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Ireland

WASTE LICENCE
LANDFILL FOR NON-HAZARDOUS WASTE

PROPOSED DECISION

Licence Application Register No:	157-1
Applicant:	Greenstar Limited
Location of Facility:	Ballyguyroe North, Mallow, County Cork

INTRODUCTION

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

The licence is for a landfill for the disposal of non-hazardous waste. It is principally for the disposal of municipal waste consisting for the main part of commercial and industrial wastes but also for the disposal of household waste collected by or on behalf of Local Authorities and some industrial sludges. The landfill will be an engineered facility with leachate and landfill gas collection. There will not be any civic waste facility infrastructure at the facility, as the facility is not intended for the use by members of the public.

The licence sets out in detail the conditions under which Greenstar Limited 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 received from other parties and the report of its inspector.

Part I: Schedule of Activities Licensed

On the basis of the information before it, the Agency, pursuant to its powers under Section 40(1) of the Waste Management Act, 1996, proposes, to grant this Waste Licence to Celtic Waste Limited to carry on the waste activities, that are the subject of Waste Licence Application Register Number 157-1, listed below at Ballyguyroe North, Mallow, County Cork 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): This activity is limited to the landfilling of waste as permitted by this licence.
Class 4	Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons: This activity is limited to the pumping of leachate from cells in the landfill to a leachate holding lagoon and the use of a surface water pond to control surface water runoff from the facility.
Class 5	Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment: This activity is limited to the landfilling of waste as permitted by this licence. This is the principal activity.
Class 6	Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 10 of this Schedule: This activity is limited to the possible treatment of leachate in the future.
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 activity is limited to the storage in a waste quarantine area of waste which is deemed unacceptable for disposal at the landfill.

Licensed Waste Recovery Activities, in accordance with the Fourth Schedule of the Waste Management Act 1996

Class 4	Recycling or reclamation of other inorganic materials: This activity is limited to the possible use selected wastes as cover material or in construction works at the site.
Class 9	Use of any waste principally as a fuel or other means to generate energy:

This activity is limited to the utilisation of landfill gas to generate energy.

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

This activity is limited to the use of selected wastes as cover material or for construction works at the landfill.

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 activity is limited to the storage of waste, prior to use as cover material or for construction works.

INTERPRETATION

All terms in this licence should be interpreted in accordance with the definitions in the Waste Management Act, (the Act), 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.
Agreement	Agreement in writing.
Annually	At approximately twelve monthly intervals.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of the waste licence application.
Application	The application by the licensee for this waste licence.
Appropriate facility	A waste management facility, duly authorised under relevant law and technically suitable.
BAT	Best Available Techniques as defined in Article 2(11) of Council Directive 96/61/EC concerning integrated pollution prevention and control.
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.
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.
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 the application, unless otherwise specified in this licence.

Emergency	Those occurrences defined in Condition 9.4.
Emission Limits	Those limits, including concentration limits and deposition levels established in <i>Schedule C: Emission Limits</i> , 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.
Green waste	Waste wood (excluding timber), plant matter such as grass cuttings, and other vegetation.
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, such as the removal and laying of daily cover. Different activities within the facility, such as the landfill and the civic waste facility, may have different hours of waste acceptance.
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: - <ul style="list-style-type: none"> a) An emergency; b) Any emission which does not comply with the requirements of this licence; c) 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 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.
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 Explosive Limit)	The lowest percentage concentration by volume of a mixture of flammable gas with air which will propagate a flame at 25°C and atmospheric pressure.
Licence	A waste licence issued in accordance with the Act.
Licensee	Greenstar Limited.
List I/II Organics	Substances classified pursuant to EC Directives 76/464/EEC and 80/68/EEC.
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.
Night-time	2200 hrs to 0800 hrs.
Non-hazardous Asbestos Waste	Includes bonded asbestos, such as tiles, which are not classified as hazardous waste and which are authorised for disposal at the facility.
Recyclable Materials	Those waste types, such as cardboard, batteries, gas cylinders, etc which may 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.
SCADA system	Supervisory Control and Data Acquisition system.
Sludge	The accumulation of solids resulting from chemical coagulation, flocculation and/or sedimentation after water or wastewater treatment with between 2% and 14% dry matter.
SOP	Standard Operating Procedure.
Specified Emissions	Those emissions listed in <i>Schedule C: Emission Limits</i> , of this licence.
Specified Engineering Works	Those engineering works listed in <i>Schedule B: Specified Engineering Works</i> , 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.
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.

PART III CONDITIONS

CONDITION 1 SCOPE OF THE LICENCE

- 1.1. Waste activities at the facility shall be restricted to those listed and described in Part I: Activities Licensed and authorised by this licence.
- 1.2. For the purposes of this licence, the facility is the area of land outlined in red on Drawing No. 2001-144-01-01 Rev. A 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. Municipal Waste, Commercial Waste and Industrial Waste may be recovered and disposed of at the facility subject to the maximum quantities and other constraints listed in *Schedule A: Waste Acceptance*, of this licence.
- 1.5. Waste Acceptance Hours and Hours of Operation
 - 1.5.1. Waste may be accepted at the facility for disposal at the landfill only between the hours of 9.00am and 5.00pm Monday to Saturday inclusive.
 - 1.5.2. The landfill at the facility may be operated only during the hours of 8.00am and 6.00pm Monday to Saturday inclusive.
 - 1.5.3. Waste shall not be accepted at the landfill on Bank Holidays.
- 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.

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.
 - 2.1.2 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.

2.1.3 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

2.2.1 Prior to the commencement of waste disposal activities, the licensee shall submit written details of the management structure of the facility to the Agency. 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 establish and maintain an EMS. At least six months before commencement of waste disposal activities, the licensee shall submit to the Agency for its agreement a proposal for a documented Environmental Management System (EMS) for the facility. Following the agreement of the Agency, the licensee shall establish and maintain such a system. The EMS shall be updated on an annual basis with amendments being submitted to the Agency for its agreement.

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: -

- a) The items specified to be contained in an Environmental Management Plan in the Landfill Operational Practices Manual published by the Agency;
- b) 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

- 2.4.1 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. This shall be established within six months of the date of grant of the licence.

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 infrastructure referred to in this licence prior to the commencement of waste disposal activities or as required by the conditions of this licence.

3.2 Specified Engineering Works

- 3.2.1 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.

- 3.2.2 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.

- 3.2.3 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 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.

3.3 Facility Notice Board

3.3.1 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.

3.3.2 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.

3.4 Facility Security

3.4.1 Security and stockproof fencing and gates shall be installed and maintained at the facility. The security fence and gates shall be at the locations shown on Drawing No. 2001-144-01-12 Rev. A. 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.

3.4.2 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.

3.5 Facility Roads and Hardstanding

3.5.1 Effective site roads shall be provided and maintained to ensure the safe movement of vehicles within the facility.

3.6 Facility Office

3.6.1 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.

3.6.2 The licensee shall provide and maintain a working telephone and a method for electronic transfer of information at the facility.

3.7 Waste Inspection and Quarantine Areas

3.7.1 A Waste Inspection Area and a Waste Quarantine Area shall be provided and maintained at the facility.

3.7.2 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.

3.7.3 Drainage from these areas shall be directed to the leachate lagoon.

3.8 Weighbridge and Wheel Cleaner

3.8.1 The licensee shall provide and maintain a weighbridge and a wheel cleaner at the facility.

3.8.2 The wheel cleaner shall be used by all vehicles leaving the facility as required to ensure that no process water or waste is carried off-site. All water from the wheel cleaning area shall be directed to the waste water interceptor.

3.9 Waste Water Treatment Plant

3.9.1 The licensee shall provide and maintain a Wastewater Treatment plant at the facility for the treatment of sanitary effluent arising on-site. Any percolation area shall satisfy the criteria set out in the *Wastewater Treatment Manual, Treatment Systems for Single Houses*, published by the Environmental Protection Agency.

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 approved, the landfill liner shall comprise:-

- a) A composite liner consisting of a 1m layer of compacted soil with a hydraulic conductivity of less than or equal to 1×10^{-9} m/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;
- c) A 500mm thick drainage layer placed over the geotextile layer with a minimum hydraulic conductivity of 1×10^{-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 shall be in accordance with the guidelines provided in the Agency's *Landfill Manual, Landfill Site Design*.

3.11.3 Formation levels of the landfill lining system shall be as shown on Drawing No. 2001-144-01-01 Rev. A.

3.12 Buffer Zone

3.12.1 A Buffer Zone, in which no waste shall be landfilled and which shall be used for the planting of forestry in keeping with the planting scheme described in Section 4.10 of the EIS, shall be provided and maintained within the facility. The Buffer Zone shall

be of a width of at least 50m from the facility boundary on the north, west and south sides of the landfill. On the eastern side it shall be of a width of at least 50m from the line where the ground becomes level before sloping steeply to the River Farahy.

3.13 Leachate Management Infrastructure

- 3.13.1 Prior to the acceptance of waste at the facility the licensee shall install and maintain an approved leachate management infrastructure at the facility. The infrastructure for these Specified Engineering Works shall provide for the abstraction/collection of leachate from the waste and its treatment either at the facility or at a suitable treatment works.
- 3.13.2 Where the export of leachate for off-site treatment in a suitable waste water treatment plant is proposed, the licensee shall prior to entering into any such arrangement, submit to the Agency for agreement details of the nominated treatment works and acceptance agreement.
- 3.13.3 All structures for the storage and/or treatment of leachate shall be fully enclosed except for inlet and outlet piping.
- 3.13.4 The licensee shall ensure that the leachate lagoon is of an adequate size for leachate storage requirements at the facility. Water balance calculations shall be reviewed annually and reported as part of the AER.

3.14 Landfill Gas Management

- 3.14.1 Within 18 months of the date of commencement of waste activities, infrastructure for the active collection and flaring of landfill gas shall be installed at the facility. The flare shall be of an enclosed type design. Flare unit efficiency shall be tested once it is installed and once every three years thereafter.
- 3.14.2 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.
- 3.14.3 Landfill Gas Combustion Plant
 - 3.14.3.1 Within 24 months of the date of commencement of waste disposal activities the licensee shall submit for agreement of the Agency a feasibility study in relation to the utilization of landfill gas for energy/heat recovery.
 - 3.14.3.2 The location, final design, timeframe for installation and operational specification for any gas utilisation plant shall be agreed in advance.
 - 3.14.3.3 The design of the plant shall incorporate continuous carbon monoxide monitors on the outlets of the gas engine(s).

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:-
 - a) The prevention of contaminated water and leachate discharges into surface water drains and courses;
 - b) Diversion of all surface water runoff (including runoff from undeveloped areas, excavations, all areas used for soil storage and reworking,

construction and demolition/inert waste storage area, lined but unused landfill cells and capped and restored areas) to a surface water settlement lagoon;

- c) Runoff from all roads and hardstanding areas shall discharge to the surface water settlement lagoon via a Class 1 oil interceptor;
- d) A minimum freeboard of 0.75m shall be maintained in the surface water settlement lagoon at all times.
- e) The licensee shall ensure that the surface water settlement lagoon is of an adequate size for surface water storage requirements at the facility.
- f) The outflow from the surface water settlement lagoon shall be fitted with an actuated penstock.
- g) The outflow from the surface water settlement lagoon shall pass through a surface water treatment plant as described in the Article 14 response received by the Agency on 13/12/01 to further reduce the level of suspended solids in the outflow.
- h) The outflow from the surface water treatment plant shall be fitted with a turbidity meter to continuously monitor the turbidity of the outflow. The meter shall be linked to an alarm system and should the turbidity measurements indicate that the ELV for suspended solids specified in Schedule C.4 may be exceeded the outflow from the surface water treatment plant shall be pumped back into the surface water settlement lagoon.
- i) The licensee shall as part of the AER review each year the capacity and adequacy of the surface water management infrastructure.

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 other infrastructure, such as the liner, from any adverse effects caused by the groundwater.

3.17 External Access Road

3.17.1 No waste activity shall be carried on at the facility until such time as the road improvements as described in Section 4.9.11 of the EIS, or equivalent works, are carried out.

3.18 Telemetry

A telemetry system shall be installed and maintained at the facility. This system shall include for:-

- a) Recording of leachate levels in the lined cells and lagoon;
- b) Recording of levels in the surface water lagoon and flows to the perimeter streams;
- c) Quality of the surface water at the inlet to the surface water lagoons and being discharged to the perimeter streams from the surface water treatment plant; and

- d) Permanent gas monitoring system to be installed in the site office and any other enclosed structures at the facility.

3.19 Monitoring Infrastructure

3.19.1 Landfill Gas

- a) At least six months prior to the acceptance of waste for disposal the licensee shall submit to the Agency a proposed layout for landfill gas monitoring locations both within and outside the landfill footprint area.
- b) Prior to the acceptance of waste for disposal at the facility, the licensee shall install an effective permanent gas monitoring system in the site office and any other enclosed structures at the facility.

3.19.2 Groundwater

Within six months from the date of grant of this licence, the licensee shall install the monitoring points outlined in Table D.1.1 (Schedule D) to allow for the sampling and analyses of groundwater.

3.19.3 Leachate

Within six months from the date of grant of this licence, the licensee shall submit to the Agency a proposed layout for leachate monitoring points at to allow for the sampling and analyses of leachate.

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.

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 plan submitted in Section 4.10 of the EIS.
- 4.2. The final (pre-settlement) capping profile of the facility shall be as shown in Drawing No. 2001-144-01-13 Rev. A.
- 4.3. Final Capping
 - 4.3.1. Unless otherwise approved, the final capping 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 1×10^{-4} m/s;
 - d) Compacted mineral layer of a minimum 0.6m thickness with a permeability of less than 1×10^{-9} m/s or a geosynthetic material (e.g. GCL) or similar that provides equivalent protection; and
 - e) Gas collection layer of natural material (minimum 0.3m) or a geosynthetic layer.

- 4.4. 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.
- 4.5. Where tree planting is to be carried out above waste-filled areas, a synthetic barrier shall be used to augment the clay cap. Combined topsoil and subsoil depths shall be a minimum of 1m.
- 4.6. The restoration of the landfill facility shall be commenced within 6 months of cessation of waste acceptance/disposal.
- 4.7. Soil Storage
 - 4.7.1. 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.
- 5.2 Waste Acceptance and Characterisation Procedures
 - 5.2.1 Prior to commencement of waste disposal at the facility, the licensee shall submit to the Agency for its agreement written procedures for the acceptance and handling of all wastes.
- 5.3 Waste Acceptance
 - 5.3.1 Waste shall be accepted at the facility only from customers who are holders of a waste permit, unless not required, under the Waste Management (Collection Permit) Regulations 2001 or from other licensed/permitted facilities.
 - 5.3.2 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.
 - 5.3.3 No hazardous wastes or liquid wastes shall be disposed of at the facility.
 - 5.3.4 The licensee shall ensure that inert waste accepted at the facility is subject to treatment where technically feasible.
- 5.4 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.
- 5.5 Working Face
 - 5.5.1 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.
- 5.5.2 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.
- 5.5.3 The working face, or faces, shall each day at the end of the day, be covered with suitable material.
- 5.6 Daily and Intermediate Cover
 - 5.6.1 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.
- 5.7 Landscaping
 - 5.7.1 Apart from the removal of hedgerow to facilitate the facility entrance, the existing hedgerow network which forms the boundary of the facility shall be retained by the licensee.
- 5.8 Operational Controls
 - 5.8.1 Filling of cells shall start in the north of the site. Cells in the south of the site shall not be constructed until the space requirements for and location of any additional infrastructure such as leachate treatment and landfill gas utilisation have been determined and have been agreed by the Agency.
 - 5.8.2 Wastes once deposited and covered shall not be excavated, disturbed or otherwise picked over unless with the prior agreement from the Agency.
 - 5.8.3 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.
 - 5.8.4 Filled cells shall be permanently capped within 24 months of the cells having been filled to the required level.
 - 5.8.5 Scavenging shall not be permitted at the facility.
 - 5.8.6 Gates shall be locked shut when the facility is unsupervised.
 - 5.8.7 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.
 - 5.8.8 Fuels shall be stored only at appropriately bunded locations on the facility.
 - 5.8.9 All tanks and drums shall be labelled to clearly indicate their contents.
 - 5.8.10 No smoking shall be allowed on the facility.
- 5.9 Waste Handling
 - 5.9.1 Sludges
 - 5.9.1.1 Treated industrial sludges shall be accepted at the facility only between the hours of 08.30 hrs and 14.00 hrs. Monday to Friday inclusive. All sludges shall be covered immediately with other waste.
 - 5.9.1.2 In addition to the characterisation required under the Waste Acceptance Procedures, the licensee shall carry out analyses on a minimum of two samples per annum for all industrial sludges being accepted at the facility. The results

of these analyses shall be presented in the Annual Environmental Report (AER).

5.9.2 Inert Waste

Inert waste accepted at the facility shall comply with the requirements of the EU Council Decision 2003/33/EC on Criteria & Procedures for the Acceptance of Waste at Landfills.

5.9.3 Non-hazardous Asbestos Waste

- 5.9.3.1 Only non-hazardous asbestos waste shall be disposed of at the facility.
- 5.9.3.2 Non-hazardous asbestos based construction and demolition waste must be double wrapped in heavy gauge plastic which is clearly labelled to indicate the presence of asbestos.
- 5.9.3.3 Disposal of non-hazardous asbestos waste shall be into prepared bays or trenches of at least 2 metres in depth.
- 5.9.3.4 Deposited non-hazardous asbestos waste shall be covered immediately with at least 250mm of suitable material. At the end of the day, the waste shall be covered with a minimum of 500mm of suitable material.
- 5.9.3.5 No non-hazardous asbestos waste shall be present within 2.5 metres of the final surface levels.

5.10 Off-site Disposal and Recovery

- 5.10.1 Waste sent off-site for recovery or disposal shall be conveyed only by a waste contractor agreed by the Agency.
- 5.10.2 All waste transferred from the facility shall be transferred only to an appropriate facility agreed by the Agency.
- 5.10.3 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.

5.11 Construction and Demolition/Inert Waste Recovery Area

- 5.11.1 Only Construction and Demolition/inert waste shall be accepted at this Area. Wastes which are capable of being recovered shall be separated and shall be stored temporarily in this area prior to being subjected to other recovery/reuse activities at the facility or transport off the facility.
- 5.11.2 All stockpiles shall be maintained so as to minimise dust generation.

5.12 Leachate Management

- 5.12.1 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.
- 5.12.2 The level of leachate in the pump sumps shall be monitored as outlined in Section 3.1.4.11 of the EIS.
- 5.12.3 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.
- 5.12.4 Unless treated on the facility, leachate stored in the leachate storage lagoon shall be disposed of by tankering off-site in fully enclosed road tankers.
- 5.12.5 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.

5.13 Maintenance

- 5.13.1 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.
- 5.13.2 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.
- 5.13.3 The licensee shall maintain and clearly label and name all sampling and monitoring locations.
- 5.13.4 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.

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.
- 6.3. Landfill Gas
 - 6.3.1. The following are the trigger levels for landfill gas emissions from the facility measured in any service duct or manhole on, at or immediately adjacent to the facility and/or at any other point located outside the body of the waste:-
 - a) Methane, greater than or equal to 1.0% v/v; or
 - b) Carbon dioxide, greater than or equal to 1.5% v/v.
 - 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
 - b) 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 times 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 samples 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 emission limit value; and
- c) 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.

6.4.2 Prior to the acceptance of waste for disposal at the facility, the licensee shall submit to the Agency for its agreement, groundwater monitoring trigger levels in accordance with the requirements of Directive 1999/31/EC.

6.5. Emissions to Surface Water

6.5.1. No raw leachate, treated leachate or contaminated surface water shall be discharged to the River Farahy catchment.

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. Prior to the commencement of operation of the surface water retention ponds the licensee shall submit to the Agency for its agreement proposals for continuous monitoring of water in the surface water retention pond(s). These proposals shall include the criteria/trigger levels which will determine when the outlet from these ponds shall be closed. Such continuous monitoring shall, as a minimum, include conductivity, pH, TOC and turbidity, and shall be carried out on the outlet from the surface water treatment plant.

REASON: To control emissions from the facility and provide for the protection of the environment.

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 Litter fencing shall be installed and maintained around the perimeter of the active tipping area prior to the disposal of any waste in any cell.

7.3.2 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.

7.3.3 All loose litter or other waste, placed on or in the vicinity of the facility, other than in accordance with the requirements of this 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.

7.3.4 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

7.4.1 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

7.6.1 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 on the facility at least two weeks prior to any waste being disposed of and shall maintain their presence 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. The use of gas operated bird scaring devices is prohibited at the facility.

REASON: To provide for the control of nuisances.

CONDITION 8 MONITORING

8.1 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.

8.2 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 timescale nominated by the Agency.

8.3 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.

8.4 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.

8.5 Prior to the commencement of waste disposal activities, the licensee shall install a permanent gas monitoring system in the site office and any other enclosed structures at the facility. All landfill

gas monitoring equipment, other than permanent monitoring systems within buildings, shall be certified as being intrinsically safe.

8.6 Two months prior to the commencement of waste disposal activities the following information shall be submitted to the Agency for its agreement: 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. Any proposed changes to the above shall be submitted to the Agency for its agreement.

8.7 Groundwater Monitoring

Subject to the agreement of the well owners, all private wells within 250m of the facility shall be included in the monitoring programme set out in *Schedule D: Monitoring*, of this licence.

8.8 Meteorological Monitoring

Prior to the commencement of waste activities the licensee shall provide and maintain a meteorological station at the facility capable of monitoring the parameters listed in *Schedule E.5: Meteorological Monitoring*, of this licence.

8.9 Biological Assessment

A biological assessment of the River Farahy shall be undertaken within six months of the date of grant of this licence and annually thereafter. This assessment shall use appropriate biological methods such as the EPA Q-rating system for the assessment of rivers and streams. The location of monitoring points shall be agreed by the Agency.

8.10 Archaeological Assessment

Prior to the development of any undisturbed area, the advice of the Heritage Section of the Department of Environment, Heritage & Local Government shall be sought. On completion of such development a report of the results of any archaeological monitoring shall be submitted to the Heritage Section of the Department of Environment, Heritage & Local Government and to the Agency.

8.11 Stability Assessment

8.11.1 Within six months of the date of commencement of waste disposal activities and annually thereafter, the licensee shall carry out a stability assessment of the side slopes of the facility.

8.12 Nuisance Monitoring

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.

8.13 The licensee shall, within six months of the date of grant of this licence, develop and establish a Data Management System for collation, archiving, assessing and graphically presenting the environmental monitoring data generated as a result of this licence.

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

CONDITION 9 CONTINGENCY ARRANGEMENTS

- 9.1. In the event of an incident the licensee shall immediately:-
- a) Identify the date, time and place of the incident;
 - b) Carry out an immediate investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
 - c) Isolate the source of any such emission;
 - d) Evaluate the environmental pollution, if any, caused by the incident;
 - e) 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:-
 - a) Identify and put in place measures to avoid reoccurrence of the incident;
 - b) Identify and put in place any other appropriate remedial action.
- 9.2. The licensee shall, prior to commencement of any waste activities, submit a written Emergency Response Procedure (ERP) to the Agency for its agreement. The ERP shall address any emergency situations which may originate on the facility and shall include provision for minimising the effects of any emergency on the environment. This shall include a risk assessment to determine the requirements at the facility for fire fighting and fire water retention facilities. The Fire Authority shall be consulted by the licensee during this assessment.
- 9.3. 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.
- 9.4. Emergencies
- 9.4.1. 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.
 - 9.4.2. 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.
 - 9.4.3. 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.
 - 9.4.4. 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 10 RECORDS

- 10.1 The licensee shall keep the following documents at the facility office:-
- a) The current waste licence relating to the facility;
 - b) The current EMS for the facility;

- c) The previous year's AER for the facility; and.
 - d) All written procedures produced by the licensee which relate to the licensed activities.
- 10.2 The licensee shall maintain a written 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 carrier registration 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.
- 10.3 Written Records
- The following written 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;
 - d) Details of all nuisance 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.
- 10.4 The licensee shall maintain a written 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.
- 10.5 A written 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.
- 10.6 A written 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.
- 10.7 A written 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 11 REPORTS AND NOTIFICATIONS

- 11.1 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, Inniscarra, County Cork;
 - 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;
 - d) Include whatever information as is specified in writing by the Agency;
 - e) 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.

11.2 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;
- b) Submit a written record of the incident, including all aspects described in Condition 9.1(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 South Western 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.

11.3 Waste Recovery Reports

At least six months prior to the acceptance of waste for disposal at the facility, a report examining waste recovery options shall be submitted to the Agency for its agreement. 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:-

- a) Proposals for the contribution of the facility to the achievement of targets for the reduction of biodegradable waste to landfill, 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) Inert waste to be used for cover/restoration material at the facility;
- e) Proposals regarding the utilisation of energy from the landfill gas plant;
- f) The feasibility of using landfill gas as a fuel for on-site vehicles or for other energy requirements; and
- g) other wastes.

11.4 Reports relating to Facility Operations

11.4.1. Leachate Handling Procedures

The licensee shall submit to the Agency for its agreement 6 months prior to the commencement of waste disposal activities Leachate Handling Procedures for the handling of leachate on the facility and during removal from the lagoon and subsequent transport/discharge to the Waste Water Treatment Plant.

11.4.2 Achievement of Final Profile

Within 18 months of the date of commencement of waste disposal activities, the licensee shall submit to the Agency for its agreement, proposals for landfilling and restoration to achieve the final profile/height of the facility to the Agency for its agreement.

11.4.3. Operation in Adverse Wind Conditions

Prior to the commencement of waste disposal activities the licensee shall submit to the Agency for its agreement proposals for the operation of the facility in adverse wind conditions.

11.5 Vermin and Flies

11.5.1 Prior to the commencement of waste disposal activities, the licensee shall submit to the Agency for its agreement a proposal for the control and eradication of vermin and fly infestations at the facility. This proposal should include as a minimum, operator training, details on the rodenticide(s) and insecticide(s) to be used, mode and frequency of application and measures to contain sprays within the facility boundary.

11.6 Monitoring Locations

At least six months prior to the commencement of waste disposal activities the licensee shall submit to the Agency for its agreement an updated appropriately scaled drawing showing all the monitoring locations that are stipulated in this licence. The drawing shall include a reference code and the twelve figure National Grid Reference for the various monitoring points.

11.7 Annual Environmental Report

11.7.1 The licensee shall submit to the Agency for its agreement, by 31st March of each year an Annual Environmental Report (AER). The AER shall include as a minimum the information specified in *Schedule F: 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.

CONDITION 12 CHARGES AND FINANCIAL PROVISIONS

12.1 Agency Charges

- 12.1.1 The licensee shall pay to the Agency an annual contribution of €25,428 or such sum as the Agency from time to time determines, towards the cost of monitoring the activity or otherwise in performing any functions in relation to the activity, as the Agency considers necessary for the performance of its functions under the Waste Management Acts, 1996-2003. The licensee shall in 2005 and subsequent years, not later than January 31 of each year, pay to the Agency this amount updated in accordance with changes in the Public Sector Average Earnings Index from the date of the licence to the renewal date. The updated amount shall be notified to the licensee by the Agency. For 2004, the licensee shall pay a pro rata amount from the date of this licence to 31st December. This amount shall be paid to the Agency within one month of the date of grant of this licence.
- 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.

12.2 Financial Provision for Closure, Restoration and Aftercare

- 12.2.1 The licensee shall arrange for the completion of a comprehensive and fully costed Environmental Liabilities Risk Assessment for the facility which will address liabilities arising from the carrying on of the activities to which this licence relates. A report on this assessment shall be submitted to the Agency for its agreement prior to the commencement of waste disposal activities.
- 12.2.2 Prior to the commencement of waste disposal activities, the licensee shall make a Proposal for Financial Provision to the Agency for its agreement to cover any liabilities incurred by the licensee in carrying on the activities to which this licence relates. Such provision shall be maintained by the licensee unless otherwise agreed by the Agency.
- 12.2.3 The amount of financial provision, held under Condition 12.2.2 shall be reviewed and revised as necessary, but at least annually. Any proposal for such a revision shall be submitted to the Agency for its agreement.
- 12.2.4 The licensee shall within two weeks of purchase, renewal or revision of the financial provision required under Condition 12.2.2, forward to the Agency written proof of such indemnity.
- 12.2.5 Unless otherwise agreed any revision to the fund shall be computed using the following formula:-

$$\text{Cost} = (\text{ECOST} \times \text{WPI}) + \text{CiCC}$$

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.

12.3 Cost of landfill of waste

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.

12.4 Community Support and development Scheme

The licensee shall pay €0.50 (Index Linked) for every tonne of waste accepted for disposal in the landfill, into a ring-fenced community support and development fund. Prior to the commencement of waste disposal activities the licensee shall establish a community managed charitable trust (or equivalent) to manage and discharge this fund for the benefit of the social and physical environment of the local community.

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

SCHEDULE A : Waste Acceptance

A.1 Waste Acceptance

Table A.1 Waste Categories and Quantities

Waste Type	Maximum (Tonnes Per Annum)^{NOTE 1}
Commercial and Industrial waste	115,000
Household waste	25,000
Industrial sludges	5,000
TOTAL	145,000

Note 1: The tonnages of individual waste streams accepted may be varied with the agreement of the Agency.

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.

SCHEDULE C : Emission Limits

C.1 Noise Emissions:

Measured at the noise sensitive locations and specified boundary locations indicated in Table D.1.1, or as may be specified.

Day Db(A) L _{Aeq} (15 minutes)	Night dB(A) L _{Aeq} (15 minutes)
55	45

C.2 Landfill Gas Concentration Limits:

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

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

C.3 Dust Deposition Limits:

(Measured at the monitoring points indicated in Table D.1.1).

Level (mg/m ² /day) ^{Note 1}
350

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

C.4 Surface Water Discharge Limits:

Measured at the outlet from the **surface water treatment system downstream of the surface water settlement lagoon.**

Parameter	Level (mg/l)
Aluminium	1
Suspended Solids	25

C.5 Emission Limits Values for Landfill Gas Plant

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

Volume to be emitted: 3000m³/hr (unless results from modelling suggests otherwise)

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
CO	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
Hydrogen Chloride	50 mg/m ³ (at mass flows > 0.3 kg/h)	50 mg/m ³ (at mass flows > 0.3 kg/h)

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 as required by the conditions of the licence.

Table D.1.1 Monitoring Locations

Landfill Gas within Waste and Boundary Locations	Landfill Gas Flare/Utilisation Plant	Dust Deposition & Odour	Noise	Surface Water	Ground Water	Leachate Note 1
Stations		Stations	Stations	Stations	Stations	Stations
Locations within waste to be agreed	To be agreed	AD5, AD6, AD7, AD8 and AD9 Note 2	NSLs: NP3, NP4 and NP5 Note 3	Locations on the River Farahy: SW6, SW7, SW8, SW9	MW1, MW2, MW3, MW4, MW5, MW6, MW7, MW8 and MW9 Note 2	L1 Lagoon
Boundary locations outside the landfill footprint at 50m intervals. Exact locations to be agreed.		Odour consider 3 fixed locations and 2 locations to be chosen on the day (upwind/downwind)	Boundary locations: NP6 and NP7	Locations on drain along southern facility boundary: SW10, SW11 Note 3		Within Cells: to be agreed: 1 at lowest collection point and at least 2 per 5 Ha of cell
				Inlet and Outlet to surface water retention pond SW1 and SW2 respectively. Outlet from surface water treatment plant SW3.		Treated leachate discharge point if relevant
				Biological access locations		

Note 1: Leachate lagoon and Cell 7 to be analysed for leachate composition. All other locations should be monitored for levels.

Note 2: Dust and groundwater monitoring locations are as per Fig J.1 of the Article 14 response dated 18/07/02.

Note 3: Noise and surface water monitoring locations are as per Figure J.2 of the Article 14 response dated 18/07/02.

D.2 Landfill Gas

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

Parameter	Monitoring Frequency		Analysis Method ^{Note1} /Technique ^{Note2}
	Gas Boreholes/ Vents/Wells	Site Office	
Methane (CH₄) % v/v	Monthly	Weekly	Infrared analyser/flame ionisation detector
Carbon dioxide (CO₂) % v/v	Monthly	Weekly	Infrared analyser/ flame ionisation detector
Oxygen(O₂) % 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/Odour

Table D.3.1 Dust Monitoring Frequency and Technique

Parameter (mg/m ² /day)	Monitoring Frequency	Analysis Method/Technique
Dust	Three times a year ^{Note 2}	Standard Method ^{Note 1}
Odour	Quarterly	See ^{Note 3}

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.

Note 2: Twice during the period May to September.

Note 3: To be agreed by the Agency.

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}

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

D.5 Surface Water, Groundwater and Leachate

Table D.5.1 Water and Leachate - Parameters / Frequency

PARAMETER ^{Note 1}	SURFACE WATER ^{Note 2}	GROUNDWATER	LEACHATE ^{Note 3}
	Monitoring Frequency	Monitoring Frequency	Monitoring Frequency
Visual Inspection/Odour ^{Note 2}	Daily	Quarterly	Quarterly
Groundwater Level	Not Applicable	Monthly	Not Applicable
Leachate Level	Not Applicable	Not Applicable	Continuous
Dissolved Oxygen	Daily	Quarterly	Not Applicable
Electrical Conductivity	Daily	Quarterly	Annually
Total Suspended Solids	Quarterly	Not Applicable	Not Applicable
Aluminium	Quarterly	Not Applicable	Not Applicable
Ammoniacal Nitrogen	Quarterly	Quarterly	Annually
COD	Quarterly	Not Applicable	Annually
Chloride	Quarterly	Quarterly	Annually
Ph	Quarterly	Quarterly	Annually
Temperature	Quarterly	Quarterly	Quarterly
BOD	Annually	Not Applicable	Annually
Metals / non metals ^{Note 3}	Annually	Annually	Annually
Cyanide (Total)	Not Applicable	Annually	Annually
Fluoride	Not Applicable	Annually	Annually
List I/II organic substances ^{Note 4}	Once off ^{Note 5}	Annually ^{Notes 5}	Once off ^{Note 5}
Sulphate	Annually	Annually	Annually
Total Alkalinity	Annually	Annually	Not applicable
Total P/orthophosphate	Annually	Annually	Annually
Total Oxidised Nitrogen	Annually	Annually	Annually
Total Organic Carbon	Not Applicable	Annually	Not Applicable
Residue on evaporation	Not Applicable	Annually	Not Applicable
Biological Assessment	Annually ^{Note 6}	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, zinc and mercury.

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.

D.6 Meteorological Monitoring

Table D.6.1 Meteorological Monitoring (at a location to be agreed):

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 (**location of flare to be agreed by the Agency in advance**).

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 ^{Note1} /Technique ^{Note2}
Inlet			
Methane (CH ₄) % v/v	Continuous	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			
CO	Continuous	Continuous	Flue gas analyser/datalogger
NO _x	Annually	Annually	Flue gas analyser
SO ₂	Annually	Annually	Flue gas analyser
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 ^{Note1}	Report Submission Date
Environmental Management System Updates	Annually	As part of the AER.
Annual Environment Report (AER)	Annually	By 31 March of each calendar year
Record of incidents	As they occur	Within five days of the incident.
Bund, tank and container integrity assessment	Every three years	Six months from the date of grant of licence and thereafter as part of the AER.
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.
Meteorological Monitoring	Annually	As part of the AER.
Dust Monitoring	Three times a year	Annually as part of the AER.
Noise Monitoring	Annually	As part of the AER
Any other monitoring	As they occur	Within ten days of obtaining results.

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

SCHEDULE F : 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.

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.

Site survey showing existing levels of the facility at the end of the reporting period.

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

Estimated annual and cumulative quantity of indirect emissions to groundwater.

Annual water balance calculation and interpretation (incl. surface water infrastructure management capacity).

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.

Report on training of staff.

Any other items specified by the Agency.

Signed on behalf of the said Agency
on the 4th day of June, 2004

Malcolm Doak, **Authorised Person**