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WASTE LICENCE
FOR RESTORATION & AFTERCARE OF A
LANDFILL FOR NON-HAZARDOUS WASTE

PROPOSED DECISION

Waste Licence	10-2
Application	
Register Number:	
Applicant:	Meath County Council
Location of Facility:	Basketstown Landfill
	Basketstown, Summerhill, County Meath.

INTRODUCTION

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

This licence is for the closure and restoration of areas previously landfilled at Basketstown Landfill. The licensee is required to restore and remediate the facility and to monitor and manage landfill gas and leachate emissions and to cap previously filled areas. The licensee is required to carry out regular environmental monitoring and submit all monitoring results to the Agency. The licensee must manage the facility to ensure that the activities do not cause environmental pollution.

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

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DECISION & REASONS FOR THE DECISION

Reasons for the decision

On the basis of the information before it, the Environmental Protection Agency (the Agency) is satisfied, for the reasons set out in the following Schedule of Activities Licensed, that the requirements of Section 40(4) of the Waste Management Act, 1996 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 46(2) of the Waste Management Act, 1996, proposes, to grant this Waste Licence to Meath County Council, County Buildings, Railway Road, Navan, Co. Meath to carry on the waste activities, that are the subject of Waste Licence Application Register Number 10-2, listed below at Basketstown Landfill, Summerhill, Co. Meath 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 Act 1996

Class 1	Deposit on, in or under land (including landfill): This activity is limited to the deposition of soil for restoration purposes only.
Class 4	Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons: This activity is limited to the storage of leachate prior to treatment.
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 storage of subsoil on site prior to its placement.

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

Class 9	Use of any waste principally as a fuel or other means to generate energy: This activity is limited to landfill gas utilisation for energy purposes.
Class 10	The treatment of any waste on land with a consequential benefit for an agricultural activity or ecological system: This activity is limited to soil application for plant growth.
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 storage of topsoil on site prior to its placement.

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.

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.
Condition	A condition of this licence.
Containment boom	A boom which can contain spillages and prevent them from entering drains or watercourses.
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 B: 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.
Hours of Operation	The hours during which the facility is authorised to be operational. The hours of operation of a facility are usually longer than the hours of waste acceptance to facilitate preparatory and completion works.
Hours of Waste Acceptance	The hours during which the facility is authorised to accept waste.
Incident	The following shall constitute an incident for the purposes of this licence:- <ol style="list-style-type: none">An emergency;Any emission which does not comply with the requirements of this licence;Any trigger level specified in this licence which is attained or exceeded;Any indication that environmental pollution has, or may have, taken

- place; and,
 e) The non-acceptance or rejection of waste at the facility.

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.
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	Meath County Council.
List I/II Organics	Substances classified pursuant to EC Directives 76/464/EEC and 80/68/EEC.
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.
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.
Specified Emissions	Those emissions listed in <i>Schedule B: Emission Limits</i> , of this licence.
Specified Engineering Works	Those engineering works listed in <i>Schedule A: Specified Engineering Works</i> , of this licence.
Trigger Level	A parameter value specified in the licence, the achievement or exceedance of which requires certain actions to be taken by the licensee.
EPA Working Day	Refers to the following hours: 0900 hrs to 1730 hrs Monday to Friday inclusive.

PART II 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 Figure B.1 & B.5 'Site Boundary and Ownership and Site Notice Location Plan' of the application. Any reference in this licence to "facility" shall mean the area thus outlined in red.
- 1.3. This licence is for the purposes of waste licensing under the Waste Management Act, 1996 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. Waste Acceptance/Removal
 - 1.4.1. Only inert waste (subsoil and topsoil) necessary for restoration purposes may be accepted at the facility.
 - 1.4.2. Waste may be accepted at or removed from the facility only between the hours of 08.00 and 16.30 Monday to Friday inclusive.
 - 1.4.3. Waste shall be accepted at the facility only from customers who are holders of a waste permit, unless exempted, under the Waste Management (Collection Permit) Regulations 2001.
- 1.5. Where the Agency considers that a non-compliance with any condition of this licence has occurred, it may serve a notice on the licensee specifying.
 - 1.5.1. That only those wastes as specified, if any, in the notice are to be accepted at the facility after the date set down in the notice.
 - 1.5.2. That the licensee shall undertake the works stipulated in the notice, and/or otherwise comply with the requirements of the notice as set down therein, within the time-scale contained in the notice.
 - 1.5.3. That the licensee shall carry out any other requirement specified in the notice.

When the notice has been complied with, the licensee shall provide written confirmation that the requirements of the notice have been carried out. No waste, other than that which is stipulated in the notice, shall be accepted at the facility until written permission is received from the Agency.
- 1.6. Every plan, programme or proposal submitted to the Agency for its agreement pursuant to any condition of this licence shall include a proposed timescale for its implementation. The Agency may modify or alter any such plan, programme or proposal in so far as it considers such modification or alteration to be necessary and shall notify the licensee in writing of any such modification or alteration. Every such plan, programme or proposal shall be carried out within the timescale fixed by the Agency but shall not be undertaken without the agreement of the Agency. Every such plan, programme or proposal agreed by the Agency shall be covered by the conditions of this licence.
- 1.7. This licence is being granted in substitution for the waste licence granted to the licensee on 01/04/99 and bearing Waste Licence Register No: 10-1. The previous waste licence (Register No: 10-1) is superseded by this licence.

CONDITION 2 MANAGEMENT OF THE FACILITY

2.1 Facility Management

- 2.1.1 The licensee shall employ a suitably qualified and experienced facility manager who shall be designated as the person in charge. The facility manager or a nominated, suitably qualified and experienced, deputy shall be present on the facility until restoration works as required under Condition 4 are completed.
- 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 Within three months from the date of grant of this licence, 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 maintain an EMS. The EMS shall be updated on an annual basis.
- 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 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.

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

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

CONDITION 3 FACILITY INFRASTRUCTURE

3.1 Specified Engineering Works

- 3.1.1 The licensee shall submit proposals for all Specified Engineering Works, as defined in *Schedule A: 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.
- 3.1.2 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 Facility Notice Board

- 3.2.1 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.
- 3.2.2 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.
- (a) and b) should be removed once the facility is restored).

3.3 Facility Security

- 3.3.1 The licensee shall ensure that the facility is secure and that there is no unauthorised access from humans or animals.

3.4 Facility Roads

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

3.5 Facility Office

- 3.5.1 The licensee shall 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 The licensee shall provide and maintain a weighbridge and a wheel cleaner at the facility.
- 3.7 Waste Water Treatment Plant
- 3.7.1 The licensee shall provide and maintain a Wastewater Treatment plant at the facility for the treatment of wastewater 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.
- 3.8 Tank and Drum Storage Areas
- 3.8.1 All tank and drum storage areas shall be rendered impervious to the materials stored therein.
- 3.8.2 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.
- 3.8.3 All drainage from bunded areas shall be diverted for collection and safe disposal.
- 3.8.4 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.
- 3.8.5 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 within six months of the date of grant of this licence. This confirmation shall be repeated at least once every three years thereafter and reported to the Agency on each occasion.
- 3.9 Leachate Management Infrastructure
- 3.9.1 Within six months of the date of the grant of this licence, the licensee shall provide and maintain leachate management infrastructure at the facility as described in Attachment D.4 (n) 'Leachate Removal, Proposed Future Practices'.
- 3.10 Landfill Gas Management
- 3.10.1 Landfill gas management infrastructure shall be provided and maintained at the facility as described in Attachment D.5 Landfill Gas.
- 3.10.2 Within 12 months of the date of grant of licence, the licensee shall provide and maintain landfill gas utilisation plant.
- 3.10.3 Continuous carbon monoxide monitors shall be installed on the outlets of the gas engine(s).
- 3.10.4 Flare unit efficiency shall be tested within six months of the date of grant of this licence and once every three years thereafter.
- 3.10.5 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.
- 3.11 Surface Water Management

3.11.1 Effective surface water management infrastructure shall be provided and maintained at the facility during 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; and
- b) The collection/diversion of run off arising from capped and restored areas.

3.12 Telemetry

3.12.1 Within six months of the date of grant of this licence, the licensee shall install and maintain a telemetry system. All facility operations linked to the telemetry system shall also have a manual control which will be reverted to in the event of break in power supply or during maintenance.

3.12.2 A telemetry system shall be installed and maintained at the facility. This system shall include for the items shown in Appendix F.2 'Schematic Drawing of Telemetry Monitoring System' of the application:-

- a) Recording of leachate levels in the landfill;
- b) Leachate Treatment Plant control system;
- c) Quality of the leachate and surface water;
- d) Landfill gas utilisation plant and flare; and
- e) Permanent gas monitoring system to be installed in the site office and perimeter landfill gas monitoring.

3.13 Tober na Beenog Well

3.13.1 The licensee shall maintain the Tober na Beenog well. In relation to this structure, the licensee shall carry out any recommendations or instructions agreed by the Agency.

3.14 Monitoring Infrastructure

3.14.1 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 Restoration and Aftercare Plans for the facility shall be carried out as detailed in Attachment G.1 'Restoration Scheme' and Attachment G.2 'Aftercare Management' of the waste license application. The licensee shall update these plans when required by the Agency.

4.2. 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.

4.3. Wastes shall not be excavated, disturbed or otherwise picked over only with the prior agreement from the Agency.

- 4.4. Completed areas of the landfill shall be profiled so that no depressions exist in which water may accumulate. Any depressions arising after profiling shall be rectified by the emplacement of suitable capping or restoration materials.
- 4.5. The restoration of the landfill facility shall be completed within twenty-four months of the date of grant of this licence.
- 4.6. On completion of landfill restoration, the licensee may remove items of facility infrastructure subject to the prior agreement by the Agency.

REASON: To provide for the restoration of the facility.

CONDITION 5 FACILITY OPERATION AND WASTE MANAGEMENT

5.1 Facility Operation

- 5.1.1 Scavenging shall not be permitted at the facility.
- 5.1.2 Gates shall be locked shut when the facility is unsupervised.
- 5.1.3 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.
- 5.1.4 Fuels shall be stored only at appropriately bunded locations on the facility.
- 5.1.5 All tanks and drums shall be labelled to clearly indicate their contents.

5.2 Leachate Management

- 5.2.1 Leachate management shall be carried out as described in Attachment D.4(n) 'Leachate Removal, Proposed Future Practices'. Within thirteen months of capping of the landfill, the licensee shall submit to the Agency for its agreement, a review of leachate management at the facility including recommendations on whether leachate should be treated on site or tankered off site. The licensee shall carry out any such recommendation agreed by the Agency, within twelve months of that agreement or earlier if required.
- 5.2.2 The frequency of leachate removal/discharge from the leachate storage tank(s) shall be such that a minimum freeboard of 0.75m shall be maintained in the leachate tank(s) at all times.
- 5.2.3 Leachate shall be removed to Navan Waste Water Treatment Works or other plant agreed in advance by the Agency.
- 5.2.4 Unless treated on the facility, leachate stored in the leachate storage tank(s) shall be disposed of by tankering off-site in fully enclosed road tankers.
- 5.2.5 Recirculation of leachate or other contaminated water shall not be undertaken.
- 5.2.6 Within three months of the date of grant of this licence, the licensee shall determine the direction of groundwater flow from beneath the landfill. This shall include details of any ponding, which may result in groundwater flowing in a direction other than that of natural flow. Where leachate from the landfill is impacting on groundwater flow, the licensee shall ensure that measures are incorporated in the leachate management plan in Condition 5.2.1 to prevent and limit such impact.

5.2.7 The licensee shall carry out leachate monitoring to determine whether leachate treatment on site is feasible. At minimum monitoring shall include the parameters at the frequency listed in Note 7 of Table C.3.1 of *Schedule C: Monitoring*, of this licence.

5.3 Landfill Gas Management

5.3.1 Within thirteen months of capping of the landfill, the licensee shall submit to the Agency for its agreement, a review of the effectiveness of landfill gas management at the facility including recommendations on any additional measures deemed necessary. The licensee shall carry out any such recommendation agreed by the Agency, within twelve months of that agreement or earlier if required.

5.4 Maintenance

5.4.1 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.

5.4.2 All lagoon/tank structures on the facility shall be inspected and certified fit for purpose every three years by an independent and appropriately qualified chartered engineer.

5.4.3 The licensee shall maintain and clearly label and name all sampling and monitoring locations.

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 B: 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 Within three months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement, groundwater monitoring trigger levels in accordance with the requirements of Directive 1999/31/EC.

6.5. Emissions to Surface Water

6.5.1. No substance shall be discharged in a manner, or at a concentration which, following initial dilution causes tainting of fish or shellfish.

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 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.

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 C: Monitoring*, of this licence and as specified in this licence. Unless otherwise

specified by this licence, all environmental monitoring shall commence no later than three 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 The licensee shall provide and maintain 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 All persons conducting the sampling, monitoring and interpretation as required by this licence shall be suitably competent.
- 8.7 Topographical Survey
 - 8.7.1 A topographical survey shall be carried out within six months of the date of grant of this licence. It shall be repeated annually unless otherwise instructed by the Agency. The survey shall be in accordance with any written instructions issued by the Agency.
- 8.8 Nuisance Monitoring
 - 8.8.1 The licensee shall, at a minimum of one week intervals, inspect the facility and its immediate surrounds for nuisances caused by litter, vermin, birds, flies, mud, dust and odours.

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:-
 - (i) Identify and put in place measures to avoid reoccurrence of the incident;

- (ii) Identify and put in place any other appropriate remedial action.
- 9.2. The licensee shall establish a written Emergency Response Procedure (ERP). 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.

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 or other designated location:-
 - 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;
 - d) All written procedures produced by the licensee which relate to the licensed activities; and
 - e) all monitoring results, waste records and any other reports which relate to this licence.
- 10.2 The licensee shall maintain a written record for each load of inert waste necessary for restoration purposes arriving at the 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) All training undertaken by facility staff;
- b) Results from all integrity tests of bunds and other structures and any maintenance or remedial work arising from them;
- c) Details of all nuisance inspections; and
- d) 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 or tonnes, 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.

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 Agency's Regional Inspectorate in Dublin;
- b) Comprise one original and three 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 D: 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 10:00 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/sewer water, notify Eastern Regional Fisheries Board as soon as practicable and in any case not later than 10:00 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 Annual Environmental Report

11.3.1 The licensee shall submit to the Agency for its agreement, within thirteen months from the date of grant of this licence, and within one month of the end of each year thereafter, an Annual Environmental Report (AER).

11.3.2 The AER shall include as a minimum the information specified in *Schedule E: Content of the 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 **€15,272** 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 Act, 1996. 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 Within twelve months of the date of grant of this licence, the licensee shall arrange for an independent third party risk assessment of the facility to be carried out. The risk assessment shall have particular regard to any accidents, emergencies, or other incidents, which might occur at the facility and their effect on the environment. The risk assessment shall include a comprehensive and fully costed Environmental Liabilities Risk Assessment for the facility.

12.2.2 The licensee shall by 1st January 2005 establish and maintain a fund, or provide a written guarantee, that is adequate to assure the Agency that the licensee is at all times financially capable of implementing the Restoration and Aftercare Plan required by Condition 4. The type of fund established and means of its release/recovery shall be agreed by the Agency prior to its establishment.

12.2.3 Any fund established shall be maintained in an amount always sufficient to underwrite the current Restoration and Aftercare Plan.

12.2.4 The licensee shall revise the cost of restoration and aftercare annually and any details of the necessary adjustments to the fund or guarantee must, within two weeks of the revision, be forwarded to the Agency for its agreement. Any adjustment agreed by the Agency shall be effected within four weeks of said written agreement.

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.

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

SCHEDULE A : Specified Engineering Works

Specified Engineering Works
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 B : Emission Limits

B.1 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

B.2 Emission Limits Values for Landfill Gas Plant

Emission Point Reference numbers: to be agreed by 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
TA Luft Organics Class I ^(Note 2)	Not applicable	20 mg/m ³ (at mass flows > 0.1 kg/hr)
TA Luft Organics Class II ^(Note 2)	Not applicable	100 mg/m ³ (at mass flows > 2 kg/hr)
TA Luft Organics Class III ^(Note 2)	Not applicable	150 mg/m ³ at mass flows > 3kg/hr)
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)
Hydrogen Fluoride	5 mg/m ³ (at mass flows > 0.05 kg/h)	5 mg/m ³ (at mass flows > 0.05 kg/h)

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

Note 2: In addition to the above individual limits, the sum of the concentrations of Class I, II and III shall not exceed the Class III limits.

SCHEDULE C : Monitoring

C.1 Monitoring Locations

Monitoring locations shall be those as set out in Table C.1.1 and Attachment F 'Proposed Environmental Monitoring' of the application.

Table C.1.1 Monitoring Locations

Landfill Gas within Waste and Boundary Locations	Landfill Gas Flare / Utilisation Plant	Surface Water	Ground Water	Leachate
Stations		Stations	Stations	Stations
PR1 to PR 24 PR28 GW1 GW2 GW3 B1 to B10	LFG Flare - A-1 LFG Utilisation Plant – A-2	S1, S2, S3, S4, S5 & W1	BH5 BH7 BH8 BH9 BH11 BH13 BH14 BH15 BH16 BH16D BH18 LM16 PW3 Note 2	LM1 to LM15 ^{Note1}

Note 1: Alternative locations to those listed must be agreed by the Agency. LM2 LM7 LM11 should be analysed for leachate composition, all other locations should be monitored for levels.

Note 2: All private wells, which are used for drinking water or agricultural purposes, within 500m of the facility.

C.2 Landfill Gas

Table C.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	Weekly	Weekly	Infrared analyser/flame ionisation detector
Carbon dioxide (CO₂) % v/v	Weekly	Weekly	Infrared analyser/ flame ionisation detector
Oxygen(O₂) % v/v	Weekly	Weekly	Electrochemical cell
Atmospheric Pressure	Weekly	Weekly	Standard
Temperature	Weekly	Weekly	Standard

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

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

C.3 Surface Water, Groundwater and Leachate

Table C.3.1 Water and Leachate - Parameters / Frequency

PARAMETER ^{Note 1}	SURFACE WATER ^{Note 2} Monitoring Frequency	GROUNDWATER Monitoring Frequency	LEACHATE ^{Note 3} Monitoring Frequency
Visual Inspection/Odour ^{Note 2}	Weekly	Quarterly	Quarterly
Groundwater Level	Not Applicable	Monthly	Not Applicable
Leachate Level	Not Applicable	Not Applicable	Continuous
Ammoniacal Nitrogen	Quarterly	Quarterly	Annually ^{Note 7}
BOD	Quarterly	Not Applicable	Annually ^{Note 7}
COD	Quarterly	Not Applicable	Annually
Chloride	Quarterly	Quarterly	Annually
Dissolved Oxygen	Quarterly	Quarterly	Not Applicable
Electrical Conductivity	Quarterly	Quarterly	Annually
Ph	Quarterly	Quarterly	Annually ^{Note 7}
Total Suspended Solids	Quarterly	Not Applicable	Not Applicable ^{Note 7}
Temperature	Quarterly	Quarterly	Quarterly ^{Note 7}
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 ^{Note 5}	Once off ^{Note 5}
Mercury	Annually	Annually	Annually
Sulphate	Annually	Annually	Annually
Total Alkalinity	Annually	Annually	Not applicable
Total P/orthophosphate	Annually	Annually	Annually ^{Note 7}
Total Oxidised Nitrogen	Annually	Annually	Annually ^{Note 7}
Total Organic Carbon	Not Applicable	Quarterly	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 and zinc.

Note 4: Samples screened for the presence of organic compounds using Gas Chromatography / Mass Spectrometry (GC/MS) or other appropriate techniques and using the list I/II Substances from EU Directive 76/464/EEC and 80/68/EEC as a guideline. Recommended analytical techniques include: volatiles (US Environmental Protection Agency method 524 or equivalent), semi-volatiles (USEPA method 525 or equivalent, and pesticides (USEPA method 608 or equivalent).

Note 5: 2 surface water locations, 3 groundwater locations and 2 leachate locations to be agreed by the Agency for these parameters.

Note 6: Appropriate biological methods (such as EPA Q-Rating System) to be used for the assessment of rivers and streams.

Note 7: The following parameters to be monitored monthly for leachate being tankered off-site: Ammoniacal nitrogen, Total Oxidised Nitrogen, Total P, BOD, pH, Temperature, Suspended Solids.

C.4 Landfill Gas Combustion Plant/Enclosed Flare

Location: Utilisation plant and enclosed flare.

Table C.4.1 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
Total Chlorine	Annually	Annually	Ion chromatography
Total Fluorine	Annually	Annually	Ion Selective Electrode
Process Parameters			
Combustion Temperature	Continuous	Quarterly	Temperature Probe/datalogger
Outlet			
CO	Continuous	Continuous	Flue gas analyser/datalogger
Nox	Annually	Annually	Flue gas analyser
SO ₂	Annually	Annually	Flue gas analyser
Particulates	Not applicable	Annually	Isokinetic/Gravimetric
TA Luft Class I, II, III organics	Not applicable	Annually	Adsorption/Desorption /GC/GCMS ^{Note 3}
TOC	Annually	Not applicable	Flame ionisation
Hydrochloric acid	Annually	Annually	Impinger /Ion Chromatography
Hydrogen fluoride	Annually	Annually	Impinger /Ion Chromatography

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

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

Note 3: Test methods should be capable of detecting acetonitrile, dichloromethane, tetrachlorethylene and vinyl chloride as a minimum.

C.5 Meteorological Monitoring

Table C.5.1 Meteorological Monitoring:
At the location specified in Attachment F.6 'Meteorological Data'

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.

SCHEDULE D : Recording and Reporting to the Agency

Report	Reporting Frequency ^{Note1}	Report Submission Date
Annual Environment Report (AER)	Annually	Thirteen months from the date of grant of licence and one month after the end of each year thereafter.
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 one month after end of the three year period being reported on.
Specified Engineering Works reports	As they arise	Prior to the works commencing.
Monitoring of landfill gas	Annually	One month after end of the year being reported on
Monitoring of Surface Water Quality	Annually	One month after end of the year being reported on
Monitoring of Groundwater Quality	Annually	One month after end of the year being reported on
Monitoring of Leachate	Annually	One month after end of the year being reported on
Meteorological Monitoring	Annually	One month after end of the year being reported on.
Any other monitoring	As they occur	Within ten days of obtaining results.

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

SCHEDULE E : Content of the Annual Environmental Report

Annual Environmental Report Content

Reporting Period.

Waste activities carried out at the facility.

Summary of results and interpretation of environmental monitoring.

Resource and energy consumption summary.

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

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

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.

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.

Review of restoration works carried out in the previous year.

Any other items specified by the Agency.

Signed on behalf of the said Agency

on the 14th day of January, 2004

Patrick J. Nolan **Authorised Person**