



Headquarters,  
P.O. Box 3000,  
Johnstown Castle Estate  
County Wexford, Ireland

## WASTE LICENCE PROPOSED DECISION

<b>Waste Licence Register Number:</b>	17-1
<b>Applicant:</b>	Limerick County Council
<b>Location of Facility:</b>	Gortadroma Landfill Gortadroma, Ballyhahill, Co. Limerick

# ***Table of Contents***

	Page No.
<b>REASONS FOR THE PROPOSED DECISION</b>	<b>1</b>
<b>ACTIVITIES LICENSED</b>	<b>1</b>
<b>INTERPRETATION</b>	<b>2</b>
<b>CONDITION 1 SCOPE</b>	<b>5</b>
<b>CONDITION 2 MANAGEMENT OF THE ACTIVITY</b>	<b>5</b>
<b>CONDITION 3 NOTIFICATION AND RECORD KEEPING</b>	<b>7</b>
<b>CONDITION 4 SITE INFRASTRUCTURE</b>	<b>9</b>
<b>CONDITION 5 WASTE ACCEPTANCE AND HANDLING</b>	<b>14</b>
<b>CONDITION 6 ENVIRONMENTAL NUISANCES</b>	<b>16</b>
<b>CONDITION 7 EMISSIONS AND ENVIRONMENTAL IMPACTS</b>	<b>17</b>
<b>CONDITION 8 RESTORATION AND AFTERCARE</b>	<b>20</b>
<b>CONDITION 9 ENVIRONMENTAL MONITORING</b>	<b>20</b>
<b>CONDITION 10 CONTINGENCY ARRANGEMENTS</b>	<b>21</b>
<b>CONDITION 11 CHARGES AND FINANCIAL PROVISIONS</b>	<b>22</b>
<b>SCHEDULE A Waste Activities</b>	<b>24</b>
<b>SCHEDULE B Content of the Environmental Management Programme</b>	<b>26</b>
<b>SCHEDULE C Content of the Annual Environmental Report</b>	<b>27</b>
<b>SCHEDULE D Recording and Reporting to the Agency</b>	<b>28</b>
<b>SCHEDULE E Specified Engineering Works</b>	<b>30</b>
<b>SCHEDULE F Monitoring</b>	<b>30</b>
<b>SCHEDULE G Emission Limits</b>	<b>38</b>

# Reasons for the Proposed Decision

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

## Part I: Activities Licensed

In pursuance of the powers conferred on it by the Waste Management Act, 1996, the Environmental Protection Agency (the Agency) proposes, under Section 40(1) of the said Act to grant this Waste Licence to Limerick County Council, P.O. Box 53, 79-84 O'Connell Street, Limerick to carry on the waste activities listed below at Gortadroma Landfill, Gortadroma, Ballyhahill, Co. Limerick, subject to 11 No. 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).

*Class 2:* Land treatment, including biodegradation of liquid or sludge discards in soils.

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

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

*Class 6:* Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 10 of this Schedule.

*Class 7:* Physico-chemical treatment not referred to elsewhere in this Schedule (including evaporation, drying and calcination) which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 10 of this Schedule.

*Class 11:* Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.

*Class 13:* Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.

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

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

*Class 3:* Recycling or reclamation of metals and metal compounds.

*Class 4:* Recycling or reclamation of other inorganic materials.

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

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

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

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

*Class 13:* Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.

## INTERPRETATION

<b>Act</b>	The Waste Management Act, 1996 (No. 10 of 1996).
<b>Adequate Lighting</b>	20 lux measured at ground level
<b>Aerosol</b>	A suspension of solid or liquid particles in a gaseous medium.
<b>Agreement</b>	Agreement in writing.
<b>Animal by-products</b>	Any carcase or part of any animal or fish or any product of animal origin not intended for direct human consumption with the exception of animal excreta and catering waste ( S.I. No. 257 of 1994).
<b>Application</b>	The application by the licensee for this waste licence, including other material submitted to the Agency in writing by the licensee between the date of the application and the date of grant of this licence.
<b>Attachment</b>	Any reference to Attachments in this licence refers to attachments submitted as part of the waste licence application.
<b>BATNEEC</b>	Best Available Technology Not Entailing Excessive Cost as defined in section 5 (2) of the Act.
<b>CBOD</b>	5 day Carbonaceous Biochemical Oxygen Demand
<b>Commercial waste</b>	As defined in Section 5 (1) of the Act.
<b>Containment boom</b>	A boom which can contain spillages and prevent these from entering drains or watercourses.
<b>Daytime</b>	0800 hrs to 2200 hrs.
<b>Emission</b>	As defined in Section 5 (1) of the Act.
<b>Environmental Pollution</b>	As defined in Section 5 (1) of the Act.
<b>European Waste Catalogue (EWC)</b>	The EWC is 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>Facility</b>	Those areas defined under Condition 1.2
<b>Hazardous Waste</b>	As defined in Section 4 (2) of the Act.
<b>Household Waste</b>	As defined in Section 5 (1) of the Act.

<b>Industrial waste</b>	As defined in Section 5 (1) of the Act.
<b>Incident</b>	Any reference to an incident in this licence means an incident as defined in Condition 3.1.
<b>Landfill</b>	A waste disposal facility used for the deposit of waste onto or under land as defined in Section 5 (1) of the Act.
<b>Landfill Gas</b>	Gases generated from the landfilled waste.
<b>Leachate</b>	Any liquid percolating through the deposited waste and emitted from or contained within a landfill as defined in Section 5 (1) of the Act.
<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>	Limerick County Council
<b>List I/II substances</b>	Substances classified pursuant to EC Directives 76/464/EEC and 80/68/EEC.
<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>	At least 12 times per year, at approximately monthly intervals.
<b>Municipal Waste</b>	Municipal waste as defined in Section 5 (1) of the Act.
<b>Night-time</b>	2200 hrs to 0800 hrs.
<b>Non hazardous waste</b>	Non-Hazardous Waste is any waste which is not a hazardous waste as defined in the Act.
<b>Recovery</b>	As defined in Section 4 (4) of the Act.
<b>Sludge</b>	The accumulation of solids resulting from chemical coagulation, flocculation and/or sedimentation after water or wastewater treatment.
<b>Specified Emissions</b>	Those emissions listed in Schedule G of this licence.
<b>Specified Engineering Works</b>	Those engineering works listed in Schedule E of this licence.
<b>Trigger Level</b>	A parameter value which when achieved or exceeded requires certain actions to be taken.
<b>Waste</b>	As defined in Section 4(1) of the Act.
<b>Waste disposal activity</b>	Includes the activities referred to in Section 4 of the Act and listed in the Third Schedule thereto.
<b>Waste recovery activity</b>	Includes the activities referred to in Section 4 of the Act and listed in the Fourth Schedule thereto.

<b>White Goods</b>	Refrigerators, cookers, ovens and similar appliances
<b>Working Day</b>	08.00 a.m. to 5.00p.m. Monday to Friday inclusive and 8.00a.m to 2.00p.m. on Saturdays.
<b>Working Face</b>	The area of the site in which waste other than cover material is being deposited.

# Part II CONDITIONS

## CONDITION 1 SCOPE

- 1.1 The waste activities authorised by this licence are listed and described in *Schedule A: Waste Activities*. Waste activities at the facility shall be restricted to those listed in Schedule A and any restrictions set down therein.
- 1.2 Waste activities shall be restricted to the area of land that is outlined in red on drawing "Drg. No. B2/1 Rev A" in the application. Any reference in this licence to "facility" or "site" shall mean the area thus outlined in red.
- 1.3 Every plan, programme or proposal submitted to the Agency for 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. Every 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.
- 1.4 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.
- 1.5 Where the Agency considers that a non-compliance with the conditions 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; and,
  - 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 confirmation is received from the Agency that the notice is withdrawn.

*Reason: To clarify the scope of this licence.*

## CONDITION 2 MANAGEMENT OF THE ACTIVITY

- 2.1 Environmental Management System
  - 2.1.1 The licensee shall within eighteen months from the date of grant of this licence, submit to the Agency for its agreement a proposal for a documented Environmental Management System (EMS) for the facility. Following the written 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 agreement.

- 2.1.2 The EMS shall include as a minimum those elements specified in the Conditions 2.2 to 2.9 below:
- 2.2 Schedule of Environmental Objectives and Targets
- 2.2.1 The licensee shall, within twelve months from the date of grant of this licence, submit to the Agency for its agreement a Schedule of Objectives and Targets. The objectives should be specific and the targets measurable.
- 2.2.2 The Schedule shall address a five year period as a minimum and shall be reviewed and submitted annually to the Agency for its agreement.
- 2.3 Environmental Management Programme
- 2.3.1 The licensee shall, not later than twelve months from the date of grant of this licence, submit to the Agency for its agreement an Environmental Management Programme (EMP). The EMP shall include a time-scale for achieving the Schedule of Objectives and Targets and shall comply with any other guidance issued by the Agency.
- 2.3.2 The EMP shall include, as a minimum, the information specified in *Schedule B: Content of the Environmental Management Programme*. The EMP shall be reviewed and submitted to the Agency for its agreement annually.
- 2.4 Corrective Action
- 2.4.1 The licensee shall establish and maintain written Corrective Action Procedures to ensure that corrective action is taken should specified requirements to this licence not be fulfilled.
- 2.5 Awareness and Training
- 2.5.1 The licensee shall establish and maintain Awareness and Training Procedures for identifying training needs and for providing appropriate training, for personnel whose work is related to the licensed facility. Written records of training shall be maintained.
- 2.6 Management Structure
- 2.6.1 Within twelve months from the date of grant of this licence, the licensee shall submit written details of the management structure of the facility for the agreement of the Agency. Any proposed changes in the management structure shall be submitted in writing to the Agency for its agreement. 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;
  - b) details of the responsibilities for each individual named under a) above;
  - c) details of the relevant experience, competence and qualifications held by each of the persons nominated under a) above; and
  - d) contingency arrangements for the absences of the named persons from the facility.
- 2.7 Communications
- 2.7.1 Within six months from the date of grant of this licence, the licensee shall submit for agreement to the Agency a Communications Programme to ensure that



members of the public can obtain information concerning the environmental performance of the facility at all reasonable times.

## 2.8 Annual Environmental Report

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

2.8.2 The AER shall include as a minimum the information specified in *Schedule C: Content of Annual Environmental Report* and shall be prepared in accordance with any relevant written guidance issued by the Agency.

2.9 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 suitably qualified and experienced deputy, shall be present at all times during the operation of the facility.

2.10 The licensee shall ensure that personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and/or experience, as required and shall be aware of the requirements of this licence.

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

## CONDITION 3 NOTIFICATION AND RECORD KEEPING

3.1 The licensee shall make written records of the following incidents:

- a) any emission which results in the contravention of any relevant standard, including any standard for an environmental medium, or any relevant emission limit value, prescribed under any relevant enactment;
- b) any emission which does not comply with the requirements of this licence;
- c) any trigger level specified in this licence or in the EMS which is attained or exceeded;
- d) where treated leachate being discharged exceeds 1 toxic units as determined under Condition 7.8;
- e) where the biological assessment of the White River immediately downstream of the facility as indicated in Schedule F.4.3 indicates that the Q-rating is lower than 4;
- f) any malfunction of any environmental control system;
- g) any indication that contamination has, or may have, taken place;
- h) the cessation of waste activities at the facility for a period in excess of 28 days, and their recommencement;
- i) any occurrence with the potential for environmental pollution; and,
- j) any emergency.

- 3.2 The written record shall include all aspects described in Condition 10.5.
- 3.3 Unless otherwise instructed in writing by the Agency, the licensee shall notify the Agency by telephone and facsimile if available, as soon as practicable and in any case not later than 10.00am the following working day after the occurrence of any incident.
- 3.4 Unless otherwise instructed in writing by the Agency, the licensee shall submit the written record to the Agency as soon as practicable and in any case within five working days after the occurrence of any incident.
- 3.5 Should any further actions be taken after the date of notification, 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.
- 3.6 Copies of all reports, monitoring and analysis results and interpretations required by this licence, shall be forwarded to the Agency's Headquarters or to such other alternative location as agreed with the Agency at the reporting frequencies set out in this licence. The format of all reports and method of reporting shall be in accordance with any written instructions or guidance of the Agency. All monitoring results must be accompanied by a written interpretation of those results setting out their significance. Each report and drawing, including each modification shall be identified with a unique code. An original and three copies of all reports and results shall be provided to the Agency.
- 3.7 In the event of any incident which relates to discharges to surface water, the licensee shall notify the Mid-Western Regional Fisheries Board as soon as practicable by telephone and in writing (by facsimile if available) and in any case not later than 10:00am on the following working day after such an incident.
- 3.8 All written reports submitted to the Agency shall be certified accurate and representative by the licensee.
- 3.9 Unless otherwise agreed in writing with the Agency, all written records, reports and other documents required to be maintained under this licence, shall be retained by the licensee.
- 3.10 Unless otherwise agreed in writing with the Agency, the licensee must give at least fourteen days notice to the Agency of the following events:
  - 3.10.1 the cessation of waste disposal activities at the facility for a period in excess of twenty eight days;
  - 3.10.2 the re-commencement of waste disposal activities at the facility following a period of cessation referred to at 3.10.1 above.
- 3.11 The licensee shall provide copies of any written records, reports and other documents referred to in this licence to the Agency upon written request, within the time specified in writing by the Agency.
- 3.12 The licensee shall keep the following documents at the facility office shown in Drawing No 8 in Attachment No. D.4.1:
  - a) the current waste licence relating to the facility;
  - b) any previous waste licence in respect of the facility;
  - c) the current EMS for the facility;
  - d) the previous year's AER for the facility;

- e) all written procedures produced by the licensee which relate to the licensed activities.
- 3.13 The licensee shall maintain a written record for each load of waste arriving at the facility. The licensee shall record the following:
- a) the name of the carrier;
  - b) the vehicle registration number;
  - c) the name of the producer(s)/collector(s) of the waste as appropriate;
  - d) a description of the waste;
  - e) the quantity of the waste, recorded in tonnes;
  - f) the name of the person checking the load; and,
  - g) 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.
- 3.14 The licensee shall maintain a written record of all complaints of an environmental nature related to the operation of the activity. 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.
- 3.15 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;
  - e) any incidents or spillages of leachate during its removal or transportation.

*Reason : To provide for the notification of incidents, to update information on the activity and to provide for the keeping of records.*

## **CONDITION 4 SITE INFRASTRUCTURE**

- 4.1 The licensee shall establish all infrastructure referred to in this licence prior to the commencement of the licensed activities or as agreed in advance in writing with the Agency.
- 4.2 Site Notice Board
- 4.2.1 Within three months from the date of grant of this licence, the licensee shall provide and maintain a notice board on the facility so that it is legible to persons outside the main entrance to the facility. The minimum dimensions of the identification board shall be 1200 mm by 750 mm.

- 4.2.2 The board shall clearly show:
- a) the name and telephone number of the facility;
  - b) the normal hours of opening;
  - c) the name, address and telephone number of the licence holder;
  - d) an emergency out of hours contact telephone number;
  - e) the name, address and telephone number of the operator of the facility;
  - f) the licence reference number;
  - g) where monitoring information can be obtained.

#### 4.3 Site Security

4.3.1 Security fencing and appropriate gates shall be maintained as described in Attachment D1 of the waste licence application and as described in Contract 3A: Leachate treatment plant and associated works civil contract which accompanied the application.

4.3.2 The licensee shall install and maintain a CCTV monitoring system at the main gate within three months from the date of grant of this licence.

4.3.3 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 or as otherwise agreed in writing with the Agency.

4.3.4 Gates shall be locked when the facility is unsupervised.

#### 4.4 Site Roads

4.4.1 The primary access road and haul roads shall be provided and maintained to the specification described in attachment D.1 of the application.

4.5 The licensee shall maintain a reception building on the facility, at the location shown in Drawing No. 8 in Attachment D.4.1 and referred to therein as the reception building. The building shall be constructed and maintained in a manner suitable for the processing and storing of documentation.

4.6 The licensee shall provide and maintain a working telephone and facsimile machine in the office specified in Condition 4.5 above.

4.7 Within six months from the date of grant of this licence, the licensee shall submit to the Agency for its agreement, detailed plans for the area referred to in Attachment D.1. of the application as the Waste Inspection and Quarantine Area. The licensee shall ensure that this area 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 suitably and clearly segregated from each other. The area shall be installed within the timeframe agreed by the Agency.

4.8 Unless otherwise agreed in writing in advance with the Agency the Civic Amenity Area which includes the Public Tipping Area shall be at the location shown in Figure D.1.1 Rev A 98. Within six months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement, details for the upgrading of the civic amenity area to include recovery/disposal of the following wastes as a minimum: farm plastics,

white goods, composting of biodegradable wastes on-site. This report shall also include written procedures for de-gassing of CFC's from refrigerators.

- 4.9 The licensee shall maintain and calibrate a weighbridge at the location shown in Drawing No. B.2.2 July. 98.
- 4.10 The licensee shall maintain a septic tank and percolation system in compliance with SR6 at the facility unless otherwise agreed with the Agency.
- 4.11 The licensee shall submit to the Agency for agreement proposals for the location, installation and operation (including drainage) of the wheelwash facilities within three months from the date of grant of this licence. The wheelwash water shall drain only to the leachate holding tank. The wheel wash shall be inspected on a daily basis and drained as required. Accumulated silt shall be removed and disposed of at the working face. The wheelwash water shall drain only to the leachate holding tank. The wheelwash shall be installed within the timeframe agreed by the Agency.
- 4.12 The licensee shall install and maintain a meteorological station at the facility within six months of the date of grant of licence capable of monitoring the parameters listed in Schedule F: Table F7 Meteorological monitoring of this licence. Until this date, information shall be obtained from Shanagolden Meteorological Station.
- 4.13 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.
- 4.14 Fuel Storage
  - 4.14.1 Within six months of the date of grant of this licence, the licensee shall with the prior written agreement of the Agency provide bunded fuel storage area(s). Unless contained in mobile plant at the facility, fuels shall be stored at these agreed locations.
  - 4.14.2 All tank and drum storage areas shall be rendered impervious to the materials stored therein. In addition, 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.
  - 4.14.3 All drainage from bunded areas shall be diverted for collection and safe disposal.
  - 4.14.4 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.
  - 4.14.5 The integrity and water tightness of all the bunds, tanks and containers and their resistance to penetration by water or other materials stored therein shall be tested and demonstrated by the licensee and shall be reported to the Agency within six months of the date of grant of this licence. This testing shall be carried out by the licensee at least once every three years thereafter and reported to the Agency on each occasion. The licensee shall also submit to the Agency for its agreement in each case a written report on the storage of fuels on-site. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.
  - 4.14.6 All tanks and containers shall be labelled to clearly indicate their contents.
- 4.15 Specified Engineering Works

- 4.15.1 The licensee shall submit a written report two months prior to any proposed specified engineering works as defined in *Schedule E: Specified Engineering Works*, to the Agency for its agreement. No such works shall be carried out without the prior written agreement of the Agency.
- 4.15.2 All specified engineering works shall be supervised by a competent person(s) agreed in writing in advance by the Agency and that person, or persons, shall be present at all times during which relevant works are being undertaken.
- 4.15.3 Following the completion of all specified engineering works, the licensee shall submit a construction quality assurance validation report to the Agency. The validation 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) where relevant a drawing and sections showing the location of all samples and tests carried out;
  - e) daily records sheets/diary;
  - f) name(s) of contractor(s)/individual(s) responsible for undertaking the 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; and
  - i) any other information requested in writing by the Agency.

#### 4.16 Landfill Lining

- 4.16.1 Future cells shall be lined in such way as to satisfy the requirements of the (Proposed) Landfill Directive. Details on the lining of the cells shall be agreed in advance with the Agency.

#### 4.17 Landfill Gas Management:

- 4.17.1 Landfill Gas generated at the site shall be vented to the atmosphere in accordance with the landfill gas management scheme for cells 1 to 5 inclusive, set out in Attachment D. 5 and shown in Figure No. 3/Art 16 Rev A unless otherwise agreed in advance with the Agency. Within three months of the date of grant of this licence the licensee shall submit to the Agency for its agreement, design and location details for the installation of two passive vents / monitoring wells for Cell 6, 7 and 9.
- 4.17.2 Within twelve months of the date of grant of this licence, a proposal for the utilisation of landfill gas as an energy resource shall be submitted to the Agency for its agreement.
- 4.17.3 Within six months of the date of grant of this licence, a proposal for the active collection and flaring of landfill gas shall be submitted to the Agency for its agreement.
- 4.17.4 The licensee shall maintain all gas venting wells, pipework, valves, pumps flares and other infrastructure that form part of the landfill gas management scheme in a safe and fully operational manner.

#### 4.18 Leachate Recirculation

4.18.1 There shall be no recirculation of leachate onto cells 1 to 4 inclusive either directly or indirectly via recirculation onto nearby cells.

4.18.2 The licensee shall submit a proposal to the Agency for agreement within nine months of the date of grant of this licence for the operation and maintenance of the leachate recirculation system to other cells at the facility.

#### 4.19 Leachate Management

4.19.1 Within nine months of the date of grant of this licence the licensee shall submit proposals to the Agency for agreement to assess the integrity of the lining of the leachate storage lagoon.

4.19.2 Leachate (treated and/or untreated) may be stored in the leachate storage lagoon or in a dedicated leachate storage tanker. This tanker shall be clearly labelled "leachate storage tanker".

4.19.3 The frequency of discharge and/or recirculation from the lagoon or removal by tanker shall be such that a minimum freeboard of 0.75m shall be maintained in the leachate storage lagoon at all times.

4.19.4 The leachate storage tanker shall be sited in such way that any leakages or spillages shall be contained in the leachate storage lagoon.

4.19.5 Leachate levels within the filled waste shall not exceed a level of 1 metre over the top of the liner for all lined cells.

4.19.6 No leachate from any other facility shall be treated in this treatment facility.

#### 4.20 Groundwater Management

4.20.1 The licensee shall within three months from the date of grant of this licence submit to the Agency for agreement a proposal for the design and location of:

4.20.1.1. at least three monitoring/extraction boreholes within the area inside the bentonite cut-off wall.

4.20.1.2. at least one permanent groundwater monitoring borehole along the northern boundary of the facility.

4.20.1.3. at least one permanent groundwater monitoring borehole between the leachate treatment plant and the White River.

4.20.2 The Licensee shall within nine months from the date of grant of this licence present proposals to the Agency for the extraction of contaminated groundwater inside the bentonite cut-off wall. These proposals shall include a time-scale for removal of the source of contamination and for any remediation of groundwater deemed necessary.

#### 4.21 Fire Control / Firewater Retention

4.21.1 Leachate shall not be used as a means of fire control.

4.21.2 The licensee shall undertake an assessment of the fire control and firewater retention provisions at the site. The licensee shall submit a report to the Agency within nine months from the date of grant of this licence for agreement which provides an assessment of fire control in order to satisfy the conditions of this licence.

#### 4.22 Surface Water Management

4.22.1 The licensee shall within three months from the date of grant of this licence submit to the Agency for approval a proposal for the location of:

4.22.1.1.one permanent surface water monitoring location along the northern boundary of the facility

4.22.1.2.one permanent surface water monitoring location along the eastern boundary of the facility.

4.22.2 Within nine months of the date of grant of this licence the licensee shall submit to the Agency for its agreement an ongoing management programme for restoration and control of surface water at the facility.

#### 4.23 Capping

4.23.1 The licensee shall submit details of the proposed intermediate and final capping system to the Agency for agreement within six months of the date of grant of this licence. These proposals shall also include the specification of the final cap on cells 1 to 4 inclusive.

4.23.2 Filled cells shall be permanently capped to the specifications agreed with the Agency in 4.23.1 within twelve months of the cells having been filled to the required level.

*Reason: To provide for the protection of the environment*

## **CONDITION 5 WASTE ACCEPTANCE AND HANDLING**

5.1 No hazardous waste shall be disposed of in the landfill. No animal by-products or loads comprising mainly of loose plastic shall be accepted at the facility.

5.2 Subject to Condition 5.1 only those Waste Types and maximum annual quantities listed in Attachment E1, Tables E.1.1 , E.1.2 and E.1.3 of the Waste Licence application (and Article 16 information received) shall be disposed of in the landfill unless the prior written agreement of the Agency has been obtained.

5.3 Construction and demolition waste shall only be used as cover material for nine months following the date of grant of this licence. Within six months of the date of grant of this licence, a proposal for the recovery of construction and demolition waste at the facility shall be submitted to the Agency for approval.

5.4 Within six months of the date of grant of this licence, the licensee shall submit for agreement to the Agency written procedures for the acceptance of waste (to distinguish between inert and non-hazardous) and shall outline the procedures for dealing with hazardous wastes. Once agreed by the Agency, the licensee shall implement these procedures within one month of the date of agreement.

5.5 Within six months from the date of grant of this licence the licensee shall submit for agreement to the Agency proposals for the operation of the facility in adverse wind conditions. Following agreement with the Agency, the recommendations and scope of work resulting from the assessment shall be implemented within two months of the date of agreement.

5.6 Wastes shall be checked at the working face to ensure that they comply with the requirements of the licence. Any wastes deemed to be in contravention of this licence and /or unsuitable for disposal at this facility shall be removed for disposal at an appropriate alternative facility.



- 5.7 The quantity of wastes to be accepted for disposal at the landfill, shall not exceed 130,000 tonnes per annum, unless otherwise agreed in advance with the Agency.
- 5.8 Wastes shall not be deposited in any cell or part of the landfill without the prior agreement of the Agency.
- 5.9 No industrial or sewage sludges shall be accepted at the facility after 2 p.m. from Monday to Friday inclusive.
- 5.10 Scavenging shall not be permitted at the facility.
- 5.11 Waste shall only be accepted at the facility between the hours of 8.00a.m. to 5.00 p.m. Monday to Friday inclusive and 8.00 a.m. to 2.00 p.m. on Saturdays unless subject to the prior written agreement of the Agency.
- 5.12 Unless subject to the prior agreement of the Agency the following shall apply at the landfill:
- a) only one working face shall exist at the landfill at any one time for the deposit of waste other than cover or restoration materials; and,
  - b) the working face of the landfill shall be no more than 2.5 metres in height after compaction, no more than 25 metres wide and have a slope no greater than 1 in 3.
- 5.13 A steel wheeled compactor or other such vehicle as agreed in writing with the Agency shall be used for compacting all waste other than that used for restoration or construction purposes.
- 5.14 In order to prevent the formation of voids, all hollow objects and large articles deposited on the site shall be crushed, broken up, flattened or otherwise treated.
- 5.15 Unless subject to prior written agreement by the Agency, wastes once deposited and covered shall not be excavated, disturbed or otherwise picked over.
- 5.16 No smoking shall be allowed on the facility other than in the Reception Building.

*Reason: To provide for the acceptance and management of wastes authorised under this waste licence*

## CONDITION 6 ENVIRONMENTAL NUISANCES

- 6.1 The licensee shall, at a minimum of one week intervals, inspect the facility and its immediate surrounds for nuisances caused by odours and fly infestations. Written records shall be made of all inspections and any actions taken as a result of these inspections.
- 6.2 The licensee shall on a daily basis inspect the facility and its immediate surrounds for nuisances caused by rodents. Traps shall be positioned at the outer security fence and shall be inspected and changed every fortnight or at such greater frequency as required. Written records shall be made of all inspections and any actions taken as a result of these inspections shall be recorded.
- 6.3 The licensee shall submit control proposals to the Agency for its agreement, within three months from the date of grant of this licence for dealing with fly infestation from the facility. These proposals should include as a minimum, details on insecticide(s) to be used, operator training, mode of application and measures to contain sprays within the facility boundary.
- 6.4 The licensee shall ensure that birds do not give rise to nuisance at the facility or the immediate area of the facility. Within three months from the date of the grant of this licence the licensee shall submit proposals to the Agency for its agreement for bird control at the facility. The use of the bird banger is prohibited. The method used by the licensee to control birds at the facility shall not cause environmental pollution.
- 6.5 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.
- 6.6 The licensee shall submit proposals for road maintenance/improvements traffic control and traffic management along the access roads to the Agency within six months of the date of grant of licence.
- 6.7 The measures and infrastructure as described in Attachment F.5 of the waste licence application shall be applied to control litter at the facility. Waste shall be covered on a daily basis by the use of biodegradable covering or a suitable alternative agreed with the Agency. At the end of the working week a minimum of 150mm of inert material shall be placed over the waste.
- 6.8 All loose litter accumulated within the facility and its environs, excluding that which is deposited on the working face, shall be removed and appropriately disposed of on a daily basis. (In relation to litter accumulated within the environs of the facility, the removal of such litter, in accordance with this condition, shall be subject to the agreement of the relevant landowners).
- 6.9 Any waste placed on or in the vicinity of the facility, other than in accordance with the requirements of this licence, shall be removed by the licensee immediately and in any event by 10:00am of the next working day, after such waste is discovered. Such waste shall be disposed of at an appropriate facility.
- 6.10 The licensee shall ensure that all waste being delivered to the facility is appropriately covered.
- 6.11 In dry weather, site roads and any other areas used by vehicles shall be sprayed with water as and when required to minimise airborne dust nuisance.

- 6.12 The licensee shall ensure that the activities shall be carried out in a manner such that odours do not result in significant impairment of, or significant interference with amenities or the environment beyond the facility boundary.
- 6.13 The licensee shall within three months of the date of grant of this licence submit a proposal to the Agency for agreement for the assessment of the odours arising from the facility. Following agreement of the proposal, the licensee shall undertake the assessment within the timeframe agreed by the Agency.

*Reason: To provide for the control of nuisances*

## **CONDITION 7 EMISSIONS AND ENVIRONMENTAL IMPACTS**

- 7.1 No specified emission from the facility shall exceed the emission limit values set out in *Schedule G: Emissions* subject to Condition of this licence. There shall be no other emissions of environmental significance.
- 7.2 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.
- 7.3 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.
- 7.4 There shall be no clearly audible tonal component in the noise emissions from the activity at the facility boundary.
- 7.5 The following are the trigger levels for landfill gas emissions from the facility measured in any service on 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; and
  - b) Carbon dioxide, greater than or equal to 1.5% v/v.
- 7.6 The trigger levels for PM<sub>10</sub> from the facility measured at any location on the boundary of the facility are:
- 7.6.1. PM<sub>10</sub> greater than 50µg/m<sup>3</sup> for a daily sample
- 7.7 Emission limit values for emissions to water in this licence shall be interpreted in the following way:-
- 7.7.1. For Continuous monitoring:
    - 7.7.1.1. No flow value shall exceed the specified limit.
    - 7.7.1.2. No pH value shall deviate from the specified range.
  - 7.7.2. For Non-Continuous Monitoring:

7.7.2.1. No pH value shall deviate from the specified range.

7.7.2.2. No temperature value shall exceed the limit value.

7.7.2.3. For parameters other than pH, temperature and flow, eight out of ten consecutive results, calculated as daily mean concentration or mass emission values on the basis of flow proportional composite sampling, shall not exceed the emission limit value. No individual result similarly calculated shall exceed 1.2 times the emission limit value.

7.7.2.4. For parameters other than pH, temperature, and flow, no grab sample value shall exceed the concentration emission limit value.

## 7.8 Emissions to Surface Water

7.8.1. The licensee shall submit a proposal to the Agency for its agreement, on the flow control measures (at the leachate treatment facility and in the receiving water) to be implemented to satisfy the relevant conditions and schedules of this licence. This report shall be submitted to the Agency within three months of the date of grant of this licence. This report shall contain as a minimum: the control measures, a leachate discharge flow control loop, the location and design of any sampling and measuring devices on the leachate discharge line and the White River to ensure accurate readings (including backup equipment i.e. staff gauge). No leachate shall be discharged until this report has been agreed with the Agency.

7.8.2. Following agreement with the Agency, the recommendations and scope of work resulting from the assessment shall be implemented within two months of the date of agreement.

7.8.3. All flow meters shall be calibrated, operated and maintained as necessary so they will accurately reflect both the effluent discharge and the receiving water flow.

7.8.4. No leachate shall be discharged to the White River when the flow in the receiving water is less than 6 litres per second.

7.8.5. Treated effluent shall only be discharged from the leachate treatment plant as indicated on Drg. No 7. Rev 3. received by the Agency on 8 September 1998, when there are greater than 20 dilutions in the receiving water. Any treated effluent in excess of this amount shall be returned to the leachate storage lagoon or stored in a dedicated leachate storage tanker.

7.8.6. All lagoon structures on-site shall be inspected and certified fit for purpose on an annual basis by an independent and appropriately qualified chartered engineer. Any remedial works recommended in this report must be implemented within a time-scale to be agreed with the Agency.

7.8.7. The acute toxicity of the undiluted final treated leachate to at least four aquatic species from different trophic levels shall be determined by standardised and internationally accepted procedures and carried out by a competent laboratory. A proposal for toxicity testing shall be submitted to the Agency for its agreement within three months of the date of grant of this licence.

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

7.8.9. The equipment, including backup equipment, specified in Schedule F.6 Effluent Treatment Control of this licence, shall be provided on-site. All treatment/abatement control and monitoring equipment shall be calibrated and

maintained at all times when in use, in accordance with the information submitted in Attachment D.4 of the waste licence application or as otherwise approved by the Agency.

- 7.9 Disposal of Leachate (Prior to commissioning of leachate treatment plant or in the event of breakdown in the operation of the plant)
- 7.9.1. Unless otherwise agreed in writing in advance with the Agency, leachate stored in the leachate storage lagoon shall be periodically removed from the facility for treatment at either the Castletroy WWTP or the Newcastle West WWTP.
- 7.9.2. No substance shall be present in emissions to sewer in such concentrations as would constitute a danger to maintenance personnel working in the sewerage system or as would be damaging to the fabric of the sewer or as would interfere with the biological functioning of a downstream wastewater treatment works.
- 7.9.3. No emission to sewer shall take place which gives rise to any reaction within the sewer or to the liberation of by-products which may be of environmental significance. In particular the emission shall not contain any liquid matter (including petroleum spirits or organic solvents) or thing which is or may be liable to set or congeal at average sewer temperature or is capable of giving off any flammable or explosive gas or any acid, alkali or other substance in sufficient concentration to cause corrosion to sewer pipes, penstock and sewer fittings or the general integrity of the sewer.

*Reason: To control emissions from the facility and provide for the protection of the environment*

## CONDITION 8 RESTORATION AND AFTERCARE

- 8.1 Unless otherwise agreed in advance in writing with the Agency, the final profile of the facility shall be in accordance with that shown in Drawing No. G.1.1 Rev A dated September 1997 and the drawing "landscape Layout" Drg. No. 9765 - LP-01 in Appendix J of the EIS volume 5. Within six months of the date of grant of licence, the licensee shall submit details of landfilling, to achieve final contours, to the Agency for its agreement.
- 8.2 Unless otherwise agreed in advance in writing with the Agency the Restoration and Aftercare Plan for the facility shall be carried out in accordance with the plans submitted in Attachments G.1 and G.2. The licensee shall update these schemes when required in writing by the Agency and submit proposed amendments to the Agency for its agreement.
- 8.3 Landscape Proposals
- Within six months of the date of grant of this licence, the licensee shall submit to the Agency, for its agreement, landscape planting proposals for boundary screening.
- 8.4 Completed areas of the landfill shall be profiled so that no depressions exist in which water may accumulate.
- 8.5 No material or object that is incompatible with the proposed restoration of the site shall be present within one metre of the final soil surface levels.
- 8.6 In areas where tree planting is proposed to be carried out above waste filled areas a synthetic barrier shall be used to augment the clay cap and topsoil and subsoil depths shall be a minimum of 1m unless otherwise agreed in advance in writing with the Agency.
- 8.7 Within six months of the date of grant of this licence, the licensee shall submit a report carried out by an independent and appropriately qualified person to locate the Holy Well (SMR No. 018:093). The report must present conclusions and set out recommendations for preservation of the Holy Well where applicable.

*Reason: To provide for the restoration and aftercare of the facility.*

## CONDITION 9 ENVIRONMENTAL MONITORING

- 9.1 The licensee shall carry out such monitoring and at such frequencies as set out in *Schedule F: Monitoring* and as specified in the Conditions of this licence.
- 9.2 An annual biological assessment of the White River shall be undertaken. This assessment shall use appropriate biological methods such as the EPA Q-rating system for the assessment of rivers and streams.
- 9.3 An annual assessment of the ecology of the site and adjoining habitats shall be undertaken. This assessment shall pay particular attention to species listed in Volume 3 of the EIS which are protected under the Wildlife Act 1976, EU Habitats Directive and the EU Birds Directive.

- 9.4 Notwithstanding the requirement of Condition 9.3, the licensee shall prior to the commencement of future construction works establish the nature and extent of the use of the site by protected species.
- 9.5 Within three months from the date of grant of this licence, the licensee shall submit to the Agency for its agreement details of the permanent gas monitoring system to be installed in the site office and the gas vents to be provided in Cells 6, 7 and 9.
- 9.6 Within three months from the date of grant of this licence, the licensee shall submit to the Agency a drawing showing the location of all private wells within 500m upgradient of the facility and 1km downgradient of the facility boundary and include them in the monitoring programme set out in *Schedule F*.
- 9.7 The licensee shall provide safe and permanent access to all on-site sampling and monitoring points and off-site points as required by the Agency. All ditches and drains located around the perimeter of the site are to be kept clear of silt such that monitoring can be carried out successfully.
- 9.8 Ionic balances shall be carried out on groundwater and surface water monitoring results performed annually.
- 9.9 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 or discharge or environmental parameter.
- 9.10 The licensee shall amend the frequency, locations, methods and scope of monitoring, sampling, analyses and investigations 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.
- 9.11 Unless otherwise agreed in writing with the Agency, a written record shall be kept of the names, qualifications and a summary of relevant experience 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.
- 9.12 The licensee shall clearly label and maintain all sampling and monitoring points so that they may be used for the representative sampling and monitoring of emissions from the facility.
- 9.13 A topographical survey including the void space shall be carried out within three months of the date of grant of this licence. A topographical survey of the entire site shall be carried out annually. The survey shall be in accordance with any written instructions issued by the Agency.

*Reason: To ensure compliance with the requirements of other conditions of this licence by provision of a satisfactory system of measurement and monitoring of emissions*

## **CONDITION 10 CONTINGENCY ARRANGEMENTS**

- 10.1 The licensee shall, within nine 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 situation which may originate on the facility, shall include provision for minimising the effects of any emergency on the environment.

- 10.2 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.
- 10.3 All significant spillages, including all spillages of greater than 100 litres, other than water, occurring at the facility shall be treated as an emergency and immediately cleaned up and dealt with so as to alleviate their effects.
- 10.4 No waste shall be burnt within the boundaries of the facility. A fire at the facility shall be treated as an emergency. Immediate action shall be taken to extinguish it and the appropriate authorities notified.
- 10.5 In the event that monitoring of private wells indicate that the facility is affecting the quantity and/or quality of the water supply this shall be treated as an incident. The licensee shall submit to the Agency for its agreement and within a time specified in writing by the Agency, written proposals for the provision of an alternative supply of water to those affected.
- 10.6 In the event that any monitoring, sampling or observations indicate that an incident has, or may have, taken place, 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;
  - c) isolate the source of the 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;
  - f) identify and put in place measures to avoid reoccurrence of the incident, and;
  - g) identify and put in place any other appropriate remedial action.

*Reason: To provide for the protection of the environment.*

## **CONDITION 11 CHARGES AND FINANCIAL PROVISIONS**

### **11.1. Agency Charges**

- 11.1.1. The licensee shall pay to the Agency an annual contribution of £15,215 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 2000 and subsequent years, not later than January 31 of each year, pay to the Agency this amount updated in accordance with changes in the Consumer Price Index from the date of the licence to the renewal date. The updated amount shall be notified to the licensee by the Agency. For 1999, the licensee shall pay a pro rata amount from the date of this licence to 31<sup>st</sup> December



1999. This amount shall be paid to the Agency within one month of the date of grant of this licence.

- 11.1.2. In the event that the frequency or extent of monitoring or other functions carried out by the Agency needs to be increased due to an incident occurring on or adjacent to the facility and associated with the facility, the licensee shall contribute such sums as determined by the Agency to defraying its costs.

11.2. Financial Provision for Closure, Restoration and Aftercare

- 11.2.1. The licensee shall from a date to be set by the Agency establish and maintain a fund, or other form of approved security, 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 8.2. The type of fund and means of its release/recovery shall be agreed in writing by the Agency prior to its establishment.
- 11.2.2. The fund shall be maintained in an amount always sufficient to underwrite the current Restoration and Aftercare Plan.
- 11.2.3. The licensee shall revise the cost of aftercare and restoration annually and any details of the necessary adjustments to the fund must, within two weeks of the revision, be forwarded to the Agency for agreement. Any adjustment agreed by the Agency shall be effected within four weeks of said written agreement.
- 11.2.4. 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.

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

# SCHEDULE A Waste Activities

Activities authorised by the licence shall be restricted to those described below.

WASTE MANAGEMENT ACT, 1996: THIRD SCHEDULE <sup>Note 1</sup>	
<b>Class 1.</b>	<p><b>Deposit on, in or under land (including landfill).</b></p> <p>This activity is limited to waste disposed of at the landfill prior to 1997 which was placed into unlined cells in the exhausted sand and gravel pit.</p>
<b>Class 2</b>	<p><b>Land treatment, including biodegradation of liquid or sludge discards in soils.</b></p> <p>This refers to sludges from municipal water treatment and wastewater treatment plants as well as non-hazardous industrial sludges which are accepted for landfill at the facility.</p>
<b>Class 4.</b>	<p><b>Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.</b></p> <p>This activity is limited to the storage of leachate in the leachate storage lagoon, a HDPE lined lagoon, prior to treatment.</p>
<b>Class 5.</b>	<p><b>Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment.</b></p> <p>This activity is limited to the disposal of waste at an annual rate not exceeding 130,000 tonnes.</p>
<b>Class 6</b>	<p><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></p> <p>This refers to treatment of leachate on site.</p>
<b>Class 7.</b>	<p><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></p> <p>This activity refers to the treatment of leachate by settlement, filtration or by chemical precipitation or other physico-chemical means, at the leachate treatment plant.</p>
<b>Class 11.</b>	<p><b>Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.</b></p> <p>This activity is limited to the mixing of sludges with other wastes during the landfilling process to ensure that the waste body is a homogenous as possible.</p>
<b>Class 13.</b>	<p><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></p> <p>This activity is limited to the checking and classification of waste arriving at the site before deposition. Emergency storage will be provided for this purpose.</p>

**Note 1: Any reference to an activity Class is to be taken as being from the Third Schedule of the Waste Management Act, 1996, unless otherwise stated.**



**WASTE MANAGEMENT ACT,1996: FOURTH SCHEDULE** <sup>Note 1</sup>

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

This activity is limited to the trial composting of wastes accepted subject to a limit of 1000m<sup>3</sup> at any one time at the facility, subsequent to prior written approval by the Agency.

**Class 3. Recycling or reclamation of metals and metal compounds:**

This activity is limited to metal collection at the facility.

**Class 4. Recycling or reclamation of other inorganic materials:**

This activity is limited to recycling of inorganic materials at the proposed civic amenity facility.

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

This activity is limited to the provision of a landfill gas recovery facility, subsequent to the prior written approval of the Agency.

**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 the use of organic waste which has been fully composted as intermediate cover and in the closure/restoration stage of the landfill

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

This activity is limited to the use of waste at the site as landfill cover material following the composting on site of the waste.

**Class 12. Exchange of waste for submission to any activity referred to in a preceding paragraph of this schedule:**

This activity is limited to the possible exchange of green waste being delivered to the facility in exchange for composted organic material or similar material.

**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 temporary storage of waste prior to inspection prior to recycling on-site.

**Note 1: Any reference to an activity Class is to be taken as being from the Fourth Schedule of the Waste Management Act, 1996, unless otherwise stated.**



## SCHEDULE B Content of the Environmental Management Programme

### Environmental Management Programme

Items specified to be contained in an Environmental Management Programme in the Landfill Operational Practices Manual published by the Agency, or otherwise as agreed in writing with the Agency

Timescale for achieving the objectives and targets listed in the Schedule of Objectives and Targets

Designation of Responsibility for Achieving Targets and Objectives

Active Litter Management Plan (Giving consideration to the need to accept baled waste; improved netting or overhead netting in tipping area)

Other items to be specified in writing by the Agency

# SCHEDULE C      Content of the Annual Environmental Report

## Annual Environmental Report Content <sup>(Note 1)</sup>

Reporting Period.

Waste activities carried out at the facility.

Quantity and Composition of waste received during the reporting period and each previous year

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

Area occupied by waste.

Methods of deposition of waste.

Summary report on emissions (Certified results/data sheets to be attached as Appendices)

Summary of results and interpretations of environmental monitoring including plan of all monitoring locations including 12 digit grid references.

Resource and energy consumption summary.

Proposed development of the site 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 those proposed during the coming year.

Report on restoration of completed cells/ phases.

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

Estimated annual and cumulative quantity of landfill gas emitted from the site.

Estimated annual and cumulative quantity of indirect emissions to groundwater.

Monthly water balance calculation and interpretation.

Meteorological Report.

Schedule of Environmental Objectives and Targets for the forthcoming year.

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

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

Tank, pipeline and bund testing and inspection report.

Lagoon structures inspection report

Report on environmental nuisance control at the facility for the previous year and for the forthcoming year.

Reported incidents summary and complaints summary.

Report on financial provision made under this licence, on management and staffing structure of the facility.

Report on programme for public information.

Note 1. Content to be revised subject to the written agreement of the Agency after cessation of waste acceptance at the facility.

# SCHEDULE D Recording and Reporting to the Agency

Table D.1 Recurring Reports

Report	Reporting Frequency <small>Note 1</small>	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	Eighteen months from the date of grant of licence and one month after the end of each year thereafter.
<b>Record of incidents</b>	As they occur	Within three days of the incident.
<b>Specialised Engineering Works reports</b>	As they arise	Prior to the works commencing.
<b>Bund, tank and container integrity assessment</b>	Every three years	Six months from the date of grant of licence and one month after end of the three year being reported on.
<b>Monitoring of Leachate being discharged from the treatment plant</b>	Monthly	Ten days after end of the month being reported on.
<b>Quarterly Monitoring</b>	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of landfill gas Monitoring of Surface Water Quality Monitoring of Groundwater Quality Monitoring of Leachate levels and Composition in Cells/Lagoon		
<b>Annual Monitoring</b>	Annually	One month after end of the year being reported on.
PM <sub>10</sub> / Dust Monitoring Noise Monitoring Ecological Monitoring Biological Assessment Meteorological Monitoring Void Survey of entire site		Within three months of date of grant of licence and annually thereafter

Note 1: Unless altered at the request of the Agency

Table D.2 Once-off Reports <sup>(see Note 1)</sup>

Report and Contents	Report Submission Date
<b>Environmental Management System</b>	Item (i) within six months, item (ii) within eighteen months and the remainder within twelve months of the date of grant of the licence.
(i)Communication Programme (ii)EMS Proposals (iii)Schedule of Objectives and Targets (iv)Environmental Management Programme (v)Management Structure (vi)Annual Environmental Report	
<b>Infrastructure</b> (i)Wheelwash design proposals (ii) Site notice board (iii) CCTV monitoring system (iv)Proposals for the design of the Public Tipping Area and access road (v) inspection/Quarantine Area proposals (vi)Details of Civic Amenity Proposals and CFC de-gassing procedures (vii)Integrity and water tightness testing report (viii) Location/Preservation of Holy Well (ix) intermediate and Final Capping (x)Specified engineering works	Within three months for (i) to (iii) of the date of grant of this licence. Within six months for items (iv) to (ix) of the date of grant of this licence  Prior to any works in Schedule E being carried out
<b>Surface water, Groundwater, Landfill Gas and Leachate</b>	Within three months for items (i) and (ii), within nine months for items (iii) to (v) of the date of grant of this licence.
(i) Leachate discharge control Proposals (ii) Toxicity testing of treated leachate (iii)Leachate Management / Recirculation / Leachate Storage Lagoon (iv)Groundwater Management Proposals (v)Surface Water Runoff Management Proposals (vi)Active Landfill Gas Control System (vii) Proposals for landfill gas utilisation	Within six months of the date of grant of this licence. Within twelve months of the date of grant of this licence.
<b>Waste Acceptance Procedures</b>	Within six months of the date of grant of this licence
(i) Waste Acceptance Procedures, (ii) High Winds Procedure, (iii) Recovery of C & D waste	
<b>Nuisances</b>  (i) Odour assessment (ii)Proposals to control insect infestation (iii)Bird Control Scheme (iv) Traffic proposals	Items (i) to (iii) within three months of the date of grant of this licence.  Within six months of the date of grant of this licence
<b>Landscape</b>	Within six months of the date of grant of this licence
<b>Environmental Monitoring</b>	Within three months of the date of grant of this licence.
(i) Proposal to include private wells in the monitoring programme (ii) Proposal for additional landfill gas, surface water and groundwater monitoring locations	
<b>Emergency Response Procedures</b>	Within nine months of the date of grant of this licence.
(i) Fire Control / Firewater retention	
(ii) Contingency Arrangements	

Note 1. Other once off-reports may be required in the event of exceedances of trigger levels, emission limit values etc.

## SCHEDULE E Specified Engineering Works

### Specified Engineering Works

Development of Phases and future Cells of the facility including preparatory works.

Landfill cap installation, including temporary and intermediate capping, installation and all other containment works (including any containment works relating to leachate control)

Fencing and site security works.

Installation of wheelwash system

Installation of landfill gas management and monitoring systems

Installation of leachate management, detection, storage, treatment, monitoring and control systems

Installation of alternative drinking water supplies

Installation of groundwater control and/or monitoring systems

Surface water management works

Installation of bunded fuel storage areas

Restoration and Aftercare Works

Any other works notified in writing by the Agency.



## SCHEDULE F Monitoring

### ***F.1 Landfill Gas***

#### **Monitoring Points:**

- 4 Gas vents in cells 1 to 4 inclusive (Refer to Figure 3/Art 16 Rev A., March 1998)
- 2 gas vents per cell (Cells 5, 6, 7 and 9)
- Perimeter Monitoring Locations: C1 to C15 inclusive
- Site office

The frequency, locations and method of sampling and analysis is listed in Table F.1:



Table F.1 Landfill Gas Monitoring

Parameter	Monitoring Frequency		Analysis Method <sup>1</sup> /Technique <sup>2</sup>
	Perimeter Boreholes/Gas Vents/Wells within the waste	Site Office	
<b>Methane (CH<sub>4</sub>) % v/v</b>	Monthly	Weekly	Infrared analyser/flame ionisation detector
<b>Carbon dioxide (CO<sub>2</sub>) % v/v</b>	Monthly	Weekly	Infrared analyser/ flame ionisation detector
<b>Oxygen (O<sub>2</sub>) %v/v</b>	Monthly	Weekly	Infrared analyser
<b>Atmospheric Pressure</b>	Monthly	Weekly	Standard
<b>Temperature</b>	Monthly	Weekly	Standard
<b>Minor landfill gas constituents</b>	Annual	Annual	See Note 2

Note 1: All monitoring equipment used should be intrinsically safe. Perimeter boreholes shall be monitored by use of flame ionisation detector.

Note 2: Sampling to be carried out for minor landfill gas constituents (e.g. H<sub>2</sub>S, mercaptans, aliphatic acids etc.) as required by the Agency following evaluation of monthly results.



## F.2 Dust/PM<sub>10</sub>

Table F.2.1 Dust/PM<sub>10</sub><sup>Note 1</sup> Monitoring Locations

STATION	EASTING	NORTHING
D1 <sup>Note 2</sup>	12188	14373
D2 <sup>Note 2</sup>	12231	14378
D3	Location to be agreed with the Agency within three months	
D4	Location to be agreed with the Agency within three months	

Note 1. PM<sub>10</sub> monitoring shall be performed at 3 monitoring locations to be agreed with the Agency

Note 2. As per Drawing No 1 Rev B - December 1997

The frequency of sampling and analysis is listed in the following table:

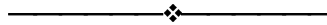
Table F.2.2 Dust Monitoring

Parameter	Monitoring Frequency	Analysis Method/Technique
Dust	Annually <sup>Note 1</sup>	Standard Method <sup>Note 2</sup>
PM <sub>10</sub>	Annually	See Note 3

Note 1 : During the period May to September, or as otherwise specified in writing by the Agency.

Note 2: Standard method VDI2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Engineering Institute) or an alternative agreed in writing with the Agency.

Note 3. As described in prEN12341 "Air Quality - field test procedure to demonstrate reference equivalence of sampling methods for PM10 fraction of particulate matter" or an alternative agreed in writing with the Agency.



## F.3 Noise

**Noise Monitoring Locations:** M1 to M11 inclusive as per Drawing No 1 Rev B, December 1997.

The frequency of sampling and analysis is listed in Table F.3:

Table F.3 Noise Monitoring

Parameter	Monitoring Frequency	Analysis Method/Technique
L(A) <sub>EQ</sub> [30 minutes]	Annual	Standard <sup>Note 1</sup>
L(A) <sub>10</sub> [30 minutes]	Annual	Standard <sup>Note 1</sup>
L(A) <sub>90</sub> [30 minutes]	Annual	Standard <sup>Note 1</sup>
Frequency Analysis(1/3 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."



## F.4 Surface Water

### F.4.1 Surface Water Monitoring Locations:.

- S1 to S8 (except S5) as per Drawing No 2/ Art 16 Rev B received March 18 1998
- Two other monitoring locations to be agreed with the Agency (one at eastern perimeter drain, one at northern perimeter drain) within three months of date of licence.
- Exit from storm water retention pond.

#### Monitoring Frequency:

- The frequency of sampling and analysis is listed in Table F.4.1.

Table F.4.1 Water and Leachate - Parameters /Frequency

Parameter (Note 1)	SURFACE WATER Monitoring Frequency (Note 2)	GROUNDWATER Monitoring Frequency	LEACHATE (in cells/storage lagoon) Monitoring Frequency
Visual Inspection / Odour	Weekly	Quarterly	Quarterly <sup>(Note 3)</sup>
Groundwater Level	N/A*	Monthly	N/A
Leachate level	N/A	N/A	Weekly
Ammoniacal Nitrogen	Quarterly	Monthly	Quarterly
BOD	Quarterly	N/A	Quarterly
COD	Quarterly	N/A	Quarterly
Chloride	Quarterly	Quarterly	Quarterly
Dissolved Oxygen	Quarterly	Quarterly	N/A
Electrical Conductivity	Quarterly	Monthly	Quarterly
pH	Quarterly	Monthly	Quarterly
Total Suspended Solids	Quarterly	N/A	Quarterly
Temperature	Quarterly	Monthly	Quarterly
Boron	N/A	Annually	Annually
Cadmium	Annually	Annually	Annually
Calcium	Annually	Annually	Annually
Chromium (Total)	Annually	Annually	Annually
Copper	Annually	Annually	Annually
Cyanide (Total)	N/A	Annually	Annually
Fluoride	N/A	Annually	Annually
Iron	Annually	Annually	Quarterly
Lead	Annually	Annually	Annually
List I/II organic substances (Note 4)	Annually	Annually	Annually
Magnesium	Annually	Annually	Annually
Manganese	Annually	Annually	Annually
Mercury	Annually	Annually	Annually

Table F.4.1 (Continued) Water and Leachate - Parameters /Frequency

Parameter (Note 1)	SURFACE WATER Monitoring Frequency <sup>Note 2)</sup>	GROUNDWATER Monitoring Frequency	LEACHATE Monitoring Frequency
Potassium	Annually	Quarterly	Quarterly
Sulphate	Annually	Annually	Annually
Sodium	Annually	Quarterly	Quarterly
Total Alkalinity	Annually	Annually	Annually
Total Phosphorus or orthophosphate	Annually	Annually	Annually
Total Oxidised Nitrogen	Annually	Quarterly	Quarterly
Total Organic Carbon	N/A	Quarterly	N/A
Residue on evaporation	N/A	Annually	N/A
Zinc	Annually	Annually	Annually
Faecal Coliforms	N/A	Annually <sup>Note 5</sup>	Annually <sup>Note 5</sup>
Total Coliforms	N/A	Annually <sup>Note 5</sup>	Annually <sup>Note 5</sup>

\* N/A means not applicable

Note 1. All the analysis shall be carried out by a competent laboratory using standard and internationally accepted procedures. The testing laboratory and the testing procedures shall be agreed in writing with the Agency in advance.

Note 2. Monitoring of locations S1 and S6 shall be quarterly for all parameters for year 1.

Note 3: Where there is evident gross contamination of leachate, additional samples should be analysed.

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 methods include : volatiles (US EPA method 524 or equivalent), semi-volatiles (US EPA method 525 or equivalent, and pesticides (US EPA method 608 or equivalent).

Note 5. If there is evidence of bacterial contamination, the analysis at upgradient and downgradient monitoring points should include enumeration of total bacteria at 22°C and 37°C and faecal streptococci.

### F.4.2 Discharge to Surface Water

**Monitoring Locations:** As outlined in F.4.1

The frequency of flow measurement is listed in Table F.4.2.

Table F.4.2 Flow measurements - frequency of sampling and analysis

Parameter	Location	Monitoring Frequency	Analysis Method/Technique
Flow measurements	Location on White River to be agreed with the Agency	Continuous <sup>Note 1</sup>	Standard method <sup>note 2</sup>
Flow measurements	All other monitoring locations	Quarterly	Standard method <sup>Note 2</sup>

Note 1: Proposals for continuous flow meter and backup equipment within three months from the date of grant of this licence. No discharge of treated leachate until proposals have been agreed in writing with the Agency and implemented.

Note 2: To be agreed in advance with the Agency.

### F.4.3 White River

**Monitoring Locations:** CS Site Codes A,B,C, D as per MAP 4 - Location of Invertebrate Sampling Sites in Volume 3 of EIS. Grid References as per Appendix 3 of EIS.

Table F.4.3 White River - frequency of sampling and analysis.

Parameter	Monitoring Frequency	Analysis Method/Technique
Visual Inspection of the river	Weekly	Not applicable
Biological Assessment	Annually	Appropriate biological methods (such as EPA Q-Rating System to be used for the assessment of rivers and streams)



### F.5 Groundwater.

**Groundwater monitoring locations /frequency:**

- The frequency of sampling and analysis is listed in Table F.4.1
- BH2, BH10, BH13, SA1, SA2, SA4, SA5, Collins Well (new) as outlined in the application
- New locations to be agreed within three months of date of licence - 1 upgradient and 1 downgradient
- All private wells within 500m upgradient and 1km downgradient of the facility boundary to be sampled on an annual basis for the following as a minimum: ammoniacal N, EC, K, Na, TOC and bacteriological. A written report and interpretation shall accompany the analysis results.

### F.6 Leachate

Table F.6.1 Leachate Monitoring Locations and Frequency

Monitoring Medium	Parameters	Frequency		Monitoring Points
		Operational	Aftercare	
Leachate in cells /storage lagoon	Leachate levels in cells	Weekly	Monthly	Note 1
	Leachate level in storage lagoon	Daily Visual	Monthly	Level of freeboard in lagoon
	Leachate composition analysis as per Table F.4.1	As per Table F.4.1 See Note 2	See Note 2	Minimum of one point per cell One point per lagoon

Note 1: Monitoring in each cell at leachate collection point and at least two other points per hectare of cell

Note 2: For permanently capped cells or cells in aftercare phase monitoring shall be at half the frequency specified in Table F.4.1 with a minimum of once per annum.



Table F.6.2 Monitoring of Leachate Treatment Plant- Parameters /Frequency (when operational)

**Emission Point Reference No.:** TE-1  
**Grid Reference** 122252E 143357N  
**Description of Treatment:** Leachate Treatment Plant  
**Source of Emission** Effluent from leachate treatment plant

Monitoring to be Carried Out <sup>1</sup>	Monitoring Frequency <sup>1</sup>	Monitoring Equipment/Method <sup>1</sup>
<b>Extended Aeration Lagoon</b>		
Dissolved Oxygen	Continuous	DO Meter/Recorder
pH	Continuous	pH Meter/Recorder
CBOD	Weekly	Standard Methods
COD	Weekly	Standard Methods
Ammonia	Weekly	Ammonia ion selective electrode
Conductivity	Weekly	Conductivity Meter
Suspended Solids	Weekly	Standard Methods
Sludge floc microscopy	Weekly	Standard Methods
Sludge Volume Index	Weekly	Standard Methods
F/M ratio	Weekly	Standard Methods
<b>Settling Lagoon &amp; Clarifier</b>		
Suspended Solids	Weekly	Standard Methods
<b>Sand Bed Filter</b>		
Suspended Solids	Weekly	Standard Methods

Note 1. The frequency, methods and scope of monitoring, sampling and analysis may be amended following evaluation of results.

Table F.6.3 Monitoring of Treated Leachate Discharge - Parameters /Frequency

Parameter	Monitoring Frequency	Analysis Method/Technique <sup>1</sup>
<b>Treated Effluent Flow</b>	Continuous	On-line flow meter with recorder
<b>pH</b>	Continuous	pH electrode/meter and recorder
<b>Temperature</b>	Daily	Standard Methods
<b>Chemical Oxygen Demand</b>	Daily <sup>Note 2,3</sup>	Standard Methods
<b>Carbonaceous Biochemical Oxygen Demand</b>	Weekly <sup>Note 2,3</sup>	Method to be agreed with the Agency <sup>Note 4</sup>
<b>Suspended Solids</b>	Daily <sup>Note 2,3</sup>	Standard Methods
<b>Total Ammonia (as N)</b>	Daily <sup>Note 2,3</sup>	Standard Methods
<b>Nitrite /TON (as N)</b>	Weekly <sup>Note 2,3</sup>	Standard Methods
<b>Total Phosphorus</b>	Weekly <sup>Note 2,3</sup>	Standard Methods
<b>Toxicity</b>	Biannual	To be agreed with the Agency

Note 1: Or an equivalent method acceptable to the Agency

Note 2: Samples to be collected on a flow proportional composite sample basis

Note 3: The frequency, methods and scope of monitoring, sampling and analysis may be amended following evaluation of the test results.

Note 4: Analysis for Carbonaceous BOD shall include the addition of a nitrification inhibitor.

Table F.6.4 Leachate Treatment Plant Control (See Note 1)

Control parameter	Equipment	Equipment maintenance	Backup Equipment
<b>Extended Aeration Lagoon</b>			
Effluent Transfer	Submersible pumps	Daily visual check	Spares held on site
Dissolved Oxygen	Aerators, sub-surface mixers	Daily visual check	Spares to be held on site
Dissolved Oxygen	DO meter	Daily visual check	Portable DO meter
<b>Clarifier</b>			
Return sludge	Sludge return pumps	Daily visual check	Stand-by pumps
Effluent Transfer	Gravity flow /forward feed pumps	Daily visual check	Spares held on site
<b>Settling Lagoon, Sand Bed Filter &amp; Peat Bed Filter</b>			
Flow	Distribution network	Daily visual check	Spares held on site

Note 1: The parameters and equipment used for the control of the leachate treatment plant may be amended following evaluation of results.

### F.7 Meteorological Monitoring

The frequency of sampling and analysis is listed in the Table F.7:

**Monitoring Location:** Data to be obtained from on-site meteorological station which shall be installed within six months of date of grant of licence. Information from Shanagolden, Co. Limerick weather station until this date.

**Table F.7 Meteorological Monitoring**

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	Daily	Standard
Humidity	Daily	Standard
Atmospheric Pressure	Daily	Standard

### F.8 Ecological Monitoring

Parameter	Monitoring Frequency	Method/
Ecological Monitoring	Annual	See Note 1

Note 1. Ecological monitoring of the site and adjoining habitats to be agreed in advance with the Agency.

## SCHEDULE G Emission Limits

### G.1 Noise Emissions At Noise Sensitive Locations.

Day dB(A) $L_{eq}$ (30 minutes)	Night dB(A) $L_{eq}$ (30 minutes)
55	45

### G.2 Dust Deposition Measured at the dust monitoring points outlined in Table F.2.1

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.

### G.3 Landfill Gas Emission Limits measured in any building on or adjacent to the facility

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



**G.4 Leachate Emission Limits** Emission Point Reference No.: TE-1

**Volume to be emitted:** Maximum in any one day: 120m<sup>3</sup>/day

Maximum rate per second: 1.38 l/s

**Time of emission** Minimum river flow of 6 l/s and must be greater than 20 dilutions of effluent at all times.

Parameter	Limit
	(all units in mg/l except pH)
pH	6-8
BOD	5
COD	15
Suspended Solids	5
Total Oxidised N (as N)	15
Total P (as P)	2
Total Ammonia (as N)	3

**G.5 Leachate Tankered to Wastewater Treatment Plant**

**Volume to be emitted:** Maximum in any one day: 120m<sup>3</sup>/day <sup>(Note 1)</sup>

Parameter	Limit (mg/l)
pH	6-9
BOD	300
COD	750
Suspended Solids	400
Total Ammonia (as N)	100

Note 1: This shall be a maximum of 60m<sup>3</sup>/day to Castletroy WWTP and 60m<sup>3</sup>/day to Newcastle West WWTP.

**Given** by the Agency on the 30<sup>th</sup> day of June 1999 .

**Signed on behalf of the said Agency** \_\_\_\_\_

on the 30<sup>th</sup> day of June 1999

P. Nolan

**Authorised Person**