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Ireland

**WASTE LICENCE  
LANDFILL FOR INERT WASTE**

**PROPOSED DECISION**

<b>Waste Licence Application Register Number:</b>	71-2
<b>Applicant:</b>	Westmeath County Council
<b>Location of Facility:</b>	Marlinstown Landfill, Marlinstown Bog, Mullingar, County Westmeath.

# 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 restoration and aftercare of a non-hazardous waste landfill. The landfill will not accept any further waste for disposal, however inert construction and demolition waste will be accepted for recovery to facilitate the necessary capping and restoration works. The licence also provides for the operation of a Civic Waste Facility. The Civic Waste Facility will only accept waste from private vehicles and this waste will be recovered/disposed off-site at appropriate facilities.

Leachate, surface water and landfill gas control measures are required to be put in place which will minimise the impact of the existing waste body on the surrounding environment.

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

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

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# DECISION & REASONS FOR THE DECISION

## *Reasons for the decision*

The Environmental Protection Agency (the Agency) is satisfied, on the basis of the information available, 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, the submission received from a third party and the report of its inspector.

### *Part I: Activities Licensed*

In pursuance of the powers conferred on it by the Waste Management Act, 1996, the Agency proposes, under Section 46(2) of the said Act to grant this Waste Licence to Westmeath County Council to carry on the waste activities listed below at Marlinstown Landfill, Marlinstown Bog, Mullingar, County Westmeath 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*

<b>Class 4</b>	<b>Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons:</b>  This activity is limited to the storage of leachate in lagoons or tanks.
<b>Class 6</b>	<b>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:</b>  This activity is limited to the treatment of leachate on-site.
<b>Class 7</b>	<b>Physico-chemical treatment not referred to elsewhere in this Schedule (including evaporation, drying and calcination) which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 10 of this Schedule:</b>  This activity is limited to the treatment of leachate on-site and the flaring of landfill gas.
<b>Class 13</b>	<b>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:</b>  This activity is limited to the temporary storage of waste at the facility prior to its removal off-site for disposal at an appropriate facility.

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

<b>Class 2</b>	<b>Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes):</b>  This activity is limited to the shredding/chipping of green waste (e.g. Christmas trees).
<b>Class 3</b>	<b>Recycling or reclamation of metals and metal compounds:</b>  This activity is limited to the recycling of metals at the Civic Waste Facility.
<b>Class 4</b>	<b>Recycling or reclamation of other inorganic materials:</b>  This activity is limited to the recycling of waste at the Civic Waste Facility and for the recovery/reclamation of inert waste for the restoration of the facility.
<b>Class 9</b>	<b>Use of any waste principally as a fuel or other means to generate energy:</b>

<p><b>Class 11</b></p>	<p>This activity is limited to the possible future use of landfill gas as an energy source.</p> <p><b>Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule:</b></p>
<p><b>Class 13</b></p>	<p>This activity is limited to the use of inert waste, peat or composted materials at the facility.</p> <p><b>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:</b></p> <p>This activity is limited to the collection and storage of recyclable and reusable wastes at the facility prior to their use on-site or their removal off-site for recycling/recovery.</p>

## ***Part II: Activities Refused***

In pursuance of the powers conferred on it by the Waste Management Act, 1996, the Environmental Protection Agency (the Agency) proposes, under Section 46(2) of the said Act to refuse the following classes of activity.

*Refused waste recovery activities, in accordance with the  
Third Schedule of the Waste Management Act, 1996*

<p><b>Class 1</b></p>	<p><b>Deposit on, in or under land (including landfill):</b></p> <p>Reason: The disposal of waste at the facility would delay the capping and restoration of the facility which is necessary to control emissions of landfill gas and leachate to the surrounding environment. The disposal of waste would cause environmental pollution.</p>
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# 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.

<b>Adequate lighting</b>	20 lux measured at ground level.
<b>Agreement</b>	Agreement in writing.
<b>Annually</b>	At approximately twelve monthly intervals.
<b>Application</b>	The application by the licensee for this waste licence.
<b>Appropriate facility</b>	A waste management facility, duly authorised under relevant law and technically suitable.
<b>Condition</b>	A condition of this licence.
<b>Construction and Demolition Waste</b>	All wastes which arise from construction, renovation and demolition activities.
<b>Containment boom</b>	A boom which can contain spillages and prevent them from entering drains or watercourses.
<b>Daytime</b>	0800 hrs to 2200 hrs.
<b>Documentation</b>	Any report, record, result, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence.
<b>Drawing</b>	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
<b>Emergency</b>	Those occurrences defined in Condition 9.4.
<b>Emission Limits</b>	Those limits, including concentration limits and deposition levels established in <i>Schedule C: Emission Limits</i> , of this licence.
<b>European Waste Catalogue (EWC)</b>	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.
<b>Green waste</b>	Waste wood (excluding timber), plant matter such as grass cuttings, and other vegetation.
<b>Hours of Operation</b>	The hours during which the facility is authorised to be operational.
<b>Hours of Waste Acceptance</b>	The hours during which the facility is authorised to accept waste.
<b>Incident</b>	An incident for the purposes of this licence is defined as: <ul style="list-style-type: none"><li>• An emergency;</li><li>• Any emission which does not comply with the requirements of this licence;</li><li>• Any trigger level specified in this licence which is attained or exceeded;</li><li>• Any indication that environmental pollution has, or may have, taken place; and</li><li>• Any rejected load of waste.</li></ul>

<b>Inert waste</b>	Inert waste as defined in the Waste Management (Licensing) (Amendment) Regulations, 2002 (SI No. 336 of 2002).
<b>Intermediate Cover</b>	The term used to describe material (minimum 300mm if soil is used) spread over deposited waste for a period of time prior to restoration or prior to further disposal of waste.
<b>Landfill</b>	Refers to the area of the facility where waste has been disposed of by placement on the ground or on other waste.
<b>Landfill Gas</b>	Gases generated from the landfilled waste.
<b>LEL (Lower Explosive Limit)</b>	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.
<b>Licence</b>	A waste licence issued in accordance with the Act.
<b>Licensee</b>	Westmeath County Council.
<b>List I/II Organics</b>	Substances classified pursuant to EC Directives 76/464/EEC and 80/68/EEC.
<b>Liquid Waste</b>	Any waste in liquid form and containing less than 2% dry matter. Any waste tankered to the facility.
<b>Maintain</b>	Keep in a fit state, including such regular inspection, servicing and repair as may be necessary to adequately perform its function.
<b>Monthly</b>	A minimum of twelve times per year, at approximately monthly intervals.
<b>Night-time</b>	2200 hrs to 0800 hrs.
<b>Public Tipping Area</b>	That location at the Civic Waste Facility which is used by members of the public in private vehicles for the deposit/disposal of household waste.
<b>Quarterly</b>	At approximately three monthly intervals.
<b>Sample(s)</b>	Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments.
<b>Specified Emissions</b>	Those emissions listed in <i>Schedule C: Emission Limits</i> , of this licence.
<b>Specified Engineering Works</b>	Those engineering works listed in <i>Schedule B: Specified Engineering Works</i> , of this licence.
<b>Treatment</b>	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.
<b>Trigger Level</b>	A parameter value specified in the licence, the achievement or exceedance of which requires certain actions to be taken by the licensee.
<b>Wastewater</b>	Contaminated water including water that has been used for washing and/or flushing (including foul water).
<b>White Goods</b>	Refrigerators, cookers, ovens and other similar appliances.
<b>EPA Working Day</b>	Refers to the following hours: 0900hrs to 1730hrs Monday to Friday inclusive.

## ***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 Figure No. B.2.1 of the application entitled "Marlinstown Landfill - Licence Review. Site Plan". 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
  - 1.4.1. Only the wastes listed in *Schedule A: Waste Acceptance*, of this licence, may be disposed of or recovered at the facility subject to the maximum quantities and other constraints specified therein. No hazardous wastes or liquid wastes shall be disposed of at the facility.
- 1.5. Waste Acceptance Hours and Hours of Operation
  - 1.5.1. Landfill
    - 1.5.1.1. Waste may only be accepted at the facility for recovery at the landfill between the hours of 8.00 a.m. to 4.30 p.m. Monday to Saturday inclusive.
    - 1.5.1.2. The landfill at the facility may only be operated during the hours of 8.00 a.m. to 5.30 p.m. Monday to Saturday inclusive.
    - 1.5.1.3. Waste shall not be accepted at the landfill on Sundays or Bank Holidays.
  - 1.5.2. Civic Waste Facility
    - 1.5.2.1. Waste shall only be accepted at the Civic Waste Facility between the hours of 8.00 a.m. to 4.30 p.m. Monday to Saturday inclusive.
- 1.6. 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:
  - 1.6.1. 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.
  - 1.6.2. 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.
  - 1.6.3. 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.
- 1.7. 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.

- 1.8. This licence is being granted in substitution for the waste licence granted to the licensee on 15th February 2001 and bearing Waste Licence Register No: 71-1. The previous waste licence (Register No: 71-1) is superseded by 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 facility manager with experience commensurate with the level of expertise required, who shall be designated as the person in charge. The facility manager or a nominated, suitably qualified and experienced, deputy shall be present on the facility at all times during its operation.
- 2.1.2 The Civic Waste Facility shall be supervised by an appropriately qualified and competent person at all times while waste may be accepted.
- 2.1.3 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 of the date of grant of this licence, the licensee shall submit written details of the updated 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. Within six months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement a proposal for the updating (where appropriate) of the documented 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:
- a) Schedule of Environmental Objectives and Targets;
  - b) Environmental Management Plan (EMP), which shall include methods by which the objectives and targets will be achieved;

- c) Corrective Action Procedures, to ensure that corrective action is taken should specified requirements of this licence not be fulfilled; and
- d) Awareness and Training Programme, which shall include specific training on the operation of the leachate and landfill gas management systems.

#### 2.4 Communications Programme

2.4.1 Within six months of the date of grant of this licence, the licensee shall establish and maintain a Communications Programme to inform the local community and ensure that members of the public can obtain information at the facility, at all reasonable times, concerning the environmental performance of the facility.

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

### **CONDITION 3 FACILITY INFRASTRUCTURE**

3.1 The licensee shall establish all infrastructure referred to in this licence either prior to the commencement of the licensed 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. Such proposals shall be in accordance with the Technical Landfill Manuals published by the Agency. 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) agreed with the Agency and that person, or persons, shall be present at all times during which relevant works are being undertaken to ensure that the requirements of the licence are complied with.

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;
- i) Written statement by the competent person(s) identified in Condition 3.2.2 to indicate that the testing requirements specified in the Technical Landfill Manuals published by the Agency have been complied with; and

j) 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 The licensee shall maintain the security and stockproof fencing and gates located along the western boundary of the facility. Within nine months of the date of grant of this licence, the licensee shall provide and maintain stockproof fencing around the entire boundary of the facility. 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 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.

3.4.3 The licensee shall maintain and operate the CCTV system which is used for monitoring security at the Civic Waste Facility and the weighbridge office.

### 3.5 Facility Roads and Site Surfaces

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

3.5.2 The facility entrance area and the Civic Waste Facility shall be surfaced with impervious materials so as to minimise infiltration.

### 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, and drainage from these areas shall only be directed to the leachate collection system.
- 3.8 Weighbridge
- 3.8.1 The licensee shall maintain a weighbridge at the facility.
- 3.9 Wheel Cleaning
- 3.9.1 The licensee shall provide and maintain a wheelwash at the facility. Wastewater arising from the wheelwash shall only be directed to the leachate collection system.
- 3.10 Waste Water Treatment System
- 3.10.1 The licensee shall provide and maintain a Wastewater Treatment System at the facility for the treatment of wastewater arising on-site. Within six months of the date of grant of this licence, the licensee shall ensure that any septic tanks and percolation areas being used at the facility shall satisfy the criteria set out in the Agency's Wastewater Treatment Manual: Treatment Systems for Single Houses. A report on its operation and design shall be submitted as part of the AER.
- 3.11 Tank and Drum Storage Areas
- 3.11.1 All tank and drum storage areas shall be rendered impervious to the materials stored therein.
- 3.11.2 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.
- 3.11.3 All drainage from bunded areas shall be diverted for collection and safe disposal.
- 3.11.4 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.
- 3.11.5 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 (or in the case of new structures, following their installation and prior to their 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.
- 3.12 Leachate Management Infrastructure
- 3.12.1 The licensee shall provide and maintain a lined leachate storage lagoon and a leachate holding tank by the 1st January 2004. The leachate storage lagoon shall be fitted with aeration devices to provide for the removal of dissolved methane from the leachate.
- 3.12.2 The integrity and water tightness of the leachate storage lagoon and the leachate holding tank, 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 prior to their use.
- 3.12.3 The lined leachate storage lagoon shall comprise:-

- a) A composite liner consisting of a 1m layer of compacted soil with a hydraulic conductivity of less than or equal to  $1 \times 10^{-9}$  m/s, (or equivalent to be agreed with the Agency) overlain by a 2mm thick high density polyethylene (HDPE) layer; and
  - b) All side walls shall be designed and constructed to achieve an equivalent protection.
- 3.12.4 The lagoon's detailed design, its construction, and the construction quality assurance testing shall be in accordance with the guidelines provided in the Agency's Landfill Manual: Landfill Site Design.
- 3.12.5 The licensee shall provide and maintain the following leachate management infrastructure by the 1st June 2004:
- a) A leachate interceptor drain around the existing waste body. This shall be designed so as to prevent the leachate collected in the interceptor drain from discharging to surface water;
  - b) A minimum of five leachate abstraction boreholes inserted into the waste body to allow for the removal of leachate from the waste; and
  - c) Leachate collection pipework, sumps and pumps to facilitate the collection and movement of leachate to the on-site storage structures.

### 3.13 Landfill Gas Management

- 3.13.1 The licensee shall provide and maintain infrastructure for the active collection and flaring of landfill gas at the facility by the 1st March 2004. The flare shall be of an enclosed type design and the efficiency of the enclosed flare shall be tested once it is installed, upon commencement of landfill gas combustion, and once every three years thereafter.
- 3.13.2 The combustion air supply to the enclosed gas flare shall be controlled so as to achieve a minimum temperature of  $1,000^{\circ}\text{C}$  and 0.3 seconds retention time at this temperature.
- 3.13.3 The licensee shall provide and maintain a minimum of ten landfill gas extraction wells within existing unlined areas of the facility for the purposes of extracting landfill gas from the waste body by the 1st March 2004. The landfill gas collected in these wells shall be pumped for flaring in the landfill gas flare.
- 3.13.4 The licensee shall maintain all gas wells, pipework, valves, pumps, flares and other infrastructure that forms part of the landfill gas management system in a safe and fully operational manner.
- 3.13.5 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.
- 3.13.6 The licensee shall provide and maintain an effective permanent gas monitoring system in the site office and any other enclosed structures at the facility. The licensee shall also provide and maintain a permanent gas monitoring system in the main building situated to the south of the facility on the grounds of the adjacent petrol station. All landfill gas monitoring equipment, other than permanent monitoring systems within buildings, shall be certified as being intrinsically safe.
- 3.13.7 Until the operation of the landfill gas flare, passive landfill gas management shall be carried out at the facility and the licensee shall maintain the existing passive gas venting trench and wells. Within three months of the date of grant of this licence, the licensee shall carry out an assessment of the need for a permanent barrier/cut-off wall to prevent landfill gas migration from the facility and also submit a report on this to

the Agency for agreement. The licensee shall carry out any necessary works arising from the findings of this report within a timescale to be agreed with the Agency.

3.13.8 All landfill gas management infrastructure at the facility shall meet the recommendations outlined in the Agency's Manuals on Landfill Site Design and Landfill Operational Practices.

3.13.9 Any landfill gas utilisation plant required under Condition 11.4.2 shall be installed at the facility within a timescale to be agreed with the Agency.

### 3.14 Surface Water Management

3.14.1 Effective surface water management infrastructure shall be provided and maintained at the facility during the 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) The collection/diversion of run-off arising from capped and restored areas; and
- c) The diversion of surface water where necessary, and in particular to prevent surface water ingress into the leachate interceptor drain required under Condition 3.12.5.

3.14.2 Any surface water drainage swales shall be designed and constructed in such a manner so as to prevent erosion, stagnation and under capacity.

3.14.3 Within nine months of the date of grant of this licence, surface water run-off arising from all impermeable surfaces referred to in Condition 3.5 shall be diverted to a silt trap and oil interceptor prior to discharge from the facility. The location of the discharge point shall be agreed with the Agency. All silt traps and oil interceptors shall be adequately sized and shall be in accordance with European Standard EN 858 (installations for the separation of light liquids). The licensee shall maintain all silt traps.

### 3.15 Groundwater Management

3.15.1 Effective groundwater management infrastructure shall be provided and maintained at the facility during the 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 from any adverse effects caused by the groundwater.

### 3.16 Civic Waste Facility and Public Tipping Area

3.16.1 The licensee shall provide and maintain a Civic Waste Facility and a Public Tipping Area. Drainage from the Public Tipping Area shall be directed to the leachate collection system.

3.16.2 The licensee shall provide and maintain appropriate receptacles at the Civic Waste Facility and the Public Tipping Area for the storage of the various waste types.

### 3.17 Monitoring Infrastructure

### 3.17.1 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 licensee shall restore the facility on a phased basis in accordance with the Agency's Manual: Landfill Restoration and Aftercare. Within three months of the date of grant of this licence, the licensee shall submit to the Agency for agreement a Restoration and Aftercare Plan for the facility to reflect the requirements of this licence. This plan shall address the need for any additional inert waste to be placed over the existing waste body in order to fulfil the requirements of Condition 5.5.2. The plan shall include a drawing which shows the final contours of the facility and a schedule detailing the various stages of restoration, including timescales, for the facility.
- 4.2. The maximum final height of the facility following completion of the final capping shall be 115m OD Malin.
- 4.3. Final Capping
  - 4.3.1. The final capping shall consist of the following:-
    - a) Top soil (150-300mm);
    - b) Subsoils, such that the total thickness of top soil and subsoils is at least 1m;
    - c) Drainage layer of 0.5m thickness having a minimum hydraulic conductivity of  $1 \times 10^{-4}$  m/s, or similar material that provides an equivalent or better performance;
    - d) Compacted mineral layer of a minimum 0.6m thickness with a permeability of less than  $1 \times 10^{-9}$  m/s or a geosynthetic material (e.g. GCL) or similar that provides equivalent or better protection; and
    - e) Gas collection layer of natural material (minimum 0.3m) or a geosynthetic layer.
- 4.4. 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.
- 4.5. The final capping and restoration of the landfill facility shall be completed on the following basis:
  - a) All previously deposited waste shall be capped (in accordance with Condition 4.3) within nine months of the date of grant of this licence; and
  - b) The restoration of the landfill shall be completed within thirty six months of the date of grant of this licence.
- 4.6. 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.
- 4.7. 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. No waste shall be disposed of at the landfill facility.
- 5.2 Waste Acceptance and Characterisation Procedures
- 5.2.1 Within three months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement, revised written procedures for the acceptance and handling of all wastes. These procedures shall include methods for the characterisation of waste in order to distinguish between inert and non-inert wastes and shall have regard to Council Decision (2003/33/EC).
- 5.2.2 Notwithstanding the above, the inert waste types listed in *Schedule F: Acceptance of Inert Waste*, of this licence may be accepted at the landfill for recovery.
- 5.3 All inert wastes accepted at the facility shall be inspected upon delivery. 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 one month.
- 5.4 Any cover material at any location within the facility which is eroded, washed off or otherwise removed shall be replaced by the end of the working day.
- 5.5 Operational Controls
- 5.5.1 Wastes once deposited and covered shall not be excavated, disturbed or otherwise picked over with the exception of works associated with the construction and installation of the final cap, leachate and landfill gas collection systems, unless with the prior agreement of the Agency.
- 5.5.2 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.
- 5.5.3 Scavenging shall not be permitted at the facility.
- 5.5.4 Gates shall be locked shut when the facility is unsupervised.
- 5.5.5 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.
- 5.5.6 Fuels shall only be stored at appropriately bunded locations on the facility.
- 5.5.7 All tanks and drums shall be labelled to clearly indicate their contents.
- 5.5.8 No smoking shall be allowed on the facility other than in the site office/canteen.
- 5.6 Waste Handling
- 5.6.1 Inert Waste
- 5.6.1.1 Only the inert wastes specified in *Schedule F: Acceptance of Inert Waste*, of this licence shall be accepted for recovery at the facility.
- 5.7 Off-site Disposal and Recovery



- 5.7.1 Waste sent off-site for recovery or disposal shall only be conveyed by a waste contractor agreed by the Agency.
- 5.7.2 All waste transferred from the facility shall only be transferred to an appropriate facility agreed by the Agency.
- 5.7.3 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.
- 5.8 Civic Waste Facility and Public Tipping Area
- 5.8.1 The Civic Waste Facility and the Public tipping Area shall only be used by private vehicles. The disposal of waste by commercial waste disposal contractors or local authority waste collection vehicles shall not be permitted.
- a) All waste deposited at the Civic Waste Facility and the Public Tipping Area shall be placed in an appropriate receptacle or inspection area.
- 5.8.2 The licensee shall assign and clearly label each container at the Civic Waste Facility to indicate their contents.
- 5.8.3 All household hazardous wastes (including batteries and waste oils) accepted at the Civic Waste Facility shall be stored in appropriate containers to prevent rainwater ingress and the spillage of dangerous substances (e.g. battery acid). Waste fluorescent tubes shall be stored in an enclosed container in such a manner so as to prevent breakage.
- 5.8.4 All household waste delivered to the Public Tipping Area for disposal shall be removed from the facility by the end of the working day and delivered to an appropriate facility to be agreed with the Agency. The Public Tipping Area shall be cleaned of all waste at the end of the working day.
- 5.9 Leachate Management
- 5.9.1 All leachate collected at the facility shall be directed to the leachate storage lagoon and/or the leachate holding tank prior to its removal off-site. Leachate stored in the on-site storage structures shall be disposed of by tankering off-site in fully enclosed road tankers to a Waste Water Treatment Plant which has been agreed in advance with the Agency.
- 5.9.2 Leachate management at the facility shall be carried out in accordance with the procedures agreed by the Agency under Condition 11.4.1. Unless otherwise agreed with the Agency, leachate treatment at the facility shall only involve the use of aerators to facilitate the removal of dissolved methane from the leachate.
- 5.9.3 The frequency of leachate removal/discharge from all leachate storage structures shall be such that a minimum freeboard of 0.75m shall be maintained in the structure at all times.
- 5.9.4 Recirculation of leachate or other contaminated water within the waste body shall not be undertaken.
- 5.10 Maintenance
- 5.10.1 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.
- 5.10.2 All leachate storage structures on the facility shall be inspected and certified fit for purpose every three years by an independent and appropriately qualified chartered engineer.

- 5.10.3 The licensee shall maintain and clearly label and name all sampling and monitoring locations.
- 5.10.4 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/recovered in a manner to be agreed with the Agency.

*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 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 (2 upgradient, 3 downgradient) in accordance with the requirements of Directive 1999/31/EC. The groundwater trigger levels for each monitoring location shall be based on previous groundwater monitoring results from those locations.

#### 6.5. Emissions to Surface Water

6.5.1. No leachate or contaminated surface water shall be discharged to surface water.

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.

<i>REASON: To control emissions from the facility and provide for the protection of the environment.</i>
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## **CONDITION 7 NUISANCE CONTROL**

7.1 The licensee shall ensure that vermin, birds, flies, mud, dust, litter, noise 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 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 10.00 a.m. of the next working day after such waste is discovered.

7.3.2 With the exception of inert waste being accepted at the facility, the licensee shall ensure that all vehicles delivering waste to, and removing waste and materials from the facility are appropriately covered.

7.3.3 The licensee shall implement procedures for the operation of the Public Tipping Area during adverse wind conditions to prevent the generation of wind-blown litter.

#### 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.

7.4.2 All stockpiles shall be maintained so as to minimise dust generation.

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 appropriate bird scaring techniques. The bird scaring techniques shall continue to be operated until the waste activities cease and all the waste is capped to the written satisfaction of the Agency.

*REASON: To provide for the control of nuisances.*

## **CONDITION 8 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 All persons conducting the sampling, monitoring and interpretation of monitoring results as required by this licence shall be suitably competent.
- 8.6 Meteorological Monitoring
- 8.6.1 The licensee shall provide for the monitoring/collection of meteorological data as referred to in *Schedule D.6: Meteorological Monitoring*, of this licence.
- 8.7 Topographical Survey
- 8.7.1 A topographical survey shall be carried out within three months of the date of grant of this licence. The survey shall include the levels of any installed groundwater wells (at the top of the well casing). It shall be repeated annually thereafter. The survey shall be in accordance with any written instructions issued by the Agency.
- 8.7.2 A suitable number of benchmarks shall be installed as part of the landfill restoration.
- 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, noise and odours.
- 8.9 Stability Assessment
- 8.9.1 Within six months of the date of grant of this licence, and annually thereafter, the licensee shall carry out a stability assessment of the side slopes of the facility using the latest topographical survey information.

*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:-
  - g) Identify and put in place measures to avoid reoccurrence of the incident; and
  - h) Identify and put in place any other appropriate remedial action.
- 9.2. The licensee shall, within six months of the date of grant of this licence, 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 at the facility indicates 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/Public Tipping Area. The licensee shall record the following:-

- a) The date and time;
- b) The name of the carrier (including if appropriate, the waste collection permit details);
- c) The vehicle registration number;
- d) The source of the waste;
- e) A description of the waste including the associated EWC codes;
- f) The quantity of the waste, recorded in tonnes;
- g) The name of the person checking the load; and
- h) Where loads or wastes are removed or rejected, details of the date of occurrence, the types of waste and the facility to which they were removed, including the waste licence or permit register number of these facilities as appropriate.

10.3 Written Records

The following written records shall be maintained by the licensee:-

- a) The types and quantities of waste recovered 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/Public Tipping Area. 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.

<p><i>REASON: To provide for the keeping of proper records of the operation of the facility.</i></p>
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## **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 Castlebar;
  - 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 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, unless otherwise agreed with the Agency, 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-f), 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 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 Waste Recovery Report

Within nine months of the date of grant of this licence, 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) The treatment of waste as required by the Landfill Directive;
- b) The separation of recyclable materials from the waste;
- c) The recovery of Construction and Demolition Waste;
- d) The recovery of metal waste and white goods including written procedures for the de-gassing of CFC's from refrigerators; and
- e) The recovery of inert waste to be used for restoration material at the facility.

11.4 Reports relating to Facility Operations

11.4.1 Leachate Handling Procedures

11.4.1.1 Prior to the use of the leachate storage lagoon, the licensee shall submit to the Agency for its agreement leachate handling procedures for the handling of leachate on the facility and its subsequent transport to the waste water treatment plant. These procedures shall address the following:

- a) Procedures to be adopted to collect, treat and remove leachate from the facility. These should include details of the proposed leachate levels to be maintained in any holding structures (e.g. the lagoon, interceptor drain, extraction boreholes and collection sumps), and details of how these levels will be monitored/controlled. Details of the frequency/rate of aeration (to facilitate methane stripping) should also be provided;
- b) Measures to be employed in the event of a leachate spillage off-site;
- c) Details of the frequency and method of sludge removal from the leachate lagoon and handling procedures for such sludge; and



- d) Details of the equipment to be used to pump, monitor and regulate the movement of leachate around the facility. Details of spares and backup equipment held on-site should also be provided.

#### 11.4.2. Landfill Gas Utilisation

- 11.4.2.1 Within eighteen months of the date of grant of this licence, the licensee shall submit to the Agency an assessment of whether the utilisation of landfill gas as an energy source is feasible. If feasible, such a system shall be installed within a timeframe to be agreed with the Agency. This assessment shall include proposals regarding the utilisation of heat energy from this plant at other premises/facilities at, and in the vicinity of, the facility.

#### 11.4.3. National Reporting

- 11.4.3.1 The licensee shall submit data as required for the European Pollution Emission Register (EPER) and the National Waste Database. Such Data shall be in accordance with any relevant guidance issued by the Agency.

#### 11.5 Monitoring Locations

- 11.5.1 Within six months of the date of grant of this licence, the licensee shall submit to the Agency an appropriately scaled drawing(s) showing all the monitoring locations that are stipulated in this licence. The drawing(s) shall include a unique reference code and the twelve figure National Grid Reference for each monitoring point.

#### 11.6 Annual Environmental Report

- 11.6.1 The licensee shall submit to the Agency for its agreement an Annual Environmental Report (AER) by the 31<sup>st</sup> January each year. The AER shall be submitted on an annual basis thereafter.
- 11.6.2 The AER shall include as a minimum the information specified in *Schedule G: Content of Annual Environmental Report*, of this licence, and shall be prepared in accordance with any relevant written guidance issued by the Agency.

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

## **CONDITION 12 CHARGES AND FINANCIAL PROVISIONS**

#### 12.1 Agency Charges

- 12.1.1 The licensee shall pay to the Agency an annual contribution of €17,486 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 2004 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 2003, the licensee shall pay a pro rata amount from the date of this licence to 31<sup>st</sup> 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.

## 12.2 Financial Provision for Closure, Restoration and Aftercare

12.2.1 Within six 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 together with a proposal for financial provision arising from the carrying on of the activities to which this licence relates, including the restoration of the facility.

12.2.2 The licensee shall from a date set by the Agency, establish and maintain a fund, or provide a written guarantee, that is adequate to assure the Agency that the licensee is at all times financially capable of meeting the environmental liabilities and financial provision identified in Condition 12.2.1. The type of fund established and the means of its release/recovery shall be agreed by the Agency prior to its establishment.

12.2.3 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.

12.2.4 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.

12.2.5 The licensee shall provide a statement in writing to the Agency on an annual basis (as part of the AER) in respect of the determination of charges for the disposal of waste. The Statement shall be in accordance with the requirements of the European Communities (Amendment of Waste Management (Licensing) Regulations, 2000) Regulations, 2002 (SI No. 337 of 2002).

<p><i>REASON: To provide for adequate financing for monitoring and financial provisions for measures to protect the environment.</i></p>
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# SCHEDULE A : Waste Acceptance

## A.1 Waste Acceptance

Table A.1 Waste Categories and Quantities to be accepted for disposal (at the Civic Waste Facility)

Waste Type	Maximum (Tonnes Per Annum)
Household waste to be accepted at the Civic Waste Facility	2,500 <sup>Note 1</sup>

**Note 1:** Unless otherwise agreed with the Agency.

Table A.2 Waste Categories and Quantities for recovery, restoration and site development works

Waste Type <sup>Note 1</sup>	Maximum
Inert Waste <sup>Note 2</sup>	97,300 Tonnes <sup>Note 4</sup>
Waste to be accepted at the Civic Waste Facility <sup>Note 3</sup>	500 Tonnes per annum <sup>Note 4</sup>

**Note 1:** Other appropriate waste materials may be accepted with the agreement of the Agency.

**Note 2:** As listed in *Schedule F: Acceptance of Inert Waste*, of this licence.

**Note 3:** Excluding household waste quantities (for disposal) presented in Table A.1. Unless otherwise agreed with the Agency, the following waste may be accepted at the Civic Waste Facility: metal, white goods, paper, cardboard, tetra packs, plastic, glass, aluminium cans, waste oils, batteries, textiles and fluorescent tubes.

**Note 4:** Unless otherwise agreed with the Agency.

# SCHEDULE B : Specified Engineering Works

Specified Engineering Works
Final capping.
Installation of Landfill Gas Management Infrastructure.
Installation of Leachate Management 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 any noise sensitive locations).

Day dB(A) $L_{Aeq}(15 \text{ minutes})$	Night dB(A) $L_{Aeq}(15 \text{ minutes})$
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 <sup>2</sup> /day) <sup>Note 1</sup>
350

**Note 1:** 30 day composite sample with the results expressed as mg/m<sup>2</sup>/day.

### C.4 Emission Limits Values for Landfill Gas Plant:

Emission Point Reference no.s: To be agreed with the Agency.  
 Location: Landfill Gas Utilisation Plant and/or flare.  
 Max. Volume to be emitted: 3,000m<sup>3</sup>/hr. (unless otherwise agreed with the Agency).  
 Minimum discharge height: 5m (unless otherwise agreed with the Agency).

Parameter	Flare (enclosed) Emission Limit Value <sup>Note 1, 2</sup>	Utilisation Plant Emission Limit Value <sup>Note 1, 2</sup>
Nitrogen oxides (NO <sub>x</sub> )	150 mg/m <sup>3</sup>	500 mg/m <sup>3</sup>
CO	50 mg/m <sup>3</sup>	1400 mg/m <sup>3</sup>
Particulates	Not applicable	130 mg/m <sup>3</sup>
Total Volatile Organic Compounds (VOCs)	Not applicable	1000 mg/m <sup>3</sup>
Total non-methane VOCs	Not applicable	75 mg/m <sup>3</sup>
Total organic carbon (TOC)	10 mg/m <sup>3</sup>	Not applicable
Hydrogen Chloride	50 mg/m <sup>3</sup> (at mass flows > 0.3 kg/h)	50 mg/m <sup>3</sup> (at mass flows > 0.3 kg/h)
Hydrogen Fluoride	5 mg/m <sup>3</sup> (at mass flows > 0.05 kg/h)	5 mg/m <sup>3</sup> (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:** These emission limit values may be revised with the agreement of the Agency on the basis of the technology employed.

## SCHEDULE D : Monitoring

### D.1 Monitoring Locations

Monitoring locations shall be those as set out in Table D.1.1.

Table D.1.1 Monitoring Locations

Landfill Gas Stations <sup>Note 1</sup>	Dust Deposition Stations	Noise Stations	Surface Water Stations	Ground Water Stations	Leachate Stations <sup>Note 4</sup>
G1-G6, G10, G11, G13-G15	D1, D2, D3	N2, N6	SW1-SW3, S5	BH1, BH2, BH9, BH10	BH21, BH22, BH25, BH26
Site Buildings & Petrol Station				BH13-BH16	Abstraction wells BH27-BH31
Off-site locations <sup>Note 2</sup>				BH31, BH32	Leachate lagoon and holding tank <sup>Note 3</sup>
Flare / Utilisation Plant <sup>Note 3</sup>					

**Note 1:** All landfill gas locations to be monitored quarterly unless otherwise specified in Table D.2.1.

**Note 2:** G7-G9 and G19 –G32.

**Note 3:** Locations to be agreed with the Agency.

**Note 4:** Leachate quality monitoring only to be carried out at BH21, BH26 and the leachate holding tank. Leachate levels to be monitored at all leachate monitoring locations.

## D.2 Landfill Gas

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

Parameter	Monitoring Frequency			Analysis Method <sup>Note 1</sup> / Technique <sup>Note 2</sup>
	Gas Boreholes/ Vents/Wells <sup>Note 3</sup>	Site Office/Site Hut <sup>Note 4</sup>	Petrol Station Building <sup>Note 4</sup>	
Methane (CH <sub>4</sub> ) % v/v	Daily / Monthly	Continuous	Continuous	Infrared analyser/ flame ionisation detector
Carbon dioxide (CO <sub>2</sub> ) % v/v	Daily / Monthly	Continuous	Continuous	Infrared analyser/ flame ionisation detector
Oxygen (O <sub>2</sub> ) % v/v	Daily / Monthly	Continuous	Continuous	Electrochemical cell
Atmospheric Pressure	Daily / Monthly	-	-	Standard
Temperature	Daily / Monthly	-	-	Standard

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

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

**Note 3:** Monitoring locations G16-G18 and G7-G9 to be monitored daily and reported to the Agency on a monthly basis unless otherwise agreed by the Agency. All other locations to be monitored monthly and reported to the Agency on a quarterly basis.

**Note 4:** In addition to the continuous monitoring required, the licensee shall record landfill gas readings at these locations on a daily basis unless otherwise agreed by the Agency. Such monitoring shall be reported to the Agency on a monthly basis.

## D.3 Dust Monitoring

Table D.3.1 Dust Monitoring Parameters, Frequency and Technique

Parameter (mg/m <sup>2</sup> /day)	Monitoring Frequency	Analysis Method/Technique
Dust Deposition <sup>Note 1</sup>	Three times a year <sup>Note 2</sup>	Standard Method <sup>Note 3</sup>

**Note 1:** A wind rose, obtained from the meteorological station for the relevant sampling period, shall be submitted with each set of results.

**Note 2:** At least twice during the period May to September.

**Note 3:** 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.

## D.4 Noise

Table D.4.1 Noise Monitoring Parameters, Frequency and Technique

Parameter	Monitoring Frequency	Analysis Method/Technique
L(A) <sub>EQ</sub> [15 minutes]	Annual	Standard <sup>Note 1</sup>
L(A) <sub>10</sub> [15 minutes]	Annual	Standard <sup>Note 1</sup>
L(A) <sub>90</sub> [15 minutes]	Annual	Standard <sup>Note 1</sup>
Frequency Analysis ( <sup>1</sup> / <sub>3</sub> Octave band analysis)	Annual	Standard <sup>Note 1</sup>

**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 <sup>Note 1</sup>	Surface Water <sup>Note 2</sup> Monitoring Frequency	Groundwater Monitoring Frequency	Leachate <sup>Note 6</sup> Monitoring Frequency
Visual Inspection/Odour <sup>Note 2</sup>	Weekly	Quarterly	Quarterly
Groundwater Level	Not Applicable	Monthly	Not Applicable
Leachate Level	Not Applicable	Not Applicable	Weekly
Ammoniacal Nitrogen	Quarterly	Quarterly	Annually
BOD	Quarterly	Not Applicable	Annually
COD	Quarterly	Not Applicable	Annually
Chloride	Quarterly	Quarterly	Annually
Dissolved Oxygen	Quarterly	Quarterly	Not Applicable
Electrical Conductivity	Quarterly	Quarterly	Annually
pH	Quarterly	Quarterly	Annually
Total Suspended Solids	Quarterly	Not Applicable	Not Applicable
Temperature	Quarterly	Quarterly	Quarterly
Metals / non metals <sup>Note 3</sup>	Annually	Annually	Annually
Cyanide (Total)	Not Applicable	Annually	Annually
Fluoride	Not Applicable	Annually	Annually
List I/II organic substances <sup>Note 4</sup>	Once off <sup>Note 5</sup>	Annually <sup>Note 5</sup>	Annually <sup>Note 5</sup>
Mercury	Annually	Annually	Annually
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	Quarterly	Not Applicable
Residue on evaporation	Not Applicable	Annually	Not Applicable

**Note 1:** All the analyses 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, 3 groundwater and 2 leachate locations to be agreed with the Agency for these parameters.

**Note 6:** Leachate quality monitoring only to be carried out at BH21, BH26 and the leachate holding tank. Leachate levels to be monitored at all leachate monitoring locations.

## D.6 Meteorological Monitoring

Data to be obtained from Mullingar Meteorological Station unless otherwise agreed with the Agency.

Table D.6.1 Meteorological Monitoring Parameters, Frequency and Technique

Parameter	Monitoring Frequency	Analysis Method/Technique
Precipitation Volume	Daily	Standard
Temperature (min/max.)	Daily	Standard
Wind Force and Direction	Daily	Standard
Evaporation	Daily	Standard
Humidity	Daily	Standard
Atmospheric Pressure <sup>Note 1</sup>	Daily	Standard

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

## D.7 Landfill Gas Enclosed Flare/Utilisation Plant

Location: to be agreed with the Agency in advance.

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

Parameter	Flare (enclosed)	Utilisation Plant	Analysis Method <sup>Note 1</sup> / Technique <sup>Note 2</sup>
	Monitoring Frequency	Monitoring Frequency	
<b>Inlet</b>			
Methane (CH <sub>4</sub> ) % v/v	Continuous	Weekly	Infrared analyser/flame ionisation detector/thermal conductivity
Carbon dioxide (CO <sub>2</sub> ) % v/v	Continuous	Weekly	Infrared analyser/thermal conductivity
Oxygen (O <sub>2</sub> ) % 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
<b>Process Parameters</b>			
Combustion Temperature	Continuous	Quarterly	Temperature Probe/datalogger
<b>Outlet</b>			
CO	Continuous	Continuous	Flue gas analyser/datalogger
NO <sub>x</sub>	Annually	Continuous	Flue gas analyser
SO <sub>2</sub>	Annually	Annually	Flue gas analyser
Particulates	Not applicable	Annually	Isokinetic/Gravimetric
Total VOCs	Not applicable	Annually	Flame ionisation
Total non-methane VOCs	Not applicable	Annually	Adsorption-thermal desorption
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 with the Agency.

## SCHEDULE E : Recording and Reporting to the Agency

Report	Reporting Frequency <sup>Note 1</sup>	Report Submission Date
<b>Environmental Management System Updates</b>	Annually	One month after the end of the year reported on.
<b>Annual Environment Report (AER)</b>	Annually	By the 31 <sup>st</sup> January 2004 and within one month after the end of each calendar year thereafter.
<b>Record of incidents</b>	As they occur	Within five days of the incident.
<b>Bund, tank and container integrity assessment</b>	Every three years	Within six months of the date of grant of the licence (or prior to the use of any new structures) and within one month after end of the three year period being reported on.
<b>Specified Engineering Works reports</b>	As they arise	Prior to the works commencing.
<b>Monitoring of landfill gas</b>	Monthly and Quarterly <sup>Note 2</sup>	Ten days after end of the period being reported on.
<b>Monitoring of Surface Water Quality</b>	Quarterly	Ten days after end of the quarter being reported on.
<b>Monitoring of Groundwater Quality</b>	Quarterly	Ten days after end of the quarter being reported on.
<b>Monitoring of Leachate</b>	Quarterly	Ten days after end of the quarter being reported on.
<b>Dust Monitoring</b>	Three times a year	Ten days after the period being reported on.
<b>Noise Monitoring</b>	Annually	One month after end of the year being reported on.
<b>Leachate Handling procedures</b>	Once Off	Prior to the use of the leachate storage lagoon.
<b>Topographical Survey</b>	Annually	Within three months of the date of grant of the licence and one month after the end of the year being reported on.
<b>Stability Assessment</b>	Annually	Six months of the date of grant of licence and one month after the end of the year being reported on.
<b>Waste Recovery Report</b>	Once Off	Within nine months of the date of grant of the licence.
<b>Assessment of Feasibility of Landfill Gas Utilisation</b>	Once Off	Within eighteen months of the date of grant of the licence.
<b>Any other monitoring</b>	As they occur	Within ten days of obtaining results.

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

**Note 2:** See Table D.2.1 for the reporting frequency of landfill gas monitoring to be undertaken at different locations.



## **SCHEDULE F : Acceptance of Inert Waste**

### ***F.1 Acceptable Waste for Recovery***

Only those inert wastes listed in Table F.1.1 are acceptable for recovery at the facility, unless otherwise agreed with the Agency.

Table F.1.1 Waste for Recovery

<b>Waste</b>	
Topsoil	Solid Road Planings, Solid Tarmacadam, Solid Asphalt
Subsoil	Brickwork
Stone, Rock and Slate	Natural Sand
Clay, Pottery and China	Concrete

# **SCHEDULE G : Content of the Annual Environmental Report**

## **Annual Environmental Report Content**

Reporting Period.

Waste activities carried out at the facility.

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

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

Methods of deposition of waste.

Summary report on emissions.

Summary of results and interpretation of environmental monitoring.

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.

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.

Report on the performance and compatibility of the septic tank (and associated percolation area) with the Agency's Wastewater Treatment manual: "Treatment Systems for Single Houses".

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 1<sup>st</sup> September, 2003

\_\_\_\_\_  
Ray Cullinane, **Authorised Person**