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WASTE LICENCE
Proposed Decision

Licence Register Number:	204-1
Applicant/Licensee:	Brownfield Restoration Ireland Limited
Location of Facility:	Whitestown Lower, County Wicklow

INTRODUCTION

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

This waste licence is for activities associated with the cleanup and remediation of an unauthorised landfill of approximately 240,000 tonnes (applicant's estimate) of mixed construction and commercial waste emplaced during the 1970s to 2001 at three areas at a working sand and gravel pit of area 15ha, in Whitestown Lower, County Wicklow. The site of the proposed development is located approximately 2.5 km south west of Donard, the nearest town, and 8 km north of Baltinglass. The application proposed the establishment of various waste infrastructure including a landfill facility for mixed waste (Commercial, Industrial, Construction & Household wastes) and a composting facility, to process the previously deposited wastes and imported wastes for commercial recovery/disposal.

In summary Brownfield Restoration Ireland Limited applied for the following remedial strategy and waste activities:

- Emplace a sequence of vertical barrier walls around the entire facility to prevent recharge to the Carrigower River via the existing illegal waste landfill;
- Protect the river from spills or plugs of contamination that may be caused during waste excavation;
- Operation of a mobile waste recovery unit for the excavation and treatment of previously deposited wastes at the gravel pits;
- Waste treatment building (Resource Recovery Building);
- In-vessel composting facility;
- Landfill facility for placement of mixed waste;
- Restoration of all lands for agricultural purpose in the future.

The licence does not permit the mixed waste landfill and restricts the range of activities to only those associated with the remediation of the historically deposited waste including the deposition of any recovered inert waste in excavated areas.

The licence sets out in detail the conditions under which Brownfield Restoration Ireland Limited will operate and manage this facility.

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Glossary of Terms

All terms in this licence should be interpreted in accordance with the definitions in the Environmental Waste Management Acts 1996 to 2005, (the Acts), unless otherwise defined in this section.

Aerosol	A suspension of solid or liquid particles in a gaseous medium.
Adequate lighting	20 lux measured at ground level.
AER	Annual Environmental Report.
Agent	Independent specialist retained by the Agency and authorised under Section 14 of the Waste Management Acts 1996 – 2005, to monitor and report on the remediation programme for the site.
Agreement	Agreement in writing.
Annually	At approximately twelve monthly intervals. All or part of a period of twelve consecutive months.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of this licence application.
Application	The application by the licensee for this licence.
Appropriate facility	A waste management facility, duly authorised under relevant law and technically suitable.
BAT	Best Available Techniques.
Bi-annually	All or part of a period of six consecutive months.
Biennially	Once every two years.
BOD	5 day Biochemical Oxygen Demand.
CEN	Comité Européen De Normalisation – European Committee for Standardisation.
COD	Chemical Oxygen Demand.
Construction and Demolition Waste	Wastes that arise from construction, renovation and demolition activities: Chapter 17 of the EWC or as otherwise may be agreed.
Containment boom	A boom that can contain spillages and prevent them from entering drains or watercourses or from further contaminating watercourses.
Daily	During all days of plant operation, and in the case of emissions, when emissions are taking place; with at least one measurement on any one day.
Day	Any 24 hour period.
Daytime	0800 hrs to 2200 hrs (any changes should be reflected in “Night-time” definition).
dB(A)	Decibels (A weighted).

DO	Dissolved Oxygen.
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 the application, unless otherwise specified in this licence.
EMP	Environmental Management Programme.
Emission Limits	Those limits, including concentration limits and deposition rates established in <i>Schedule B; Emission Limits</i> of this licence.
Environmental Damage	Has the meaning given it in Directive 2004/35/EC.
ELRA	Environmental Liability Risk Assessment.
EPA	Environmental Protection Agency.
European Waste Catalogue (EWC)	A harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 2000/532/EC and any subsequent amendment published in the Official Journal of the European Community.
Facility	Any site or premises used for the purposes of the recovery or disposal of waste.
Fortnightly	A minimum of 24 times per year, at approximately two week intervals.
GC/MS	Gas Chromatography/Mass Spectroscopy.
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.
ICP	Inductively Coupled Plasma Spectroscopy.
Incident	The following shall constitute an incident for the purposes of this licence: <ul style="list-style-type: none">a) an emergency;b) any emission which does not comply with the requirements of this licence;c) any exceedence of the daily duty capacity of the waste handling equipment;d) any trigger level specified in this licence which is attained or exceeded; and,e) any indication that environmental pollution has, or may have, taken place.
Industrial Waste	As defined in Section 5(1) of the Waste Management Acts 1996 to 2005.

Inert waste	Waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.
Initial Development Works	Means such works, actions or constructions as may be specified, which for the purposes of environmental protection and safe construction and operation of 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.
Installation	A stationary technical unit or plant where the activity concerned referred to in the First Schedule of EPA Acts 1992 and 2003 is or will be carried on, and shall be deemed to include any directly associated activity, which has a technical connection with the activity and is carried out on the site of the activity.
Intermediate Cover	Term used to describe the 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 Directive	Council Directive 1999/31/EC and Council Decision 2003/33/EC
Leq	Equivalent continuous sound level.
Licensee	Brownfield Restoration Ireland Ltd.
Liquid Waste	Any waste in liquid form and containing less than 2% dry matter.
List I	As listed in the EC Directives 76/464/EEC and 80/68/EEC and amendments.
List II	As listed in the EC Directives 76/464/EEC and 80/68/EEC and amendments.
Local Authority	Wicklow County Council.
Maintain	Keep in a fit state, including such regular inspection, servicing, calibration and repair as may be necessary to adequately perform its function.
Mass Flow Limit	An Emission Limit Value which is expressed as the maximum mass of a substance which can be emitted per unit time.
Mass Flow Threshold	A mass flow rate, above which, a concentration limit applies.
MBT	Mechanical Biological Treatment (National Strategy for Biodegradable Waste).
Monthly	A minimum of 12 times per year, at approximately monthly intervals.
Night-time	2200 hrs to 0800 hrs.
Noise Sensitive Location (NSL)	Any dwelling house, hotel or hostel, health building, educational 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.
Oil Separator	Device installed according to the International Standard I.S.EN 858-2:2003 (Separator systems for light liquids, (e.g. oil and petrol)-Part 2:Selection of nominal size, installation, operation and maintenance).

PER	Pollution Emission Register.
Quarterly	All or part of a period of three consecutive months beginning on the first day of January, April, July or October.
Regional Fisheries Board	Eastern Regional Fisheries Board.
Residual Waste	Mixed waste produced after all materials suitable for recycling and biological treatment have been separated out, and residues from recycling and biological treatment operations and other waste that are unsuitable for recycling.
Sanitary Authority	Wicklow County Council
Sanitary Effluent	Waste water from facility toilet, washroom and canteen facilities.
Sample(s)	Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments.
SEW	Specified Engineering Works.
SOP	Standard Operating Procedure.
Standard Method	A National, European or internationally recognised procedure (eg, I.S. EN, ISO, CEN, BS or equivalent), as an in-house documented procedure based on the above references, a procedure as detailed in the current edition of “Standard Methods for the Examination of Water and Wastewater”, (prepared and published jointly by A.P.H.A., A.W.W.A & W.E.F), American Public Health Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA; or, an alternative method as may be agreed by the Agency.
Storm Water	Rain water run-off from roof and non-process areas.
The Agency	Environmental Protection Agency.
TOC	Total Organic Carbon.
Trade Effluent	Trade Effluent has the meaning given in the water pollution Acts 1977 and 1990.
Trigger Level	A parameter value, the achievement or exceedance of which requires certain actions to be taken by the licensee.
Weekly	During all weeks of plant operation, and in the case of emissions, when emissions are taking place; with at least one measurement in any one week.

Decision & Reasons for the Decisions

The Agency is satisfied, on the basis of the information available, that subject to compliance with the conditions of this licence, any emissions from the activity will comply with and will not contravene any of the requirements of Section 40(4) of the Waste Management Acts 1996 to 2005.

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

This decision is made in the knowledge of the presence of illegally deposited waste at the applicant site, and having regard to the need for a high standard of environmental protection, as well as the need for precaution in relation to potentially harmful effects of emissions from this waste, as there exists, in the opinion of the Agency, reasonable grounds for believing that such emissions could cause significant environmental pollution if left unaddressed.

The proposed site is within 100m and directly up-gradient of the Carrigower River, which is designated a Site of Community Importance (SCI) (salmonids) as per EU Decision of 7 December 2004 and the underlying geology is highly permeable. Also two residences lie immediately adjacent to the proposed landfill approximately 20m from the facility boundary and 40m from the landfill footprint.

Furthermore, and mindful of the presence of illegally deposited waste on the applicants land, this decision complies with Government policy as articulated in Circular WIR: 04/05 (Department of Environment, Heritage & Local Government), and the provisions of Article 8 (second indent) of Council Directive of 15 July 1975 on Waste (75/442/EEC, as amended).

Part I Schedule of Activities Licensed

In pursuance of the powers conferred on it by the Waste Management Acts 1996 to 2005, the Environmental Protection Agency (the Agency) proposes, under Section 40(1) of the said Acts to grant this Waste Licence to Brownfield Restoration Ireland Ltd to carry on the waste activities listed below at Whitestown Lower, County Wicklow subject to conditions, with the reasons therefor and the associated schedules attached thereto set out in the licence. For the purposes of Article 48 of the Waste Management Licensing Regulations 2004 (S.I. No. 395) this facility is classed as an inert waste landfill.

Licensed Waste Disposal Activities, in accordance with the Third Schedule of the Waste Management Acts 1996 to 2005

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 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).
Class 11.	Blending or mixture 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 2005***

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 11.	Use of waste obtained from 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 Conditions

Condition 1. Scope

- 1.1 Waste activities at this facility shall be restricted to those listed and described in Part I Activities Licensed and shall be as set out in the licence application or as modified under Condition 1.8 of this licence and subject to the conditions of this licence.
- 1.2 Activities at this facility shall be limited as set out in *Schedule A: Limitations* of this licence.
- 1.3 All domestic, commercial and other non-inert wastes shall be removed off-site to an approved disposal/recovery facility.
- 1.4 The importation of waste onto this facility is prohibited under this licence.
- 1.5 The facility shall be controlled, operated, and maintained and emissions shall take place as set out in this licence. All programmes required to be carried out under the terms of this licence, become part of this licence.
- 1.6 Hours of Operation
- With the exception of pollution monitoring, abatement and control systems, and agreed automated continuous processes such as composting, the facility may be operated only during the hours of 07:30 to 19:30 Monday to Friday inclusive and 08:00 to 16:00 on Saturdays.
- 1.7 For the purposes of this licence, the facility authorised by this licence, is the area of land outlined in colour red on Drawing No. BRI/116 Rev. A of the application. Any reference in this licence to “facility” shall mean the area thus outlined in red. The licensed activities shall be carried on only within the area outlined.
- 1.8 No alteration to, or reconstruction in respect of, the activity or any part thereof which would, or is likely to, result in
- (a) a material change or increase in:
- The nature or quantity of any emission,
 - The abatement/treatment or recovery systems,
 - The range of processes to be carried out,
 - The fuels, raw materials, intermediates, products or wastes generated, or
- (b) any changes in:
- Site management infrastructure or control with adverse environmental significance,
- shall be carried out or commenced without prior notice to, and without the agreement of, the Agency.
- 1.9 This licence is for the purposes of waste licensing under the Waste Management Acts 1996 to 2005 only and nothing in this licence shall be construed as negating the licensee’s statutory obligations or requirements under any other enactments or regulations.

- 1.10 Having regard to the nature of the activity and arrangements necessary to be made or made in connection with the carrying on of the activity, the specified period for the purposes of Section 49(2) of the Waste Management Acts 1996 to 2005, is 5 years.

Reason: To clarify the scope of 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 or as otherwise required by the Agency.

2.1.2 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 Environmental Management System (EMS)

2.2.1 The licensee shall establish and maintain an Environmental Management System (EMS) prior to the commencement of the activities. Unless otherwise agreed by the Agency, the EMS shall be updated on an annual basis.

2.2.2 The EMS shall include as a minimum the following elements:

2.2.2.1 Management and Reporting Structures

2.2.2.2 Documentation

(i) The licensee shall establish and maintain an environmental management documentation system which shall be to the satisfaction of the Agency.

(ii) The licensee shall issue a copy of this licence to all relevant personnel whose duties relate to any condition of this licence.

2.2.2.3 Corrective Action

The licensee shall establish procedures to ensure that corrective action is taken should the specified requirements of this licence not be fulfilled. The responsibility and authority for initiating further investigation and corrective action in the event of a reported non-conformity with this licence shall be defined.

2.2.2.4 Awareness and Training

The licensee shall establish and maintain procedures for identifying training needs, and for providing appropriate training, for all personnel whose work can have a significant effect upon the environment. Appropriate records of training shall be maintained.

2.3 Communications Programme

The licensee shall establish and maintain a Communications Programme to ensure members of the public can obtain information about the facility at all reasonable times, concerning the environmental performance of the facility. The communications programme shall reflect the level of activity on-site and shall be established and made available on-site one month prior to the commencement of waste activities.

Reason: To make provision for 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. Infrastructure and Operation

3.1 Waste shall not be disturbed, recovered, or deposited, on any part of the facility; (a) without the prior agreement of the Agency; and, (b) before the ELRA and Financial Provision required under Condition 12.2.3 is agreed by the Agency.

3.2 The licensee shall establish all infrastructure referred to in this licence, to the design set out in the Application documentation or as may be otherwise specified or varied by the conditions of this licence.

3.3 Facility Notice Board

(i) 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.

(ii) The board shall clearly show:-

- (a) the name and telephone number of the facility;
- (b) the normal hours of operation;
- (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.

3.4 Phased Construction Plan.

Two months prior to the commencement of 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 and to give effect to the commitments in the application documentation insofar as they relate to the excavation and treatment/removal off-site of unacceptable historically placed wastes.

3.5 Specified Engineering Works

3.5.1 The licensee shall submit proposals for any Specified Engineering Works, as defined in *Schedule D: Specified Engineering Works*, of this licence, to the Agency for its agreement at least one month 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.

- 3.5.2 All specified engineering works shall be supervised by an appropriately qualified person, and that person, or persons, shall be present at all times during which relevant works are being undertaken.
- 3.5.3 Following the completion of any specified engineering works, the licensee shall complete a construction report. 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) Any other information requested in writing by the Agency.
- 3.6 Facility Security
- 3.6.1 Two metre high security and stockproof fencing and gates shall be installed and maintained around the areas of historical waste, waste processing areas, and areas containing infrastructure required by this licence.
- 3.6.2 Gates shall be locked shut when the facility is unsupervised.
- 3.6.3 The licensee shall remedy any defect in the gates and/or fencing as follows:-
- (i) A temporary repair shall be made by the end of the working day; and
 - (ii) A repair to the standard of the original gates and/or fencing shall be undertaken within three working days.
- 3.7 Facility Roads and Hardstanding
- 3.7.1 Effective site roads shall be provided and maintained to ensure the safe movement of vehicles within the facility.
- 3.7.2 The facility entrance and hardstanding areas, shall be appropriately paved and maintained in a fit and clean condition.
- 3.7.3 New entrance infrastructure and proposed queuing lanes shall be provided and maintained, and shall be contained within the facility boundary.
- 3.8 Facility Office
- 3.8.1 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.
- 3.8.2 The licensee shall provide and maintain a working telephone and a method for electronic transfer of information at the facility.
- 3.9 Waste Inspection and Quarantine Areas
- 3.9.1 A Waste Inspection Area and a Waste Quarantine Area shall be provided and maintained at the facility.
- 3.9.2 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.
- 3.9.3 Drainage from these areas shall be directed to the leachate management system.

- 3.10 Wheel Cleaner
- 3.10.1 The licensee shall provide and maintain wheel cleaning facilities at the site.
- 3.10.2 The wheel cleaners shall be used by all vehicles leaving the facility as may be required to ensure that no process water or waste is carried off-site. All water from the wheel cleaning area shall be directed to the leachate management system.
- 3.11 Leachate Management Infrastructure
- 3.11.1 Leachate management infrastructure shall be provided and maintained at the facility.
- 3.11.2 Any leachate produced from waste recovery or excavation activities shall be directed to the trade effluent collection system.
- 3.12 Landfill Gas Management
- 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.
- 3.13 The licensee shall install on all emission points such sampling points or equipment, including any data-logging or other electronic communication equipment, as may be required by the Agency. All such equipment shall be consistent with the safe operation of all sampling and monitoring systems.
- 3.14 Sampling equipment shall be operated and maintained such that sufficient sample is collected to meet both internal monitoring requirements and those of the Agency. A separate composite sample or homogeneous sub-sample (of sufficient volume as advised) should be retained for Agency use. Volatile sample duplicates/sub-samples shall be refrigerated immediately after collection and retained in a refrigerator. The storage of all duplicates/sub-samples shall be at the facility or at the laboratory of receipt for a maximum of two months under a chain of custody or as required by the Agency.
- 3.15 The licensee shall clearly label and provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency.
- 3.16 The licensee shall have in storage an adequate supply of containment booms and/or suitable absorbent material to contain and absorb any spillage at the facility. Once used the absorbent material shall be disposed of at an appropriate facility.
- 3.17 The licensee shall install and maintain silt traps and oil separators at the facility. All storm water discharges from the facility hardstanding and service areas shall pass through a silt trap and oil separator prior to discharge. All storm water discharges from the borrow pits shall pass through a silt trap prior to discharge. The separator shall be a Class I full retention separator and shall be in accordance with EN 858-1:2002 (separator systems for light liquids).
- 3.18 All pump sumps, storage tanks, lagoons or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as are likely to breach local or remote containment or separator, shall be fitted with high liquid level alarms (or oil detectors as appropriate) within three months from the date of their commissioning.
- 3.19 Groundwater
- 3.19.1 A groundwater management system as proposed by the applicant (Article 16(1) response May 2005) and specified in Drawing No. BRI/116 Rev A,

- shall be constructed and agreed prior to any waste excavation in Zones A, B, and C.
- 3.19.2 The groundwater cut-off wall shall consist of a collector drain, comprising a stone backfilled excavation and a bentonite/cement slurry cut-off wall.
- 3.19.3 The formation level of the cut-off wall shall be below the water table and excavations for the cut-off wall will be at least one metre into bedrock.
- 3.19.4 Any groundwater/leachate arising shall discharge to the leachate holding tank.
- 3.19.5 All wells & boreholes shall be adequately sealed to prevent surface contamination and, as may be appropriate, decommissioned according to the UK Environment Agency guidelines 'Decommissioning Redundant Boreholes and Wells' (or as otherwise may be agreed by the Agency).
- 3.19.6 Groundwater monitoring wells shall be constructed having regard to the guidance given in the Agency's landfill manual 'Landfill Monitoring'.
- 3.20 The licensee shall, one month prior to the intended date of commencement of the excavation of waste, install in a prominent location on the site a wind sock, or other wind direction indicator, which shall be visible from the public roadway outside the site.
- 3.21 Tank and Drum Storage Areas
- 3.21.1 All tank and drum storage areas shall be rendered impervious to the materials stored therein.
- 3.21.2 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:-
- (i) 110% of the capacity of the largest tank or drum within the bunded area; or
 - (ii) 25% of the total volume of substance which could be stored within the bunded area.
- 3.21.3 All drainage from bunded areas shall be diverted for collection and safe disposal.
- 3.21.4 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.
- 3.21.5 The integrity and water tightness of all the bunding structures and their resistance to penetration by water or other materials stored therein shall be tested and demonstrated by the licensee at least once every three years. This testing shall be carried out in accordance with any guidance published by the Agency.
- 3.22 Waste handling and processing plant
- 3.22.1 Items of plant deemed critical to the efficient and adequate processing of waste at the facility (including inter alia waste loading vehicles and ejector trailers) shall be provided on the following basis:-
- a) 100% duty capacity;
 - b) 20% standby capacity available on a routine basis; and
 - c) Provision of contingency arrangements and/or back up and spares in the case of breakdown of critical equipment.

3.22.2 Prior to the commencement of waste activities the licensee shall provide a report for the agreement of the Agency detailing the duty and standby capacity in tonnes per day, of all waste handling and processing equipment to be used at the facility. These capacities shall be based on the licensed waste quantities, as per *Schedule A: Limitations*, of this licence.

3.22.3 The quantity of waste to be processed at the facility on a daily basis shall not exceed the duty capacity of the equipment at the facility. Any exceedance of this quantity shall be treated as an incident.

3.23 Surface Water Management.

Effective surface water management infrastructure shall be provided and maintained at the facility during excavation, operation, restoration and aftercare of the facility. As a minimum, the infrastructure shall be capable of the following:

- (i) the prevention of contaminated water and leachate discharges onto/into unprotected ground, into surface water drains and courses; and
- (ii) the management of run-off arising from restored areas.

3.24 Wastewater Treatment System

3.24.1 The licensee shall provide and maintain suitable sanitary waste management systems on-site.

3.24.2 Leachate/trade effluent stored in the on-site storage tanks shall be tankered off-site in fully enclosed road tankers to an agreed Wastewater Treatment Plant and disposed of there.

3.25 Compost facility

In the event of on-site composting of excavated historical wastes, the licensee shall submit to the Agency as part of the SEW a detailed proposal for the specification, location, operation and control of any such temporary plant.

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

Condition 4. Interpretation

4.1 Emission limit values for emissions to air in this licence shall be interpreted in the following way:-

4.1.1 For Non-Continuous Monitoring

- (i) 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.
- (ii) For flow, no hourly or daily mean value, calculated on the basis of appropriate spot readings, shall exceed the relevant limit value.

- (iii) For all other parameters, no 30 minute mean value shall exceed the emission limit value.
- 4.2 Emission limit values for emissions to sewer/waters in this licence shall be interpreted in the following way:-
- 4.2.1 Continuous monitoring:
- (i) No flow value shall exceed the specified limit.
- (ii) No pH value shall deviate from the specified range.
- (iii) No temperature value shall exceed the limit value.
- 4.2.2 Composite Sampling:
- (i) No pH value shall deviate from the specified range.
- (ii) For parameters other than pH and flow, eight out of ten consecutive composite results, based on flow proportional composite sampling, shall not exceed the emission limit value. No individual result similarly calculated shall exceed 1.2 times the emission limit value.
- 4.2.3 Discrete Sampling
- For parameters other than pH and temperature, no grab sample value shall exceed 1.2 times the emission limit value.
- 4.3 Where the ability to measure a parameter is affected by mixing before emission, then, with agreement from the Agency, the parameter may be assessed before mixing takes place.
- 4.4 Noise
- Noise from the facility shall not give rise to sound pressure levels (Leq,T) measured at noise sensitive locations of the facility which exceed the limit value(s).
- 4.5 Dust and Particulate Matter
- Dust and particulate matter from the activity shall not give rise to deposition levels which exceed the limit value(s).

Reason: To clarify the interpretation of limit values fixed under the licence.

Condition 5. Emissions

- 5.1 No specified emission from the facility shall exceed the emission limit values set out in *Schedule B: Emission Limits* of this licence. There shall be no other emissions of environmental significance.
- 5.2 The licensee shall ensure that the activities shall be carried out in a manner such that emissions including odours do not result in significant impairment of, and/or

significant interference with amenities or the environment beyond the facility boundary.

- 5.3 No substance shall be discharged in a manner, or at a concentration which, following initial dilution, causes tainting of fish or shellfish.
- 5.4 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.
- 5.5 Prior to the excavation of waste, the licensee shall submit to the Agency for approval, evidence to demonstrate that an agreement is in place regarding leachate removal (from the site) and treatment.
- 5.6 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.

Reason: To provide for the protection of the environment by way of control and limitation of emissions.

Condition 6. Control and Monitoring

6.1 Leachate Management

The frequency of leachate removal from the leachate holding tank shall be such that a minimum freeboard of 0.5m shall be maintained in the tank at all times. The required freeboard shall be clearly indicated in the tank.

- 6.2 A visual examination of surface water discharges shall be carried out daily. A log of such inspections shall be maintained.
- 6.3 Uncontaminated storm-water runoff may be discharged to percolation/soakaway at a location to be agreed in writing. There shall be no direct discharge of storm-water or trade effluent to the Carrigower River.

6.4 Landfill Gas

6.4.1 Prior to the commencement of the excavation of historical waste the licensee shall submit for agreement a proposal for landfill gas monitoring.

6.4.2 In relation to landfill derived gases the following shall constitute a trigger level:

- (i) Methane greater than 1% v/v; or,
- (ii) 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.

6.5 Litter Control

6.5.1 The measures and infrastructure as described in the Application documentation shall be applied to control litter at the facility.

- 6.5.2 All litter control infrastructure shall be inspected on a daily basis. The licensee shall remedy any defect in the litter netting as follows:-
- (i) A temporary repair shall be made by the end of the working day; and
 - (ii) A repair to the standard of the original netting shall be undertaken within three working days.
- 6.5.3 All loose litter or other waste, placed on or in the vicinity of the facility, other than in accordance with the requirements of this licence, 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.
- 6.5.4 The licensee shall ensure that all vehicles removing waste and materials from the facility are appropriately covered.
- 6.6 All odorous or odour forming wastes shall be covered as soon as practicable and in any case at the end of the working day.
- 6.7 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.
- 6.8 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 processed in the waste recovery area.
- 6.9 Birds shall be prevented from gathering on and feeding at the facility.
- 6.10 Operational Controls
- 6.10.1 Unless otherwise agreed by the Agency, only one working face shall exist at the landfill at any one time for the excavation of historical waste.
- 6.10.2 The working face shall, at the end of each day, be covered with suitable material.
- 6.10.3 Approved inert wastes, following deposition on site, shall not be excavated, disturbed or otherwise picked over with the exception of works associated with the construction and installation of necessary infrastructure, or otherwise only with the prior agreement from the Agency.
- 6.10.4 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.
- 6.10.5 Scavenging shall not be permitted at the facility.
- 6.10.6 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.
- 6.10.7 No smoking shall be allowed at the facility.
- 6.10.8 There shall be no casual public access to the facility.
- 6.11 Prior to the commencement of the licensed activities, the following information shall be submitted to the Agency for its agreement: the names, qualifications and a summary of 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. Any proposed changes to the above shall be submitted in writing to the Agency for its agreement.

6.12 Monitoring Locations

Prior to the commencement of licensed activities, the licensee shall submit to the Agency an updated appropriately scaled drawing(s) showing all the monitoring locations that are either stipulated in this licence or required as a consequence of it, including any noise sensitive locations. The drawing shall include the eight-digit national grid reference of each monitoring point.

6.13 Groundwater Trigger Levels

6.13.1 Prior to the commencement of the remediation operations, the licensee shall implement an appropriate programme for monitoring of groundwater trigger levels, in accordance with the requirements of Directive 1999/31/EC.

6.13.2 The trigger levels as specified in Condition 6.13.1 for groundwater shall be measured at monitoring boreholes to be agreed in advance by the Agency.

6.13.3 The monitoring programme, trigger levels, and location of monitoring points shall be adjusted as necessary to accommodate any Agency specifications as may be issued.

6.14 Nuisance Monitoring

The licensee shall, inspect the facility and its immediate surrounds, on at least a daily basis, for nuisances caused by litter, vermin, birds, flies, mud, dust and odours. The licensee shall maintain a record of all such inspections.

Reason: To provide for the protection of the environment by way of treatment and monitoring of emissions.

Condition 7. Resource Use and Energy Efficiency

7.1 The licensee shall identify opportunities for reduction in the quantity of water used on site including recycling and reuse initiatives, wherever possible.

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

Condition 8. Materials Handling

8.1 Any waste deemed unsuitable for processing at the facility and/or in contravention of this licence shall be immediately separated and removed from the facility at the earliest possible time. Temporary storage of such wastes shall be in the designated Waste Quarantine Area. Waste shall be stored under appropriate conditions in the quarantine area to avoid odour nuisance, the attraction of vermin and any other nuisance or objectionable condition.

8.2 Disposal or recovery of waste shall only take place in accordance with the conditions of this licence and in accordance with the appropriate National and European legislation and protocols.

- 8.3 Waste sent off-site for recovery or disposal shall be transported only by an authorised waste contractor. The waste shall be transported only from the site of the activity to the site of recovery/disposal in a manner which will not adversely affect the environment and in accordance with the appropriate National and European legislation and protocols.
- 8.4 The licensee shall ensure that waste prior to transfer to another person shall be classified packaged and labelled in accordance with National, European and any other standards which are in force in relation to such labelling.
- 8.5 No waste classified as green list waste in accordance with the EU Transfrontier Shipment of Waste Regulations (Council Regulation EEC No.259/1993, as amended) shall be consigned for recovery unless otherwise agreed by the Agency.
- 8.6 Waste for disposal/recovery off-site shall be analysed in accordance with *Schedule C: Control & Monitoring*, of this licence.
- 8.7 Unless approved in writing by the Agency the licensee is prohibited from mixing a hazardous waste of one category with a hazardous waste of another category or with any non-hazardous waste.
- 8.8 Material Storage/Placement
- 8.8.1 Waste excavated from historical deposit areas on the site for processing in the on-site plant, shall be stored only in designated areas, protected as may be appropriate, against spillage and leachate run-off. Incompatible waste streams shall be appropriately segregated.
- 8.8.2 The temporary storage of fully or part-processed waste, recovered material, and waste for disposal off site, shall only be in designated areas, protected as may be appropriate against spillage and leachate run-off. The waste is to be clearly labelled and appropriately segregated.
- 8.8.3 Prior to the commencement of the remediation operation the licensee shall submit to the Agency for approval a plan indicating the various designated waste and recovered materials (pre-processed, part-processed and processed) temporary storage and set-down areas for the site. Any subsequent variation to the approved plan requires the prior written approval of the Agency.
- 8.9 Waste Characterisation Procedures
- 8.9.1 Only pre-certified inert materials are acceptable for placement on the site for the purposes of landscaping and reclamation of excavated historical waste areas.
- 8.9.2 Inert waste to be used in the reclamation and restoration operation shall meet the standards specified in EU Council Decision 2003/33/EC.
- 8.9.3 The following wastes shall not be disposed of at the on-site landfill facility:-
- (i) hazardous wastes,
 - (ii) biodegradable waste,
 - (iii) liquid wastes.
- 8.9.4 Final disposal of waste on the site is limited to the deposition of inert wastes

recovered from the historically placed wastes, and which are deemed suitable for restoration.

- 8.9.5 Prior to commencement of excavation of waste at the facility, the licensee shall submit to the Agency for its agreement written procedures for the handling of all wastes. These procedures shall include details of the pre-treatment of all waste to be carried out, and shall also include methods for the characterisation of waste in order to distinguish between inert, non-hazardous and hazardous wastes. 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.

Reason: To provide for the appropriate handling of materials and the protection of the environment.

Condition 9. Accident Prevention and Emergency Response

- 9.1 The licensee shall, prior to the commencement of waste activities, ensure that a documented Accident Prevention Policy is in place that will address the hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. This procedure shall be reviewed annually and updated as necessary.
- 9.2 The licensee shall, prior to the commencement of waste activities, ensure that a documented Emergency Response Procedure is in place, which shall address any emergency situation that may originate on-site. This Procedure shall include provision for minimising the effects of any emergency on the environment. This procedure shall be reviewed annually and updated as necessary.
- 9.3 In the event of a breakdown of critical equipment or any other significant occurrence that poses a significant pollution threat to the environment, any waste stored at the facility shall be transferred directly to appropriate landfill sites or any other appropriate facility until such time as the equipment is returned to a fully operational status. Such a breakdown event will be treated as an emergency and rectified as soon as possible.
- 9.4 Incidents
- 9.4.1 In the event of an incident the licensee shall immediately:-
- (i) isolate the source of any such emission;
 - (ii) carry out an immediate investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
 - (iii) evaluate the environmental pollution, if any, caused by the incident;
 - (iv) identify and execute measures to minimise the emissions/malfunction and the effects thereof;

- (v) identify the date, time and place of the incident;
 - (vi) notify the Agency and other relevant authorities.
- 9.4.2 The licensee shall provide a proposal to the Agency for its agreement within one month of the incident occurring or as otherwise agreed by the Agency to:-
- (i) identify and put in place measures to avoid reoccurrence of the incident; and
 - (ii) identify and put in place any other appropriate remedial action.

Reason: To provide for the protection of the environment.

Condition 10. Closure, Restoration and Aftercare

- 10.1 Excavated areas formerly occupied by historical waste shall be suitably graded to a safe and stable landform. Inert material sourced on-site may be used to facilitate the landscaping.

Reason: To make provision for the proper closure of the activity ensuring protection of the environment.

Condition 11. Notifications, Records and Reports

- 11.1 The licensee shall notify the Agency, in writing, one month prior to the intended date of commencement of handling of waste for Scheduled Disposal/Recovery activities at the facility.
- 11.2 The licensee shall notify the Agency by both telephone and either facsimile or electronic mail, if available, to the Agency's Headquarters in Wexford, or to such other Agency office as may be specified by the Agency, as soon as practicable after the occurrence of any of the following:
- (i) Any release of environmental significance to atmosphere from any potential emission point including bypasses.
 - (ii) Any emission that does not comply with the requirements of this licence.
 - (iii) Any malfunction or breakdown of key control equipment or monitoring equipment set out in *Schedule C: Control & Monitoring*, of this licence which is likely to lead to loss of control of the abatement system.
 - (iv) Any incident with the potential for environmental contamination of surface water or groundwater, or posing an environmental threat to air or land, or requiring an emergency response by the Local Authority.

The licensee shall include as part of the notification, date and time of the incident, summary details of the occurrence, and where available, the steps taken to minimise any emissions.

- 11.3 In the case of any incident which relates to discharges to water, the licensee shall notify the Local Authority and the Eastern Regional Fisheries Board as soon as practicable after such an incident.
- 11.4 The licensee shall make a record of any incident. This record shall include details of the nature, extent, and impact of, and circumstances giving rise to, the incident. The record shall include all corrective actions taken to manage the incident, minimise wastes generated and the effect on the environment, and avoid recurrence. The licensee shall as soon as practicable following incident notification, submit to the Agency the incident record.
- 11.5 The licensee shall record all complaints of an environmental nature related to the operation of the activity. Each such record shall give details of the date and time of the complaint, the name of the complainant and give details of the nature of the complaint. A record shall also be kept of the response made in the case of each complaint.
- 11.6 The licensee shall record 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.
- 11.7 The licensee shall as a minimum keep the following documents at the site:-
- (i) the licence(s) relating to the facility;
 - (ii) the current EMS for the facility;
 - (iii) the previous year's AER for the facility;
 - (iv) the previous year's 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;
 - (v) the previous two year's relevant correspondence with the Agency;
 - (vi) an up to date site drawings/plans showing the location of key process and environmental infrastructure, including monitoring locations and emission points

and this documentation shall be available to the Agency for inspection at all reasonable times.

- 11.8 The licensee shall submit to the Agency, by the 31st March of each year, an AER covering the previous calendar year. This report, which shall be to the satisfaction of the Agency, shall include as a minimum the information specified in *Schedule D: Specified Engineering Works*, of this licence and shall be prepared in accordance with any relevant guidelines issued by the Agency.
- 11.9 A full record, which shall be open to inspection by authorised persons of the Agency at all times, shall be kept by the licensee on matters relating to the waste management operations and practices at this site. This record shall be maintained on a monthly basis and shall as a minimum contain details of the following:

- (i) The tonnages and EWC Code for the waste materials sent off-site for disposal/recovery.
 - (ii) The names of the agent and carrier of the waste, and their waste collection permit details, if required (to include issuing authority and vehicle registration number).
 - (iii) Details of the ultimate disposal/recovery destination facility for the waste and its appropriateness to accept the consigned waste stream, to include its permit/licence details and issuing authority, if required.
 - (iv) Written confirmation of the acceptance and disposal/recovery of any hazardous waste consignments sent off-site.
 - (v) Details of all wastes consigned abroad for Recovery and classified as 'Green' in accordance with the EU Transfrontier Shipment of Waste Regulations (Council Regulation EEC No. 259/1993, as amended). The rationale for the classification must form part of the record.
 - (vi) Details of any rejected consignments.
 - (vii) Details of any approved waste mixing.
 - (viii) The results of any waste analyses required under *Schedule C: Control & Monitoring*, of this licence.
 - (ix) The tonnages and EWC Code for the waste materials recovered/disposed on-site.
- 11.10 A record shall be kept of each consignment of trade effluent, leachate and/or contaminated storm water wastes removed from the facility. The record shall be included as part of that specified in Condition 11.9.
- 11.11 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:-
- (i) the date and time during which spraying of insecticide is carried out;
 - (ii) contractor details;
 - (iii) contractor logs and site inspection reports;
 - (iv) details of the rodenticide(s) and insecticide(s) used;
 - (v) operator training details;
 - (vi) details of any infestations;
 - (vii) mode, frequency, location and quantity of application; and
 - (viii) measures to contain sprays within the facility boundary.
- 11.12 Prior to the development of any undisturbed area, and any works at the Carrigower River SAC and floodplain, the advice of the Heritage Section of the Department of the Environment, Heritage and Local Government shall be sought.
- 11.13 Waste Recovery Reports
- The licensee shall, as part of their EMP, prepare a report examining waste recovery options and shall submit the report to the Agency for its agreement as part of the AER. This report shall address methods to contribute to the achievement of the recovery targets stated in National and European Union waste policies and shall include the following:-

- proposals for the contribution of the facility to the achievement of targets for the reduction of biodegradable waste to landfill as specified in the Landfill Directive;
- the separation of recyclable materials from the waste;
- the recovery of Construction and Demolition Waste;
- the recovery of metal waste;
- inert waste to be used for cover/restoration material at the facility.

Reason: To provide for the collection and reporting of adequate information on the activity.

Condition 12. Financial Charges and Provisions

12.1 Agency Charges

12.1.1 The licensee shall pay to the Agency an annual contribution of €19,651, 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 2005. The first payment shall be a pro-rata amount for the period from the date of this licence (date of commencement of enforcement) – for greenfield sites where the facility will not start within this period date of commencement of enforcement should be used 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 2005, and all such payments shall be made within one month of the date upon which demanded by the Agency.

12.1.2 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.

12.1.3 The licensee shall also pay, when so charged, the cost of the Agency's site Agent(s) who may be appointed by the Agency to independently supervise and report the excavation, remediation and restoration operations.

12.2 Environmental Liabilities

12.2.1 The licensee shall as part of the AER provide an annual statement as to the measures taken or adopted at the site in relation to the prevention of environmental damage, and the financial provisions in place in relation to the underwriting of costs for remedial actions following anticipated events (including closure) or accidents/incidents, as may be associated with the carrying on of the activity.

- 12.2.2 The licensee shall arrange for the completion, by an independent and appropriately qualified consultant, of a comprehensive and fully costed Environmental Liabilities Risk Assessment (ELRA), which addresses the liabilities from past and present activities. A report on this assessment shall be submitted to the Agency for agreement prior to the commencement of the waste activities. The ELRA shall be reviewed as necessary to reflect any significant change on site, and in any case every three years following initial agreement: review results are to be notified as part of the AER.
- 12.2.3 Prior to the commencement of the activity, the licensee shall, to the satisfaction of the Agency, make financial provision to cover any liabilities identified in Condition 12.2.2. The amount of indemnity held shall be reviewed and revised as necessary, but at least annually. Proof of renewal or revision of such financial indemnity shall be included in the annual 'statement of measures' report identified in Condition 12.2.1.

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

SCHEDULE A: Limitations

A.1 AUTHORISED PROCESSES

The following waste related processes are authorised:

- i. Composting.
- ii. Mechanical-Biological Treatment (MBT).
- iii. Shredding, crushing, baling, repackaging processes.
- iv. C & D waste recovery (incl. crushing, screening, sorting, blending).
- v. Landfilling of inert waste.
- vi. Use of inert waste in landfill restoration.
- vii. Storage of waste.
- viii. Recovery of dry recyclables.
- ix. Excavation of historically deposited wastes.

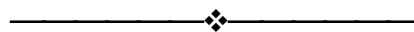
No additions to these processes are permitted unless agreed in advance by the Agency.



A.2 AUTHORISED WASTE

Table A.2 Waste Categories and Quantities

	Resource Recovery Buildings & Plant	Landfill Restoration
WASTE TYPES	Household & Commercial	Non-hazardous Inert
	Non-Hazardous Industrial	
	Construction & Demolition	
	Non-hazardous Inert	
MAXIMUM (TONNES PER ANNUM)	180,000 [On-site historically deposited wastes. Nil import]	Only that amount necessary, and available from on-site sources, to infill and grade the excavations formally occupied by the historical waste



SCHEDULE B: Emission Limits

B.1 EMISSIONS TO AIR

Landfill Derived Gas Concentration Limits:

(Measured in any building on or adjacent to the facility and perimeter boreholes).

Methane	Carbon Dioxide
20 % LEL (1% v/v)	1.5 % v/v



Dust Deposition Limits:

Measured at the monitoring points indicated D1 – D5 (incl.) Drawing Ref: Fig J-1 Rev. A (or as may be amended under Condition 6.12).

Level (mg/m ² /day) ^{Note 1}
350

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



B.2 NOISE EMISSIONS

Day dB(A) L _{Aeq} (30 minutes)	Night dB(A) L _{Aeq} (30 minutes)
55 ^{Note 1}	45 ^{Note 1}

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.



SCHEDULE C: Control & Monitoring

C.1 MONITORING OF LANDFILL GAS EMISSIONS

Location: To be agreed under Condition 6.4.1. And other selected locations as may be specified.

Parameter	Monitoring Frequency	Analysis Method/Technique ^{Note 1}
Methane (CH ₄)	Monthly	InfraRed Analyser/FID
Carbon Dioxide (CO ₂)		InfraRed
Oxygen (O ₂)		Electrochemical Cell
Atmospheric pressure & Trend		Standard method

Note 1: Or other method agreed.



C.2 LEACHATE MONITORING

Location: Leachate Holding Tank, Leachate Sumps

PARAMETER ^{Note 1}	LEACHATE ^{Note 2} Monitoring Frequency
Visual Inspection/Odour	Daily
Leachate Level	Weekly
BOD	Quarterly
COD	Quarterly
Chloride	Annually
Ammoniacal Nitrogen	Annually
Electrical Conductivity	Annually
pH	Annually
Metals / non metals ^{Note 3}	Annually
Cyanide (Total)	Annually
Fluoride	Annually
List I/II organic substances ^{Note 4}	Annually
Mercury	Annually
Sulphate	Annually
Total P/orthophosphate	Annually
Total Oxidised Nitrogen	Annually

Note 1: All the analysis shall be carried out by a competent laboratory using standard and internationally accepted procedures.

Note 2: Visual Inspection and Leachate Levels to be monitored at all leachate monitoring points in the collection sumps and holding tank. Leachate composition to be monitored at the leachate holding tank.

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).

C.3 AMBIENT MONITORING

C.3.1 Air Monitoring

Location: Measured at the monitoring points indicated D1 – D5 (incl.) Drawing Ref: Fig J-1 Rev. A (or as may be amended under Condition 6.12).

Parameter	Monitoring Frequency	Analysis Method/Technique
Dust deposition	Monthly	Bergerhoff

C.3.2 Groundwater Monitoring and Carrigower River Monitoring

- Location:** (a) Groundwater Wells indicated MW3 – MW10 (incl.)
 (b) Surface Water Monitoring Points SW2 – SW5 (incl.)
 (c) Storm-water percolation/soakaway area(s)

Drawing Ref: Fig J-1 Rev. A (or as may be amended under Condition 6.12).

Parameter ^{Note 1}	Monitoring Frequency
Visual Inspection/Odour ^{Note 2}	Monthly Daily for Soakaway & Surface Waters
Groundwater Level (wells only)	Monthly
Electrical Conductivity	Monthly
Ammoniacal Nitrogen	Monthly
Chloride	Monthly
pH	Monthly
Sulphate (SO ₄)	Monthly
Metals / non metals ^{Note 3}	Annually
List I/II organic substances (Screen) ^{Note 4}	Annually
Mercury	Annually
Nitrate	Annually
Total P/orthophosphate	Annually

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, additional samples should be analysed and the full suite of parameters shown tested.

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).



SCHEDULE D: Specified Engineering Works

Specified Engineering Works
<p>Development of the facility including:</p> <ul style="list-style-type: none"> – preparatory works. – groundwater barriers and cut-off walls. – installation of waste handling, processing, recycling/recovery infrastructure as well as any abatement system(s). – installation of increased waste processing capacity. <p>Installation of Compost Facility.</p> <p>Installation of Leachate Management Infrastructure.</p> <p>Installation of any other Groundwater Control Infrastructure.</p> <p>Any other works notified in writing by the Agency.</p>



SCHEDULE E: Reporting

Completed reports shall be submitted to:

The Environmental Protection Agency
Office of Environmental Enforcement
Regional Inspectorate
Richview
Clonskeagh
Dublin 14

or Any other address as may be specified by the Agency

Reports are required to be forwarded as required in the licence and as may be set out below:

Report	Reporting Frequency ^{Note1}	Report Submission Date
Annual Environment Report (AER)	Annually	By 31 st 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	Ten days after end of the quarter being reported on.
Monitoring of Leachate	Quarterly	Ten days after end of the quarter being reported on.
Dust Monitoring	Quarterly	Ten days after end of the quarter being reported on.
Drawing with Monitoring locations	-	Prior to commencement of waste disposal.
Leachate Disposal Agreement	-	Prior to commencement of waste disposal.

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



SCHEDULE F: Annual Environmental Report

Annual Environmental Report Content ^{Note 1}

Emissions from the installation/facility.
Waste management record.
Waste Recovery Report.
Resource consumption summary.
Complaints summary.
Pollution emission register – report for previous year.
Pollution emission register – proposal for current year.
Noise monitoring report summary.
Ambient monitoring summary.
Current monitoring location reference drawing.
Tank and pipeline testing and inspection report.
Reported incidents summary.
Development / Infrastructural works summary (completed in previous year or prepared for current year).
Report on management and staffing structure of the installation/facility.
Report on the programme for public information.
Reports on financial provision made under this licence.
Review of Environmental Liabilities.
Statement of measures in relation to prevention of environmental damage and remedial actions (Environmental Liabilities).
Any other items specified by the Agency.

Note 1: Content may be revised subject to the agreement of the Agency.



Signed on behalf of the said Agency
on the 6th day of April, 2006

Patrick J. Nolan, Authorised Person