

The following improvements are recommended on the approach to the existing landfill site to improve driver awareness of the presence of the landfill entrance ahead:

- Warning signs should be placed on the approaches to the landfill to warn drivers of the HGV movements ahead.
- A regular inspection of the public road to be undertaken and in the event of significant quantities of mud on the road, the road shall be swept accordingly.
- The road will be inspected for any windblown litter, which will be collected accordingly. All trucks will be suitably covered to prevent the accumulation of litter during transport.
- The site has two weighbridges that allow for two vehicles to be entering or leaving the site at the same time without contributing to the overall queue system.
- Traffic to and from the site will not be permitted to park on the public roadway or to impede the free flow of traffic on the adjoining road network.
- Further site specific mitigation measures are discussed in the main body of the EIS together with a detailed Traffic Impact Assessment and a Road Safety Audit.

4.8 Climate

4.8.1 Potential Impacts

The proposed extension of the landfill facility will not have a significant impact on the climate of the area. Emissions of methane and other greenhouse gases will be insignificant

from the landfill due to gas collection and flaring. The main sources of air emissions from the developments, namely the MRF and biological treatment plant are pollutants of climatic concern (primarily CO_2 , NO_x and SO_2) would be vehicular/traffic which may have the potential to contribute to atmospheric conditions.

4.8.2 Proposed Mitigation Measures

Good site practice during the construction and operation phases of the proposed development will ensure that the overall impact of air emissions will not be significant. All management practices will be based on Best Available Technology. This together with mitigation measures for Air and Traffic emissions will decrease the potential impacts on the climate of the area.

4.9 Archaeology and Cultural Heritage

4.9.1 Potential Impacts

Areas where the MRF and the Biological Waste Treatment facility to be located is situated approx 60 metres from an existing ringfort (CN 0021-063). There will be no physical impact on this ringfort. As the surrounding landscape is largely developed, modified and encroached upon in the past there will be a low visital impact upon the ringfort.

4.9.2 Proposed Mitigation Measures

- An appropriate buffer zone to be devoid of any development surrounding Lismagratty ringfort (RMP CN 021-063) and this is to be agreed with the DoEHLG
- Archaeological monitoring of testing of the marshy greenfield areas located at the eastern end of Area A (MRF Building)
- Also it is recommended that an action plan be established to provide appropriate preservation and conservation of Lismagratty ringfort and the surrounding areas. This should be done in association with the Heritage Division of the DoEHLG

4.10 Material Assets

4.10.1 Potential Impacts

The main potential impact on material assets of the area relate to an overall reduction in the residential quality as a result of environmental nuisances (odour, litter, vermin, birds, noise, insects and pests, fires, mud and dust). Since 2001, substantial improvements have been carried out to the infrastructure and operational practices of the existing landfill and measures for the control of environmental nuisances are in place.

4.10.2 Proposed Mitigation Measures

The proposed developments to Corranure Landfill will not have an adverse impact on land use as the amount of land in use is small and it is proposed to restore the lands to their current agricultural use following the closure of the landfill.

4.11 Interaction of the Foregoing

4.11.1 Potential Impacts

There is potential for the interaction between the impacts of the proposed development within and adjacent to the proposed development. Atmospheric and noise emissions from the facilities has the potential to impact on human beings in the vicinity of the site. Impacts from dust and odour have the most significant impact of the proposed facilities.

While there is potential for the impacts to interact/inter-relate and result in a cumulative impact, it is deemed unlikely that any of these cumulative impacts will result in significant environmental degradation.

4.11.2 Proposed Mitigation Measures

The facility will be operated to the Best Available Techniques (BAT) as per EPA recommendations and under instructions of a waste Licence. All information will be available to interested parties: a complaints register will be maintained. The EPA will undertake regular environmental audits, which will demonstrate how the facility is performing. These measures will result in interaction in all environmental criteria.

Compliance monitoring will be undertaken, as per regulatory conditions and will be reported on, as part of the annual environmental report for the whole facility. These reports will be made available to interested parties, which will allay public concerns as to the operation of the site and will result in a positive interaction with respect to human beings.

5 CONCLUSION

The proposed development by Oxigen when run in full compliance with the conditions of the waste licence and in accordance with the environmental controls proposed in this EIS will not impact negatively on the current environment. This site is deemed a suitable location for the activity given it is currently operating as both a landfill and a Civic Amenity Facility.

The proposed development will have a positive impact, in that it provides a facility for the recovery of a significant tonnage of biodegradable waste and also provides for the recovery and disposal of construction and demolition, commercial and industrial and residue waste in an environmentally sensitive and sustainable and proven manner. The facility will play an integral part in the region's achievement of national waste recovery and recycling targets in line with local, national and EU legislation and local and national development plans and waste management plans.

Attachment B

- **Application Details** B.1
- Location of Activity B.2
- Planning Authority B.3
- Sanitary Authority B.4
- Notices & Advertisements B.6
- Consent of copyright owner required for any of Type Of Waste Activity

EPA Export 26-07-2013:01:35:05

Attachment B.1 Applicants Details

Attached is a certified copy of the Certificate of Incorporation for Oxigen Environmental Ltd.

The Company Registration No. is 315604 from the Companies Registry Office

The List of Directors are: Sean Doyle, Peter Mc Loughlin, Mary Doyle, Aidan Doyle, Gerry Fee, Denis Cremins

Attached
Drawing No. 03 Ownership Plan

Consent of copylight owner required for any other tise

Number 315604

Certificate of Incorporation

I hereby certify that

For its rection to the required for the other tree. OXIGEN ENVIRONMENTAL LIMITED

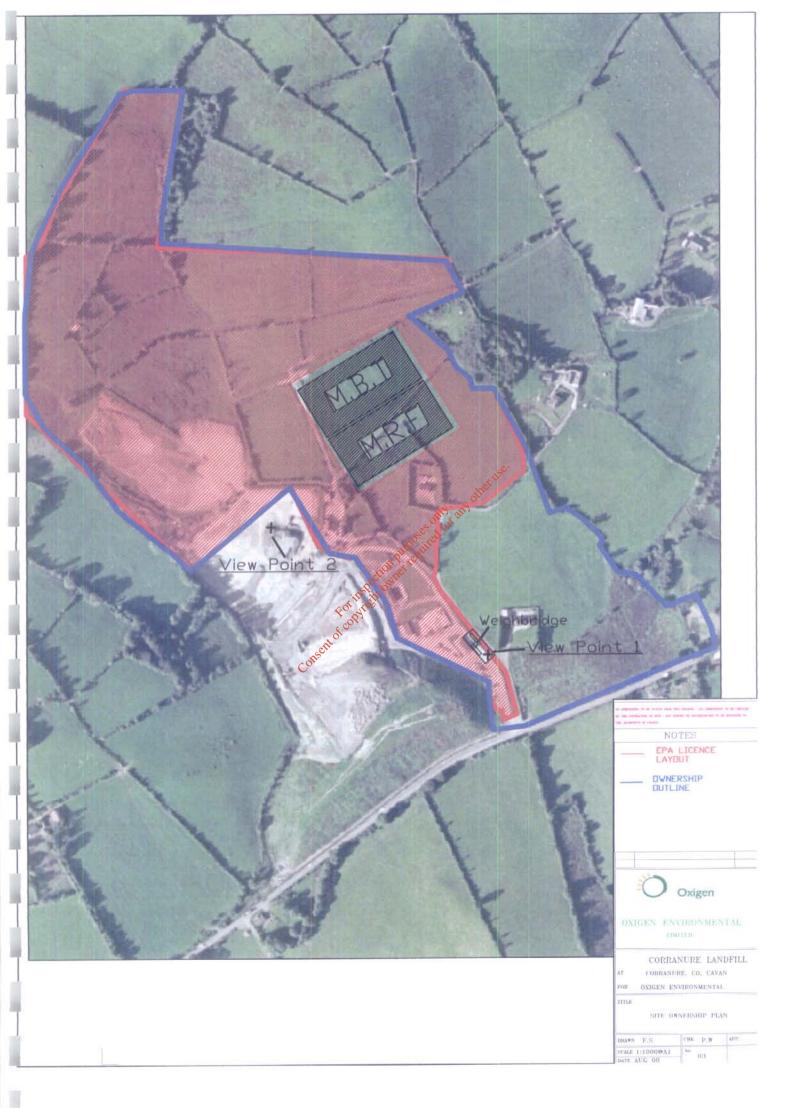
is this day incorporated under the Companies Acts 1963 to 1999 and that the company is limited.

Given under my hand at Dublin, this Monday, the 22nd day of November, 1999

M. Reilli for Registrar of Companies

Certificate handed to/posted to*: Ap Consulting Orchard House, Clonskeagh Square, Clonskeagh, Dublin 14.

*Delete as appropriate

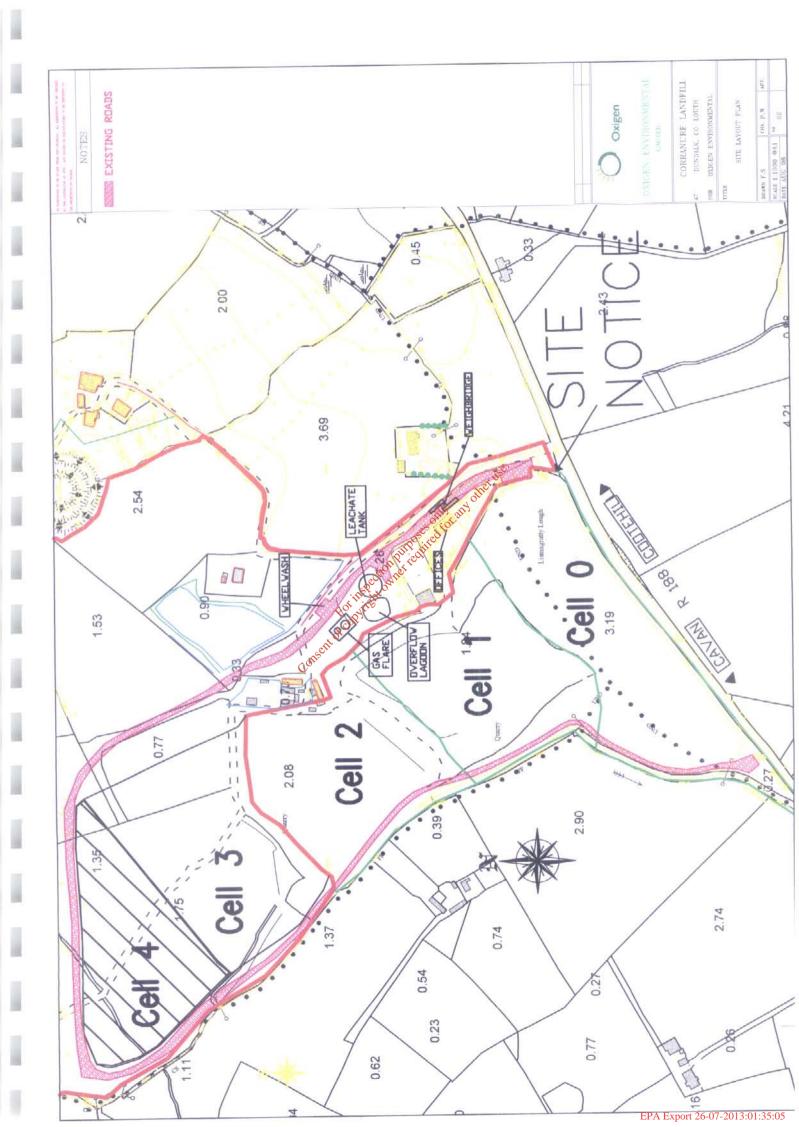


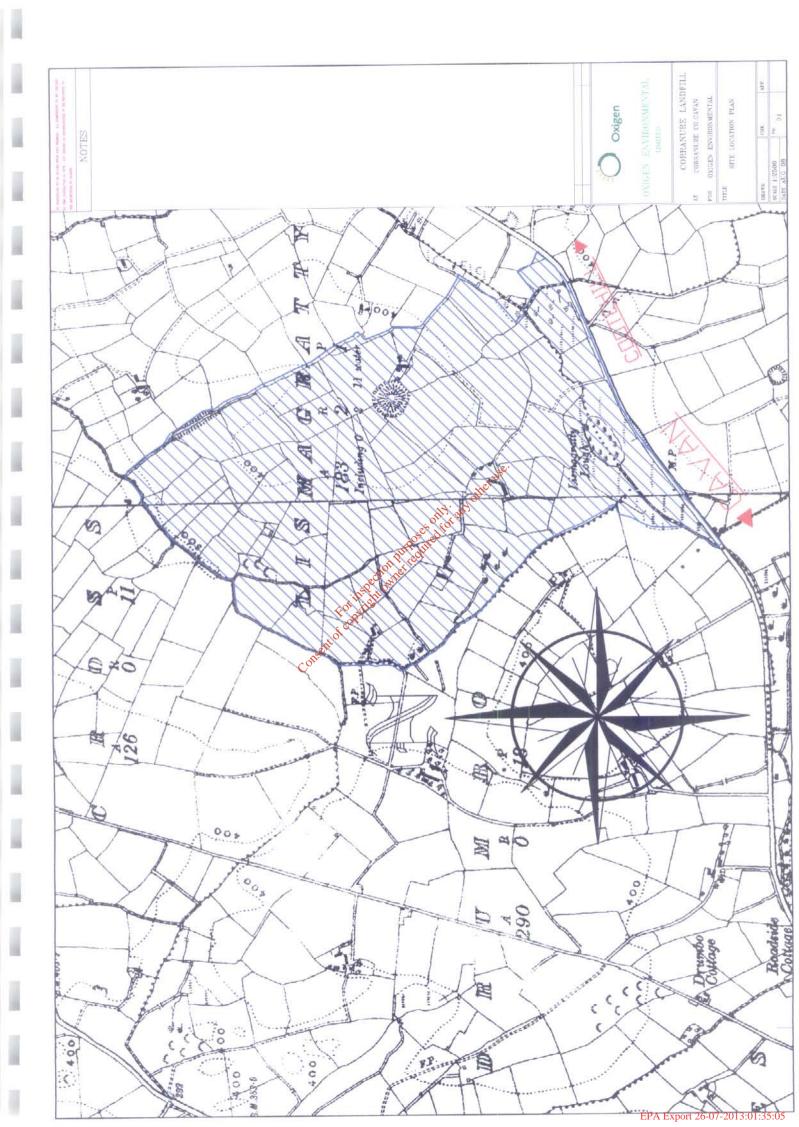
Attachment B.2

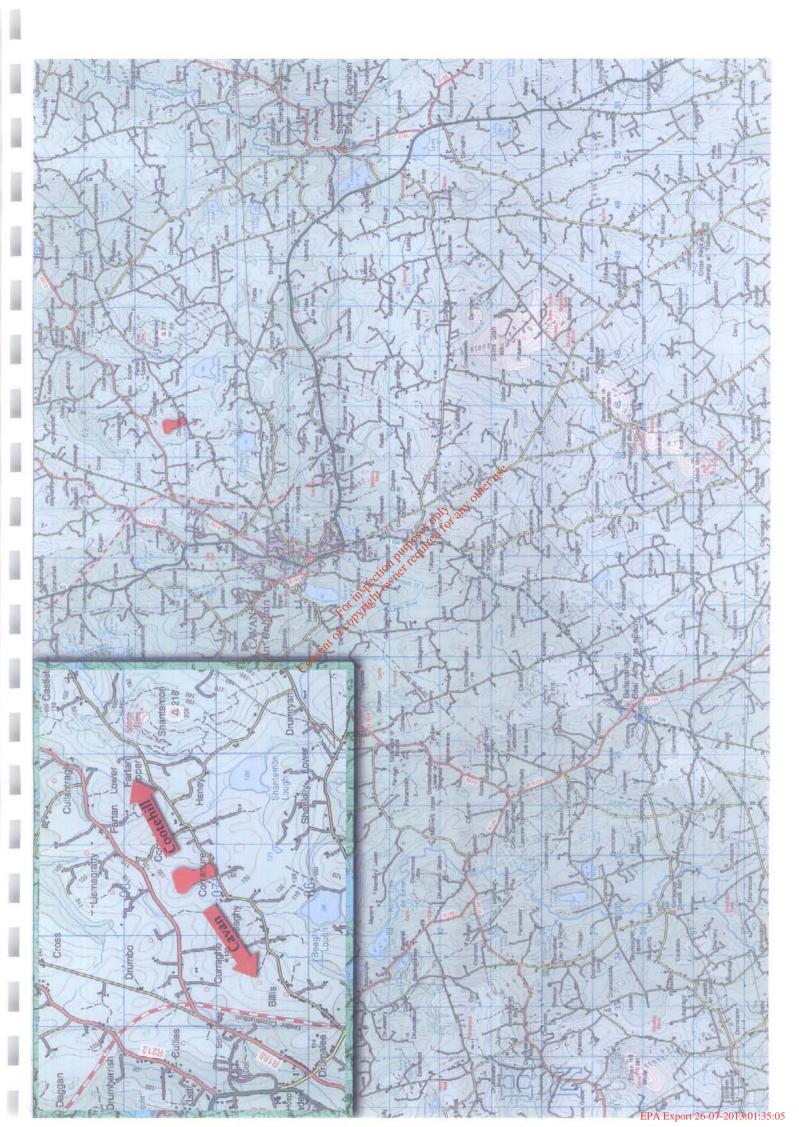
Location of Activity

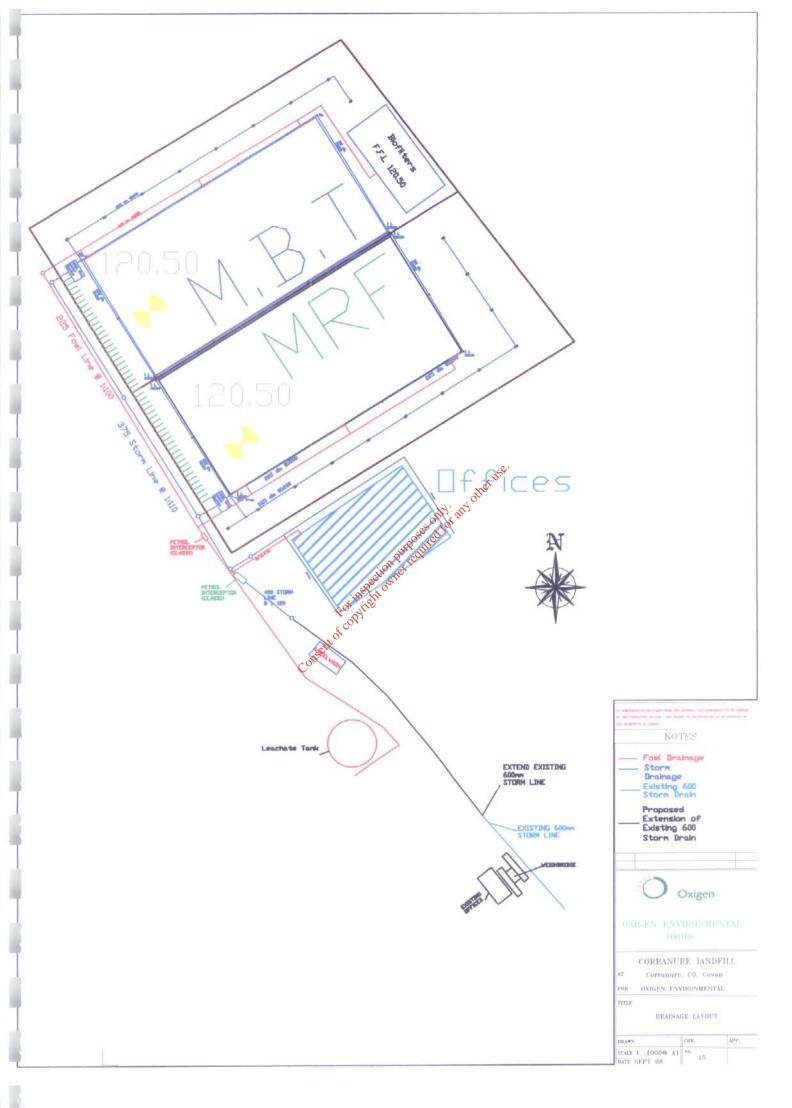
Drawing No. 02 Drawing No. 01 Drawing No. 01A Drawing No. 15 The Site Layout Plan The Site Location Plan The Site Location The Services Plan

Consent of copyright owner required for any other use.









Attachment B.3 Planning Authority

The Environmental Impact Statement is included in the application Planning Permission is subject to a decision by An Bord Pleanala The existing Waste Licence W077-02 is included

Consent of copyright owner required for any other use.



Cavan County Council



Comhairle Chontae an Chabhain

Courthouse

Teach Na Cuirte

Cavan

An Cabhain

Telephone Numbers

Central Council 049 437 8300

Motor Tax 049 437 8430

Planning 049 437 8600

Corporate Services 049 437 8601

Johnston Central Library 049 437 8500

Finance Department 049 437 8300

Roads 049 437 8300

Housing 049 437 8300

Community & Enterprise 049 437 8602

Water Services 049 437 8300

Email: info@cavancoco.ie

Ms Joan Harrington

Oxigen Environmental

Corranure landfill

Corranure

Co. Cavan

11th August 2008

Re: Planning and EPA licence application

Joan,

In accordance with the requirement of condition 6.2.3 of the conditions of sale Cavan County Council gives consent to Oxigen Environmental Limited to the lodgement of a planning application and EPA license on the lands referred to as the Phase 1 lands.

Ger Finn

Deputy County Manager

AMENDMENT UNDER SECTION 76(4) OF THE WASTE MANAGEMENT ACTS, 1996 to 2003

This licence was amended on 28/10/2005 under Section 76(4) of the Waste Management Acts, 1996 to 2003. The details of the amendment must be read in conjunction with the licence. The amendment document is titled 77-2S76(4)AmendmentA.doc.

This licence was amended under Section 42B(1)(c) of the Waste Management Acts, 1996 to 2005. The details of Amendment B must be read in conjunction with this licence. The amendment is entitled W0077-02S42B(1)AmendmentB.



Headquarters
P.O. Box 3000

Johnstown Castle Estate

County Wexford

Ireland

WASTE LICENCE

LANDFILL FOR NON-HAZARDOUS WASTE

Waste Licence

Register Number:

77-2

Licensee:

Cavan County Council

Location of Facility:

Corranure Landfill, Lismagratty and

Corranure Townlands, Cootehill Road,

Cavan, County Cavan.

INTRODUCTION

This introduction is not part of the licence and does not purport to be a legal interpretation of the licence.

This licence is for the continued operation and expansion of a non-hazardous waste landfill, a civic amenity facility and a recycling building located at Corranure Landfill, Lismagratty & Corranure Townlands, Cootehill Road, Cavan, County Cavan. The facility boundary has been extended to allow for two new lined cells to be installed (Phase 3). The waste intake is limited to 90,000 tonnes per annum comprising of household waste, commercial waste, construction & demolition waste green waste, street cleaning residues and hazardous household waste.

The licence provides for the operation of a civic waste facility which will allow for acceptance of waste types such as glass, paper, aluminium and steel cans, textiles, cardboard and household hazardous waste such as fluorescent tubes, waste oils, oil filters, waste batteries. Dry recyclables such as plastic and cardboard will be baled on-site prior to transfer off-site for recovery.

The licensee must manage and operate the facility to ensure that the activities do not cause environmental pollution. The licensee is required to carry out regular environmental monitoring and submit all monitoring results, and a wide range of reports on the operation and management of the facility to the Agency.

The licence sets out in detail the conditions under which Cavan County Council will operate and manage this facility.

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DECISION & REASONS FOR THE DECISION

Reasons for the Decision

On the basis of the information before it, the Environmental Protection Agency (the Agency) is satisfied, for the reasons set out in the following Schedule of Activities Licensed, that the requirements of Section 40(4) of the Waste Management Acts, 1996 to 2003 have been complied with in respect of the application for a waste licence for the activities listed hereunder in Part I.

In reaching this decision the Agency has considered the application and supporting documentation received from the applicant, all submissions and objections received and the reports of its inspectors.

INTERPRETATION

All terms in this licence should be interpreted in accordance with the definitions in the Waste Management Acts 1996 to 2003, (the Acts), unless otherwise defined in this section.

Adequate lighting 20 lux measured at ground level.

Aerosol A suspension of solid or liquid particles in a gaseous medium.

Agreement Agreement in writing.

Annually At approximately twelve monthly intervals.

Application The application by the licensee for this waste licence.

Appropriate facility A waste management facility, duly authorised under relevant law and

technically suitable.

Attachment Any reference to attachments in this licence refers to attachments submitted as

part of the waste licence review application.

BAT Best Available Techniques.

Biodegradable

waste

Any waste that is capable of undergoing anaerobic or aerobic decomposition,

such as food, garden waste, sewage sludge, paper and paperboard.

CEN Comité Européen De Normalisation – European Committee for

Standardisation.

Condition A condition of this licence.

Construction and Demolition Waste

All wastes which arise from construction, renovation and demolition

activities.

Commercial Waste As defined in Section 5(1) of the Act.

Containment boom A boom which can contain spillages and prevent them from entering drains or

watercourses.

Cover material Bricks, crushed concrete, tarmac, earth, soil, sub-soil, stone, rock or other

similar natural materials; or other cover material the use of which has been

agreed by the Agency.

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Daily Cover

Is the term used to describe material spread (about 150mm if soil cover is used) over deposited waste at the end of each day. Synthetic materials may also be used. Its objective is to minimise odour, the amount of litter generated and to control flies and access to the waste by birds and vermin. Where soils are used for daily cover, it is recommended that they be removed at the start of the day and subsequently reused as much as possible.

Daytime

0800 hrs to 2200 hrs.

Documentation

Any report, record, result, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence.

Drawing

Any reference to a drawing or drawing number means a drawing or drawing number contained in this review application, unless otherwise specified in this licence.

Emergency

Those occurrences defined in Condition 10.4.

Emission Limits

Those limits, including concentration limits and deposition levels established in Schedule C: Emission Limits, of this licence.

European Waste Catalogue (EWC)

A harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 94/3/EC and any subsequent amendment published in the Official Journal of the European Community.

Fortnightly

A minimum of 24 times per year, at approximately two week intervals.

Green waste

Waste wood (excluding timber), plant matter such as grass cuttings, and other vegetation.

Heavy Metals

This term is to be interpreted as set out in "Parameters of Water Quality, Interpretation and Standards" published by the Agency in 2001. ISBN 1-84095-015-3

Hours of Operation

The hours during which the facility is authorised to be operational. The hours of operation of a facility are usually longer than the hours of waste acceptance to facilitate preparatory and completion works.

Hours of Waste Acceptance The hours during which the facility is authorised to accept waste. Different activities within the facility, such as the landfill and the civic waste facility, may have different hours of waste acceptance.

Incident

The following shall constitute an incident for the purposes of this licence:

- a) an emergency;
- b) any emission which does not comply with the requirements of this licence;
- c) any exceedance of the daily duty capacity of the waste handling equipment;
- any trigger level specified in this licence which is attained or exceeded; and
- any indication that environmental pollution has, or may have, taken place.

Inert waste

Waste as defined in S.I. No. 395 of 2004 Waste Management (Licensing) Regulations, 2004.

Initial Development

Means such works, actions or constructions as may be specified, which for the purposes of environmental protection and safe construction and operation of

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Works the facility, have to be carried out in the initial stages of site development, and in any case prior to the commencement of construction of the landfill cells. Intermediate Cover Refers to placement of material (minimum 300mm if soil is used) for a period of time prior to restoration or prior to further disposal of waste. Landfill Refers to the area of the facility where the waste is disposed of by placement on the ground or on other waste. Landfill Gas Gases generated from the landfilled waste. LEL (Lower The lowest percentage concentration by volume of a mixture of flammable **Explosive Limit)** gas with air which will propagate a flame at 25°C and atmospheric pressure. Licence A waste licence issued in accordance with the Acts. Licensee Cavan County Council. Substances classified pursuant to EC Directives 76/464/EEC and 80/68/EEC. List I/II Substances Liquid Waste Any waste in liquid form and containing less than 2% dry matter. Any waste tankered to the facility. Maintain Keep in a fit state, including such regular inspection, servicing and repair as may be necessary to adequately perform its function. **Mobile Plant** Self-propelled machinery used for the emplacement of wastes or for the construction of specified engineering works. Monthly A minimum of 12 times per year, at approximately monthly intervals. Municipal waste As defined in Section 5(1) of the Act. Night-time 2200 hrs to 0800 hrs Any dwelling house, hotel or hostel, health building, educational **Noise Sensitive** Location establishment, place of worship or entertainment, or any other facility or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels. Recyclable Those waste types, such as cardboard, batteries, gas cylinders, etc which may Materials be recycled. Quarterly At approximately three monthly intervals. Sample(s) Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments. Sludge The accumulation of solids resulting from chemical coagulation, flocculation and/or sedimentation after water or wastewater treatment with > 2% dry matter. SOP Standard Operating Procedure. **Specified Emissions** Those emissions listed in Schedule C: Emission Limits, of this licence. Specified Those engineering works listed in Schedule B: Specified Engineering Works, **Engineering Works** of this licence. TOC Total Organic Carbon.

Treated Sludge

Sludge which has undergone biological, chemical or heat treatment, long-term storage or any other appropriate process so as significantly to reduce its fermentability and the health hazards resulting from its use.

Treatment

Treatment means the physical, thermal, chemical or biological processes, including sorting, that change the characteristics of the waste in order to reduce its volume or hazardous nature, facilitate its handling or enhance recovery.

Trigger Level

A parameter value specified in the licence, the achievement or exceedance of which requires certain actions to be taken by the licensee.

Wastewater

Contaminated water including water that has been used, for washing, and/or flushing (including foul water).

White Goods

Refrigerators, cookers, ovens and other similar appliances.

EPA Working Day

Refers to the following hours: 0900 hrs to 1730 hrs Monday to Friday inclusive.

Working Face

The area of the site in which waste other than cover material or material for the purposes of the construction of specified engineering works is being deposited.

Consent of copyright owner required for any other use.

Part I: Schedule of Activities Licensed

On the basis of the information before it, the Agency, pursuant to its powers under Section 46(2) of the Waste Management Acts, 1996 to 2003 hereby grants this Waste Licence to Cavan County Council to carry on the waste activities, that are the subject of Waste Licence Application Register Number 77-2 listed below at Corranure Landfill, Lismagratty & Corranure Townlands, Cootehill Road, Cavan, County Cavan subject to conditions, with the reasons therefor and the associated schedules attached thereto set out in the licence.

Licensed Waste Disposal Activities, in accordance with the Third Schedule of the Waste Management Acts, 1996 to 2003

Class 1	Deposit on, in or under land (including landfill).
Class 4	Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.
Class 5	Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment.
Class 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.
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.

Licensed Waste Recovery Activities, in accordance with the Fourth Schedule of the Waste Management Acts, 1996 to 2003

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 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.

Part II: Schedule of Activities Refused

On the basis of the information before it, the Agency, pursuant to its powers under Section 46(2) of the Waste Management Acts, 1996 to 2003, hereby refuses the following classes of activity that are the subject of Waste Licence Application Register No. 77-2.

Refused waste recovery activities, in accordance with the Fourth Schedule of the Waste Management Acts, 1996 to 2003

Class 1 Solvent reclamation or regeneration:

Reason: The activity described by the licensee, recovery of solvents from household waste at the civic waste facility, does not constitute a Class 1 Activity: instead the activities are included under Class 13 of the Fourth Schedule for which the licensee has also applied for.

Class 10 The treatment of any waste on land with a consequential benefit for an agricultural activity or ecological system:

Reason: The activity described by the licensee, use of recovered materials in the restoration of the facility, does not constitute a Class 10 Activity: instead the activities are included under Classes 4 and 11 of the Fourth Schedule for which the licensee have also applied for.

Consent of copyright owner required for any other use.

PART III CONDITIONS

CONDITION 1 SCOPE OF THE LICENCE

- 1.1 Waste activities at the facility shall be restricted to those outlined in the licence review application and listed and described in Part I: Activities Licensed and authorised by this licence subject to the conditions of this licence.
- 1.2 For the purposes of this licence, the facility is the area of land outlined in red on Drawing No. Fig. 2 Rev. D03 Corranure Landfill Site Plan of the application. Any reference in this licence to "facility" shall mean the area thus outlined in red.
- 1.3 This licence is for the purposes of waste licensing under the Waste Management Acts 1996 to 2003 only and nothing in this licence shall be construed as negating the licensee's statutory obligations or requirements under any other enactments or regulations.
- 1.4 Activities at this facility shall be limited as set out in Schedule A: Waste Acceptance, of this licence.
- 1.5 Waste Acceptance Hours and Hours of Operation

1.5.1 Landfill

- 1.5.1.1 Waste may be accepted at the facility for disposal at the landfill only between the hours of 8:30 to 16:30 Monday to Friday inclusive and 8:00 to 12:30 on Saturdays.
- 1.5.1.2 The landfill at the facility may be operated only during the hours of 8:00 to 17:30 Monday to Friday inclusive and 8:00 to 13:00 on Saturdays.
- 1.5.1.3 Waste shall not be accepted at the facility on Sundays and Bank Holidays, other than with the written agreement of the Agency.

1.5.2 Civic Waste Facility

- 1.5.2.1 Waste shall be accepted at the Civic Waste Facility only between the hours of 8:00 to 16:30 Monday to Friday inclusive and 8:00 to 12:30 on Saturdays, unless otherwise agreed by the Agency.
- 1.5.2.2 The civic waste facility at the facility may be operated only during the hours of 8:00 to 17:30 Monday to Friday inclusive and 8:00 to 13:00 on Saturdays, unless otherwise agreed by the Agency.
- 1.6 Every plan, programme or proposal submitted to the Agency for its agreement pursuant to any condition of this licence shall include a proposed timescale for its implementation. The Agency may modify or alter any such plan, programme or proposal in so far as it considers such modification or alteration to be necessary and shall notify the licensee in writing of any such modification or alteration. Every such plan, programme or proposal shall be carried out within the timescale fixed by the Agency but shall not be undertaken without the agreement of the Agency. Every such plan, programme or proposal agreed by the Agency shall be covered by the conditions of this licence.
- 1.7 This licence is being granted in substitution for the waste licence granted to the licensee on 12th of June 2001 and bearing Waste Licence Register No: 77-1. The previous waste licence (Register No: 77-1) is superseded by this licence.

CONDITION 2 MANAGEMENT OF THE FACILITY

2.1 Facility Management

- 2.1.1 The licensee shall employ a suitably qualified and experienced facility manager who shall be designated as the person in charge. The facility manager or a nominated, suitably qualified and experienced, deputy shall be present on the facility at all times during its operation.
- 2.1.2 The Civic Waste Facility shall be supervised by an appropriately qualified and competent person at all times while waste may be accepted.
- 2.1.3 Both the facility manager and deputy, and any replacement manager or deputy, shall successfully complete both the FAS Waste Management Training Programme (or equivalent agreed by the Agency) and associated on site assessment appraisal within twelve months of appointment.
- 2.1.4 The licensee shall ensure that personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and experience, as required and shall be aware of the requirements of this licence.

2.2 Management Structure

Any proposed replacement in the management structure shall be notified in advance in writing to the Agency. Written details of the management structure shall include the following information:-

- a) The names of all persons who are to provide the management and supervision of the waste activities authorised by the licence in particular the name of the facility manager and any nominated deputies;
- b) Details of the responsibilities for each individual named under a) above; and
- c) Details of the relevant education, training and experience held by each of the persons nominated under a) above.

2.3 Environmental Management System (EMS)

- 2.3.1 The licensee shall operate and maintain an EMS. Within six months from the date of grant of this licence, the licensee shall submit to the Agency for its agreement a proposal for the updating (where appropriate) of the documented Environmental Management System (EMS) for the facility. The EMS shall thereafter be updated on an annual basis with amendments being notified to the Agency, as part of the AER.
- 2.3.2 The EMS shall include as a minimum the following elements.
 - 2.3.2.1 Schedule of Environmental Objectives and Targets

The objectives should be specific and the targets measurable. The schedule shall address a five-year period as a minimum. The schedule shall include a time-scale for achieving the objectives and targets and shall comply with any other written guidance issued by the Agency.

2.3.2.2 Environmental Management Plan (EMP)

The EMP shall include, as a minimum, the following: -

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- The items specified to be contained in an Environmental Management Plan in the Landfill Operational Practices Manual published by the Agency;
- Methods by which the objectives and targets will be achieved and the identification of those responsible for achieving those objectives and targets; and
- c) Any other items required by written guidance issued by the Agency.

2.3.2.3 Corrective Action Procedures

The Corrective Action Procedures shall detail the corrective actions to be taken should any of the procedures detailed in the EMS not be followed.

2.3.2.4 Awareness and Training Programme

The Awareness and Training Programme shall identify training needs, for personnel who work in or have responsibility for the licensed facility.

2.4 Communications Programme

The licensee shall establish and maintain a Communications Programme to ensure that members of the public can obtain information at the facility, at all reasonable times, concerning the environmental performance of the facility.

REASON: To make provision for the proper management of the activity on a planned basis having regard to the desirability of ongoing assessment, recording and reporting of matters affecting the environment.

CONDITION 3 FACILITY INFRASTRUCTURE

- 3.1 The licensee shall establish all imfrastructure referred to in this licence as required by the conditions of this licence.
- 3.2 Phased Construction Plan

Three months prior to the commencement of any site development, the licensee shall submit to the Agency for its agreement a construction schedule, sequence and timescale (Construction Plan) incorporating the requirements of this licence. This Plan shall have regard to the following development phases: (i) Initial Development Works, (ii) Main infrastructure development works (pre acceptance of waste for disposal), and (iii) Future/planned works (in parallel with waste disposal, e.g. future cell development/phasing). The Construction Plan for cell development shall have regard to the sequencing necessary to provide medium and long term screening of the completed cells.

3.3 Specified Engineering Works

- 3.3.1 The licensee shall submit proposals for all Specified Engineering Works, as defined in Schedule B: Specified Engineering Works, of this licence, to the Agency for its agreement at least two months prior to the intended date of commencement of any such works. No such works shall be carried out without the prior agreement of the Agency.
- 3.3.2 All specified engineering works shall be supervised by a competent person(s) and that person, or persons, shall be present at all times during which relevant works are being undertaken.

- 3.3.3 Following the completion of all specified engineering works, the licensee shall complete a construction quality assurance validation. The validation report shall be made available to the Agency on request. The report shall as appropriate include the following information:
 - a) A description of the works;
 - b) As-built drawings of the works;
 - c) Records and results of all tests carried out (including failures);
 - d) Drawings and sections showing the location of all samples and tests carried out;
 - e) Daily record sheets/diary;
 - f) Name(s) of contractor(s)/individual(s) responsible for undertaking the specified engineering works;
 - g) Name(s) of individual(s) responsible for supervision of works and for quality assurance validation of works;
 - h) Records of any problems and the remedial works carried out to resolve those problems; and
 - i) Any other information requested in writing by the Agency.

3.4 Facility Notice Board

- 3.4.1 The licensee shall provide and maintain a Facility Notice Board on the facility so that it is legible to persons outside the main entrance to the facility. The minimum dimensions of the board shall be 1200 mm by 750 mm.
- 3.4.2 The board shall clearly show:
 - a) The name and telephone number of the facility;
 - b) The normal hours of opening
 - c) The name of the licence holder;
 - d) An emergency out of hours contact telephone number;
 - e) The licence reference number; and
 - f) Where environmental information relating to the facility can be obtained.

3.5 Facility Security

- 3.5.1 Security and stockproof fencing and gates shall be installed and maintained along the facility boundary. The base of the fencing shall be set in the ground. Subject to the implementation of the restoration and aftercare plan and to the agreement of the Agency, the requirement for such site security may be removed.
- 3.5.2 The licensee shall remedy any defect in the gates and/or fencing as follows:
 - a) A temporary repair shall be made by the end of the working day; and
 - b) A repair to the standard of the original gates and/or fencing shall be undertaken within three working days.

3.6 Facility Roads and Site Surfaces

- 3.6.1 Effective site roads shall be provided and maintained to ensure the safe movement of vehicles within the facility.
- 3.6.2 The facility entrance area, the access road to the Civic Waste Facility and the Civic Waste Facility itself shall be paved to ensure an impervious surface is maintained, unless otherwise agreed by the Agency.

3.7 Facility Office

- 3.7.1 The licensee shall provide and maintain an office at the facility. The office shall be constructed and maintained in a manner suitable for the processing and storing of documentation
- 3.7.2 The licensee shall provide and maintain a working telephone and a method for electronic transfer of information at the facility.
- 3.8 Waste Inspection and Quarantine Areas
 - 3.8.1 A Waste Inspection Area and a separate Waste Quarantine Area shall be provided and maintained at the facility.
 - 3.8.2 These areas shall be constructed and maintained in a manner suitable, and be of a size appropriate, for the inspection of waste and subsequent quarantine if required. The waste inspection area and the waste quarantine area shall be clearly identified and segregated from each other.
 - 3.8.3 Drainage from these areas shall be directed to the leachate storage lagoon.
- 3.9 Weighbridge and Wheel Cleaner
 - 3.9.1 The licensee shall provide and maintain a weighbridge and a wheel cleaner at the facility.
 - 3.9.2 The wheel cleaner shall be used by all vehicles leaving the facility as required to ensure that no process water or waste is carried offsite. All water from the wheel cleaning area shall be directed to the leachate storage lagoon.
- 3.10 Tank and Drum Storage Areas
 - 3.10.1 All tank and drum storage areas shall be rendered impervious to the materials stored therein.
 - 3.10.2 All tank and drum storage areas shall, as a minimum, be bunded, either locally or remotely, to a volume not less than the greater of the following:-
 - (a) 110% of the capacity of the largest tank or drum within the bunded area; or
 - (b) 25% of the total volume of substance which could be stored within the bunded area.
 - 3.10.3 All drainage from bunded areas shall be diverted for collection and safe disposal.
 - 3.10.4 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.
 - 3.10.5 The integrity and water tightness of all the bunds and their resistance to penetration by water or other materials stored therein shall be confirmed by the licensee and shall be reported to the Agency following its installation and prior to its use as a storage area. This confirmation shall be repeated at least once every three years thereafter and reported to the Agency on each occasion.
- 3.11 Landfill Lining
 - 3.11.1 Unless otherwise agreed by the Agency, the landfill liner at the proposed extension (Phase 3) shall comprise:-
 - A composite liner consisting of a 1m layer of compacted soil with a hydraulic conductivity of less than or equal to 1x10⁻⁹m/s, (or equivalent to be agreed by the Agency) overlain by a 2mm thick high density polyethylene (HDPE) layer;

- b) A geotextile protection layer placed over the HDPE layer;
- A 500mm thick drainage layer placed over the geotextile layer with a minimum hydraulic conductivity of 1 x 10⁻³ m/s, of pre-washed, uncrushed, granular, rounded stone (16 - 32mm grain size) incorporating leachate collection drains; and
- d) The side walls shall be designed and constructed to achieve an equivalent protection.
- 3.11.2 The liner detailed design and its construction and the construction quality assurance testing shall be in accordance with the guidelines provided in the Agency's Landfill Manual, Landfill Site Design.
- 3.11.3 Unless otherwise agreed by the Agency, formation levels of Phase 3 shall be arranged such that sufficient thickness (at least 3m) of in-situ clay remains between base of facility and bedrock. Formation levels of Phase 1 and 2 shall be as shown on Drawing No. DG0031-01 Rev. F01 Formation Levels of Phase 1 and Phase 2 of the Article 16 reply received on 30/8/04.

3.12 Buffer Zone

A Buffer Zone, in which no waste shall be landfilled, shall be provided and maintained within the facility. The Buffer Zone shall be located as shown on Drawing No. DG0030-01 Rev. F01 Buffer Zone Existing & Proposed of the Article 16 reply received on 30/8/04.

3.13 Leachate Management Infrastructure

- 3.13.1 Leachate management infrastructure shall be provided and maintained at the facility as described in Section 2.3.6 Leachate Collection, Storage and Treatment of the EIS submitted with the application and specified on Drawing No. DG-08 Rev. D03 Corranure Landfill Leachate Management System.
- 3.13.2 Within twelve months of the date of grant of this licence the licensee shall provide and maintain the proposed extended leachate storage lagoon at the facility to facilitate the storage of leachate abstracted/collected from the waste. The lagoon lining shall be a composite liner equivalent to the landfill liner and constructed using the same methods.
- 3.13.3 A proposal detailing how leachate collection and storage will be managed at the facility during the construction of the proposed extended leachate storage lagoon shall be submitted to the Agency for agreement prior to construction of the proposed extended leachate storage lagoon.
- 3.13.4 Within six months of the date of grant of this licence, the licensee shall submit to the Agency an assessment of the capacity of the existing rising main and of Cavan Waste Water Treatment Plant to treat the additional leachate generated at the facility when the facility is extended.
- 3.13.5 All structures for the storage and/or treatment of leachate shall be fully enclosed except for inlet and outlet piping.

3.14 Landfill Gas Management

- 3.14.1 Landfill gas management infrastructure at the remediated landfill shall be maintained at the facility as described in the Gas Management Plan and specified on Drawing No. DG0033-01 Rev. F01 Gas Management System of the Article 14 reply received on 30/08/04, unless otherwise agreed by the Agency.
- 3.14.2 Within six months of the date of grant of this licence, the licensee shall submit an updated plan for the landfill gas management detailing works carried out or proposed for the remediated landfill and the existing Phase 1 as well as works proposed for

- Phases 2 and 3. The plan shall include an assessment of the efficiency of the landfill gas collection system and the need for additional landfill gas abstraction wells.
- 3.14.3 An appropriately sized landfill gas flare(s) shall be provided and maintained at the facility. The flare(s) shall be of an enclosed type design.
- 3.14.4 Flare unit efficiency (residence time, burn temperature) shall be tested annually and reported as part of the AER.
- 3.14.5 Within twelve months of the date of grant of this licence, the licensee shall submit an updated assessment of whether the utilisation of landfill gas as an energy resource is feasible. If feasible such a system shall be installed within a timeframe agreed with the Agency.
- 3.14.6 All buildings constructed on the facility shall have regard to the guidance given in the Department of Environment 1994 publication "Protection of New Buildings and Occupants from Landfill Gas" and any subsequent revisions.

3.15 Surface Water Management

- 3.15.1 Effective surface water management infrastructure shall be provided and maintained at the facility during construction, operation, restoration and aftercare of the facility. As a minimum, the infrastructure shall be capable of the following:-
 - The prevention of contaminated water and leachate discharges into surface water drains and courses; and
 - b) The collection/diversion of run off arising from capped and restored areas.
- 3.15.2 Surface water run-off perimeter drains shall be installed and maintained at the facility as shown on Drawing No. DG0030-02 Rev. F01 Existing and Proposed Surface Water Drainage Layout of the Article 14 reply received on 30/08/04, unless otherwise agreed by the Agency.
 3.15.3 The surface water run-off from the facility discharged at the southern boundary shall be
- 3.15.3 The surface water run off from the facility discharged at the southern boundary shall be diverted to a silt trap and an oil interceptor prior to discharge from the facility. Surface water run-off from Phases 2 and 3 shall be diverted to a silt trap prior to discharge form the facility at the northern boundary.
 - 3.15.3.1 The interceptor shall be a Class I interceptor and the silt trap and interceptor shall be in accordance with I.S. EN 585-2:2003 (separator systems for light liquids). A manual shut-off valve shall be installed at the interceptor.
- 3.15.4 The licensee shall submit a revised drawing to the Agency within twelve months of the date of grant of this licence, indicating all drainage arrangement at the site as detailed in this licence.

3.16 Groundwater Management

- 3.16.1 Effective groundwater management infrastructure shall be provided and maintained at the facility during construction, operation, restoration and aftercare of the facility. As a minimum, the infrastructure shall be capable of the following:-
 - a) the protection of the groundwater resources from pollution by the waste activities;
 and
 - b) The protection of surface waters and infrastructure, such as the liner, from any adverse effects caused by the groundwater.
- 3.16.2 Groundwater monitoring wells shall be constructed having regard to the guidance given in the Agency's Landfill Manual, Landfill Monitoring, 2nd Edition.

3.16.3 Prior to commencement of lining works at Phase 3, the licensee shall submit a detailed groundwater management programme in the case of a high water table at the lining works phase to include a proposal on monitoring of extracted groundwater.

3.17 Civic Waste Facility

- 3.17.1 The licensee shall maintain the Civic Waste Facility referred to in Attachment D.1.p. Civic Amenity Facilities.
- 3.17.2 The licensee shall provide and maintain appropriate receptacles at the Civic Waste Facility for the storage of various waste types.

3.18 Telemetry

Within six months of the date of grant of this licence, a telemetry system shall be installed and maintained at the facility for recording of leachate levels in the lined cells and the existing/proposed lagoon. All facility operations linked to the telemetry system shall also have a manual control which will be reverted to in the event of break in power supply or during maintenance.

3.19 Monitoring Infrastructure

3.19.1 Landfill Gas

- Within six months of the date of grant of this licence, the licensee shall submit a proposal for the monitoring of landfill gas within the waste body at Phases 1, 2 and 3 to include at least one landfill gas monitoring borehole per cell prior to the gas collection system being in place at these phases.
- b) Within six months from date of grant of this licence, the licensee shall submit a proposal for the installation of additional perimeter landfill gas monitoring boreholes surrounding the facility based on a detailed exposure and risk assessment of gas migration at the facility with potential pathways and receptors identified in accordance with the Agency's Landfill Manual, Landfill Monitoring, 2nd Edition.
- The licensee shall maintain an effective permanent gas monitoring system in the site office and any other enclosed structures at the facility.

3.19.2 Groundwater

All wellheads shall be adequately sealed to prevent surface contamination within six months from the date of grant of this licence.

3.19.3 Leachate

a) Within six months from the date of grant of this licence, the licensee shall submit a proposal for monitoring of leachate levels at Phases 1 and 2 as well as the proposed Phase 3 including the locations of these monitoring points.

3.19.4 Replacement of Infrastructure

a) Monitoring infrastructure which is damaged or proves to be unsuitable for its purpose shall be replaced within three months of it being damaged or recognised as being unsuitable.

REASON: To provide appropriate infrastructure for the protection of the environment.

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CONDITION 4 RESTORATION AND AFTERCARE

- 4.1 The licensee shall restore the facility on a phased basis. The Restoration and Aftercare Plans for the facility shall include the information contained in Section 2.3.8 Closure and Aftercare of the EIS submitted as part of application and shall also include the currently remediated landfill area.
- 4.2 Within six months of the date of grant of this licence, the licensee shall submit results of an investigation assessment of the impacts on the Corranure and Lismagratty streams from the remediated landfill to include a full sediment and biological assessment. The protocol for the assessment shall be agreed by the Agency prior to the assessment being carried out. The assessment shall include a proposal for further remediation including surface water and groundwater control and abatment as is necessary to prevent pollution of the streams.
- 4.3 The final height of the facility shall not exceed 129.5mOD (Malin Head).
- 4.4 Final Capping
 - 4.4.1 Unless otherwise agreed by the Agency, the permanent cap for a cell shall be constructed within twenty-four months of completion of filling in that cell.
 - 4.4.2 Unless otherwise agreed by the Agency, the final capping at Phases 1, 2 and 3 shall consist of the following:-.
 - a) Top soil (150 -300mm);
 - b) Subsoils, such that total thickness of top soil and subsoils is at least 1m;
 - c) Drainage layer of 0.5m thickness having a minimum hydraulic conductivity of 1x10⁴ m/s;
 - d) Compacted mineral layer of a minimum 0.6m thickness with a permeability of less than 1x10⁻⁹ m/s or a geosymmetric material (e.g. GCL) or similar that provides equivalent protection; and
 - e) Gas collection layer of catural material (minimum 0.3m) or a geosynthetic layer.
- 4.5 No material or object that is incompatible with the proposed restoration of the facility shall be present within one metre of the final soil surface levels.
- 4.6 Where tree planting is to be carried out above waste-filled areas, a synthetic barrier shall be used to augment the clay caps. Combined topsoil and subsoil depths shall be a minimum of 1m.
- 4.7 The restoration of each of the landfill extension cells (Phases 1, 2 and 3), when filled, shall be undertaken within twelve months of the completion of installation of the permanent cap.
- 4.8 Soil Storage
 - 4.8.1. All soils shall be stored to preserve the soil structure for future use.

REASON: To provide for the restoration of the facility.

CONDITION 5 FACILITY OPERATION AND WASTE MANAGEMENT

5.1 Wastes shall not be deposited in any cell or part of the landfill without the prior agreement of the Agency.

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- 5.2 Waste Acceptance and Characterisation Procedures
 - 5.2.1 Waste shall only be accepted at the facility, from Local Authority waste collection or transport vehicles or holders of waste permits, unless exempted or excluded, issued under the Waste Management (Collection Permit) Regulations 2001. Copies of these waste collection permits must be maintained at the facility.
 - 5.2.2 Whole used tyres (other than bicycle tyres and tyres with an outside diameter greater than 1400mm) shall not be disposed of at the facility. Shredded tyres shall not be disposed of at the facility from 16 July 2006.
 - 5.2.3 No hazardous wastes or liquid wastes shall be disposed of at the facility.
 - 5.2.4 The licensee shall ensure that inert waste accepted at the facility for disposal is subject to treatment where technically feasible.
 - 5.2.5 Within three months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement updated written procedures (where appropriate) for the acceptance and handling of all wastes. These procedures shall include details of the pretreatment of all waste to be carried out prior to acceptance at the facility and shall also include methods for the characterisation of waste in order to distinguish between inert, non-hazardous and hazardous wastes. The random inspection of incoming waste loads should also be addressed in the procedures. The procedures shall have regard to the EU Decision (2003/33/EC) on establishing the criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive (1999/31/EC) on the landfill of waste.
- 5.3 All wastes shall be checked at the working face. Any wastes not suitable for acceptance shall be removed for recovery or disposal at an appropriate alternative facility. Such waste shall be stored in the Waste Quarantine Area only. No waste shall be stored in the Waste Quarantine Area for more than three months.
- 5.4 Working Face
 - 5.4.1 Unless the prior agreement of the Agency is given, the following shall apply at the landfill:
 - a) Only one working face shall exist at the landfill at any one time for the deposit of waste other than cover or restoration materials; and
 - b) The working face of the landfill shall be no more than 2.5 metres in height after compaction, no more than 25 metres wide and have a slope no greater than 1 in 3.
 - 5.4.2 All waste deposited at the working face shall be compacted, using a steel wheeled compactor, and covered as soon as is practicable and at any rate prior to the end of the working day.
 - 5.4.3 The working face, or faces, shall each day at the end of the day, be covered with suitable material.
- 5.5 Daily and Intermediate Cover
 - 5.5.1 Any cover material at any location within the facility which is eroded, washed off or otherwise removed shall be replaced by the end of the working day.
 - 5.5.2 Within three months of the date of grant of this licence, appropriate cover material shall be placed across the whole landfill so that no waste, other than the following is exposed:
 - a) Waste suitable for specified engineering works; and

b) Waste on the working face during the operational hours of the facility.

5.6 Landscaping

- 5.6.1 Landscaping of the facility shall be carried out as described in Landscape and Visual Assessment, Appendix C, Volume III and specified on Fig. 7 Landscape Layout of the EIS submitted with the application, unless otherwise agreed by the Agency.
- 5.6.2 Within three months of the date of grant of this license, the licensee shall submit a proposal for the installation of a screening berm as part of the proposed cell development works to reduce the visual impact of the proposed extension (Phase 3) as well as Phases 1 and 2.
- 5.6.3 The existing hedgerow at the southern boundary along R188 Regional Road of the facility shall be retained by the licensee as indicated in Section 3.11.3 Existing Vegetation of the EIS submitted with the application.

5.7 Operational Controls

- 5.7.1 Phase 3 at the landfill shall be filled in accordance with the phase sequence outlined in Attachment D.2a Construction Schedule and Sequence and shown on Drawing No. DG-07 Rev. D03 Corranure Landfill Phase 3 Layout & Sections.
- 5.7.2 All large hollow objects and other large articles deposited at the facility shall be crushed, broken up, flattened or otherwise treated.
- 5.7.3 Wastes once deposited and covered shall not be excavated, disturbed or otherwise picked over with the exception of works associated with the construction and installation of the leachate and landfill gas collection system unless with the prior agreement from the Agency.
- 5.7.4 Completed areas of the landfill shall be profiled so that no depressions exist in which water may accumulate. Any depressions arising after profiling shall be rectified by the emplacement of suitable capping or restoration materials.
- 5.7.5 Scavenging shall not be permitted at the facility.
- 5.7.6 Gates shall be locked shut when the facility is unsupervised.
- 5.7.7 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.
- 5.7.8 Fuels shall be stored only at appropriately bunded locations on the facility.
- 5.7.9 All tanks and drums shall be labelled to clearly indicate their contents.

5.8 Waste Handling

5.8.1 Inert Waste

Inert waste accepted at the facility for recovery shall comply with the standards established in Schedule F: Criteria for the Acceptance of Inert Waste, of this licence.

5.9 Off-site Disposal and Recovery

- 5.9.1 Waste sent off-site for recovery or disposal shall be conveyed only by a waste contractor agreed by the Agency.
- 5.9.2 All waste transferred from the facility shall be transferred only to an appropriate facility agreed by the Agency.
- 5.9.3 All wastes removed off-site for recovery or disposal shall be transported from the facility to the consignee in a manner which will not adversely affect the environment.

5.10 Civic Waste Facility

5.10.1 The Civic Waste Facility shall be used only by private vehicles. The facility shall not be used as a transfer station for disposal of waste by commercial waste disposal contractors or local authority waste collection vehicles.

- 5.10.2 All waste deposited in the Civic Waste Facility shall be either:
 - a) Into a skip;
 - b) Into the hopper of the compactor for disposal;
 - c) Into a receptacle for recovery; and
 - d) In the case where inspection is required, into a designated inspection area.
- 5.10.3 The licensee shall assign and clearly label each container at the Civic Waste Facility to indicate their contents.
- 5.10.4 At the end of the working day the floor of the Civic Waste Facility shall be cleared of waste.

5.11 Leachate Management

- 5.11.1 Leachate levels in the waste shall not exceed a level of 1.0m over the top of the liner at the base of the landfill.
- 5.11.2 The frequency of leachate removal/discharge from the leachate lagoon shall be such that a minimum freeboard of 0.75m shall be maintained in the leachate lagoon at all times.
- 5.11.3 Unless treated on the facility, leachate stored in the leachate storage lagoon shall be disposed of by tankering off-site to an Agency approved facility in fully enclosed road tankers.
- 5.11.4 Recirculation of leachate or other contaminated water shall not be undertaken without the prior agreement of the Agency and, in any case, shall be undertaken only within cells which have been lined to the satisfaction of the Agency.

5.12 Maintenance

- 5.12.1 All treatment/abatement and emission control equipment shall be calibrated and maintained, in accordance with the instructions issued by the manufacturer/supplier or installer. Written records of the calibrations and maintenance shall be made and kept by the licensee.
- 5.12.2 All lagoon structures on the facility shall be inspected and certified fit for purpose every three years by an independent and appropriately qualified chartered engineer.
- 5.12.3 The wheel-wash shall be inspected on a daily basis and drained as required. Silt, stones and other accumulated material shall be removed as required from the wheel-wash and disposed of at the working face or to a skip.

REASON: To provide for appropriate operation of the facility to ensure protection of the environment.

CONDITION 6 EMISSIONS

- 6.1. No specified emission from the facility shall exceed the emission limit values set out in *Schedule C: Emission Limits*, of this licence. There shall be no other emissions of environmental significance.
- 6.2. The licensee shall ensure that the activities shall be carried out in a manner such that emissions do not result in significant impairment of, or significant interference with the environment beyond the facility boundary.

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6.3. Landfill Gas

- 6.3.1. In relation to landfill derived gases the following shall constitute a trigger level:
 - a) Methane greater than 1% v/v; or,
 - b) Carbon Dioxide greater than 1.5% v/v,

measured in any monitoring borehole, service duct, manhole or other point as may be specified, located external to the body of waste.

- 6.3.2 The concentration limits for emissions to atmosphere specified in this licence shall be achieved without the introduction of dilution air and shall be based on gas volumes under standard conditions of:
 - a) In the case of landfill gas flare:

Temperature 273 K, pressure 101.3 kPa, dry gas at 3% oxygen; and

In the case of landfill gas combustion plant:
 Temperature 273 K, pressure 101.3 kPa, dry gas; 5% oxygen.

- 6.3.3. Emission limits for emissions from landfill gas flare/combustion plant to atmosphere in this licence shall be interpreted in the following way.
 - 6.3.3.1. Continuous monitoring
 - a) No 24 hour mean value shall exceed the emission limit value;
 - b) 97% of all 30 minute mean values taken continuously over an annual period shall not exceed 1.2 mmes the emission limit value; and
 - c) No 30 minute mean value shall exceed twice the emission limit value.
 - 6.3.3.2. Non-Continuous Monitoring
 - a) For any parameter where, due to sampling/analytical limitations, a 30 minute sample is inappropriate, a suitable sampling period should be employed and the value obtained therein shall not exceed the emission limit value;
 - b) For all other parameters, no 30 minute mean value shall exceed the semission limit value; and
 - For flow, no hourly or daily mean value shall exceed the emission limit value.

6.4. Groundwater

- 6.4.1 There shall be no direct emissions to groundwater from the lined landfill cells.
- 6.4.2 Within three months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement, groundwater monitoring trigger levels in accordance with the requirements of Directive 1999/31/EC.
- 6.4.3 The trigger levels as specified in Condition 6.4.2 for groundwater shall be measured at monitoring boreholes GW-01, RC01 and GW-03.
- 6.5. Emissions to Surface Water
 - 6.5.1. No leachate from the lined landfill cells, wastewater or contaminated surface water run-off shall be discharged to surface water drains and courses.
 - 6.5.2. No substance shall be discharged in a manner, or at a concentration which, following initial dilution causes tainting of fish or shellfish.

6.5.3. Groundwater extracted during construction of Phase 3 shall be discharged to the surface water drainage network subject to Condition 3.16.3.

6.6. Disposal of Leachate

6.6.1. In emergency situations all leachate or contaminated water tankered from the facility shall be transported to Cavan Waste Water Treatment Plant, or alternative facility agreed in advance by the Agency, and disposed of there.

6.7. Emissions to Sewer

- 6.7.1. Unless otherwise agreed in advance by the Agency and the Sanitary Authority, the following shall apply for the discharge of leachate from the Leachate Lagoon to Cavan Wastewater Treatment Plant. There shall be no other discharge or emission to sewer of environmental significance.
- 6.7.2. No substance shall be present in emissions to sewer in such concentrations as would constitute a danger to sewer maintenance personnel working in the sewerage system, or as would be damaging to the fabric of the sewer, or as would interfere with the biological functioning of a downstream wastewater treatment works.
- 6.7.3. The licensee shall permit authorised persons of the Agency and the Sanitary Authority to inspect, examine and test, at all reasonable times, any works and apparatus installed, in connection with the discharge or emission, and to take samples of the discharge or emission.
- 6.7.4. No discharge or emission to sewer shall take place which might give rise to any reaction within the sewer or to the liberation of by-products which may be of environmental significance.
- 6.7.5. The licensee shall ensure that the discharge shall not contain dissolved methane, petroleum spirits or organic solvents (including shlorinated organic solvents), at concentrations which would give rise to flammable or explosive vapours in the sewer.
- 6.7.6. Non-trade effluent wastewater (e.g. firewater, accidental spillage) which occurs on-site shall not be discharged to the sewer without the prior authorisation of the Sanitary Authority.
- 6.7.7. The licensee shall provide and maintain an inspection chamber in a suitable position in connection with each pipe through which a discharge or emission is being made. Each such inspection chamber or manhole shall be constructed and maintained by the licensee so as to permit the taking of samples of the discharge.
- 6.7.8. Emission limit values for emissions to sewer/waters in this licence shall be interpreted in the following way:
 - a) Continuous monitoring.

No flow value shall exceed the specified limit.

b) Non-Continuous monitoring.

Eight out of ten consecutive results, calculated as daily mean concentration or mass emission values on the basis of flow proportional composite sampling shall not exceed 1.2 times the emission limit value.

c) No grab sample shall exceed 1.2 times the emission limit value.

REASON: To control emissions from the facility and provide for the protection of the environment and to provide for the requirements of the Sanitary Authority in accordance with Section 52 of the Waste Management Acts 1996 to 2003.

CONDITION 7 NUISANCE CONTROL

- 7.1 The licensee shall ensure that vermin, birds, flies, mud, dust, litter and odours do not give rise to nuisance at the facility or in the immediate area of the facility. Any method used by the licensee to control any such nuisance shall not cause environmental pollution.
- 7.2 The road network in the vicinity of the facility shall be kept free from any debris caused by vehicles entering or leaving the facility. Any such debris or deposited materials shall be removed without delay.
- 7.3 Litter Control
 - 7.3.1 The measures and infrastructure as described in Section 4.1.6 *Litter Control* of the EIS submitted with the application shall be applied to control litter at the facility.
 - 7.3.2 Litter fencing shall be installed and maintained around the perimeter of the active tipping area to the specifications described in the Agency's Landfill Manual, Landfill Operational Practices prior to the disposal of any waste in any cell.
 - 7.3.3 All litter control infrastructure shall be inspected on a daily basis. The licensee shall remedy any defect in the litter netting as follows:
 - a) A temporary repair shall be made by the end of the working day; and
 - b) A repair to the standard of the original netting shall be undertaken within three working days.
 - 7.3.4 All loose litter or other waste, placed on or in the vicinity of the facility, other than in accordance with the requirements of this licences, shall be removed, subject to the agreement of the landowners, immediately and in any event by 10.00am of the next working day after such waste is discovered.
 - 7.3.5 The licensee shall ensure that all vehicles delivering waste to and removing waste and materials from the facility are appropriately covered.
- 7.4 Dust Control

In dry weather, site roads and any other areas used by vehicles shall be sprayed with water as and when required to minimise airborne dust nuisance.

- 7.5 Prior to exiting the facility, all waste vehicles shall use the wheelwash.
- 7.6 Bird Control

Birds shall be prevented from gathering on and feeding at the facility by the use of birds of prey and/or other bird scaring techniques. The birds of prey and/or other techniques shall be in place and shall be employed every day, from before dawn to after dark, until the waste activities cease and all the waste is capped to the written satisfaction of the Agency.

REASON: To provide for the control of nuisances.

CONDITION 8 RESOURCE USE AND ENERGY EFFICIENCY

8.1 The licensee shall carry out an audit of the energy efficiency of the site within one year of the date of grant of this licence. The licensee shall consult with the Agency on the nature and extent of the

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audit and shall develop an audit programme to the satisfaction of the Agency. The audit programme shall be submitted to the Agency in writing at least one month before the audit is to be carried out. A copy of the audit report shall be available on-site for inspection by authorised persons of the Agency and a summary of the audit findings shall be submitted as part of the Annual Environmental Report. The energy efficiency audit shall be repeated at intervals as required by the Agency.

- 8.2 The audit shall identify all opportunities for energy use reduction and efficiency and the recommendations of the audit will be incorporated into the Schedule of Environmental Objectives and Targets under Condition 2 above.
- 8.3 The licensee shall identify opportunities for reduction in the quantity of water used on site including recycling and reuse initiatives, wherever possible. Reductions in water usage shall be incorporated into Schedule of Environmental Objectives and Targets.
- 8.4 The licensee shall undertake an assessment of the efficiency of use of raw materials in all processes, having particular regard to the reduction in waste generated. The assessment should take account of best international practice for this type of activity. Where improvements are identified, these shall be incorporated into the Schedule of Environmental Objectives and Targets.

Reason: To provide for the efficient use of resources and energy in all site operations.

CONDITION 9 MONITORING

- 9.1 The licensee shall carry out such monitoring and at such locations and frequencies as set out in Schedule D: Monitoring, of this licence and as specified in this licence. Unless otherwise specified by this licence, all environmental monitoring shall commence no later than two months after the date of grant of this licence.
- 9.2 The licensee shall amend the frequency locations, methods and scope of monitoring as required by this licence only upon the written instruction of the Agency and shall provide such information concerning such amendments as may be requested in writing by the Agency. Such alterations shall be carried out within any times ale nominated by the Agency.
- 9.3 Monitoring and analysis equipment shall be operated and maintained in accordance with the manufacturers' instructions (if any) so that all monitoring results accurately reflect any emission, discharge or environmental parameter.
- 9.4 The licensee shall provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency.
- 9.5 The licensee shall maintain and clearly label and name all sampling and monitoring locations.
- 9.6 Within twelve months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement an updated appropriately scaled drawing(s) showing all the monitoring locations that are stipulated in this licence including any noise sensitive locations and private wells to be monitored. The drawing shall include the eight-digit national grid reference of each monitoring point. Thereafter any amendments to this drawing should be notified as part of the AER.
- 9.7 All landfill gas monitoring equipment, other than permanent monitoring systems within buildings, shall be certified as being intrinsically safe.
- 9.8 The following information shall be maintained on site for inspection by Agency Officers: the names, qualifications and a summary of the relevant experience of all persons that will carry out all sampling and monitoring as required by this licence and who carry out the interpretation of the results of such sampling and monitoring.

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9.9 Groundwater Monitoring

Within three months of the date of grant of this licence, the licensee shall submit a proposal for agreement by the Agency outlining monitoring of groundwater in selected down-gradient wells within 500m of the facility.

9.10 Dust Monitoring

Prior to waste acceptance at the proposed Phase 3, the licensee shall submit an updated dust monitoring programme.

9.11 Noise Monitoring

Prior to waste acceptance at the proposed Phase 3, the licensee shall submit an updated noise monitoring programme.

9.12 Meteorological Monitoring

The licensee shall maintain a meteorological station at the facility capable of monitoring the parameters listed in *Schedule D.6: Meteorological Monitoring*, of this licence.

9.13 Topographical Survey

A topographical survey shall be carried out annually (during landfilling operations and installation of the final capping). The survey shall include a measurement of the remaining available void space. The survey shall be in accordance with any written instructions issued by the Agency and shall be reported annually as part of the AER.

9.14 Biological Assessment

A biological assessment of Corranure Stream and Lismagratty Stream at the locations specified on Fig. 3.6 Surface water & Sediment Montoring Points of the Article 14 reply received 30/8/04 shall be undertaken within six months of the date of grant of this licence in accordance with Condition 4.2 and annually thereafter. This assessment shall use appropriate biological methods such as the EPA Q-rating system for the assessment of rivers and streams.

9.15 Archaeological Assessment

Prior to the development of any undisturbed area, the advice of The Heritage Section of the Department of the Environment, Heritage and Local Government (formerly Dúchas) shall be sought. On completion of such development a report of the results of any archaeological monitoring shall be submitted to The Development Applications Section and to the Agency.

9.16 Stability Assessment

The licensee shall carry out a stability assessment of the side slopes of the facility annually and report the results as part of the AER.

9.17 Nuisance Monitoring

- 9.17.1 The licensee shall, at a minimum of one week intervals, inspect the facility and its immediate surrounds for nuisances caused by litter, vermin, birds, flies, mud, dust and odours
- 9.17.2 Daily odour inspections shall be carried out at the designated area for storage of green waste accepted at the civic waste facility, unless otherwise agreed by the Agency.

REASON: To ensure compliance with the conditions of this licence by provision of a satisfactory system of monitoring of emissions.

CONDITION 10 CONTINGENCY ARRANGEMENTS

- 10.1 In the event of an incident the licensee shall immediately:
 - a) Identify the date, time and place of the incident;
 - Carry out an immediate investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
 - Isolate the source of any such emission;
 - d) Evaluate the environmental pollution, if any, caused by the incident;
 - Identify and execute measures to minimise the emissions/malfunction and the effects thereof; and
 - f) Provide a proposal to the Agency for its agreement within one month of the incident occurring to:
 - i) identify and put in place measures to avoid reoccurrence of the incident;
 - ii) identify and put in place any other appropriate remedial action.
- 10.2 The licensee shall maintain an Emergency Response Procedure (ERP). Within six months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement, a proposal for updating (where appropriate) of the documented ERP for the facility.
- 10.3 The licensee shall have in storage an adequate supply of containment booms and/or suitable absorbent material to contain and absorb any spittage at the facility. Once used the absorbent material shall be disposed of at an appropriate facility.
- 10.4 Emergencies
 - 10.4.1 All significant spillages occurring at the facility shall be treated as an emergency and immediately cleaned up and dealt with so as to alleviate their effects.
 - 10.4.2 No waste shall be burnt within the boundaries of the facility. A fire at the facility shall be treated as an emergency and immediate action shall be taken to extinguish it and notify the appropriate authorities.
 - 10.4.3 In the event that monitoring of local wells indicates that the facility is having a significant adverse effect on the quantity and/or quality of the water supply this shall be treated as an emergency and the licensee shall provide an alternative supply of water to those affected.
 - 10.4.4 In the event that monitoring of the side slopes of the facility indicate that there may be a risk of slope failure this will be treated as an emergency.

REASON: To ensure compliance with the conditions of this licence by provision of a satisfactory system of monitoring of emissions.

CONDITION 11 RECORDS

- 11.1 The licensee shall keep the following documents at the facility office:
 - a) The current waste licence and specified attachments and drawings relating to the facility;
 - b) The current EMS for the facility;

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- c) The previous year's AER for the facility;
- d) Records of all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the facility;
- e) An up-to-date site drawing/plan showing the locations of key process and environmental infrastructure, including monitoring locations and emission points;
- f) Relevant correspondence with the Agency; and
- g) All written procedures produced by the licensee which relate to the licensed activities.
- 11.2 The licensee shall maintain a record for each load of waste arriving at the facility, excluding those arriving at the Civic Waste facility. The licensee shall record the following:
 - a) The date;
 - b) The name of the carrier (including if appropriate, the waste collection permit details);
 - c) The vehicle registration number;
 - d) The name of the producer(s)/collector(s) of the waste as appropriate;
 - e) The name of the waste facility (if appropriate) from which the load originated including the waste licence or waste permit register number;
 - f) A description of the waste including the associated EWC codes;
 - g) The quantity of the waste, recorded in tonnes;
 - h) The name of the person checking the load, and
 - i) Where loads or wastes are removed or rejected, details of the date of occurrence, the types of waste and the facility to which they were removed including the waste licence and waste permit register number of these facilities as appropriate.
- 11.3 The following records shall be maintained by the licensee:
 - a) The types and quantities of waste recovered and disposed of at the facility each year. These records shall include the relevant EWC Codes;
 - b) All training undertaken by facility staff;
 - c) Results from all integrity tests of bunds and other structures and any maintenance or remedial work arising from them;
 - Details of all nuisance inspections and any actions taken as a result of these inspections;
 and
 - e) The names and qualifications of all persons who carry out all sampling and monitoring as required by this licence and who carry out the interpretation of the results of such sampling and monitoring.
- 11.4 The licensee shall maintain a record of all complaints relating to the operation of the facility. Each such record shall give details of the following:
 - a) Date and time of the complaint;
 - b) The name of the complainant;
 - c) Details of the nature of the complaint;
 - d) Actions taken on foot of the complaint and the results of such actions; and
 - e) The response made to each complainant.

- 11.5 A record shall be kept of each consignment of leachate removed from the facility. The record shall include the following:
 - a) The name of the carrier;
 - b) The date and time of removal of leachate from the facility;
 - c) The volume of leachate, in cubic metres, removed from the facility on each occasion;
 - d) The name and address of the Waste Water Treatment Plant to which the leachate was transported; and
 - e) Any incidents or spillages of leachate during its removal or transportation.
- 11.6 A record shall be kept for each load of waste departing from the Civic Waste facility. The following shall be recorded:
 - a) The name of the carrier;
 - b) The vehicle registration number;
 - c) The destination of the waste (facility name and waste licence/permit number as appropriate);
 - d) A description of the waste (if recovered or rejected waste, the specific nature of the waste);
 - e) The quantity of waste, recorded in tonnes;
 - f) The name of the person checking the load; and
 - g) The time and date of departure.
- 11.7 A record shall be kept at the facility of the programme for the control and eradication of vermin and fly infestations at the facility. These records shall include as a minimum the following:
 - a) The date and time during which spraying of insecticide is carried out;
 - b) Contractor details;
 - c) Contractor logs and site inspection reports;
 - d) Details of the rodenticide(s) and insecticide(s) used;
 - e) Operator training details;
 - f) Details of any infestations;
 - g) Mode, frequency, location and quantity of application; and
 - h) Measures to contain sprays within the facility boundary.

REASON: To provide for the keeping of proper records of the operation of the facility.

CONDITION 12 REPORTS AND NOTIFICATIONS

- 2.1 Unless otherwise agreed by the Agency, all reports and notifications submitted to the Agency shall:
 - a) Be sent to the EPA's Office of Environmental Enforcement, John Moore Road, Castlebar, County Mayo;
 - b) Comprise one original and two copies unless additional copies are required;
 - c) Be formatted in accordance with any written instruction or guidance issued by the Agency;

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- d) Include whatever information as is specified in writing by the Agency;
- Be identified by a unique code, indicate any modification or amendment, and be correctly dated to reflect any such modification or amendment;
- f) Be submitted in accordance to the relevant reporting frequencies specified by this licence, such as in Schedule E: Recording and Reporting to the Agency, of this licence;
- g) Be accompanied by a written interpretation setting out their significance in the case of all monitoring data; and
- h) Be transferred electronically to the Agency's computer system if required by the Agency.
- 12.2 In the event of an incident occurring on the facility, the licensee shall:
 - a) Notify the Agency as soon as practicable and in any case not later than 1000 hrs the following working day after the occurrence of any incident;
 - Submit a written record of the incident, including all aspects described in Condition 10.1(a-e), to the Agency as soon as practicable and in any case within five working days after the occurrence of any incident;
 - c) In the event of any incident which relates to discharges to surface water, notify the Northern Regional Fisheries Board as soon as practicable and in any case not later than 1000 hrs on the following working day after such an incident; and
 - d) Should any further actions be taken as a result of an incident occurring, the licensee shall forward a written report of those actions to the Agency as soon as practicable and no later than ten days after the initiation of those actions.

12.3 Waste Recovery Reports

The licensee shall as part of the AER report on the facility's contribution to the achievement of the recovery targets stated in national and European Union waste policies and shall include the following:-

- a) Proposals for the contribution of the facility to the achievement of targets for the reduction of biodegradable wasterio fandfill, going to landfills as specified in the Landfill Directive;
- b) The separation of recyclable materials from the waste;
- c) The recovery of Construction and Demolition Waste;
- d) The recovery of metal waste and white goods;
- e) The recovery of commercial waste, including cardboard;
- f) Inert waste to be used for cover/restoration material at the facility; and
- g) Proposals regarding the utilisation of energy from the gas utilisation plant.

12.4 Annual Environmental Report

- 12.4.1 The licensee shall submit to the Agency for its agreement by 31st March of each year thereafter, an Annual Environmental Report (AER) for the previous year.
- 12.4.2 The AER shall include as a minimum the information specified in *Schedule G: Content of Annual Environmental Report*, of this licence and shall be prepared in accordance with any relevant written guidance issued by the Agency.

REASON: To provide for proper reports to and notifications to the Agency.

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CONDITION 13 CHARGES AND FINANCIAL PROVISIONS

13.1 Agency Charges

- 13.1.1 The licensee shall pay to the Agency an annual contribution of €17,782 or such sum as the Agency from time to time determines, having regard to variations in the extent of reporting, auditing, inspection, sampling and analysis or other functions carried out by the Agency, towards the cost of monitoring the activity, as the Agency considers necessary for the performance of its functions under the Waste Management Acts, 1996 to 2003. The first payment shall be a pro-rata amount for the period from the date of this licence to the 31st day of December, and shall be paid to the Agency within one month from the date of the licence. In subsequent years the licensee shall pay to the Agency such revised annual contribution as the Agency shall from time to time consider necessary to enable performance by the Agency of its relevant functions under the Waste Management Acts, 1996 to 2003, and all such payments shall be made within one month of the date upon which demanded by the Agency.
- 13.1.2 In the event that the frequency or extent of monitoring or other functions carried out by the Agency needs to be increased the licensee shall contribute such sums as determined by the Agency to defraying its costs in regard to items not covered by the said annual contribution.
- 13.2 Financial Provision for Closure, Restoration and Aftercare
 - 13.2.1 The licensee shall from a date to be set by the Agency establish and maintain a fund, or provide a written guarantee, that is adequate to assure the Agency that the licensee is at all times financially capable of implementing the Restoration and Aftercare Plan required by Condition 4. The type of fund established and means of its release/recovery shall be agreed by the Agency prior to its establishment.
 - 13.2.2 Any fund established shall be maintained in an amount always sufficient to underwrite the current Restoration and Aftercare Plan.
 - 13.2.3 The licensee shall revise the cost of restoration and aftercare annually and any details of the necessary adjustments to the fund or guarantee must, within two weeks of the revision, be forwarded to the Agency for its agreement. Any adjustment agreed by the Agency shall be effected within four weeks of said written agreement.
 - 13.2.4 Unless otherwise agreed any revision to the fund shall be computed using the following formula:-

 $Cost = (ECOST \times WPI) + CiCC$

Where:-

Cost

Revised restoration and aftercare cost

ECOST

Existing restoration and aftercare cost

WPI

Appropriate Wholesale Price Index [Capital Goods, Building & Construction (i.e. Materials & Wages) Index], as published by the Central Statistics Office, for the year since last closure

calculation/revision.

CiCC

Change in compliance costs as a result of change in site conditions, changes in law, regulations, regulatory authority charges, or other significant changes.

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13.3 Cost of landfill of waste

In accordance with the provisions of Section 53A of the Waste Management Acts 1996 to 2003, the licensee shall ensure the costs in the setting up, operation of, provision of financial security and closure and after-care for a period of at least 30 years shall be covered by the price to be charged for the disposal of waste at the facility. The statement required under Section 53A(5) of said Acts is to be included as part of the AER.

REASON: To provide for adequate financing for monitoring and financial provisions for measures to protect the environment.

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SCHEDULE A: Waste Acceptance

A.1 Waste Acceptance

The following waste related processes are authorised:

Crushing, baling, repackaging processes
Landfilling of inert waste
Use of compost & inert waste in landfill operation
Storage of waste
Use of waste as a fuel
Recovery of dry recyclables

No addition to these processes are permitted unless agreed in advance by the Agency.

Table A.1 Waste Categories and Quantities

Waste Type	Maximum (Tonnes Per Annum) Note 1
Household waste	50,000
Commercial waste	32,000
Construction and demolition waste ^{Note 3}	5,000
Green waste	2,000
Street cleaning residues	300 and or
Hazardous Household waste ^{Note 2}	Sep. 400
TOTAL	7 ¹¹ 1 ¹² C(1) 90,000

Note 1: The quantities of the individual waste types may be adjusted, only with the agreement of the Agency, subject to the total annual waste quantity remaining the same.

Note 2: Hazardous waste types as listed in Table 1. 2 Hazardous Waste Types and Quantities of the Article 14 reply received 30/8/04, or as may otherwise be agreed in writing.

Note 3: This limit does not apply to construction and demolition wastes imported to the site for use in the construction of the facility.

SCHEDULE B: Specified Engineering Works

Specified Engineering Works

Development of the facility including preparatory works and lining.

Final capping.

Installation of Landfill Gas Management Infrastructure.

Installation of Leachate Management Infrastructure.

Installation of Groundwater Control Infrastructure.

Installation of Surface Water Management Infrastructure.

Any other works notified in writing by the Agency.

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SCHEDULE C: Emission Limits

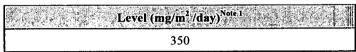
C.1 Noise Emissions:

(Measured at any noise sensitive locations).

Note 1: There shall be no clearly audible tonal component or impulsive component in the noise emission from the activity at any noise sensitive location.

C.2 Dust Deposition Limits:

(Measured at the monitoring points indicated in <u>Table D.1.1</u>).



Note 1: 30 day composite sample with the results expressed as mg/m²/day.

C.3 Surface Water Discharge Limits:

Measured at the surface water discharge points SW-1 and SW-2 indicated in Table D.1.1

	A. A.
· · · · · · · · · · · · · · · · · · ·	
Level (Suspended Solids mg	/1)
	7
1 25	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
33	25 °C
	V .V

C.4 Emission Limits Values for Landfill Gas Plant

Emission Point Reference numbers: to be agreed by Agency in advance.

Minimum discharge height: 5m (unless results from modelling suggests otherwise)

Parameter :	Flare (enclosed) Emission Limit Value Note 1	Utilisation Plant Emission Limit Value Note 1
Nitrogen oxides (NO _x)	150 mg/m ³	500 mg/m ³
СО	50 mg/m ³	650 mg/m ³
Particulates	Not applicable	130 mg/m ³
Total organic carbon (TOC)	10 mg/m ³	Not applicable

Note 1: Dry gas referenced to 5% oxygen by volume for utilisation plants and 3% oxygen by volume for flares.

SCHEDULE D: Monitoring

D.1 Monitoring Locations

Monitoring locations shall be those as set out in Table D.1.1 and Drawing No. DG0009 Rev. F01 *Corranure Landfill Locations of Monitoring Points* of the Article 14 reply received 30/8/04, unless otherwise indicated or agreed by the Agency.

Table D.1.1 Monitoring Locations

Landfill Gas within Waste and Boundary Locations	Landfill Gas Flare/Utili- sation Plant	Dust Depositio n Odour	Noise	Surface Water	Ground Water	Leachate
Stations		Stations	Stations	Stations	Stations	Stations
Within Waste ^{Note 1} G-01 G-02 G-03 G-04	Note 3	Note 4 D1 D2 D3 D4 D5	Note 5 B1 B2 B3 B4	Chemical Monitoring Note 7 SW-1 SW-2 Note 8 K1 K2 K3 K3 K4 A2	GW-01 Note 10 RC01 Note 10 RC02 GW-03 Note 10 SA1	Lagoon & Collection Chambers
Boundary locations Note 2 G01 GW-01 G02 G03 G04 G06 GW-03 RC02	Consen	For its editors	NSL 1 NSL2. NSE3 NSE4 NSL 5 NSL 5 NSL 7 NSL 6	Biological	Private Wells ^{Note 11}	Within Waste Note 12 L/G-01 L/G-02 L/G-03 L/G-04

- Note 1: Location of landfill gas monitoring wells within the waste body to be agreed by the Agency in accordance with Condition 3.19.1.
- Note 2: Additional perimeter wells to monitor for potential off-site migration of landfill gas to be provided in accordance with Condition 3.19.1.
- Note 3: Location to be agreed by the Agency.
- Note 4: Additional dust monitoring point(s) to be installed in relation to the operation of Phase 3 in accordance with Condition 9.10.
- Note 5: Additional noise monitoring point(s) to be installed in relation to the operation of Phase 3 in accordance with
- Note 6: The licensee shall carry out noise monitoring at any other noise sensitive location as may be specified by the Agency.
- Note 7: The surface water monitoring points to be used for chemical monitoring as shown on Fig. 3.6 Surface Water & Sediment Monitoring Points of the Article 14 reply received on 30/8/04. The parameters and frequencies to be monitored are outlined in Table D.5.1.
- Note 8: The location of the surface water discharge point to Lismagratty stream to be agreed by the Agency.
- Note 9: The location of the biological assessment and sediment monitoring points as shown on Fig. 3.6 Surface Water & Sediment Monitoring Points of the Article 14 reply received on 30/8/04. Sediment monitoring only to be carried out at monitoring points marked with an asterisk. The sediment shall be sampled for the following parameters: hydrocarbons, PCBs, phenol and heavy metals.
- Note 10: Groundwater monitoring wells for which trigger levels shall be set as specified in Condition 6.4.
- Note 11: Private wells to be monitored in accordance with Condition 9.9.
- Note 12: Location of additional leachate monitoring points to be installed in the waste body at Phases 1, 2 and 3 at the facility to be agreed with the Agency in accordance with Condition 3.19.3.

D.2 Landfill Gas

Table D.2.1 Landfill Gas Monitoring Parameters, Frequency and Technique

Parameter	Monitoring Frequency		Analysis Method Note 1/Technique Note 2	
	Gas Boreholes/ Vents/Wells	Site Office		
Methane (CH ₄) % v/v	Monthly	Weekly	Infrared analyser/flame ionisation detector	
Carbon dioxide (CO ₂) % v/v	Monthly	Weekly	Infrared analyser/ flame ionisation detector	
Oxygen(O ₂) % v/v	Monthly	Weekly	Electrochemical cell	
Atmospheric Pressure	Monthly	Weekly	Standard	
Temperature	Monthly	Weekly	Standard	

Note 1:

All monitoring equipment used should be intrinsically safe.

Note 2: Or other methods agreed in advance by the Agency.

D.3 Dust

Table D.3.1 **Dust Monitoring Frequency and Technique**

Parameter (mg/m²/day)	Monitoring Frequency	Analysis Method/Technique
Dust	Three times a year Note 2	Standard Method Note 1

Standard method VDI2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Engineering Institute). Any modifications to eliminate interference due to algae growth in the gauge should be reported

to the Agency.

Twice during the period May to September. Note 2:

D.4 Noise

Table D.4.1 Noise Monitoring Frequency and Technique.

Parameter	Monitoring Frequency	Analysis Method/Technique
L(A) _{EQ} [30 minutes]	Annual	Standard Note 1
L(A) ₁₀ [30 minutes]	Annual	Standard Note 1
L(A) ₉₀ [30 minutes]	Annual	Standard Note 1
Frequency Analysis (1/3 Octave band analysis)	Annual	Standard Note 1

"International Standards Organisation. ISO 1996. Acoustics - description and Measurement of Environmental noise, Note 1: Parts 1, 2 and 3."

D.5 Surface Water, Groundwater and Leachate

Table D.5.1 Water and Leachate - Parameters / Frequency

PARAMETER ^{Note1}	SURFACE WATER	GROUNDWATER	LEACHATE Note 7
		Nonitoring Frequency	Monitoring Frequency
Visual Inspection/Odour Note 2	Weekly	Quarterly	Quarterly
Groundwater Level	Not Applicable	Monthly	Not Applicable
Leachate Level	Not Applicable	Not Applicable	Continuous
Ammoniacal Nitrogen	Quarterly Note 8	Monthly	Annually
BOD	Quarterly Note 8	Not Applicable	Annually
COD	Quarterly	Not Applicable	Annually
Chloride	Quarterly	Quarterly	Annually
Dissolved Oxygen	Quarterly	Quarterly	Not Applicable
Electrical Conductivity	Quarterly Note 8	Monthly	Annually
рН	Quarterly Note 8	Monthly	Annually
Total Suspended Solids	Quarterly Note 8	Not Applicable	Not Applicable
Metals / non metals Note 3	Annually	Annually	Annually
Cyanide (Total)	Not Applicable	Annually	Annually
Fluoride	Not Applicable	Annually Media Service Servic	Annually
List I/II organic substances Note 4	Once off Note 5	Annually Note 5	Once off Note 5
Mercury	Annually	Annually	Annually
Sulphate	Annually Annually Annually Annually Annually	Annually	Annually
Total Alkalinity	action Annually	Annually	Not applicable
Total P/orthophosphate	Annually Note 8	Annually	Annually
Total Oxidised Nitrogen	Annually Annually Annually Not Applicable Not Applicable	Not Applicable	Annually
Total Organic Carbon	Not Applicable	Monthly	Not Applicable
Residue on evaporation	Not Applicable	Annually	Not Applicable
Faecal Coliforms Note 10	Not Applicable	Annually	Not Applicable
Total Coliforms Note 10	Not Applicable	Annually	Not Applicable
Biological Assessment	Annually Note 6	Not Applicable	Not Applicable
Sediment Assessment -	Once off Note 9	Not Applicable	Not Applicable

- Note 1: All the analysis shall be carried out by a competent laboratory using standard and internationally accepted procedures.
- Note 2: Where there is evident gross contamination of leachate, additional samples should be analysed.
- Note 3: Metals and elements to be analysed by AA/ICP should include as a minimum: boron, cadmium, calcium, chromium (total), copper, iron, lead, magnesium, manganese, nickel, potassium, sodium and zinc.
- Note 4: Samples screened for the presence of organic compounds using Gas Chromatography / Mass Spectrometry (GC/MS) or other appropriate techniques and using the list I/II Substances from EU Directive 76/464/EEC and 80/68/EEC as a guideline. Recommended analytical techniques include: volatiles (US Environmental Protection Agency method 524 or equivalent), semi-volatiles (USEPA method 525 or equivalent, and pesticides (USEPA method 608 or equivalent).
- Note 5: 2 surface water locations, 3 groundwater locations and 2 leachate locations to be agreed by the Agency for these parameters.
- Note 6: Appropriate biological methods (such as EPA Q-Rating System) to be used for the assessment of rivers and streams.
- Note 7: Visual Inspection and Leachate Levels to be monitored at all leachate monitoring points specified in Table D.1.1. Leachate composition to be monitored at the leachate lagoon and two locations within the waste body.
- Note 8: Monitoring at discharge points SW-1 and SW-2 shall be carried out monthly for these parameters.
- Note 9: Appropriate methods to be used for the assessment of stream sediments and in accordance with the Agency's Landfill Manual, Landfill Monitoring, 2nd Edition.

Note 10: In the case where groundwater is extracted for drinking water, if there is evidence of bacterial contamination, the analysis at up gradient and downgradient monitoring points shall include enumeration of total bacteria at 22°C and 37°C and faecal Streptococci.

D.6 Meteorological Monitoring

Table D.6.1 Meteorological Monitoring:

Data to be obtained from a location on the facility. However Evaporation, Evapotranspiration and Humidity may be obtained from the Clones weather Station.

Parameter	Monitoring Frequency	Analysis Method/Technique
Precipitation Volume	Daily	Standard
Temperature (min/max.)	Daily	Standard
Wind Force and Direction	Daily	Standard
Evaporation	Daily	Standard
Evapotranspiration ^{Note 1}	Daily	Standard
Humidity	Daily	Standard
Atmospheric Pressure ^{Note 1}	Daily	Standard

Note 1: Monitoring frequency for these parameters may be decreased with the agreement of the Agency.

D.7 Landfill Gas Combustion Plant/Enclosed Flare

Location: Utilisation plant and enclosed flare

Table D.7.1 Landfill Gas Utilisation Plant/Enclosed Flare Parameters and Monitoring Frequency

Parameter	Flare (enclosed) Monitoring Frequency	Utilisation Plant Monitoring Frequency	Analysis Method Note 1/ Technique Note 2		
Inlet	of con				
Methane (CH ₄) % v/v	Consecution	Weekly	Infrared analyser/flame ionisation detector/thermal conductivity		
Carbon dioxide (CO ₂) % v/v	Continuous	Weekly	Infrared analyser/thermal conductivity		
Oxygen (O ₂) % v/v	Continuous	Weekly	Electrochemical/thermal conductivity		
Total Sulphur	Annually	Annually	Ion chromatography		
Process Parameters					
Combustion Temperature	Continuous	Quarterly	Temperature Probe/datalogger		
Outlet					
Carbon monoxide (CO)	Continuous	Continuous	Flue gas analyser/datalogger		
Nitrogen Oxides (Nox)	Annually	Annually	Flue gas analyser		
Sulphur dioxide	Annually	Annually	Flue gas analyser		

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(SO ₂)			
Particulates	Not applicable	Annually	Isokinetic/Gravimetric
TOC	Annually	Not applicable	Flame ionisation

Note 1: All monitoring equipment used should be intrinsically safe.

Note 2: Or other methods agreed in advance by the Agency.

SCHEDULE E: Recording and Reporting to the Agency

Report	Reporting Frequency Note 1	Report Submission Date		
Environmental Management System Updates	Annually	Submit as part of AER.		
Annual Environment Report (AER)	Annually	By 31st March of each year.		
Record of incidents	As they occur	Within five days of the incident.		
Specified Engineering Works reports	As they arise	Prior to the works commencing.		
Monitoring of landfill gas	Quarterly	Ten days after end of the quarter being reported on.		
Monitoring of Surface Water Quality	Quarterly	Ten days after end of the quarter being reported on.		
Monitoring of Groundwater Quality	Quarterly ses of	Ten days after end of the quarter being reported on.		
Monitoring of Leachate	Quarterly	Ten days after end of the quarter being reported on.		
Meteorological Monitoring	Annually	Submit as part of AER.		
Dust Monitoring	Three times a year	Submit as part of AER.		
Noise Monitoring	Annually	Submit as part of AER.		
Biological Monitoring	Annually	Within six months from the date of grant of this licence in accordance with Condition 4.2 and every year thereafter as part of the AER.		
Sediment Assessment	-	Within six months from the date of grant of this licence in accordance with Condition 4.2.		
Any other monitoring	As they occur	Within ten days of obtaining results.		

Note 1: Unless altered at the request of the Agency.

SCHEDULE F: Criteria for the Acceptance of Inert Waste

F.1 Acceptable Waste for Recovery

Only the wastes listed below are acceptable for recovery at the facility, unless otherwise agreed by the Agency. These wastes should be in such a condition as to not represent a risk of causing environmental pollution.

poliution.	
	WASTE
Topsoil	Solid Road Planings, Solid Tarmacadam, Solid Asphalt
Subsoil	Brickwork
Stone, Rock and Slate	Natural Sand
Clay, Pottery and China	Concrete

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SCHEDULE G: Content of the Annual Environmental Report

Annual Environmental Report Content

Reporting Period.

Waste activities carried out at the facility.

Quantity and Composition of waste received, disposed of and recovered during the reporting period and each previous year.

Calculated remaining capacity of the facility and year in which final capacity is expected to be reached.

Methods of deposition of waste.

Summary report on emissions.

Summary of results and interpretation of environmental monitoring.

Biological Monitoring summary report.

Meteorological summary report.

Resource and energy consumption summary.

Proposed development of the facility and timescale of such development.

Volume of leachate produced and volume of leachate transported / discharged off-site.

Report on development works undertaken during the reporting period, and a timescale for those proposed during the coming year.

Report on restoration of completed cells/ phases.

Topographical Survey.

Slope stability monitoring report.

Estimated annual and cumulative quantities of landful gas emitted from the facility.

Estimated annual and cumulative quantity of indirect emissions to groundwater.

Annual water balance calculation and interpretation.

Environmental Management System updates.

Report on the progress towards achievement of the Environmental Objectives and Targets contained in previous year's report.

Schedule of Environmental Objectives and Targets for the forthcoming year.

Full title and a written summary of any procedures developed by the licensee in the year which relates to the facility operation.

Tank, pipeline and bund testing and inspection report.

Reported incidents and Complaints summaries.

Review of Nuisance Controls.

Reports on financial provision made under this licence, management and staffing structure of the facility, and a programme for public information.

Statement of charges and costs of landfill (Condition 12.3 and Section 53(A)5 of the Waste Management Acts 1996 to 2003.

Report on training of staff.

Any other items specified by the Agency.

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Sealed by the seal of the Agency on this the 10th day of May, 2005 PRESENT when the seal of the Agency was affixed hereto: Padraic Larkin, Director Consent of copyright owner required for any other use. Environmental Protection Agency WL/77-2 Page 39 of 39

Attachment B.4 Sanitary Authority

Copy of Effluent Discharge Licence/agreement between applicant and the body with responsibility for the sewer

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Cavan County Council



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Water Services 049 437 8300

Email: info@cavancoco.ie

Water Services Section, Courthouse.

Cavan.

Tel. 049-43 31799 Fax. 049-43 31981

Email: ogallagher@c3vancoco.ie

To: Ms. Joan Harrington Oxigen Environmental Corranure Landfill Corranure Cavan

Date:

11th August 2008

Subject:

Connection of Landfill at to Cavan Town Wastewater Treatment

System

Dear Joan,

Water Services Section will grant the right to connect to the Council foul sewer drain in the road adjoining the Subject Property, subject to obtaining any necessary licences, permits or other authorisations to do so and subject to payment of any fees or charges levied by the Council for waste discharged to that foul sewer and subject to complying with the terms of any licences or permits relating to discharges to the foul sewer and subject to complying with any requirements of the Council due to the capacity of the sewer (such as attenuation).

Signed:

Acting Director of Services

Web: www.cavancoco.ie Fax: 049 436 1565

PUBLIC NOTICE

Application to the Environmental Protection Agency for a Waste Licence

Notice is hereby given in accordance with the provisions of the Waste Management Act 1996 to 2008 and Articles 5 and 7 of the Waste Management (Licensing) Regulations, 2004 (S.I. No. 395 of 2004) that Oxigen Environmental Ltd. Merrywell Industrial Estate, Ballymount Road, Clondalkin Dublin 22 will apply to the Environmental Protection Agency for a Waste Licence in respect of Corranure Landfill, located in the townlands of Corranure and Lismagratty, County Cavan National Grid Reference 244488E, 307729N

The Classes of Waste Activities in accordance with the Third and Fourth Schedule of the Waste Management Act, 1996 to 2003 as amended are as follows:

The principle activity carried out on the site will be Class 4 of the Fourth Schedule namely:

Recycling or reclamation of other inorganic materials

Other proposed activities include:

Third Schedule:

Class 4. Surface impoundment, including placement of liquid or sludge discards into pits, wonds or lagoons

Class 5. Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment

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 in a preceding paragraph of this Schedule other than the temporary storage, pending collection, on the premises where the waste concerned is produced

Fourth Schedule

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

Class 3 Recycling or reclamation of metals and metal compounds

Class 4. Recycling or reclamation of other inorganic materials

Class 9. Use of 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.

This Waste License Application and Environmental Impact Statement (EIS) will be submitted to the Agency within two weeks of the publication of this notice

A copy of the application 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 practicable after receipt by the Agency, be available for inspection and purchase at the Headquarters of the Environmental Protection Agency, Johnstown Castle Estate, Wexford.

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PUBLIC NOTICES

PUBLIC NOTICE

Application to the Environmental Protection Agency for a Waste Licence Notice is hereby given in accordance with the provisions of the Waste Management Act 1996 to 2008 and Management Jumps of Management Act 1997 to 2008 and Management Jumps of Management Manag agement act 1998 to 2008, and Management (Licenaing) Regulations, 2004 (S.I. No. 395 of 2004) that Code act 1904 to 190

The Classes of Waste Activities in accordance with the Third and Fourth Schedule of the Waste Management Act. 1986 to the Waste Management Act. 1986 to the Cover The principle callvilly carried out on the alto will be Class 4 of the Fourth Schedule namely: Recycling or roblamation of other Inorganie materials.

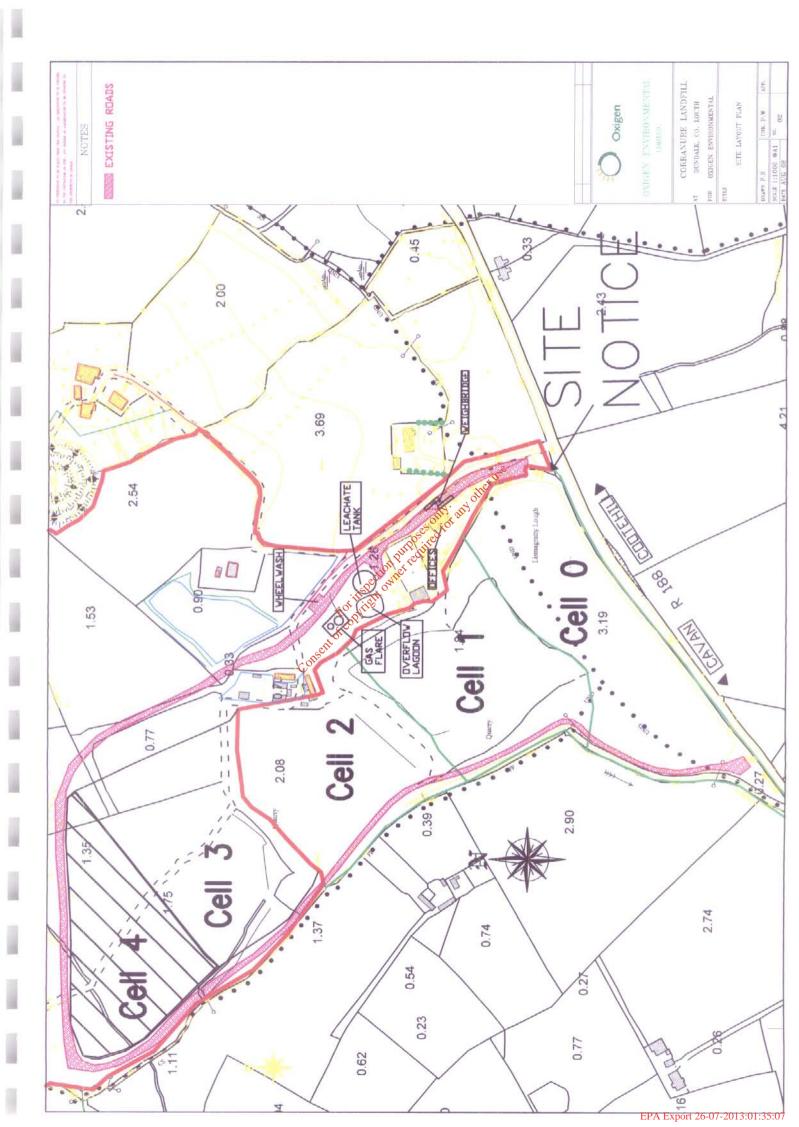
Third Schedule:

Class 4. Surface impoundment, including placement of figuid or sludge discards into pits, ponds or legoons Class in possibly placement in the control of t

Class 2. Recycling or reclama-tion of organic substances which are not used as solvenic (including composting and other biological Processes) Class Beaveling or reclamation of which are compositing and warflooding and Processes: Class 3.
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Class 4. Recycling or rectamamaterials class 9. Use of waste
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11. Use of waste obtained from
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This Waste License Application and Environmental Impac Statement (EIS) will be submit ted to the Agency within two weeks of the publication of this notice.

A copy of the application and any such further information relating to the application as may be surnested to the Agency consideration of the application will as soon as practicable after receipt by the Agency be chase at the Headquarters of the Environmental Protection Agency. Johnstown Castle Estate, Wootrod.



Attachment B.7 Type of Waste Activity

The principal activity is Class 4 of the Fourth Schedule as given below:

Third Schedule (Waste Disposal Activities)

Class 4 Surface Impoundment, including placement of liquid or sludge discards into pits, ponds, or lagoons

This activity is limited to the storage of leachate at the facility pending its disposal at another appropriate facility

Class 5 Specially engineered landfill, including placement into lined discrete cells which capped and isolated from one another and the environment Disposal of non-hazardous waste in current phase 3- Cell 3 and in future Cell 4.

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

This refers the processing of waste on site. The Materials Recovery Facility will process with up 180,000 tonnes per annum.

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

To allow for repackaging of waste accepted at the Civic Amenity site and C&I facility and the dispatch of processed waste and unacceptable wastes to alternative disposal facilities

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.

This refers to the Material Recovery facility and the processing of waste. To allow for the recycling/recovery activities and temporary storage prior to removal from site, and also the temporary storage of unacceptable wastes in the waste quarantine area and storage for use in development and/or restoration purposes.

Fourth Schedule (Waste Recovery Activities)

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

The proposed development will comprise of a BTF for the conversion of up to 65,000tonnes per annum of a range of organic residues to compost. This activity allows for the recovery/recycling of organic materials including paper, timber, cardboard, green waste, and other wastes as agreed by the Agency.

Class 3 Recycling or reclamation of metals and metal compounds

This constitutes the remainder of the construction and demolition waste. This activity allows for the recycling or reclamation of metals and metal compounds.

Class 4 Recycling or reclamation of other inorganic materials

This is the principal activity. The proposed facility will deal with 180,000tonnes of C&D/C&I waste, which will be sourced from existing demolition contracts and third parties. This activity also applies to the recovery or reclamation of glass, clothing and other inorganic wastes at the civic amenity site.

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

For the future possibility of landfill gas utilisation and also if an Anaerobic Digestion process is developed, the biogas produced can be used in a Combined Heat and Power(CHP) plant to produce electricity and heat through a gas engine and steam boiler.

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

This activity allows for the use of recovered materials (e.g C&D Waste) for the development/restoration of the facility.

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

Exchanges of wastes for recycling and recovery at the proposed facilities and the civic amenity facility

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.

To include 65,000tonnes of segregated domestic and commercial organic waste from the Biological Treatment Facility and 180,000tpa from the Materials Recovery Facility. This activity allows of the recycling/recovery activities and the temporary storage of unacceptable wastes in the waste quarantine area and for use in development and/or restoration purposes.

Attachment C

- Technical Competence and Site Management Hours of Operation Hours of Operation **C**.1
- C.2
- C.3

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Attachment C.1 Technical Competence and Site Management

The management structure of each of the facilities will be clarified with the agency at a later date. For each facility the site manager and site operatives will be trained to an appropriate standard.

Site managers will be responsible for the day-to-day operation and supervision of each facility and will be trained in EPA waste acceptance and handling procedures, and in Environmental Management of the facility.

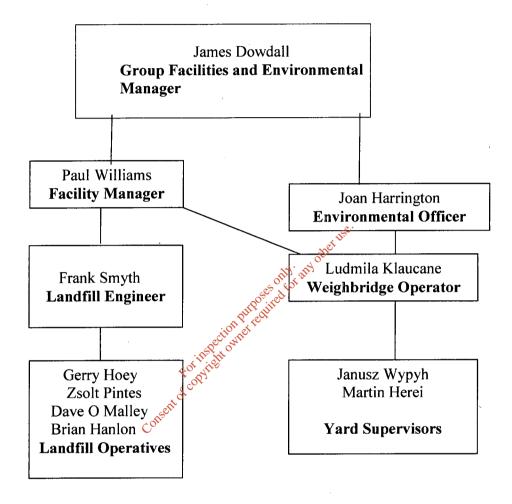
The site operatives will also receive training in waste acceptance and handling procedures, weighbridge operation etc.

Training and awareness will be achieved through external and in-house training and the site will maintain a copy of the Waste Licence as set by the EPA.



The Management Structure for the existing Landfill site is shown below:

Management Structure at Corranure Landfill



Details of the management structure, experience and qualifications are shown below:

Name: Jim Dowdall

Title: Group Facilities and Environmental Manager

Responsibilities: Responsible for all processing, compliance and site issues on all

Oxigen Environmental Ltd. sites.

Experience: MSc in Chemistry. Over 20 years experience in recycling and waste

management industries.

Name: Paul Williams Title: Facility Manager

Responsibilities: Day to Day operations of the site. Responsible for ensuring operations are conducted efficiently and without adversely impacting on the surrounding environment. Waste acceptance and Customer/Public communications.

Experience: 20 years experience within the Waste and Recycling Industry

Name: Joan Harrington

Title: Environmental Officer

Responsibilities: Responsible for ensuring Oxigen Environmental complies with all standards specified in the Licence. Ensuring all technical paperwork are accurate and complete.

Experience: Diploma in Environmental Resources Management, B.Sc in Environmental Science and Technology years experience as Environmental Consultant and 2 years experience in the Waste and Recycling Industry.

Name: Frank Smyth
Title: Landfill Engineer

Responsibilities: Bulk dig supervisor, surveying and drafting on site.

Experience: 15 years experience

Oxigen Quality Control

Oxigen Environmental Ltd. have a Company Quality Control manual. The Quality Management System is implemented and operated to meet the requirement of I.S EN ISO 9001:2000. It details the process approach to Quality management adopted by the organisation.

Attachment C.3 Hours of Operation

Hours of Operation, Waste Acceptance and Construction

Proposed hrs		CA		• .
(Mon-Sat)	Landfill	Site	MRF	BTF
Waste	7.00-	8.00-	6.30-	
Acceptance	19.00	16.30	22.00	6.30-22.00
•	6.30-	8.00-	6.00-	
Operation	19.30	17.00	22.30	Continuous
	8.00-		8.00-	
Construction	18.00	NA	18.00	8.00-18.00

The BTF process will be continuous. However waste will only be accepted in the hours as stated above and will only process the waste (per-treatment, compost turning) during hours of operation. The site will be normally closed on Sundays and on Bank Holidays. Any acceptance or operation outside these hours will be in case of an emergency only and on agreement form the EPA. It necessary, approval will be sought to increase construction hours. Maintenance during out of hours may also be required for emergency breakdown etc.

Attachment D

- D.1 Infrastructure
- D.2 Facility Operation
- D.3 Liner System
- D.4 Leachate Management
- D.5 Landfill Gas Management
- D.6 Capping Systemse D.6 Capping Systemse Consent of confridition and the confridition of the confridition

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D.1 Infrastructure

Attached

Drawing No. 12 Recycling Sheds Location

Drawing No. 13 Recycling Sheds Elevation,

Drawing No. 14 Recycling Shed Plan

Attachment D.1.a Site Security arrangements

See Section 2.4.1 of EIS.

Attachment D.1.b Designs for site roads

See Section 2.4.2 of EIS.

Attachment D.1.c Design of hardstanding areas

See Section of 2.4.3 EIS.

Attachments D.1.d Plant

The following plant and machinery are used on site at the landfill:

- 2 compactors
- 2 diggers (30T and 20T)
- 2 dump trucks (Volvo A40 and A25)
- I Bulldozer D6
- 1 tractor
- 1 Jeep

Two 'Avery Berkel' weighbridges are of a platform design with the capacity of 60 tonnes and dimensions of approximately 18m x 3m.

The details of the plant required for each facility will be forwarded to the agency for approval prior to construction of each of the facilities.

Attachments D.1.e Wheel-wash

See Section 2.4.7 of EIS.

Attachments D.1.f Laboratory facilities

There are no laboratory facilities located onsite at the landfill. An accredited laboratory off-site will be used.

Attachments D.1.g Design and location of fuel storage areas

See Section 2.4.4 of EIS

The generator on site is also fuelled by means of a commercial fuel tanker.

Attachments D.1.h Waste Quarantine

See Section of 2.4.5 of the EIS.

Attachments D.1.i Waste Inspection areas

See Section 2.4.6 of EIS.

Attachments D.1.j Traffic Control

All traffic must pass over the weighbridges when entering and exiting the landfill. This is controlled by a barrier system, one for the 'in weighbridge' and one on the 'out weighbridge'. The location of the weighbridge provides for up to 6 delivery trucks can queue within the front entrance. A one-way system is in place in the Civic Amenity Site which is controlled by a barrier allowing for exit only. Signage has been provided to assist traffic control both at the entrance and within the site itself. The speed linit is 10km per hour.

Attachments D.1.k Sewage and surface water drainage infrastructure

See Section 2.4.9 and 2.4.10 of the EIS

Attachments D.1.1 All other services

At the existing site there is electrical power, lighting, phone services and a water supply. See Drawing No. 15 Services Plan

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

See Section 2.4.11 of EIS.

Attachments D.1.n Site accommodation

Section 2.4.12 of EIS

At the facility there is an administration building which consists of the office rooms, canteen, shower room and toilets. A weighbridge office is also located on site. An additional administration building will also be constructed.

Attachments D.1.0 A fire control system, including water supply

There is a fire hydrant located at the site entrance and fire extinguishers located in the administration buildings and Civic Amenity present on site which are to be used in the event of a fire.

Attachments D.1.p Civic Amenity facilities

A Civic Amenity facility is used by the public for recycling and waste disposal which is located adjacent to the site entrance. See EIS, Section 2.5.6

Attachments D.1.q Any other waste recovery intrastructure

Not Applicable

Attachment D.1.r Composting infrastructure

A Biological Treatment Plant will be designed and operated using BAT principal and agreed in advance with the agency.

See Section 2.5.8 of EIS

Attachment D.1.s Construction and Demolition waste infrastructure

See Section 2.5.7 of EIS

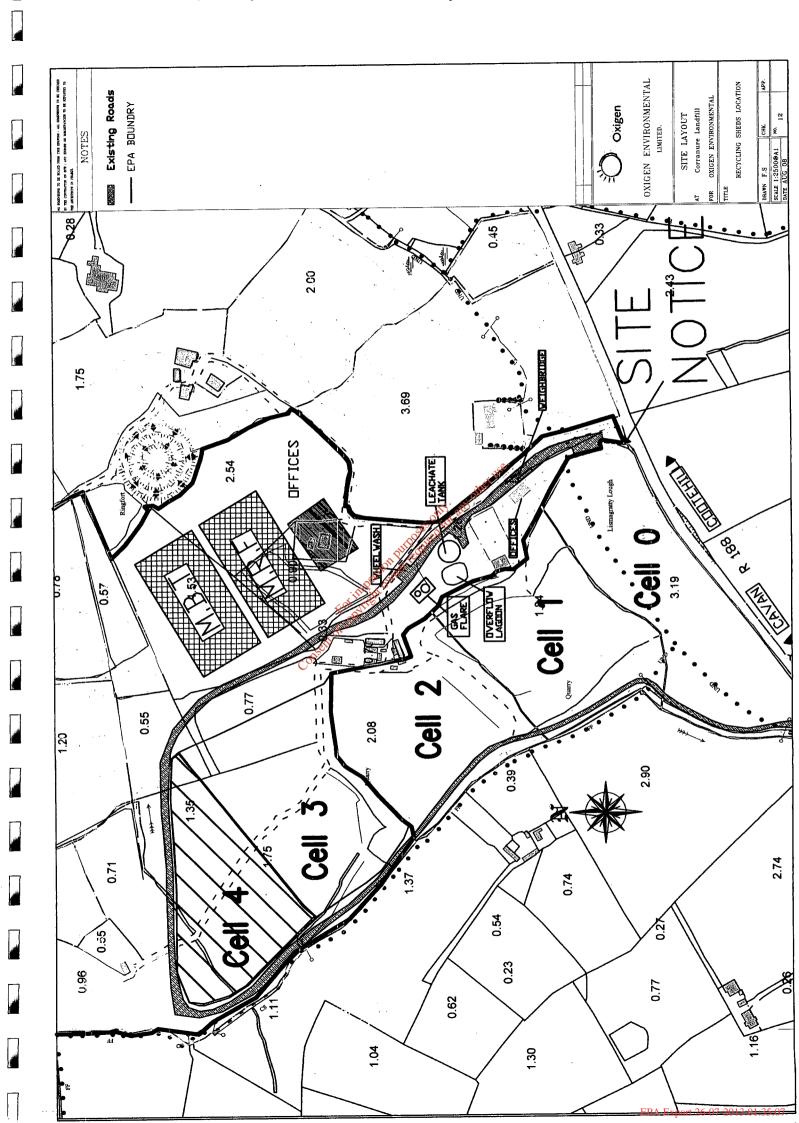
This will be designed and operated using BAT principal and agreed in advance with the agency.

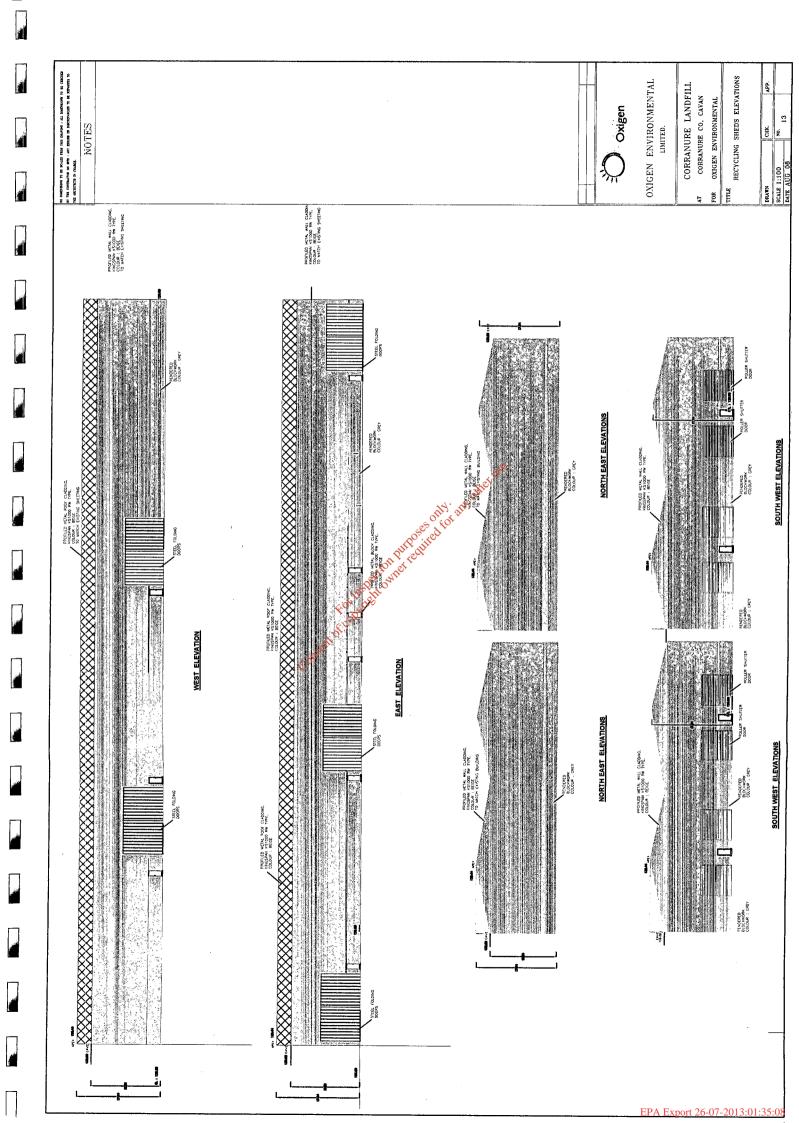
Attachment D.1.t Incineration infrastructure

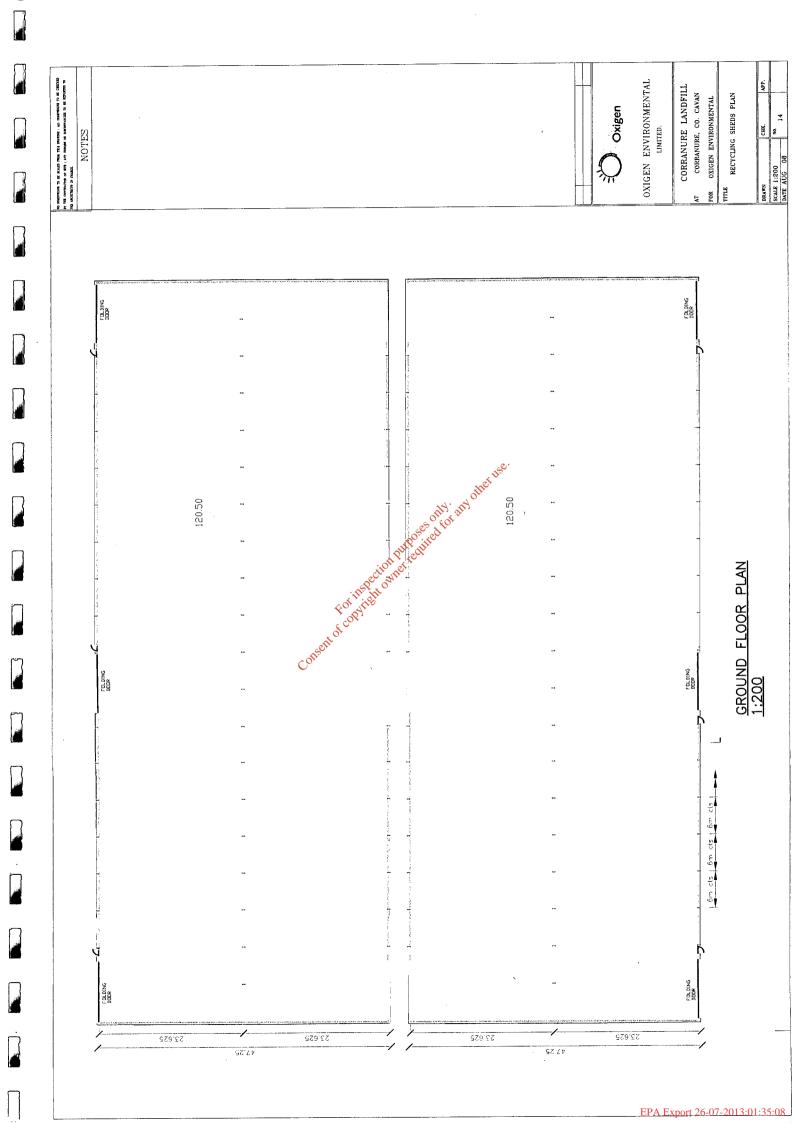
Not Applicable

Attachment D.1.u Any other infrastructure

Not Applicable







Attachment D.2

(a) Attached a list of all unit operations to be carried out together with a plan of the site indicating the locations of the activities and identifying all building and facilities.

The Integrated Waste Recycling Facility will consist of the following waste management facilities:

- Landfill of 90,000 tonnes per annum Development of Phase 3 (Cells 3 and 4)
- Civic Amenity Centre and associated infrastructure
- Materials recovery Facility processing 180,000 tonnes per annum.
- Biological Waste Treatment Facility (including Mechanical Biological Treatment) treating up to 65,000 tonnes per annum of segregated domestic and commercial organic waste.

The location of each of the above processes is outlined in Drawing No.12 Recycling Sheds Location.

(b) Flow diagram of process, detailing management and maintenance plans

The design of the various processes for the different facilities will depend on the final design stage of each facility. The final design of the process for each facility will be agreed with the agency prior to construction of each facility.

Proper and regular maintenance will be carried out on all mechanical equipment on site to ensure the equipment is in safe working order and does not pose a threat to the health and safety of either workers or members of the public.

(c) Emissions to the environment during normal working hours, malfunction or interruption of services. Id. Each abatement, treatment or recovery system, describe its purpose and mode of operation

Please refer to Section E of this application

(d) Laboratory facilities
Not applicable

D.3 a Provide information to fulfil Annex 1 of the Landfill Directive

Annex 1 cover the following: Location, water controls and leachate management, protection of soils and water, gas control nuisance, stability and barriers.

The existing licence relates to all the above subjects and lays down conditions which fulfil the requirements of Annex 1.

In addition

- 1. All infrastructure and engineering has been designed to provide protection of the environment and specifically relates to Annex 1
- 2.Each development stage has been detailed in the Specified Engineering Works Schedule B of the existing licence.
- 3. Operation of the site again has been designed to deal with aspects in Annex 1.

D.3.b What type of liner system is specified?

The liner will be a composite liner to meet the requirements of the EU Draft Directive for non-hazardous landfill and the EPA Manual for Landfill Site design. It is also specified in Condition 3.11 of EPA licence.

D.3.c Has a Quality Control Plan been specified?

A Construction Quality Control Plan has been prepared for previous phases of the development and will be prepared procto construction for all future phases. Construction Quality Control: A plantned system of inspection that is used to monitor and control the quality of a construction project. This assists the contractor to conform with project plans and specifications. It will be undertaken by a Third party who has independence and is working on behalf of the operator

D.3.d Has a Quality Assurance Plan been specified?

A specification and Quality Assurance Plan has been prepared for previous phases of the development and will be prepared prior to the construction of future phases. Construction Quality Assurance: A planned system of activities that provide assurance that the facility was constructed in accordance with the contract and technical specifications. It will be undertaken by a Third party who has independence and is working on behalf of the operator

D.3.e Have independent, third -party supervision, testing and controls been designed?

This will be established prior to construction of the facility and it will be undertaken by a Third party who has independence and is working on behalf of the operator

D.3.f Have basal gradients for all cells and access ramps to the cells been designed?

Access ramps will be designed during the detailed design stage. They will be designed in accordance with the draft EPA Landfill Site Design Manual.

D.3.g Has a leak detection survey been specified?

Leak detection surveys will form part of the CQA procedures and agreed with the EPA prior to be conducted and it will be specified prior to construction of the facility.

D.4.a Is there a Leachate Management Plan?

A Leachate Management Plan is currently in force, this will be evaluated and updated as per the development of the site.

D.4.b Have annual quantities of leachate been calculated?

Leachate Generation and load from the landfill have been calculated as part of the Leachate Management Plan.

Although estimates of leachate generation have been calculated before it is now possible to extrapolate genuine data from actual leachate disposal records and therefore give accurate amounts of leachate produced.

As required by our Waste Management Licence leachate generation data from Corranure Landfill has been submitted as part of the Annual Environmental Report. The following information shows the quantity of leachate which was exported from the site.

Leachate Quantity exported during 2007

Discharged to sewer by pumping to the Cavan Waste Water Treatment Plant 33734m³

Removed by Road Tanker / tractor Bowser prior to installation of rising main 12369m³

Total - 46103m³

The catchment area is estimated to be maintained at its present level because of the scheduled development of the site coupled with the temporary, permanent capping of the site together with the restoration, seeding and surface water control s. It is predicted therefore that the quantity of leachate to be removed during the next few years will be similar to actual amounts.

D.4.c Has the total quantites of leachate been calculated?

The annual leachate generation has been estimated previously as part of the Leachate Management Plan. This document is currently under review and a enhanced calculation will now benefit from the availability of actual quantities of leachate removed from site.

D.4.d Have the size of the cells been specified taking account of the water balance calculations?

The size of Phase 3 (Cell 3 and 4) has already been proposed and agreed with the EPA. which has included taking account of the water balance calculations. The calculations take into account many aspects of the of precipitation, specifically effective rainfall, evapotranspiration, cell size, absorptive capacity capping restoration etc to optimise the cell size and manage the leachate generated successfully.

D.4.e Has a leachate collection system been specified?

The leachate collection system has been agreed on previous cells and is detailed in the waste management licence Condition 3.11.1 (a) and will be replicated on any new cells. Leachate will be collected in a network of slotted pipes installed in a drainage blanket 500mm thick, as specified in licence condition 3.11.1 (c), in the base of each cell and draining into a leachate collection chamber constructed at the lowest point of the cell. Lechate will be pumped, from each of the collection chambers to an enextended lagoon at the same location as the existing lagoon. The leachate will then be pumped to Cavan Town for final treatment.

D.4.f Has a leachate storage system been specified?

The existing lagoon has a capacity of 1,531 m³, an overflow tank with capacity for approximately 270m³, therefore the total capacity for leachate storage is 1,801m³.

D.4.g Has a system for the monitoring the level of leachate in the waste been designed?

The monitoring system which has been developed and extended over the life of the site showing real time data of leachate levels throughout the site. This system complies with Condition 3.13 (Leachate Management Infrastructure) and Condition 3.18 (Telemetry).

D.4.h Is the leachate recirculation proposed /practiced?

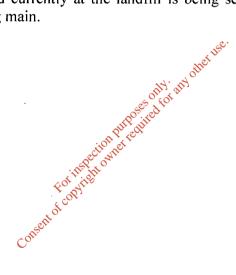
Leachate Recirculation is not practiced within the landfill at the present time, but we would like to retain the option to consider this aspect of leachate management particularly as we will have installed a series of horizontal pipes surrounded in a stone bed which could form an appropriate closed distribution system for leachate and therefore gaining the benefits from this practice.

D.4.i Has leachate treatment on-site been specified?

It is not proposed to treat leachate on site. Treatment of leachate from the site takes place at the local Waste Water Treatment Plant.

D.4.j Has leachate removal been specified?

The leachate generated currently at the landfill is being sent to Cavan WWTP for treatment via the rising main.



Attachment D.5 Landfill Gas Management

D.5a Is there a Landfill Gas Management Plan? Provide estimates of the volumes of landfill gas which will be produced by the waste disposed of in the site for the next 20 years, and compare to the EPER list for methane:

A Landfill Gas Management Plan has been prepared for the existing landfill and covers such aspects as Objectives of Gas Management, Gas Volumes, Gas Control system, energy recovery and monitoring. This plan will be amended as necessary by further developments.

Currently gas is collected for flaring from the operational cells by installation of horizontal extraction pipes which allow early removal of gas whilst the cell is filled to final levels when permanent vertical wells can be installed. In capped areas the gas is being collected from the vertical wells. Gas monitoring bore holes have been installed and more, will be, installed at the perimeter of the site to monitor any possible migration of gas offsite.

Although gas production in laboratory conditions can be as high as 400 to 500 m³ per tonne of waste it is anticipated that the actual production will be around 200 m³.

D.5b Is there a passive venting system?

A passive gas venting system is not proposed for the facility. It is proposed to install the gas management system including gas extraction and flaring and extended during progressive capping of the cells.

D.5c Does the passive system cover all of the filled area?

Not applicable as passive venting not proposed.

D.5d Have gas alarm systems been installed in the site buildings?

Yes, all site buildings to include the site offices, weighbridge and a storage cabin has a gas system installed.

D.5e Have measures been installed to prevent landfill gas migration (e.g. barriers)?

Landfill migration of gas will be minimised by the containment system of lining and capping the site. The liner is installed prior to the deposit of waste and acts as a barrier for landfill gas and leachate during the filling of the cell. The capping of the waste both temporary and permanently will give a final barrier to gas when the site is full. The landfill is a contained facility, the base, sides and cap together with an active gas extraction system will reduce uncontrolled migration of gas.

In addition the use of temporary sacrificial horizontal gas extraction pipes provides an initial collection system during the filling of the lower levels of the cell and may increase the collection efficiency of the gas system in the longer term when permanent vertical are installed as final levels achieved. This allows for the early control of landfill gas thus reducing build-up of gas within the landfill and the potential for off-site migration of the gas.

D.5f Has a time-scale been proposed for the installation of landfill gas infrastructure?

The gas management system including gas extraction and flaring system is used from the outset and extended during progressive capping of the cells

D.5g Is gas flaring undertaken at the site?

Yes, gas is extracted by an enclosed flare system with a capacity of 1,500m³/hr treating gas generated from Cells 0, 1, 2 and 3

D.5h Is there an active (i.e. pumped) landfill gas extraction system?

The gas flare contains an extraction pump to that the landfill gas from the wells through the collector pipework to the flare

D.5i Does the active system coveral of the filled area?

A gas management system including gas extraction and flaring system is used from the outset and extended during progressive capping of the cells. The gas management system will be extended over Cell 4 and the BAT principle will apply to all future gas extraction and utilisation systems.

D.5j Is landfill gas used to generate energy at the site?

Landfill gas is currently not used to generate energy on the site, a preliminary Gas Utilisation Feasibility Study has been completed

D.5k Have emissions from the flarestack and utilisation plant been assessed for source, composition, quantity and level and rate?

Yes, Flare unit efficiency monitoring is completed annually and reported as part of the site AER. A preliminary Gas Utilisation Feasibility Study has also been completed for the site.

D.51 Has a maintenance programme for the control system been specified?

Maintenance of the control system will be undertaken in accordance with the manufactures recommendations

D.5m Has a condensate removal system been designed?

(There are 6 knock-out- pots on the gas collection system, 2 no. of which are pumped at existing site) The gas system will include a condensate removal system the detailed design of which will be undertaken prior to construction.

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Attachment D.6 Capping System

D.6a Has the daily cover been specified?

The working face of the landfill will be covered on a daily basis with either natural soils won on site, imported materials, synthetic materials as detailed in the waste management licence. Placement will be over deposited waste to a depth of 150mm if soil is used.

D.6b Has the intermediate cover been specified?

Intermediate cover for the landfill will comprise inert material e.g overburden which will be installed to a depth no less than 300mm at a time prior to restoration or further waste disposal

D.6c Has the temporary capping been specified?

The temporary capping layer will be installed probably using the over burden excavated on site The minimum thickness of the natural compacted layer should be 0.6m with a hydraulic conductivity of 1x10-9m/s, where a geosynthetic material is used it should provide equivalent protection.

D.6d Has the Capping System been designed and does it meet the requirements of the Landfill Directive Annex 1 (3.3)?

Final capping will be completed unless otherwise agreed by the EPA as per Section 4.4.2 of the existing EPA licence.

- 1.Top soil 150mm to 300mm
- 2. Subsoils to a total thickness of soil and subsoil at least 1m
- 3. Drainage layer 0.5m thickness with conductivity of 1X10-4m/s
- 4. Compacted mineral layer 0.6m thick permeability of 1X10-9m/s or geosynthetic material providing the similar protection
- 5.Gas collection layer minimum thickness 0.3m of geosynthetic layer

The capping of the existing landfill consists of a geocomposite layer (gas),0.6m of low permeability clay, geocomposite drainage layer(surface water),0.85m of subsoil and 0.15m of topsoil which has since been vegetated.

D.6e Does the Capping System include a flexible membrane liner?

The capping system will include a compacted mineral layer of minimum 0.6m thickness with a permeability of less than $1x10^{-9}$ m/s or equivalent. This low permeability layer will be either natural (0.6m cay) or geosynthetic i.e geosynthetic clay liner (GCL) or liner low density polyethylene (LLDPE).

D.6f Have all capping materials been specified?

Capping material are detailed in Section 4.4 of the waste management licence

D.6g Has a Method Statement for construction been produced?

A method statement will be produced prior to the capping work commencing on site and will be in compliance with the industry best practice.

D.6h Has a Quality Control Plan been produced?

A QCP will apply to the installation of the capping system. Refer to Section 2.6.7 of EIS for more information.

D.6i Has a Quality Assurance Plan been produced?

A QAP will be produced prior to capping at the landfill

D.6j Has a programme for monitoring landfill stability been developed?

To mitigate against surface instability for soiled slopes will be designed to incorporate a surface water drainage system. Cut slopes will not exceed 2.5h:1v. Fill slopes will not exceed 2h. However, monitoring of slope stability will be undertaken by regular geotechnical site inspection in accordance with EPA requirements

D.6k Has a programme for monitoring landfill settlement been developed?

Landfill settlement will be monitored by comparing annual topographical surveys After installation of the temporary capping system on completion of the cells it is proposed to locate a number of reference points for monitoring landfill settlement which will be undertaken by regular geotechnical site inspection in accordance with EPA requirements.

Attachment E

- E.1 Emissions to Atmosphere
- E.2 Emissions to Surface Water
- E.3 Emissions to Sewer
- E.4 Emissions to Groundwater
- E.5 Noise Emissions
- E.6 Environmental Narisances

TABLE E.1(i) LANDFILL GAS FLARE EMISSIONS TO ATMOSPHERE Emission Point:

Emission Point Ref. Nº:	A1 – 1
Location:	Landfill Flare
Grid Ref. (12 digit, 6E,6N):	244363, 307893
Vent Details	
Diameter:	1.6m
Height above Ground(m):	Approx. 6m
Date of commencement of emission:	2004

Characteristics of Emission:

CO		ces of for a	10.	51 mg/Nm ³
Total organic carbon (TOC)	Patro direc		<0.5mg/m ³
NOx	ÇÓ	Ally	% O2(Liquid or Gas), 6	10 mg/Nm³ 5% O₂(Solid Fuel)
Maximum volume of	emission & G	8	226	9(varies)m³/hr
Temperature	Conse	°C(max)	°C(min)	°C(avg) 1033

(i) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (start-up/shutdown to be included):

Periods of Emission (avg)	60	min/hr	24 hr/day	365day/yr

EMISSIONS TO SURFACE WATERS (One page for each emission) TABLE E.2(i):

Emission Point:

Emission Point Ref. Nº:	SW2
Source of Emission:	Landfill site
Location:	North east comer of landfill site
Grid Ref. (10 digit, 5E,5N):	244325, 308642
Name of receiving waters:	Lismagratty Stream
Flow rate in receiving waters:	Not measured On Weather
	Not measured m ³ .sec ¹
Available waste assimilative capacity:	Kanday Kanday

Emission Details:

(i)	Volume to be emitted	mitted		
Norm	al/day	352m³	Maximum/day	420m³

Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (start-up /shutdown to be included): Consent of copyright owner required for any other use. _day/yr hr/day min/hr $18m^3$ Periods of Emission (avg) Maximum rate/hour (Ξ)

EMISSIONS TO SURFACE WATERS (One page for each emission) TABLE E.2(i):

Emission Point:

Emission Point Ref. Nº:	SW1
Source of Emission:	Surface water runoff from hardstanding areas
Location:	South west corner of the landfill site
Grid Ref. (10 digit, 5E,5N):	244132, 307466
Name of receiving waters:	Corranure Stream
Flow rate in receiving waters:	Not measured (2007/3/3/3/3/3/3/3/3/3/3/3/3/3/3/3/3/3/3/
	Not measured Man man sec-1 85% ile flow
Available waste assimilative capacity:	Not Applicable Revolution

Emission Details:

(i)	Volume to be emitted	mitted		
Norm	Vormal/day	344m³	Maximum/day	413m³
Maxir	faximum rate/hour	17m³		

Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (start-up /shutdown to be included): (<u>ii</u>)

day/yr	
hr/day	
min/hr	
(avg)	
Periods of Emission	

					, USC
Consent			all'	y any of	net
		nit	20ses of	or	
	. 759	action to	ÇO '		
	for this	ĝ.			
Consent	37				

TABLE E.3(i): EMISSIONS TO SEWER(One page for each en	ission)
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Emission Point:

Emission Point Ref. Nº:	SE1
Location of connection to sewer:	Leachate Storage Tank
Grid Ref. (10 digit, 5E,5N):	244383, 307874
Name of sewage undertaker:	Cavan County Council

Emission Details:

173m ³	Maximum/day	691m ³
29m³	of of any of	
		With the state of

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (start-up) shutdown to be included):

Periods of Emissions

Periods of Emission (avg)	60min/hr	8 hr/day 300day/yr
---------------------------	----------	-----------------------

Table E.5(i): NOISE EMISSIONS

Noise sources summary sheet

Period Emiss		30 min	30 mim	30 mini	30 mim	30 mim	30 mini	30 mim	30 mini	30 mim
Impulsive or tonal qualities		No impulsive or tonal qualities detected	No impulsive or tonal qualities detected	No impulsive or tonal qualities detected	No impulsive or tonal qualities detected	No impulsive or tonal qualities detected	No impulsive or tonal qualities detected			
	8K	9.7	18.5	2.6	9.7	17.8	2.6	16.4	23.6	7.6
pun	4K	17.4	49.2	51.4	28.9	30.4	21	32.7	8.61	26.9
) per b	2K	30.1	23.5	51.1 31.7	34.8	52.6	32.5	37.0	27.7	34.8
z) eighted	IK	44.9	58.5	51.1	40.4	38.8	37	45.3	31.6	38
Octave bands (Hz) Sound Pressure Levels dB(unweighted) per band	200	37.4	34.9	53.6	35.4	42.5	29.4	33.9	24.9	38.6
Octav re Leve	250	31	57.3	31.3	53.7	53.5	36.1	34.8	76.3 0.	36.4 %
Pressu	125	61.9	34.4	61.4	45.8	45.6	38.8	Country of	28.8	54.6
Sounc	63	51.8	43.4	58.5	64.3	1.54.1	14.25 10.44 10.44	49.57	40.5	58.1
	31.5	51.2	57.7	54	63.7 (8)	56 ₆₁ %	47.8	47	45.5	57.1
Sound Pressure ¹ dBA at reference distance		55dBA	55dBA	55dBA	55dBA 🔗	55dBA	55dBA	55dBA	55dBA	55dBA
Equipment Ref. No		Citrix 831A Type 1	Citrix 831A Type 1	Citrix 831A Type 1	Citrix 831A Type 1	Citrix 831A Type 1	Citrix 831A Type 1	Citrix 831A Type 1	Citrix 831A Type 1	Citrix 831A Type 1
Emission point Ref. No		NSL1	NSE.2	NSL3 (B3)	NSL4	NSL5 (B1)	NSL6	NSL7	B4	B2
Source		Machinery working in NSL1 landfill	Traffic on the R188	Traffic on the R188	Movement of vehicles in landfill	Road traffic activity	Landfill activity/birdsong	Traffic noise from the bypass	Birdsong	Landfill activity

1. For items of plant sound power levels may be used.

Attachment E.1 Emissions to Atmosphere

This section is dealt with in Section 3.6 of EIS

E.2 Emissions to Surface Waters

Attachment E.2

Emissions to surface water are dealt with in Section 3.5 of EIS.

Attached

Drawing No.100 Surface Water Monitoring Points Corranure Stream Drawing No.101 Surface Water Monitoring Points Lismagratty Stream

E.3 Emissions to Sewer

Attachment E.3

Details of emissions to sewer are in Section 2.4.19 of EIS.

E.4 Emissions to Groundwater

Attachment E.4

Emissions to groundwater are dealt with in Section 3.4 of the EIS.

Contaminants such as oils and hydrocarbons, could enter the groundwater through infiltration through the subsoil from spillages on the ground surface or through the base and sides of the excavations.

Groundwater quality at the site could be affected by accidental spillages of chemicals and fuels during the operation process.

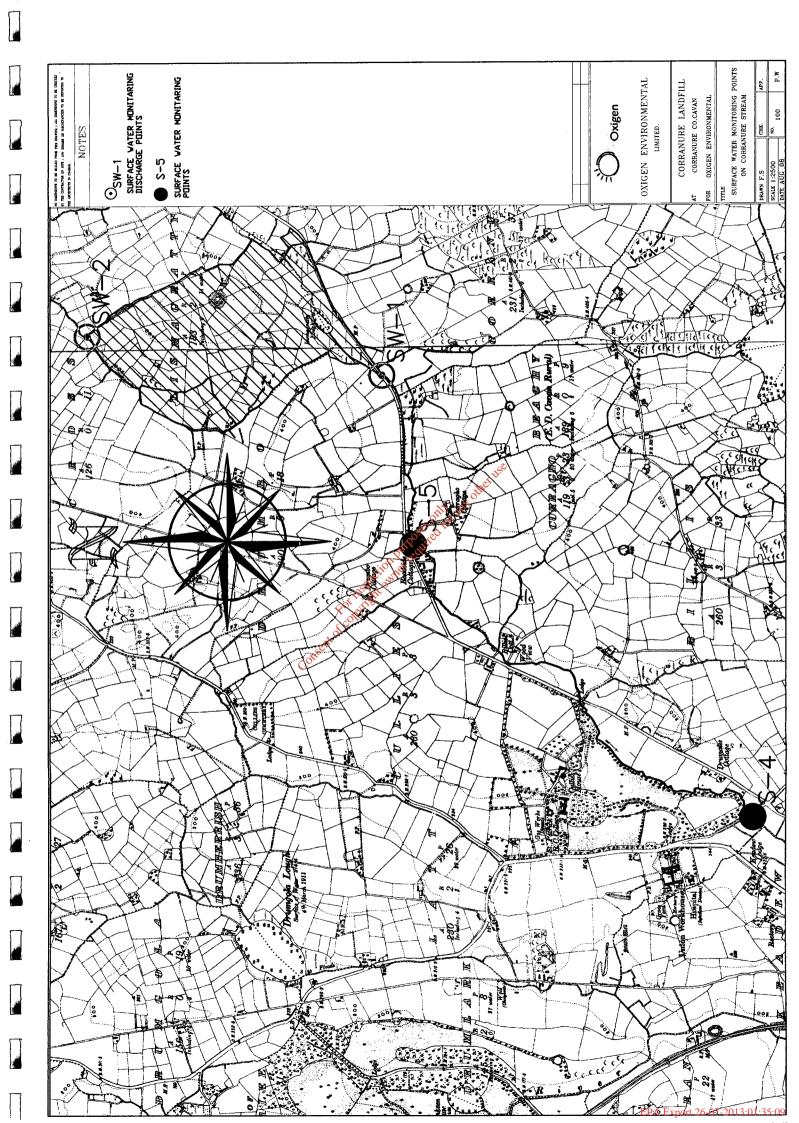
E.5 Noise Emissions

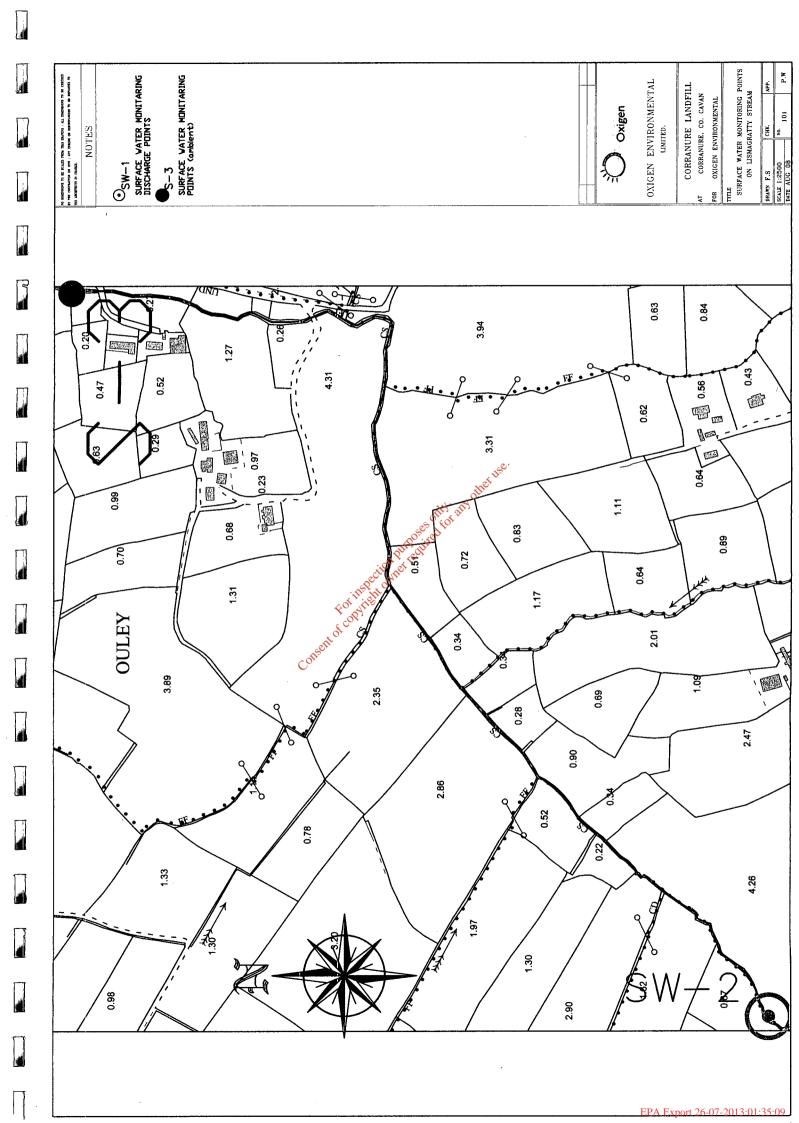
Attachment E.5

Full details of noise emissions are provided in Section 3.7 of the EIS. During the construction phase noise emissions are associated both with the movement of construction traffic to and from the site, and the operation of equipment on the site e.g. excavators, lifting equipment, dumping trucks readymix trucks etc. During the operational phase, the main potential for noise impact is due to traffic movements and noise generated from the operation of the completed integrated recycling facility.

The principal road traffic noise will be that associated with delivery of materials to and from the recycling facility, staff movements, and visitors. The total flow as predicted in the traffic section assessment is 262 movements (122 HGV and 140 others) per working day.

Operators of all mobile equipment will be instructed to avoid unnecessary revving of machinery, turn off equipment / plant when not in use and limit the hours of site activities that are likely to give high noise level emissions.





Attachment E.6 Environmental Nuisances

Bird Control

Refer to Section 2.8.2 of EIS

Dust Control

Refer to Section 2.8.6 of EIS

Fire Control

The immediate compaction of loose waste as it is deposited on the landfill site, the maintenance of the active tipping area no more than 25 meters wide (as per EPA licence W0207-01) and the daily covering of all waste will reduce the risk of fire. A water bowser will be available on site to control any small fires. All staff will be trained in the emergency response procedures and fire extinguishers are provide at the office and on all plant equipment.

Litter Control

Litter procedures are currently in place to deal specifically with these issues. Litter management will include the placement of daily cover over the waste, the use of netting, and the operation of litter part of All vehicles transporting waste are required to be covered and this will be enforced on the site.

Traffic Control

The site is accessed by one main entrance/exit gate. The speed limit is 10km per hour and this is signposted throughout the site. A one way system is in operation in the Civic amenity site and this is controlled by a barrier system. Two weighbridges are in operation for incoming and outgoing vehicles and this provides ease of flow even during peak traffic volumes.

Vermin Control

A procedure is currently in place to manage vermin at the site. A pest control company is employed to control vermin and this will be extended to cover all active areas of the site. Vermin is also controlled by good housekeeping techniques.

Road Cleansing

A Road sweeping company is employed to sweep the site roads at regular intervals or as requested by site management.

Attachment F

F.1 Treatment, Abatement and Control Systems F.2 to F.9 Monitoring and Sample Points

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TABLE F.1: ABATEMENT / TREATMENT CONTROL

Emission point reference number: A1-1

Control ¹ parameter	Equipment ²	Equipment maintenance	Equipment calibration	Equipment back-up
Temperature and retention time	Enclosed flare system	As per manufacturers instructions	As per manufacturers instructions	SCADA system, Spare parts onsite

Control ¹ parameter	Monitoring to be carried out ³	Monitoring equipment	Monitoring equipment calibration
	As per licence requirements	on Purposes of the death of stands	

List the operating parameters of the treatment / abatement system which control its function.

List the equipment necessary for the proper function of the abatement / treatment system.

List the monitoring of the control parameter to be carried out.

TABLE F.2 to F.8: EMISSIONS MONITORING AND SAMPLING POINTS

(1 table per media)

Emission Point Reference No(s). : SE-1

oints	Sjurjoc	oints	ooints	oints	oints	South South			ooints	oints	ooints	oints	s mo
Accessibility of Sampling Points	Permanent access will be maintained to all monitoring points	Permanent access will be maintained at all monitoring points	Permanent access will be maintained at all monitoring points	Permanent access will be maintained at all moniforing points	Permanent access will be 25 maintained at all monitoring points	Permanent access will be % % % maintained at all monitoring points.	Permanent access will be maintained at all monitoring points	Permanent access will be maintained at all monitoring points	Permanent access will be maintained at all monitoring points	Permanent access will be maintained at all monitoring points	Permanent access will be maintained at all monitoring points	Permanent access will be maintained at all monitoring points	Permanent access will be maintained at all monitoring points
Monitoring frequency	As per EPA Environmental Monitoring Manual, 2 nd Edition	Quarterly	Continuous	Annually	Amually	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
Parameter	As per EPA Environmental Monitoring Manual, 2nd Edition	Visual Inspection/Odour	Leachate Level	Ammoniacal Nitrogen	BOD	Electrical conductivity	Hď	Metals/non metals	Total P/Orthophosphate	Cyanide (Total)	COD	Chloride	Fluoride

Fluoride	Annually	Permanent access will be
		maintained at all monitoring points
List I/II organic	Once Off	Permanent access will be
substances		maintained at all monitoring points
Mercury	Annually	Permanent access will be
		maintained at all monitoring points
Sulphate	Annually	Permanent access will be
		maintained at all monitoring points
Total Oxidised	Annually	Permanent access will be
Nitrogen		maintained at all monitoring points

TABLE F.2 to F.8: EMISSIONS MONITORING AND SAMPLING POINTS

(1 table per media)

Emission Point Reference No(s). : A2-1 etc gas wells

_		Med .	 	r'	T
Accessibility of Sampling Points	Permanent access will be 20, 20, maintained at all monitoring points.	Permanent access will be maintained at all monitoring points	Permanent access will be maintained at all monitoring points	Permanent access will be maintained at all monitoring points	Permanent access will be maintained at all monitoring points
Monitoring frequency	Monthly	Monthly	Monthly	Monthly	Monthly
Parameter	Methane (CH ₄) % v/v Monthly	Carbon dioxide (CO ₂) % v/v	Oxygen (O ₂) % v/v	Atmospheric pressure	Temperature

,	,		sesoniy. and	otherit	3. ilas	
0	Accessibility of Sampling Points	Permanent access will be 79, 49, maintained at all monitoring points.	Permanent access will be maintained at all monitoring points	Permanent access will be maintained at all monitoring points	Permanent access will be maintained at all monitoring points	Permanent access will be maintained at all monitoring points
The state of the s	Monitoring frequency	Monthly	Monthly	Monthly	Monthly	Monthly
A SOCIETY OF THE PROPERTY OF T	Parameter	Methane (CH ₄) % v/v	Carbon dioxide (CO ₂) Monthly % v/v	Oxygen (O ₂) % v/v	Atmospheric pressure	Femperature

TABLE F.2 to F.8: EMISSIONS MONITORING AND SAMPLING POINTS

(1 table per media)

Emission Point Reference No(s). : SW1 & SW2

Parameter	Monitoring frequency	Accessibility of Sampling Points
Ammoniacal Nitrogen	Monthly	Permanent access will be maintained at all monitoring points
ВОД	Monthly	Permanent access will be maintained at all monitoring points
Electrical conductivity	Monthly	Permanent access will be maintained at all monitoring points
HC	Monthly	Permanent access will be maintained at all monitoring points
Total Suspended Solids	Monthly	Permanent access will be maintained at all monitoring points
Total P/Orthophosphate	Monthly	Permanent access will be maintained at all monitoring points
COD	Quarterly	Permanent access will be 15,25, maintained at all monitoring points.
Chloride	Quarterly	Permanent access will be maintained at all monitoring points
Dissolved Oxigen	Quarterly	Permanent access will be maintained at all monitoring points
Metals/Non-metals	Annually	Permanent access will be maintained at all monitoring points
List I/II organic substances	Once Off	Permanent access will be maintained at all monitoring points
Mercury	Annually	Permanent access will be maintained at all monitoring points
Sulphate	Annually	Permanent access will be maintained at all monitoring points
Total Alkalinity	Annually	Permanent access will be maintained at all monitoring points

Total Alkalinity	Annually	Permanent access will be maintained at all monitoring points
Total Oxidised Nitrogen	Annually	Permanent access will be maintained at all monitoring points
Biological Assessment	Annually	Permanent access will be maintained at all monitoring points
Sediment Assessment Once Off	Once Off	Permanent access will be maintained at all monitoring points

TABLE F.2 to F.8: EMISSIONS MONITORING AND SAMPLING POINTS

(1 table per media)

Emission Point Reference No(s). : A1-1

Monitoring frequency
Continuous
Annually
Ammally
Annually

TABLE Ff: Fugitive ENVIRONMENT MONITORING AND SAMPLING LOCATIONS (1 table per media)

Monitoring Point Reference No. D1-D6

Parameter	Monitoring frequency	Accessibility of Sampling point
Dust	3 times a year (twice during the period from May to September)	Permanent access will be maintained at all monitoring points

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TABLE Ff: Fugitive ENVIRONMENT MONITORING AND SAMPLING LOCATIONS (1 table per media)

Monitoring Point Reference No: NSL1-NSL7

					D.
Accessibility of Sampling point	Permanent access will be maintained at all	monitoring points Permanent access will be maintained at all	monitoring points Permanent access will be maintained at all	monitoring points Permanent access will be maintained at all of the monitoring soints	monnoring points 4
Monitoring frequency	Annual	Annual	Annual	Annual	
Parameter	L (A) $_{\rm EQ}$ [30 MINUTES]	L (A) 10 [30 MINUTES]	L (A) ₉₀ [30 MINUTES]	Frequency Analysis (1/3 Octave band analysis)	

Attachment F.1 Treatment, Abatement and Control Systems

The treatment, abatement and control systems for the proposed MRF and BTF will be submitted on final design.

Air

Refer to Section 2.8.4, 2.9.2 and 3.6.4 of the EIS. Monitoring and emission limits will be set as per waste licence requirements.

Effluent

Refer to Section 2.4.17, 2.4.18, 2.4.19 and 2.4.20 of the EIS in regard to leachate extraction, storage and removal off site.

Surface Water and Groundwater

Section 2.4.10, 2.8.10, 2.9.3 and 2.9.5 and of the EIS deals with the avoidance, remedial and reductive measures associated with reducing emissions to surface and groundwater.

Noise

Refer to Section 2.8.5, 2.9.6 and 3.7.4 of the EIS

F.2- F. 9. Monitoring and Sampling Points

Section 2.9 of the EIS describes the proposed monitoring programmes to be established at the Integrated Recycling Facility.

Attached

Drawing No. 102 Location of Monitoring points

All environmental monitoring will be carried out under the conditions of the Waste Licence for the facility issued by the Agency. Emission Limit Values (ELV) will be set by the Agency for many of the parameters to be monitored. Exceeding these values will be judged by the Agency to be a noncompliance with the Waste Licence.

It should also be noted that the monitoring programme as outlined below may be changed by the conditions of the Waste Licence but it is envisaged that it will be largely similar to that outlined herein.

Attachment F.2 - F.9 Monitoring & Sampling Points

F.2 Air

Dust will be monitored three times a year, twice during the period May to September, using standard method VD12119 as per the existing Waste Licence (W077-02).

In addition site inspections will be carried out for excessive generation of air borne dust especially during dry weather and large scale construction works.

Daily odour inspections and any odour complaints will be recorded. See Section 2.9.2 of EIS

F.3 Surface Water

Surface water will be monitored both upstream and downstream of the site as agreed by the existing waste Licence.

A visual inspection of all the surface waters on and adjacent the site will also be carried out on a weekly basis.

See Section 2.9.3 and 2.9.4 of EIS.

F.4 Sewer Discharge

It is proposed to discharge effluent at an offsite wastewater treatment plant owned and operated by Cavan County Council. Monitoring of discharge will be as per existing licence requirements.

F.5 Groundwater

Groundwater quality will be monitored as per the existing licence. See Section 2.9.5 of EIS

F.6 Noise

Noise monitoring will be carried out on an annual basis and be based on the existing licence and further monitoring points will be in accordance with the EPA Landfill Monitoring Manual.

See Section 2.9.6 of EIS

F.7 Meteorological Data

An in situ weather station at the site provides Meteorological Data as per Section 2.9.10

F.8 Leachate

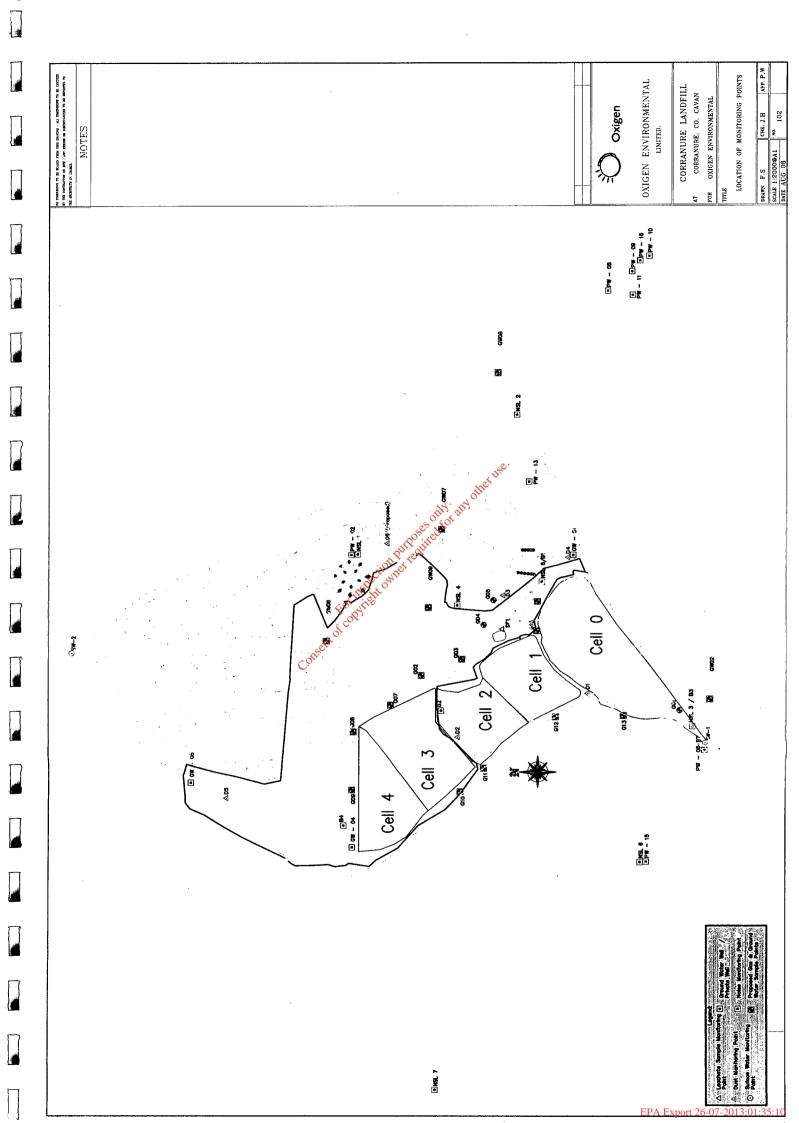
A Leachate Management Plan is implemented at the landfill site and leachate will continued to be monitored as per the terms of the existing licence unless otherwise agreed with the EPA through any waste licence issued. See Section 2.9.8 of EIS

F.9 Landfill Gas

A Landfill Gas Management Plan is currently in use at the landfill site. A permanent gas monitoring system is installed in the site offices and any other enclosed structures at the facility.

It is proposed a Scada system will be in operation to provide Inlet and Outlet concentrations from the landfill flare. Landfill gas will be monitored as per the requirements of the existing Waste Licence. Landfill gas collection system and controls are checked on a daily basis for quality and quantity as the system is Consent of copyright owner required for any other use. extended.

See Section 2.9.7 of EIS



Attachment G

- G.1 Raw Materials, Preparations and Energy
- G.2 Energy Efficiency

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Table G.1 Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site

Ref.	Material/	CAS	Danger ⁽²⁾	Amount Annual	Annual	Nature of Use	R ⁽³⁾	S(3)
Nº or Code	Substance ⁽¹⁾	Number	Category	Stored Usage (tomes)	Usage (tonnes)		Phrase	Phrase
•	Gas Oil/Derv	68334-30-5	Harmful	50	50	Gas Oil	40,65,66	40,65,66 43,45,53,61,62
1	Motor Spirits	86290-81-5	Extremely Flammable	100	100	Spark ignition in engines 12,65,38,45,51 2,7,16,23,24,4	12,65,38,45,51	2,7,16,23,24,4
ŧ	Formula P – 98	ı	Corrosive	50	250	Bilge Cleanser/short lived	/53,67 36/38,	3,61,62 26,37
						detergent	22,34,35,37/3 8.41	
ı	Kerosines	1	Flammable	200	200	Fuel for heaters	10, 65, 38	10, 65, 38 2,23,24,43,61,
ì	AiroNaut SBC	ı	nsento			Used in rotary atomisers		62
Notes	Notes: 1. In cases where a material comprises a number of	rial comprises	a number of distinct and availab	le dangerons	cuhetance	of distinct and agailable dangerous enherances places give dated to make		

In cases where a material comprises a number of distinct and available dangerous substances, please give details for each component substance.

c.f. Article 2(2) of SI Nº 77/94

c.f. Schedules 2 and 3 of SI Nº 77/94

c.f. Schedules 2 and 3 of SI Nº 77/94

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Attachment G.1

The table below presents an estimate as to the consumption of materials used onsite. The final raw material, substances, preparations and energy requirements for each facility will be agreed with the Agency prior to the construction of each facility.

Raw Materials, Substances, Preparations & Energy

Material/Resource	Biological Treatment Facility	Materials Recovery Facility	Amount Stored
	6 0 0 0 W	6,000	1,000 litres per
Hydraulic Oil	6,000 litres	litres	facility
		40,000	
	8,000,000	kilowatt	
	kilowatt hours per	hours per	
Electricity	annum	annum	None
		50,000	
	150,000 litres per	litres per	20,000 litres
Diesel	annum	amium	per facility
		,000 m3	
		d. and per	10,000 litres
Water	See note below@	annum *	per facility

[@]Normal water input would be 200 litres per too input. That is between 6000m³ and 9000m³ for a 50,000 and 65,000 tonne biological treatment plant respectively.

Attachment G.2 Energy Efficiency

Landfill gas can be utilised as an energy resource with the gas burned in a gas engine to produce electricity. An assumption that 1MW of electricity can be produced from 580m^3 of gas, therefore electricity can be generated from the landfill gas although this will vary depending on the actual waste intake and composition of the waste. Any excess gas would be sent to the flare to be combusted. Additional engine or flare capacity will be provided to ensure that the gas is managed efficiently and the impact on the surrounding environment is minimised.

Depending on the final contract, there may be a potential to produce electricity from Combined Heat and Power (CHP) plant in the Biological Treatment Facility.If anaerobic digestion is the chosen treatment process for the Biological Treatment Facility, the biogas can be used in a CHP plant in order to provide electricity for the digestion process.

Energy audits will be undertaken and be reported in the Annual Environmental Report.

Attachment H

H.1 Proposed Development H.2 Waste Acceptance Procedures

H.3 Waste Handling

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Attachment H.1

The proposed development consists of

- Landfill of 90,000 tonnes per annum Development of Phase 3 (Cells 3 and 4)
- Civic Amenity Centre and associated infrastructure
- Materials Recycling Facility processing 180,000 tonnes per annum.
- Biological Waste Treatment Facility (including Mechanical Biological Treatment) treating up to 65,000 tonnes per annum of segregated domestic and commercial organic waste.

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Waste Acceptance Procedure for Oxigen Facilities



1 Scope / Purpose

The purpose of this document is to describe the methods involved in ensuring that all waste being received on the site is segregated into appropriate waste streams for recovery/recycling and that any material on the unacceptable waste list is quarantined in the correct manner.

2 References

3 Records

Weighbridge Docket

Acceptable Waste List Doc

Complaints Handling/Corrective Action Form

Rejected Waste Form

4 Procedures

4.1 Delivery of Skip

On delivery of a skip/container to the customer, the List of Acceptable Waste, must be given to the customer by the driver.

4.2 Collection of Skip / Waste Material

- 4.2.1 The driver arrives on site to collect a full skip /container of waste material.
- 4.2.2 The driver quickly inspects the skip / waste material to ensure that all the material is acceptable.
- 4.2.3 If the material is found to be acceptable, he/she will take it back to the Waste Facility.

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4.2.4 If the material is unacceptable he/she will inform the customer that the materials must be removed before the skip / waste material are taken away.

4.3 On Site Acceptance of the Waste

- 4.3.1 On entering the site the waste is visually inspected by the weighbridge operator. If the materials are acceptable then the weight and the character of the waste is recorded in the Genesis Weighbridge Software System. If waste type and EWC code cannot be determined at the weighbridge confirmation should be sought from the Environmental Manager or Facility Manager.
- 4.3.2 The driver will enter the site by the IN weighbridge, the driver will wait on the weighbridge until all relevant information is recorded, such as, waste type, weight, registration.
- 4.3.3 The driver is then directed to the correct tipping area by the Weighbridge Operative, Facility Manager or Processing Manager. When this is completed, the driver will be given the signal to enter the site by the Weighbridge Operative, Facility Manager or Processing Manager by lifting the barrier.
- 4.3.4 Construction and Demolition waste is directed to the Construction and Demolition waste recovery area of the processing building, Construction and Industrial waste to a separate area of the building by the Weighbridge Operative, Facility Manager or Processing Manager.
- 4.3.6 The waste will be tipped onto the inspection floor as directed by the Processing Manager/Supervisor. The material will be levelled out to view all materials in it. If it is acceptable, it will be processed in accordance with procedure OXEP 02 Receipt, Processing and Dispatch of Waste Procedure. If it is unacceptable it will be dealt with in accordance with Section 4.4 of this procedure.
- 4.3.7 After tipping, the driver will proceed to the OUT weighbridge with the SAME cab unit and container and will remain on the OUT weighbridge until the empty weight is taken. The driver will be given the signal to leave the site when the Weighbridge Operator, Facility Manager or Processing Manager lifts the barrier.

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4.4 Non Conforming Waste.

- 4.4.1 If the material presented is found to be unacceptable at any time after it has entered the site it is immediately loaded back into the container in which it arrived. If this is not possible, or if the unacceptable waste makes up only a fraction of the load, it shall be separated and placed in the waste quarantine area. The Processing Manager/Supervisor will inform the Environmental Manager/Compliance Officer of any such incident and a Complaints Handling/Corrective Action Form shall be completed by the Weighbridge Operative or Environmental Manager/Compliance Officer and a submitted to the Environmental Manager immediately for EPA files.
- 4.4.2 An appropriate and approved facility for the recovery or disposal of the material will be identified immediately and the materials will be sent there to be properly dealt with at the earliest possible time. Or where possible returned immediately to the customer with a Rejected Load Form doc.
- 4.4.3 The customer will be notified as to the offending material that has been found in the skip or bin.
- 4.4.4 Where non conforming waste types are found in the general waste pile it is not always possible to ascertain which load they originated from. In this case, any offending material shall be removed and quarantined to the appropriate quarantine container. Non conforming waste must never be loaded into the trommel.

5 Persons Responsible

Drivers (HGV/LGV/Machine)

Weighbridge Operative

Facility Manager

Processing Manager

Environmental Manager

Environmental Compliance Officer

Supervisor

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Waste Acceptance Procedure for Corranure Landfill



1. Scope/Purpose

The purpose of this document is to ensure that only wastes which the licence will permit the landfill to accept are allowed to be deposited onsite. The Waste Acceptance Procedure for Corranure Landfill is to comply with Condition 5 (Facility Operation and Waste Management) of the licence.

2. References

-praole Waste List

Complaints Handling/Corrective Action Formulated for any other trace.

Rejected loads Form

4. Procedures

4.1 Onsite acceptance of the Waste

- 4.1.1 On entering the site the waste (be it from a household, haulier or commercial transit) is visually inspected by the weighbridge operator. If the materials are acceptable then the weight and the character of the waste is recorded in the GeneSYS Weighbridge Software System. If the waste type and EWC code cannot be determined at the weighbridge confirmation should be sought from the Environmental Manager or Facility Manager.
- 4.1.2 The waste currently accepted at Corranure Landfill is non-hazardous waste, mostly comprised of municipal or commercial was which is broadly similar to household waste. Inert material accepted on site is used for the construction of internal access roads and as cover material. Waste will only be accepted at the facility as designated by the waste licence.

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- 4.1.3 This waste will only be accepted at the facility, from Local Authority waste collection or transport vehicles or holders of waste collection permits, unless exempted or excluded, issued under the Waste management(Collection Permit) Regulations 2001
- 4.1.4 The driver will enter the site by the IN weighbridge, the driver will wait on the weighbridge until all relevant information is recorded, such as, waste type, weight, registration.
- 4.1.5 The driver is then directed to the appropriate disposal point by the Weighbridge Operative, or Facility Manager. The driver will be given the signal to enter the site by the Weighbridge Operative or Facility Manager by lifting the barrier.

4.2 Waste Placement in the Active Cell

- 4.2.1 All of the waste entering the site at Corranure ends up at the active working face and compacted. Lorry drivers are directed to the appropriate tipping area by the tipface supervisor.
- 4.2.2 The waste is compacted in layers of about 1 1.5m deep.
- 4.2.3 The working face shall be no more than 2.5m in height after compaction, no more than 25m wide and have a slope no greater than 1 in 3.
- 4.2.4 After each days operation the waste is covered using an inert material or clay material.
- 4.2.5 When operations move to a different section of the cell, temporary capping will be provided by a layer of soil of at least 0.5m depth.

4.3 Non Conforming Waste

4.3.1 If the material presented is found to be unacceptable at any time after it has entered the site it is immediately loaded back into the container in which it arrived. If this is not possible, or if the unacceptable waste makes up only a fraction of the load, it shall be separated and placed in the waste quarantine area. The **Tipface** Supervisor will inform the Environmental Manager/Compliance Officer of any such incident and a Complaints Handling/Corrective Action Form shall be completed by the Weighbridge Operative or Environmental Manager/Compliance Officer and submitted to the Environmental Manager immediately for EPA files.

		<u> </u>		
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- 4.3.2 An appropriate and approved facility for the recovery or disposal of the material will be identified immediately and the materials will be sent there to be properly dealt with at the earliest possible time. Or where possible returned immediately to the customer with a Rejected Load Form.
- 4.3.3 The customer will be notified as to the offending material that has been found in the skip/container.

5. Persons Responsible

Drivers

Weighbridge Operative

Facility Manager

Environmental Manager

Site Supervisor

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Waste Handling - Receipt, Processing and Dispatch of Waste for Corranure Landfill



1. Scope / Purpose

The purpose of this document is to describe the methods involved in waste handling procedures the receipt, processing, despatch and land filling of waste.

2. References

Waste Acceptance Procedure

3. Records

Unacceptable Waste List Rejected Loads Form Quarantined Waste Form Approved Suppliers List

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4. Procedures

4.1 Receipt of Waste

- 4.1.1 Waste may be delivered to Corranure Landfill by Oxigen Environmental drivers, Cavan Waste Disposal drivers or by direct customer delivery.
- 4.1.2 Waste shall only be received in Cavan Waste Disposal and Oxigen Environmental skips, containers or in approved customer vehicles. Where skips are collected from customers, the driver of the collection vehicle shall perform a cursory inspection of the skip as per the Waste Acceptance Procedure.
- 4.1.3 Waste shall only be accepted by Corranure Landfill when adequately covered or netted. It is the responsibility of the Driver to ensure this is done and the Weighbridge Operative to ensure that each delivery enters in this manner.

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- 4.1.4 ALL vehicles delivering waste to Corranure Landfill shall park on the weighbridge for docket generation.
- 4.1.5 Once parked on the weighbridge, the driver of the vehicle or his representative shall report to weighbridge operative to confirm vehicle/customer details and receive further instruction, the driver is required from this point to wear appropriate personal protective equipment on entry to the site.
- 4.1.6 When initial weighing is completed the weighbridge operator shall direct the driver to the tipping area.
- 4.1.7 Once the waste material is tipped the supervisor or appointee shall conduct a rudimentary examination of the waste material.
- 4.1.8 Once tipped the driver shall return to the weighbridge and report to the weighbridge operator for completion of the weighbridge dockets.
- 4.1.9 Should any materials cited on the Unacceptable Waste List or any other non-conforming material be discovered, the Landfill Manager/Facility Manager/Compliance Officer shall be notified immediately and either a Rejected Loads Form or a Quarantined Waste Form will be completed and the procedure for this followed.
- 4.1.10 This unacceptable or hazardous waste will then be placed in the Waste Quarantine Area and subsequently forwarded for authorised disposal. Hazardous waste received at the landfill includes gas cylinders, WEE items and batteries.

4.2 Land filling of Waste

- 4.2.1 When it has been established at the weighbridge that the waste is designated for landfill the weighbridge operative will direct the driver to the tipping area in the landfill.
- 4.2.2 The driver will proceed to the tipping area and the lorry drivers will be directed to the tipping area by the tipface supervisor. The tipface supervisor will inspect the waste as the waste is being deposited to ensure that the waste matches the description (usually takes place in the compound area or at the tipface).
- 4.2.3 The waste is then compacted in layers of about 1 1.5m deep. The working face shall be no more than 2.5m in height after compaction, no more than 25m wide and have a slope no greater than 1 in 3.

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- 4.2.4 After each days operation the waste is covered using a bio-degradable cover material, Hessian.
- 4.2.5 When operations move to a different part of the cell, temporary capping shall be a layer of soil at least 0.5m in depth.

5. Persons Responsible

Weighbridge Operator

Landfill Manager

Facility Manager

All drivers

Compliance Officer

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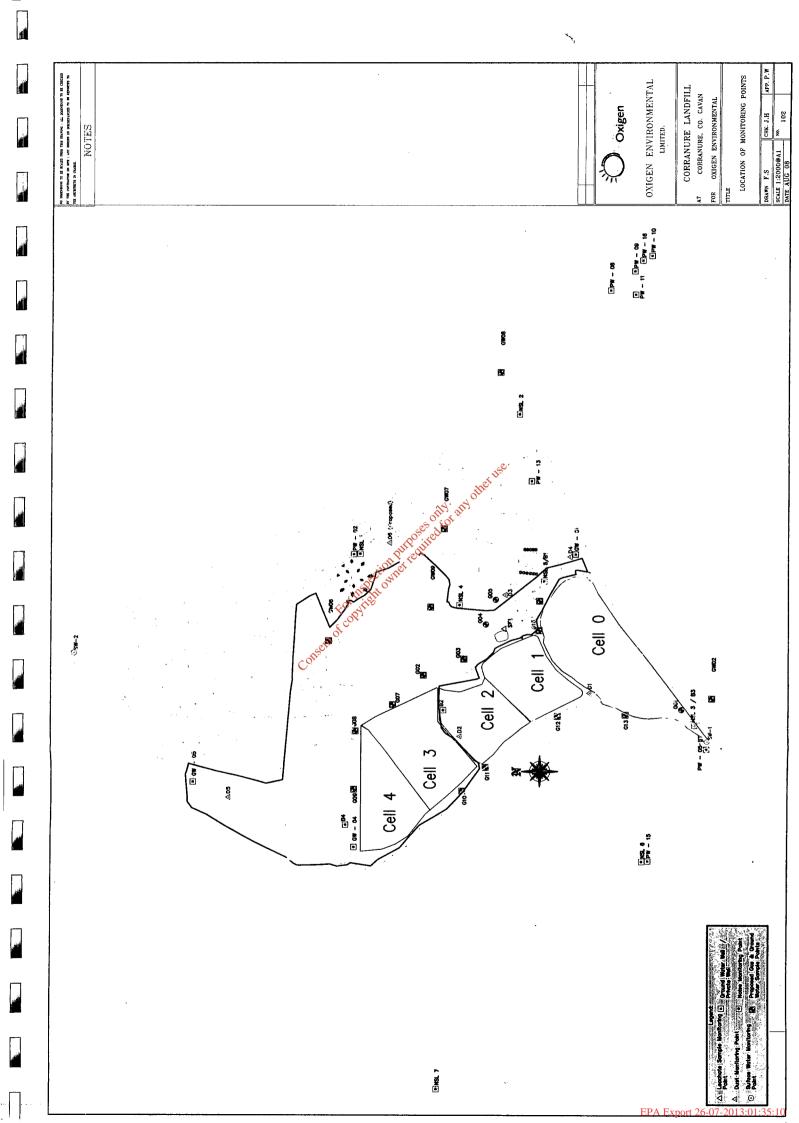
Attachment I

- I.1 Assessment of Atmospheric Emissions
- I.2 Assessment of Impact on Receiving Surface Water
- I.3 Assessment of Impact of Sewage Discharge
- I.4 Assessment of Impact of Ground/Groundwater Emissions
- I.5 Ground and/or groundwater contamination
- I.6 Noise Impact
- I.7 Assessment of Ecological Impacts & Mitigation Measures

Table I.6(i) Ambient Noise Assessment

Third Octave analysis for noise emissions should be used to determine tonal noises

Location 1: B4 244020,308148 57.1 60.4 46.9 Location 2:B2 244231,307989 57.9 58.9 45.8	(A) ₉₀
1. SITE BOUNDARY Location 1: B4 244020,308148 57.1 60.4 46.9 Location 2:B2 244231,307989 57.9 58.9 45.8	(-)/0
Location 2:B2 244231,307989 57.9 58.9 45.8	
Location 2:B2 244231,307989 57.9 58.9 45.8	
Location 3:B3 244204,307522 68.7 72.6 41.6	
Location 4:B4 244020,308148 39.2 41.7 29.8	
SENSITIVE LOCATIONS	
Location 1:NSL1 244515,308114 50.7 52 41.3	
Location 2:NSL2 244765,307840 69.8 73.8 45.3	
Location 3:NSL4 244420,307947 58.1 58.3 45.0	
Location 4:NSL6 243952,307615 45.8 46.7 39 TE: All locations should be identified on accompanying drawings.	



Attachment I.1 Assessment of Atmospheric Emissions

Refer to Section 3.6.3 and 3.6.4 of the EIS.

Attachment I.2 Assessment of Impact on Receiving Surface Water

Refer to Section 3.5.3 and 3.5.4 of EIS.

Attachment L3 Assessment of Impact of Sewage Discharge

The leachate from the site will be discharged to Cavan County Council Treatment plant as agreed with Cavan County Council. This can be monitored and controlled on site by Oxigen in conjunction with Cavan County Council. The discharge is recorded by a Scada System and records kept at the site office.

Attachment I.4 Assessment of Impact of Ground/Groundwater Emissions

No emissions predicted

Attachment I.5 Ground and/or groundwater contamination

Refer to Section 3.4.3 and 3.4.4 of EIS.

Attached monitoring results for Groundwater monitoring and Private well monitoring, also locations of boreholes to be installed.

Attachment I.6 Noise Impact

Refer to Section 3.7.3 and 3.7.4 of the EIS. Table I6i shows the ambient noise assessment

Attachment I.7 Assessment of Ecological Impacts & Mitigation Measures

Refer to Section 3.2.3 and 3.2.4 of the EIS.

Please refer to EIS Volume III, Appendix 10 for completed Monitoring Results in 2008.

Attachment J

Accident Prevention & Emergency Response



Attachment J Accident Prevention and Emergency Response

Each facility in the Integrated Recycling Facility will develop policies in relation to accident prevention and emergency response, depending on the treatment process to be used. Details of these policies will have to be agreed with the Agency prior to construction and operation. The site has a current operations plan.

In terms of the Materials Recovery Facility there are 4 contingencies that must be allowed for:

- 1. Operational failure of plant and equipment;
- 2. Breakdown of transfer/transport system;
- 3. Industrial action by operational staff; and
- 4. Fire in the facility.

Contingencies 1-3

In the event of any of these contingencies occurring any possible environmental effects will be prevented by the immediate diversion of waste directly to landfill. Under no circumstances will a situation arise, whereby waste will be accepted into the facility when the means to transfer the waste, after a period not exceeding 60hrs, is not available. The details of each contingency are dealt with in more detail below.

Operational Failure of Plant and Equipment

It will be the responsibility of each facility supervisor to inspect the plant and equipment each day and ensure that it is operational. In the event of operational failure of the plant and equipment it will be the responsibility of the facility operators to arrange for the immediate repair or replacement of equipment. Any incidents of such will be recorded and brought to the attention of the Agency.

Breakdown of Transfer / Transport System

It will be the responsibility of each facility manager to inspect all grabs, cranes, conveyors and front loaders each day and ensure that all are operational. All equipment on-site at each of the facilities will have full redundancy built in.

In the event of operational failure of any vehicle/plant, it will be the responsibility of the facility manager concerned to arrange for the immediate repair or replacement of same. Any incidents of such will be recorded and brought to the attention of the Agency.

In the event of a breakdown of vehicle/plant, the facility operators will have to source replacement equipment from off-site plant contractors.

Contingency 4

In the event of a localised fire on-site, the fire will be controlled as per the Fire Requirements in the Fire Regulations. For a major fire at any of the facilities, the local fire-fighting emergency service will be called to control the fire, and the facility will remain closed until it has been deemed that it is safe to operate again. Any firewater generated will be collected in the on-site surface-water drainage system. The firewater will be contained in the attenuation systems on-site and will be tested. If necessary, the firewater will be pumped to the main sewer or removed by tanker to a suitable treatment facility.

Each facility operator will have to take precautions at their facility in regard to fire abatement, response, training and awareness. These include:

- Fire fighting equipment and structures on-site in conjunction with a Fire Prevention Specialist to provide and maintain suitable fire extinguishers in all buildings
- Fire Safety Systems telephone numbers of local fire, police and hospital are posted at head height on the wall in front of the telephone in the site office.
- Emergency Response Procedures
- Consent of copyright owner required for any other use. • Fire Prevention and Containment Design Features

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Attachment K Remediation, Decommissioning, Restoration and Aftercare

It is the intention that the facilities will continue in operation for the foreseeable future. An Environmental Liabilities Risk Assessment will be carried out and decommissioning plan written prior to commencement of operation at the site. Prior to commencement of operation, an Aftercare Plan will be developed.

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Attachment K

Remediation, Decommissioning, Restoration and Aftercare



Attachment K Remediation, Decommissioning, Restoration and Aftercare

It is the intention that the facilities will continue in operation for the foreseeable future. An Environmental Liabilities Risk Assessment will be carried out and decommissioning plan written prior to commencement of operation at the site. Prior to commencement of operation, an Aftercare Plan will be developed.



Attachment L

- L.1 Statutory RequirementsL.2 Fit and Proper Person

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Attachment L.1 Statutory Requirements

To comply with the requirements of the Waste Management Act 1996 as amended, the activity concerned must comply with Sections 40(4) (a) to (i)

Section 40(4)(a) of the Waste Management Act,1996 requires that prescribed emission standards and limit values are complied with by the facility.

The EU Groundwater Directive (80/68/EEC) requires the direct discharge of List I substances to groundwater be prevented, and that the discharge of List II substances should be minimised. Capping of the existing site will significantly reduce the volumes of leachate created.

Monitoring of surface and groundwater at the site will allow current and future impacts to be addressed in the context of the site development.

A 30 day average dust deposition rate of 350mg/m²/day (as recommended by TA Luft) will be included. A noise standard of 55dBA LAeq (daytime) will be adhered to. Monitoring of groundwater, surface water, noise, dust have been considered and it is deemed the activity shall not cause environmental pollution. The site will be developed and operated to comply with the requirements of the Landfill Directive.

BAT will be applied in the design, operation and closure of the site in accordance with the Landfill directive.

Oxigen Environmetal Ltd. will ensure that funding is available to operate the facility in accordance with legislation. The precessary personnel will be employed and trained in the appropriate techniques to manage the landfill in compliance with legislation.

Attachment L.2 Fit and Proper Person

Details of offences prescribed by the applicant in the Waste Management's Act 1996 (as amended):

The EPA prosecuted Oxigen Environmental Ltd. on 9th December 2004 for breaches of its Waste Licence (Reg. No. 152-1) during the year 2003, at Dublin Metropolitan District Court on Thursday, 9th December 2004. The company was convicted for sending waste off site to facilities without the EPA's consent, and for accepting more waste than the permitted amount. The court imposed fines on each of the offences.

Qualifications

See Section C1 of this Waste Licence Application form

Financial Commitments

Attached is a copy of auditor letter stating the net assets of the company.



Dublin City Council Waste Management Services Division Eblana House Marrowbone Lane Dublin 8.

3rd July 2008

24-26 City Quay Dublin 2 Ireland

T+353 (0)1 6805 805 F +353 (0)1 6805 806 -E info@grantthornton.ie www.grantthornton.ie

To Whom It May Concern,

RE:

Oxigen Environmental Limited and officer as auditors to C We act as auditors to Oxigen Environmental Limited and can confirm that the net assets per the audited consolidated financial statements for year ended 31 March 2007 are as follows:

		, ob,	
	x	As at 31 March 2007	
Net Assets	nsen.	€40,675,308	
	Ç		

Yours faithfully

Grant mounton

Grant Thornton

Offices also at Limerick and Kildare.

Chartered Accountants Registered Auditors Member of Grant Thornton International Limited.

Authorised by the institute of Chartered Accountants in Ireland to carry on investment business.

L. Barrett BCL ATT, C. Blackweil ACA CISA, C.J. Blackweil FCA, P. Burke ACA, A. Connaughton FCA, G.D. Costelloe FCCA, N. Davies ACA, B. Doherty FCA, S. Donovan FCA, S. Duignan, D. Earl FCA MSPI, C. Feely FCA, D. Gleeson FCCA, P. Jacobs CA(N2) ACCA, R. J. Leonard FCA, P. McCann ACA, N. Meenan FCA, T. M. Mullen FCA, J.A. Murphy FCA, M. Nearly FCA, J.M. Neville FCA, K.M. O'Brien FCCA, A. D'Caroll FCA, D. O'Cannell ACA, J. O'Stillivan ACIS, P. Raleigh FCCA, A. J. Thombury FCA, F. Walsh FCA.