

**LICENCE REG NO 34-1 HAS BEEN REVISED**  
**Please note that licence Reg No 34-1 was reviewed and replaced by the**  
**revised licence Reg. No. 34-2**

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

## WASTE LICENCE

**Waste Licence**                      34-1  
**Register Number:**  
**Licensee:**                              Dundalk Urban District Council  
**Location of Facility:**              Dundalk Landfill Facility, Newry Road,

Dundalk, County Louth.

# ***Table of Contents***

	Page No.
<b>REASONS FOR THE DECISION</b>	<b>1</b>
<b><i>PART I ACTIVITIES LICENSED</i></b>	<b>1</b>
<b>INTERPRETATION</b>	<b>3</b>
<b><i>PART II CONDITIONS</i></b>	<b>7</b>
<b>CONDITION 1 SCOPE</b>	<b>7</b>
<b>CONDITION 2 MANAGEMENT OF THE ACTIVITY</b>	<b>7</b>
<b>CONDITION 3 NOTIFICATION AND RECORD KEEPING</b>	<b>9</b>
<b>CONDITION 4 SITE INFRASTRUCTURE</b>	<b>12</b>
<b>CONDITION 5 WASTE MANAGEMENT</b>	<b>18</b>
<b>CONDITION 6 ENVIRONMENTAL NUISANCES</b>	<b>22</b>
<b>CONDITION 7 EMISSIONS AND ENVIRONMENTAL IMPACTS</b>	<b>24</b>
<b>CONDITION 8 RESTORATION AND AFTERCARE</b>	<b>26</b>
<b>CONDITION 9 ENVIRONMENTAL MONITORING</b>	<b>26</b>
<b>CONDITION 10 CONTINGENCY ARRANGEMENTS</b>	<b>29</b>
<b>CONDITION 11 CHARGES AND FINANCIAL PROVISIONS</b>	<b>30</b>
<b>SCHEDULE A : Content of the Environmental Management Programme</b>	<b>32</b>
<b>SCHEDULE B : Content of the Annual Environmental Report</b>	<b>33</b>
<b>SCHEDULE C : Recording and Reporting to the Agency</b>	<b>34</b>
<b>SCHEDULE D : Specified Engineering Works</b>	<b>35</b>
<b>SCHEDULE E : Monitoring</b>	<b>36</b>
<b>SCHEDULE F : Emission Limits</b>	<b>41</b>
<b>SCHEDULE G : Waste Acceptance</b>	<b>42</b>
<b>SCHEDULE H : Compost Quality</b>	<b>43</b>

## Reasons for the Decision <sup>{tc " Reasons for the</sup> decision " \f C \ 1 }

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 and objections received and the reports of its inspectors.

### **Part I Activities Licensed <sup>{tc "Part I Activities</sup> Licensed" \f C \ 1 }**

In pursuance of the powers conferred on it by the Waste Management Act, 1996, the Environmental Protection Agency (the Agency), under Section 40(1) of the said Act hereby grants this Waste Licence to Dundalk Urban District Council to carry on the waste activities listed below at Dundalk Landfill Facility, Newry Road, Dundalk, County Louth subject to eleven 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 1.</b>	<p><b>Deposit on, in or under land (including landfill):</b></p> <p>This activity is limited to landfilling of waste in the existing landfill for a period not exceeding eighteen months from the date of grant of this licence.</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 disposal at the landfill of a maximum 3,100 tonnes/annum of treated sewage sludge and 1,200 tonnes per annum of industrial non-hazardous sludges.</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 temporary storage of waste at the Civic Waste Facility in containers prior to disposal at the landfill while in operation or an alternative appropriate facility.</p>

#### *Licensed waste recovery activities, in accordance with the Fourth Schedule of the Waste Management Act, 1996*

<b>Class 2.</b>	<p><b>Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes):</b></p> <p>This activity is limited to composting of green waste, source separated organic waste and the recovery of recyclable organic materials deposited at the Civic Waste Facility.</p>
<b>Class 3.</b>	<p><b>Recycling or reclamation of metals and metal compounds:</b></p> <p>This activity is limited to the storage of white goods and other recyclable metals deposited at the Civic Waste Facility.</p>
<b>Class 4.</b>	<p><b>Recycling or reclamation of other inorganic materials:</b></p> <p>This activity is limited to the collection of glass and the recovery and reuse of construction and demolition waste at the Civic Waste Facility and the reuse of inert waste for landfill restoration and construction works.</p>
<b>Class 10.</b>	<p><b>The treatment of any waste on land with a consequential benefit for an agricultural activity or ecological system:</b></p>

	<p>This activity is limited to spreading of compost or other wastes on the landfill as part of restoration of the landfill.</p>
<b>Class 11.</b>	<p><b>Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule:</b></p> <p>This activity is limited to the reuse of compost and inert waste for landfill restoration purposes.</p>
<b>Class 13.</b>	<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 activities at the Civic Waste Facility and the temporary storage of recyclable and reusable wastes pending their collection.</p>

# INTERPRETATION {tc "INTERPRETATION" \f C \l 1}

<b>Act</b>	The Waste Management Act, 1996 (No. 10 of 1996).
<b>Aerosol</b>	A suspension of solid or liquid particles in a gaseous medium.
<b>Adequate lighting</b>	20 lux measured at ground level.
<b>Agreement</b>	Agreement in writing.
<b>Attachment</b>	Any reference to Attachments in this licence refers to attachments submitted as part of the waste licence application.
<b>Application</b>	The application by the licensee for this waste licence, including any 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>Appropriate facility</b>	A waste management facility, duly authorised under relevant law and technically suitable.
<b>BATNEEC</b>	Best Available Technology Not Entailing Excessive Cost as defined in Section 5 (2) of the Act.
<b>Biannually</b>	Twice a year at six monthly intervals.
<b>Biodegradable waste</b>	Any waste that is capable of undergoing anaerobic or aerobic decomposition, such as food and garden waste, and paper and paperboard.
<b>Civic Waste Facility</b>	A facility at which waste may be deposited by members of the public. Referred to in the application as a Civic Waste Facility.
<b>Commercial waste</b>	As defined in Section 5 (1) of the Act.
<b>Composting</b>	An aerobic treatment method for the decomposition of biodegradable waste.
<b>Condition</b>	A condition of this licence. In any case where this licence refers to a numbered condition, the reference shall be taken to mean the condition and any sub-condition therein which the context of the reference requires that reference is made to.
<b>Containment boom</b>	A boom which can contain spillages and prevent these from entering drains or watercourses.
<b>Cover material</b>	Bricks, crushed concrete, tarmac, earth, soil, sub-soil, stone, rock or other similar natural materials; or other cover material the use of which has been agreed with the Agency.
<b>Daytime</b>	8.00 a.m. to 10.00 p.m.
<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>Emission</b>	As defined in Section 5 (1) of the Act.
<b>Emission Limit Value</b>	Those limits, including concentration limits and deposition levels established in <i>Schedule F: Emission Limits</i> of this licence.
<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>	That area or areas defined under Condition 1.2.
<b>FAS Waste Management Training Programme</b>	A competency based certification to meet the EPA Waste Management Integrated Licensing requirements.
<b>Foreign matter</b>	Any matter over a 2 mm dimension that results from human intervention and having organic or inorganic constituents such as metal, glass and synthetic polymers (e.g. plastic and rubber) that may be present in the compost but excluding mineral soils, woody material and rocks.
<b>Green waste</b>	Waste wood, plant matter and other vegetation.
<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>Inert waste</b>	Waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.
<b>Incident</b>	Any reference to an incident in this licence means an incident as defined in Condition 3.1.
<b>Industrial waste</b>	As defined in Section 5 (1) of the Act.
<b>Landfill</b>	As defined in Section 5 (1) of the Act.
<b>Landfill Directive</b>	Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste.
<b>Landfill Gas</b>	Gases generated from the landfilled waste.

<b>Landfill Manuals</b>	Landfill manuals published by the Agency pursuant to Section 62 of the EPA Act 1992.
<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>	Dundalk Urban District 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.
<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>Mobile Plant</b>	Self-propelled machinery used for the emplacement of wastes or for the construction of specified engineering works
<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>	10.00 p.m. to 8.00 a.m.
<b>Non-hazardous waste</b>	Non-Hazardous Waste is any waste which is not a hazardous waste as defined in the Act.
<b>Putrescible waste</b>	Biodegradable waste with the potential to give rise to an offensive odour.
<b>Quarterly</b>	A period of three calendar months, the first period of which commences on the date of grant of this licence.
<b>Recovery</b>	As defined in Section 4 (4) of the Act.
<b>Sample(s)</b>	Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments.
<b>Soil Improver</b>	Materials sold as end user products for gardening to be added to the soil to improve at least its physical condition or its physical and biological condition without causing harmful effects.
<b>Sludge</b>	The accumulation of solids resulting from chemical coagulation, flocculation and/or sedimentation after water or wastewater treatment with between 2% and 14% dry matter.
<b>Specified Emissions</b>	Those emissions listed in <i>Schedule F: Emission Limits</i> of this licence.
<b>Specified</b>	Those engineering works listed in <i>Schedule D: Specified Engineering</i>



<b>Engineering Works</b>	<i>Works</i> of this licence.
<b>Submit</b>	Unless the context of this licence indicates otherwise, submit in writing to the Agency for its agreement.
<b>Treated Sludge</b>	Sludge which has undergone biological, chemical or heat treatment, long-term storage or any other appropriate process so as significantly to reduce its fermentability and the health hazards resulting from its use.
<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 other similar appliances.
<b>Working Day (Agency)</b>	9.00 a.m. to 5.30 p.m. Monday to Friday.
<b>Working Face</b>	The area of the site in which waste other than cover material or material for the purposes of the construction of specified engineering works is being deposited.

# **Part II CONDITIONS**

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## **CONDITION 1 SCOPE**

- 1.1. Waste activities at the facility shall be restricted to those listed and described in Part I: Activities Licensed and required by the licence.
- 1.2. Waste activities shall be restricted to the area of land outlined in red on Drawing No. 4606.01/B2A "Site Plan" of the application. Any reference in this licence to "facility" shall mean the area thus outlined in red.
- 1.3. 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. 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:
  - a) 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;
  - b) 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,
  - c) 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 twelve 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 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.

2.1.2 The EMS shall include as a minimum those elements specified in the Conditions 2.2 to 2.7 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, within 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 A: Content of the Environmental Management Programme* of this licence. The EMP shall be reviewed and submitted to the Agency for its agreement annually.

## 2.4 Corrective Action

2.4.1 Within nine months of the date of grant of this licence 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 Within six months of the date of grant of this licence 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

Within three 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) a named contact person for communications with the Sanitary Authority
- c) details of the responsibilities for each individual named under a) above;
- d) details of the relevant experience, competence and qualifications held by each of the persons nominated under a) above; and

- e) contingency arrangements for the absences of the named persons from the facility.

## 2.7 Communications

- 2.7.1 Within nine months from the date of grant of this licence, the licensee shall submit to the Agency for its agreement a Communications Programme to ensure that members of the public can obtain information concerning the environmental performance of the facility at all reasonable times. A community liaison committee shall be established which will facilitate communications between representatives of the local residents and the licensee.

## 2.8 Annual Environmental Report

- 2.8.1 The licensee shall submit to the Agency for its agreement, within thirteen months from the date of grant of this licence, and within one month of the end of each year thereafter, an Annual Environmental Report (AER).
- 2.8.2 The AER shall include as a minimum the information specified in *Schedule B: Content of Annual Environmental Report* of this licence 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. Both the facility manager and deputy shall successfully complete both the FAS waste management training programme (or equivalent agreed with the Agency) and associated on site assessment appraisal. They shall obtain certification, within 12 months of the date of grant of this licence, that both have successfully completed the training programme and that both are competent to manage the facility. Furthermore, any replacement site manager or deputy must have a similar qualification.

- 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 nuisance caused by the activity;
  - b) any emission which does not comply with the requirements of this licence;
  - c) any trigger level specified in this licence which is attained or exceeded;
  - d) any indication that environmental pollution has, or may have, taken place; and,
  - e) any emergency.

- 3.2 The written record shall include all aspects described in Condition 10.6(a-e).
- 3.3 Unless otherwise instructed in writing by the Agency, the licensee shall:
- a) notify the Agency as soon as practicable by telephone and facsimile and in any case not later than 10.00 a.m. the following working day after the occurrence of any incident;
  - b) submit the written record required by this condition to the Agency as soon as practicable and in any case within five working days after the occurrence of any incident; and
  - c) in the event of any incident which relates to discharges to surface water, notify Eastern Regional Fisheries Board as soon as practicable by telephone and in writing (facsimile), and in any case not later than 10.00 a.m. on the following working day after such an incident.
- 3.4 Should any further actions be taken after the date of written 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.
- 3.5 Unless otherwise agreed by the Agency, all documentation submitted to the Agency shall:
- (a) be sent to the Agency's headquarters;
  - (b) comprise one original and three copies;
  - (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 with the relevant reporting frequencies specified by this licence; and
  - (g) in the case of results of any environmental monitoring, be accompanied by a written interpretation setting out their significance.
- 3.6 Copies of all environmental monitoring data obtained by the licensee which relates to the facility shall be forwarded to the Agency at the frequencies set out in *Schedule C: Recording and Reporting to the Agency* of this licence.
- 3.7 Unless otherwise agreed with the Agency, all documentation and records required to be made under this licence shall be retained by the licensee.
- 3.8 The licensee shall provide additional copies of any documentation and records referred to in this licence to the Agency upon written request, within the time specified in writing by the Agency.
- 3.9 The licensee shall keep the following documents at the facility office referred to in Condition 4.6.
- 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.
- 3.10 The licensee shall maintain a written record for each load of waste arriving at the facility excluding those arriving at the Civic Waste Facility. The licensee shall record the following:
- a) the date;
  - b) the name of the carrier (including if appropriate, the waste carrier registration details);
  - c) the vehicle registration number (other than the registration number of private vehicles);
  - d) the name and trading address of the producer(s)/collector(s) of the waste as appropriate;
  - e) the name of the waste facility (if appropriate) from which the load originated including the waste licence or waste permit register number;
  - f) a description of the waste including the associated EWC codes;
  - g) the quantity of the waste, recorded in tonnes;
  - h) the name of the person checking the load; and,
  - i) where loads or wastes are removed or rejected, details of the date of occurrence, the types of waste and the facility to which they were removed.
- 3.11 The licensee shall maintain a written record of the type and quantity, recorded in tonnes, of all wastes recovered or disposed of at the facility.
- 3.12 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.
- 3.13 The licensee shall maintain a written record of all complaints relating 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.
- 3.14 The licensee shall assign and clearly label a unique reference code to each container at the Civic Waste Facility. A written record shall be kept for each load of waste departing from the facility. The following shall be recorded:
- a) the name of the carrier;
  - b) the vehicle registration number;
  - c) the destination of the waste (facility name and waste licence/permit number as appropriate);

- d) a description of the waste (if recovered or rejected waste, the specific nature of the waste);
  - e) the quantity of waste, recorded in tonnes;
  - f) the name of the person checking the load; and,
  - g) the time and date of departure.
- 3.15 Provision shall be made for the transfer of environmental information specified by the Agency, in relation to the activities carried on under this licence, to the Agency's computer system within a timescale specified in writing by the Agency.

**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 or as instructed by the Agency.
- 4.2 Specified Engineering Works
- 4.2.1 The licensee shall submit written proposals for all Specified Engineering Works, as defined in *Schedule D: Specified Engineering Works* of this licence, to the Agency for its agreement at least two months prior to the intended date of commencement of any such works. No such works shall be carried out without the prior agreement of the Agency.
  - 4.2.2 All specified engineering works shall be supervised by a competent person(s) and that person, or persons, shall be present at all times during which relevant works are being undertaken.
  - 4.2.3 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) where relevant a drawing and sections showing the location of all samples and tests carried out;
    - e) where relevant 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.
- 4.3 Site Notice Board

4.3.1 The licensee shall provide and maintain a Site 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.

4.3.2 The board shall clearly show:

- a) the name and telephone number of the facility;
- b) the normal hours of opening;
- c) the name, 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 and when environmental monitoring information relating to the facility can be obtained.

#### 4.4 Site Security

4.4.1 Security and stockproof fencing and gates shall be installed and maintained as described in Attachment D1a of the application. The security fence and gates shall be at the locations shown on Drawing No. 4606.01/D1 "Site Infrastructure" and shall be installed around the unfenced areas within six months of the date of grant of this licence. The base of the fencing shall be set in the ground.

4.4.2 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 or as otherwise agreed with the Agency.

4.4.3 Gates shall be locked shut when the facility is unsupervised.

4.4.4 The CCTV system shall be maintained at the weighbridge office and all record kept for a minimum of one week.

#### 4.5 Site Roads and Hardstanding

4.5.1 The access roads shall be provided and maintained at the locations shown on Drawing No. 4606.01/D1 "Site Infrastructure" in Attachment D.1a and as shown on Drawing G019-25(A), Sept 1998 "General Arrangement Proposed Site Layout", unless otherwise agreed with the Agency.

4.5.2 The facility entrance area, the access road to the Civic Waste Facility, the Civic Waste Facility itself and the Recycling Area shall be paved and maintained in accordance with Drawing No. G019-30, Feb 1999 "Site Entrance Details", unless otherwise agreed with the Agency.

4.6 The licensee shall maintain the existing gate office and recycling building office on the facility at the location shown in Drawing No. G019-25(A), Sept 1998 "General Arrangement Proposed Site Layout". The offices shall be capable of processing and storing of documentation.

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

#### 4.8 Inspection and Quarantine Area



- 4.8.1 Within six months of the date of grant of licence a Waste Inspection Area and a Waste Quarantine Area shall be provided and maintained at a location to be agreed with the Agency.
- 4.8.2 The licensee shall ensure that 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 suitably and clearly segregated from each other.
- 4.8.3 Drainage from these areas shall be directed to the leachate collection system or foul sewer, unless otherwise agreed with the Agency.
- 4.9 The licensee shall provide and maintain the existing weighbridge at the facility. Unless otherwise agreed with the Agency the location of the weighbridge shall be as shown on Drawing No.G019-25(A), Sept 1998 "General Arrangement Proposed Site Layout".
- 4.10 Wheelwash
  - 4.10.1 Unless otherwise agreed with the Agency, the licensee shall maintain the wheelwash/dry wheel shake unit out at the facility in accordance with the specification shown in Drawing No.G019-09 "Truck Wheel Wash" and the location of the wheelwash shall be as shown on Drawing No. G019-25(A), Sept 1998 "General Arrangement Proposed Site Layout".
  - 4.10.2 The wheelwash 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 cleaner and disposed of at the working face or to a skip. The wheelwash water shall drain only to the leachate collection system or foul sewer, unless otherwise agreed with the Agency.
- 4.11 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.
- 4.12 Waste Water

Sewage arising on-site shall be collected and disposed of to foul sewer as shown on Drawing No. G019-25(A) "General Arrangement Proposed Site Layout".
- 4.13 Storage Areas
  - 4.13.1 The licensee shall provide and maintain a bunded fuel storage area and a bunded waste oil storage area at the facility. Unless otherwise agreed with the Agency the location of the fuel storage area shall be within the main recycling building. Fuels shall only be stored at the agreed location.
  - 4.13.2 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.
  - 4.13.3 All drainage from bunded areas shall be diverted for collection and safe disposal.
  - 4.13.4 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.
  - 4.13.5 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 at the facility. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.

4.13.6 All tanks and containers including tankers used to transport leachate from the facility shall be labelled to clearly indicate their contents.

#### 4.14 Leachate Management

4.14.1 Within twelve months of the date of grant of this licence, the licensee shall install, commission and maintain a leachate management system at the facility for the protection of surface waters and groundwater. The leachate management system shall include the following:

- measures for the abstraction of leachate from the waste and its pre-treatment at the facility, if necessary, prior to treatment at Dundalk Waste Water Treatment Plant;
- the installation of a vertical barrier, or other appropriate measures agreed by the Agency, in order to prevent contaminated leachate/groundwater from entering the Castletown River Estuary to the immediate south of the landfill; and
- the installation of a leachate collection drain/leachate abstraction infrastructure along the full length of and on the landfill side of the vertical barrier and at other locations as required.

Within twelve months of the date of grant of this licence the licensee shall install, commission and maintain a leachate storage lagoon at the facility to facilitate the storage of leachate abstracted/collected from the waste. Unless otherwise agreed with the Agency, the lagoon lining shall be a composite liner consisting of:

- an upper component of a flexible membrane liner. At minimum a 2mm HDPE or equivalent flexible membrane liner should be used; and
- a lower component of a 1m layer of compacted soil with a hydraulic conductivity of less than or equal to  $1 \times 10^{-9} \text{m/s}$  constructed in a series of compacted lifts no thicker than 250mm when compacted or a 0.5m artificial layer of enhanced soil giving equivalent protection to the foregoing also constructed in a series of compacted lifts no thicker than 250mm when compacted.

4.14.2 The frequency of leachate removal/discharge from the leachate lagoon shall be such that a minimum freeboard of 0.75m shall be maintained in the leachate lagoon at all times.

4.14.3 All leachate management 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.

4.14.4 All tanks for the storage and/or treatment of untreated leachate shall be fully enclosed except for inlet and outlet piping.

4.14.5 Leachate stored in the leachate storage lagoon shall be disposed by tankering off-site in fully enclosed road tankers and discharging to Dundalk Waste Water Treatment Plant, or by discharge to foul sewer.

4.14.6 The licensee shall submit to the Agency for its agreement, prior to the use of the leachate lagoon, Operational Procedures for the handling of leachate which include (1) procedures for the handling of leachate during removal from the lagoon (2) monitoring infrastructure details and procedures for monitoring the level of leachate in the pump sumps, the cells and the lagoon.

4.14.7 Recirculation of leachate or other contaminated water shall not be undertaken.

#### 4.15 Landfill Gas Management:

4.15.1 Within six months of the date of grant of this licence, a system for the active collection and flaring of landfill gas from all areas within the facility shall be installed, commissioned and maintained at the facility. The flare shall be of an enclosed type design.

4.15.2 Flare unit efficiency shall be tested once it is installed and once every three years thereafter.

4.15.3 The licensee shall maintain all gas wells, pipework, valves, pumps, flares and other infrastructure that form part of the landfill gas management scheme in a safe and fully operational manner.

4.15.4 All buildings constructed on the facility shall have regard to the guidance given in the Department of Environment's 1994 publication "Protection of New Buildings and Occupants from Landfill Gas" and any subsequent revisions.

4.15.5 Within three months of the date of grant of this licence the landfill gas cut-off trench as specified on Drawing 4606.01/D5-B "Passive Gas Venting Trench" shall be installed at the facility at the locations shown on the drawing, or at an alternative location agreed with the Agency.

4.15.6 The active landfill gas collection system shall cover areas of historical landfilling within the facility boundary which show significant concentrations of landfill gas and concentrations above the trigger levels specified in this licence. A drawing showing the extent of historical landfilling and the concentrations of landfill gas in these areas shall be submitted to the Agency within six months of the date of grant of this licence.

4.15.7 The perimeter landfill gas monitoring boreholes shall be maintained unless otherwise agreed with the Agency.

4.15.8 On an annual basis as part of the AER the licensee shall submit an assessment of whether the utilisation of landfill gas as an energy resource is feasible. If feasible such a system shall be installed within a timeframe agreed with the Agency.

#### 4.16 Capping

4.16.1 Within three months of the date of grant of the licence the licensee shall ensure that all previously deposited waste is covered by an intermediate capping of at least 300mm.

4.16.2 Daily cover and intermediate capping shall consist of the following: Subsoils and other excavation waste or construction industry waste such as bricks and crushed broken concrete. The material should be free draining and of low clay content. Daily cover should be 150mm in depth, while intermediate capping should be 300mm in depth.

4.16.3 The final capping shall consist of the following:

- top soil (150 - 300mm);

- subsoils, such that total thickness of top soil and subsoils is at least 1m;
  - drainage layer of 0.5m thickness having a minimum hydraulic conductivity of  $1 \times 10^{-4}$  m/s;
  - 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 protection; and
  - gas collection layer of natural material (minimum 0.3m) or a geosynthetic layer.
- 4.16.4 All landfill areas shall be permanently capped within twenty four months of these areas having been filled to the required level.
- 4.16.5 The licensee shall maintain a stockpile of cover and capping materials at the facility containing the requisite volume of cover and capping materials for the next six months.

#### 4.17 Surface Water Management

- 4.17.1 The licensee shall ensure effective control of surface water run off from the facility during operation and restoration.
- 4.17.2 Within twelve months of the date of grant of this licence, the licensee shall install surface water control measures for:
- (i) the prevention of leachate seepage into the surface water drains; and
  - (ii) the collection/diversion of runoff arising from capped and restored areas.
- 4.17.3 Unless otherwise agreed with the Agency, the culverted stream which runs through the landfill as detailed in Drawing No. 4606.01/C9 "Surface Water Courses in Landfill Vicinity", shall be sealed within three months of the date of grant of the licence.
- 4.17.4 The surface water drains around the facility shall be cleaned to allow the diversion of surface water around the facility.

#### 4.18 Civic Waste Facility

- 4.18.1 The licensee shall provide and maintain the Civic Waste Facility infrastructure referred to in Attachment D of the application.
- 4.18.2 The licensee shall provide and maintain the receptacles at the Civic Waste Facility at the locations shown in Drawing No. G019-21(A) "Recycling Building Floor Plan and Elevations" and G019-25(A) "General Arrangement Proposed Site Layout" unless otherwise agreed with the Agency. All receptacles shall be clearly labelled to indicate their contents.
- 4.18.3 The landscaping of the Civic Waste Facility shall be as shown in Drawing No. G019-25(A) "General Arrangement Proposed Site Layout".
- 4.18.4 Waste oils collected for recovery shall be stored as specified in Condition 4.13.
- 4.18.5 The licensee shall provide a clearly segregated and screened area for the holding of white goods within the civic waste facility. Fridges shall be de-gassed of CFCs, either at the civic waste facility or at an appropriate off-site facility, prior to recovery off-site. Records shall be kept of the degassing of all fridges accepted at the facility including the quantity of CFCs recovered.

- 4.18.6 Within six months of the date of grant of this licence, surface water from the hardstanding area of the Civic Waste Facility shall pass through an Oil interceptor prior to discharge to the foul sewer. The interceptor shall be inspected weekly, desludged as necessary and properly maintained at all times. A written record shall be kept of the inspections, desludging, cleaning, maintenance and performance of the interceptor.
- 4.18.7 The entire area proposed for composting must be bunded and all drainage shall drain to the foul sewer.
- 4.18.8 Details of the proposed location and infrastructure for the composting facility shall be submitted to the Agency for agreement prior to any construction works.
- 4.19 Facility Boundary /Perimeter Planting
- 4.19.1 The existing hedgerow network and perimeter planting which forms the boundary of the facility shall be retained by the licensee and enhanced where appropriate to minimise the views of the facility.

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

## CONDITION 5 WASTE MANAGEMENT

- 5.1 Waste Acceptance
- 5.1.1. Within eighteen months of the date of grant of this licence all disposal of waste at the landfill shall cease.
- 5.1.2. No hazardous waste (excluding batteries, fluorescent tubes, waste oil, paint, household chemicals and pesticides collected for recovery or disposal off-site at the Civic Waste Facility), liquid waste, untreated sludge, animal by-products or remains shall be accepted at the landfill facility.
- 5.1.3. Waste loads consisting mainly of green waste, timber, white goods, glass and metals shall not be disposed of at the facility.
- 5.1.4. Construction and demolition waste shall not be disposed of at the facility but inert construction and demolition waste can be accepted for recovery, use as daily cover, site construction works and landfill restoration. The amount of construction and demolition waste accepted shall not exceed 2,560 tonnes per annum, unless otherwise agreed with the Agency for use in recovery, restoration and rehabilitation of the landfill as agreed with the Agency under Condition 8.
- 5.1.5. Recycling rates of 50% by 31/12/2003 for construction and demolition waste accepted at the facility shall be achieved, as set out in "Waste Management, Changing Our Ways" (Department of the Environment and Local Government, 1998), unless otherwise agreed by the Agency.
- 5.2 The quantity of wastes to be accepted for disposal at the landfill, shall not exceed 29,360 tonnes per annum.
- 5.3 Subject to Condition 5.1 and 5.2, and any requirements of Condition 5.4, only those waste types and quantities listed in *Schedule G: Waste Acceptance* of this licence, shall be disposed of at the facility.
- 5.4 Waste Acceptance Procedures

- 5.4.1. Within six months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement detailed written procedures for the acceptance and handling of all wastes at the facility, including wastes accepted at the Civic Waste Facility. Prior to this waste acceptance shall be carried out in accordance with those described in Attachment E2 "Waste Acceptance".
- 5.5 Each load of waste arriving at the facility shall be visually inspected prior to unloading in accordance with "Level 3: On-site verification" outlined in the Agency's Draft Manual on Waste Acceptance. In addition, all 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 to the Quarantine Area prior to disposal at an appropriate alternative facility. Such waste shall be stored in the Waste Quarantine Area for a maximum of twenty-four hours only. A record of all inspections shall be maintained on a daily basis.
- 5.6 Wastes shall not be deposited in any cell or part of the landfill without the prior agreement of the Agency.
- 5.7 Scavenging shall not be permitted at the facility.
- 5.8 Waste shall only be accepted at the landfill facility between the hours of 8.00 a.m. and 6.00 p.m. Monday to Friday inclusive and 8.00 a.m. and 4.00 p.m. on Saturday unless otherwise agreed with the Agency. The landfill can operate for half an hour prior to commencement of waste acceptance and one hour following the closure of the site for waste acceptance as specified in this condition for the purposes of carrying out nuisance control and improvement and repair works and covering of waste.
- 5.9 Unless the prior agreement of the Agency is given, the following shall apply at the landfill:
- a) only one working face shall exist at the landfill at any one time for the deposit of waste other than cover or restoration materials;
  - 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 25 metres length and have a slope no greater than 1 in 3; and,
  - c) all waste deposited at the working face shall be compacted as soon as is practicable and at any rate prior to the end of the working day.
- 5.10 The working face of the operational cell shall, at the end of each day, be covered with material suitable to minimise any nuisances occurring.
- 5.11 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. Within one month of the date of grant of this licence, intermediate capping material shall be placed across the landfill so that no waste other than cover material or material suitable for specified engineering works is exposed.
- 5.12 Notwithstanding Condition 5.9 above, the landfill shall be filled in accordance with the phase sequence to be agreed with the Agency.
- 5.13 Sludge
- 5.13.1. The quantity of treated sewage sludges to be accepted at the facility, shall not exceed 3,100 tonnes per annum and the quantity of non-hazardous industrial sludge shall not exceed 1,200 tonnes per annum.

- 5.13.2. Treated sewage sludge and industrial sludge shall only be accepted at the facility between the hours of 9:30 a.m. and 2.00 p.m. Monday to Friday inclusive. All sludge shall be covered immediately with other waste.
- 5.14 Asbestos Waste
- 5.14.1. All non-hazardous asbestos based construction and demolition waste must be double wrapped in heavy gauge plastic which is clearly labelled to indicate the presence of asbestos.
- 5.14.2. Disposal of such waste shall be into prepared bays or trenches of at least 2 metres in depth. Deposited asbestos waste shall be covered immediately with suitable material.
- 5.15 A steel wheeled compactor or other such vehicle as agreed with the Agency shall be used for compacting all waste other than that used for restoration or construction purposes.
- 5.16 In order to prevent the formation of voids, all large hollow objects and other large articles deposited at the facility shall be crushed, broken up, flattened or otherwise treated.
- 5.17 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 landfill gas and leachate collection system without prior agreement from the Agency.
- 5.18 No smoking shall be allowed on the facility other than in the canteen and offices of the main recycling building as shown on Drawing No. G019-21(A).
- 5.19 Waste sent off-site for recovery or disposal shall only be conveyed to a waste contractor as agreed by the Agency. The ultimate recovery or disposal facility for all wastes shall be agreed in advance with the Agency. 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.
- 5.20 Civic Waste Facility
- a) The Civic Waste Facility shall be provided and maintained in accordance with the Certificate of Registration Application of 8 September 1999 and Drawing No. G019-25(A) "General Arrangement Proposed Site Layout".
  - b) Only household waste, commercial waste and those recyclable waste types outlined in the Certificate of Registration Application of 8 September 1999 to a maximum of 10,000 tpa shall be accepted at the Civic Waste Facility.
  - c) The facility shall not be used as a transfer station for disposal of waste by commercial waste disposal contractors or local authority waste collection vehicles.
  - d) No hazardous waste (excluding waste oil, batteries, fluorescent tubes, paint, household chemicals collected for recovery or disposal off-site), asbestos, liquid waste, sludge or offal shall be accepted at the Civic Waste Facility.
  - e) All tipping of waste will be either into the hopper of the compactor for disposal or into a receptacle for recovery, or in the case where inspection is required, into a designated inspection area.
  - f) All waste accepted at the Civic Waste Facility for disposal shall be compacted within 12 hours.

- g) All waste accepted at the Civic Waste Facility for disposal shall be removed within 24 hours, or in the case of waste deposited on a Saturday within 48 hours.
- h) At the end of the working day the floor of the Civic Waste Facility, the hopper and the compactor shall be cleaned of all waste.
- i) A maximum of 2 enclosed waste containers containing waste for disposal (including sealed containers of compacted waste), shall be stored on the facility overnight. These containers shall be stored at areas clearly designated for the purpose.
- j) The licensee shall operate and maintain the compactor system as detailed in Certificate of Registration Application of 8 September 1999.
- k) Waste shall only be accepted at the Civic Waste Facility between the hours of 8.00 am and 6.00 pm Monday to Friday and 8.00 am and 4.00 pm Saturday, unless otherwise agreed in advance with the Agency.
- l) Waste to be accepted at the Civic Waste Facility shall be limited to domestic waste, paper, cardboard, glass, timber, aluminium and steel cans, plastic packaging, textiles/clothes, footwear, batteries, scrap metal, white goods, waste oil, fluorescent tubes, household paint, household chemicals and green waste, unless subject to the prior agreement of the Agency.

#### 5.21 Composting Facility

- 5.21.1. Unless otherwise agreed with the Agency, only source separated organic waste and green waste shall be used in the operation of the waste composting facility. The quantity of compost and waste held at the composting facility shall not exceed 1000 cubic metres at any one time.
- 5.21.2. The bulking agent to facilitate the composting process shall be bark mulch or other such similar bulking material agreed in advance with the Agency.
- 5.21.3. All putrescible wastes accepted to the composting unit shall be introduced into the compost process or made into a windrow within 24 hours of delivery.
- 5.21.4. The compost windrows shall be covered with Top Tex Cover or equivalent at all times except when biodegradable waste including bulking agents are being added to the windrows, when moisture content of the windrow is being supplemented or when the compost is being mixed.
- 5.21.5. No waste shall be left on the reception area from the close of operation on Saturday until Monday morning opening.
- 5.21.6. A windrow turner shall be used to ensure proper turning and aeration of the windrows.
- 5.21.7. The licensee shall maintain a daily written record of temperature and turning of the compost. During the high temperature period, the windrow shall be turned at least five times.
- 5.21.8. The quality of the compost shall meet the requirements of *Schedule H: Compost Quality* of this licence.
- 5.21.9. Procedures for the operation of the composting facility shall be submitted to the Agency for agreement prior to the commencement of any composting.



**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 twice a week intervals, inspect the facility and its immediate surrounds for nuisances caused by vermin, birds, flies, mud, dust and odours. Written records shall be made of all inspections and any actions taken as a result of these inspections.
- 6.2. 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.
- 6.3. Prior to exiting the facility, all waste vehicles using the landfill shall use the wheelwash.
- 6.4. Litter Control
  - 6.4.1. The measures and infrastructure as described in Attachment F3 "Litter Control" of the application shall be applied to control litter at the facility.
  - 6.4.2. Litter fencing shall be installed and maintained around the perimeter of the active tipping area. The netting shall meet the guidance given in the Agency's Manual on "Landfill Operational Practices". The height of the netting shall be minimised so as to not cause visual intrusion and the netting shall be kept tidy and litter trapped in the netting shall be removed as soon as practicable.
  - 6.4.3. All litter control infrastructure shall be inspected on a daily basis and the licensee shall remedy any defect in the litter netting as follows:
    - a) a temporary repair shall be made by the end of the working day; and,
    - b) a repair to the standard of the original netting shall be undertaken within three working days or as otherwise agreed with the Agency.
  - 6.4.4. Within three months of the date of grant of this licence the licensee shall submit to the Agency for its agreement procedures for staff on the operation of the facility in adverse wind conditions.
  - 6.4.5. All loose litter accumulated within the facility and its environs, excluding that which is deposited at the working face, shall be removed subject to the agreement of the landowners and appropriately disposed of on a daily basis.
- 6.5. 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 10.00 a.m. of the next working day, after such waste is discovered. Such waste shall be disposed of at an appropriate facility.
- 6.6. The licensee shall ensure that all vehicles delivering waste to and removing waste and materials from the facility are appropriately covered.
- 6.7. Dust Control
  - 6.7.1. 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. A mobile water bowser and water sprayer shall be kept on site for dust control.

- 6.7.2. All stockpiles shall be adequately contained to minimise dust generation.
- 6.8. 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.
- 6.9. The licensee shall ensure that vermin, birds, flies, mud, dust and odours do not give rise to nuisance at the facility or the immediate area of the facility. Any method used by the licensee to control any such nuisance shall not cause environmental pollution or contravene any national statutory protection granted in respect of protected species.
- 6.10. Vermin Control
- 6.10.1. The licensee shall apply effective insect and rodent control measures, and within three months of the date of grant of the licence, the licensee shall submit to the Agency for its agreement a programme for the control and eradication of insect and rodent infestations at the facility. The programme should include as a minimum the following:
- a) details on the insecticides(s) and rodenticides(s) to be used;
  - b) operator training;
  - c) mode and frequency of application and measures to contain sprays at the facility boundary; and,
  - d) measures to control flies and rats at adjoining building and dwellings.
- 6.10.2. 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.
- 6.11. Bird Control
- 6.11.1. Birds shall be prevented from gathering on and feeding at the facility by the use of birds of prey (falcons, hawks, etc following consultation with Duchas) and other bird scaring techniques. The presence of birds of prey and other techniques shall be maintained by the licensee every day, from before dawn to after dark, until waste disposal ceases at the landfill and all the waste is capped to the written satisfaction of the Agency. The use of gas operated bird scaring devices is prohibited at the facility. A written record of the daily bird control activities and the numbers of birds observed on the facility shall be kept.

**Reason:** To provide for the control of nuisance.

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

- 7.1. No specified emission from the facility shall exceed the emission limit values set out in *Schedule F: Emission Limits* of this licence. There shall be no other emissions of environmental significance. 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.
- 7.2. 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.
- 7.3. There shall be no clearly audible tonal or compulsive component in the noise emissions from the activity measured at noise sensitive locations.
- 7.4. Landfill Gas
- 7.4.1. The following are the trigger levels for landfill gas emissions from the facility measured in any service 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; and/or
  - b) Carbon dioxide, greater than or equal to 1.5% v/v.
- 7.4.2. 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.
- 7.4.3. Emission limits for emissions to atmosphere in this licence shall be interpreted in the following way:-
- 7.4.3.1. Continuous monitoring
- (i) No 24 hour mean value shall exceed the emission limit value.
  - (ii) 97% of all 30 minute mean values taken continuously over an annual period shall not exceed 1.2 times the emission limit value.
  - (iii) No 30 minute mean value shall exceed twice the emission limit value.
- 7.4.3.2. Non-Continuous Monitoring

- (i) For any parameter where, due to sampling/analytical limitations, 30 minute samples are inappropriate, a suitable sampling period should be employed and the value obtained therein shall not exceed the emission limit value.
- (ii) For all other parameters, no 30 minute mean value shall exceed the emission limit value.
- (iii) For flow, no hourly or daily mean value shall exceed the emission limit value.

7.5. Emissions to Surface Water

- 7.5.1. Following the sealing of the culvert under Condition 4.17.3, no leachate shall be discharged directly to surface water drains or the Castletown Estuary.
- 7.5.2. No substance shall be discharged in a manner, or at a concentration which, following initial dilution causes tainting of fish or shellfish.

7.6. Emissions to Sewer

- 7.6.1. The following conditions and the emission limit values as specified in Schedule F.5 shall apply for the discharge of leachate, which shall be via the leachate discharge agreed under Condition 4.14.
- 7.6.2. Monitoring and analyses of each discharge or emission to sewer shall be carried out as specified in Schedule E.7.
- 7.6.3. No substance shall be present in emissions to sewer in such concentrations as would constitute a danger to sewer 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.
- 7.6.4. The licensee shall permit authorised persons of the Agency and the Sanitary Authority to inspect, examine and test, at all reasonable times, any works and apparatus installed, in connection with the discharge or emission, and to take samples of the discharge or emission.
- 7.6.5. No discharge or 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.
- 7.6.6. The licensee shall ensure that the discharge shall not contain dissolved methane, petroleum spirits or organic solvents (including chlorinated organic solvents), at concentrations which would give rise to flammable or explosive vapours in the sewer.
- 7.6.7. Non-trade effluent wastewater (e.g. firewater, accidental spillage) which occurs on-site shall not be discharged to the sewer without the prior authorisation of the Sanitary Authority.
- 7.6.8. The licensee shall provide and maintain an inspection chamber in a suitable position in connection with each pipe through which a discharge or emission is being made. Each such inspection chamber or manhole shall be constructed and maintained by the licensee so as to permit the taking of samples of the discharge.

- 7.7. Emission limit values for emissions to sewer in this licence shall be interpreted in the following way:-

7.7.1. Continuous monitoring

7.7.1.1. No flow value shall exceed the specified limit

7.7.2. Non-Continuous monitoring

7.7.2.1. Eight out of ten consecutive results, calculated as daily mean concentration or mass emission values on the basis of flow proportional composite sampling shall exceed 1.2 times the emission limit value.

7.7.2.2. No grab sample shall exceed 1.2 times the emission limit value.

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

## CONDITION 8 RESTORATION AND AFTERCARE

8.1 The final profile of the facility shall not exceed a maximum height of 14mOD. The final contours shall achieve an average gradient of 1:25. Within nine months of the date of grant of the licence, the licensee shall submit a revised Restoration Drawing to the Agency for its agreement. The drawing shall comply with the requirements of this condition.

8.2 No material or object that is incompatible with the proposed restoration of the facility shall be present within one metre of the final soil surface levels. No asbestos waste shall be present within 2.5 metres of the final surface levels.

8.3 Where tree planting is proposed to be carried out above waste-filled areas, a synthetic barrier shall be used to augment the clay cap. Topsoil and subsoil depths shall be a minimum of 1m unless otherwise agreed in advance with the Agency.

8.4 The restoration of the landfill facility shall be completed within four years of the date of grant of this licence, unless otherwise agreed with the Agency.

**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 locations and frequencies as set out in Schedule E: Monitoring and as specified in the Conditions of this licence.

9.2. Within six months from the date of grant of this licence, the licensee shall install additional landfill gas monitoring boreholes at 45m intervals around the boundary of the facility.

9.3. Within six months from the date of grant of this licence, the licensee shall install a permanent gas monitoring system in the recycling building and any other enclosed structures at the facility.

9.4. The licensee shall monitor leachate levels from 5 representative points within the filled waste. A drawing showing all leachate monitoring locations and unique reference

numbers, and a twelve figure national grid reference for each monitoring point shall be submitted to the Agency within three months from the date of grant of this licence.

9.5. The licensee shall make arrangements for representative meteorological data to be collated for the facility to fulfil the requirements of Schedule E.6: Meteorological Monitoring.

9.6. Telemetry

9.6.1. A telemetry system shall be installed and maintained at the facility. This system shall include for;

- a) recording of leachate levels in the lagoon when installed;
- b) recording the discharge of leachate to sewer;
- c) permanent gas monitoring system to be installed in the site office and any other enclosed structures at the facility; and,
- d) monitoring of the landfill gas flare and a number of representative landfill gas migration monitoring boreholes adjacent to nearby buildings.

All facility operations linked to the telemetry system shall also have a manual control which will be reverted to in the event of break in power supply or during maintenance.

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 facility are to be kept clear such that monitoring can be carried out successfully.

9.8. The licensee shall maintain all sampling and monitoring points, and clearly label and name (including national grid number) all sampling and monitoring locations, so that they may be used for representative sampling and monitoring.

9.9. The licensee is to maintain daily records of odours and wind direction. Records of these observations shall be maintained at the weighbridge office.

9.10. Monitoring and analysis equipment shall be operated and maintained in accordance with the manufacturer's instructions (if any) so that all monitoring results accurately reflect any emission or discharge or environmental parameter.

9.11. 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.

9.12. 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.

9.13. A topographical survey including the void space shall be carried out within six months of the date of grant of this licence. It shall be repeated annually thereafter. The survey shall be in accordance with any written instructions issued by the Agency.

9.14. The licensee shall carry out annual ecological monitoring of the Castletown Estuary adjacent to the facility. This shall include aquatic ecological monitoring and estuary bird surveys in addition to monitoring of sediment and water quality as set out in *Schedule*

*E: Monitoring* of this licence. Particular consideration shall be given to the monitoring of the areas to the south of the facility and to the transition area between the inner and outer estuary. The monitoring programme and methodology used shall be produced in consultation with Duchas, The Heritage Service. A description of the methodology used in the survey should be included in the Ecological Report submitted to the Agency.

- 9.15. Unless otherwise specified by this licence or agreed by the Agency, all environmental monitoring shall commence no later than two months after the date of grant of this licence.
- 9.16. Monitoring infrastructure which proves to be unsuitable for its purpose shall be replaced within six months of monitoring results indicating that the monitoring infrastructure is damaged or unsuitable.
- 9.17. 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 and provide a report on that assessment to the Agency.
- 9.18. Within six months of the date of grant of this licence, the licensee shall submit to the Agency an updated appropriately scaled drawing(s) showing the location of all the monitoring locations that are stipulated in this licence.
- 9.19. All on-site monitoring points as described in Condition 9 shall be tagged in site with their agreed sampling point codes within six months of the granting of this licence.
- 9.20. The licensee shall, within twelve months of the date of grant of this licence, develop and establish a Data Management System for collation, archiving, assessing and presenting the environmental monitoring data generated as a result of this licence. The data shall be submitted in a format to be agreed with 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 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.
- 10.2. Unless otherwise agreed with the Agency, Contingency Arrangements for the facility shall be as detailed in Attachment K of the application.
- 10.3. 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.
- 10.4. 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.
- 10.5. 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.
- 10.6. Unless otherwise notified in writing by the Agency, in the event that any monitoring, sampling, complaints 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) provide a proposal to the Agency for its agreement within one month to:
    - i) identify and put in place measures to avoid recurrence of the incident; and
    - ii) identify and put in place any other appropriate remedial action.
- 10.7. In the event that monitoring of the side slopes of the facility indicate that there may be a risk of slope failure, this will be treated as an incident and a proposal for remediation action submitted to the Agency for its agreement within one month of the date of the monitoring being carried out.
- 10.8. The licensee shall carry out a risk assessment to determine the requirements at the facility for fire fighting and fire water retention facilities and shall, within six months from the date of grant of this licence submit a report, including recommendations on the risk assessment to the Agency for its agreement. The Chief Fire Officer of Louth County Council shall be consulted by the licensee during this assessment.



- 10.9. Within nine months of the date of grant of this licence an independent third party shall carry out a risk assessment of the facility, or part thereof, as agreed in advance with the Agency. The risk assessment shall have particular regard to the risks associated with landfill gas, any accidents, emergencies, or other incidences, which might occur at the facility and their effect on the environment, on the neighbours of the facility and on adjoining land-uses. The assessment and recommendations, including a timescale for implementation, shall be submitted to the Agency for agreement. The agreed recommendations shall be implemented within the agreed timescale.

**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 £12,760 (£16,202) 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 2002 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 2001, the licensee shall pay a pro rata amount from the date of this licence to 31<sup>st</sup> December 2001. 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 or decreased 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 written guarantee, that is adequate to assure the Agency that the licensee is at all times financially capable of implementing the Restoration and Aftercare of the facility required by Condition 8. The type of fund and means of its release/recovery shall be agreed 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 restoration and aftercare annually and any details of the necessary adjustments to the fund must, within two weeks of the revision, be forwarded to the Agency for its agreement. Any adjustment agreed by the Agency shall be effected within four weeks of said written agreement.
- 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:

$$\text{Cost} = \text{Revised restoration and aftercare cost}$$

$$\text{ECOST} = \text{Existing restoration and aftercare cost}$$

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 : Content of the Environmental Management Programme

## Environmental Management Programme

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

Other items specified by the Agency

# SCHEDULE B : 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, 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 interpretations of environmental monitoring, including plans and any updates of all monitoring locations including 12 digit grid references. This must include the following :

- summary of monitoring results for key leachate indicator parameters;
- comparison of monitoring results against baseline data and relevant standards;
- graphical presentation of the trends in the concentration of key leachate indicator parameters; and,
- an assessment and explanation of the significance of the results and trends detected.

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.

Monthly water balance calculation and interpretation.

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 facility operation.

Tank, pipeline and bund testing and inspection report.

Reported incidents and Complaints summaries.

Review of Nuisance Controls.

Reports on financial provision made under this licence, management and staffing structure of the facility, and a programme for public information.

Annual Budget and site running costs.

Report on financial provisions specified under Condition 11.2.

Any other items specified by the Agency.

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

# SCHEDULE C : Recording and Reporting to the Agency

Table C.1 Recurring Reports

Report	Reporting Frequency <sup>Note1</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	Thirteen 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 five days of the incident.
<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 period being reported on.
<b>Specified Engineering Works reports</b>	As they arise	Prior to the works commencing.
<b>Monitoring of landfill gas</b>	Quarterly	Ten days after end of the quarter 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>Meteorological Monitoring</b>	Annually	One month after end of the year 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>Slope Stability Monitoring</b>	Within six months of the date of grant of this licence, and annually thereafter	Ten days after the period being reported on.
<b>Topographical Survey</b>	Within six months of the date of grant of this licence, and annually thereafter	Ten days after the period being reported on.
<b>Ecological Report</b>	Annually	One month after end of the year being reported on.
<b>Any other monitoring</b>	As they occur	Within ten days of obtaining results.

Note 1: Unless altered at the request of the Agency

## SCHEDULE D : Specified Engineering Works

### Specified Engineering Works

Development of bunds and areas for landfilling.

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.

Bunding of fuel and oil storage areas.

Civic Waste Facility, Recycling and recovery activities and associated infrastructure.

Installation of Waste Inspection and Waste Quarantine Areas.

Installation of Construction and Demolition Waste Recovery Area.

Installation of landfill gas management and monitoring systems.

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

Installation of groundwater control and/or monitoring systems.

Surface water management works.

Restoration and Aftercare Works.

Nuisance control measures.

Any future composting of organic wastes.

Any component separation on site.

Telemetry system.

Roads and Access Works.

Any other works notified in writing by the Agency.

# SCHEDULE E : Monitoring

Monitoring to be carried out as specified below.

## E.1 Landfill Gas

Landfill gas monitoring locations shall be those as set out in Table E.1.1 and Drawing No. 4606.01/J1(RevAB) "Monitoring Locations" of the application.

Table E.1.1 Landfill Gas Monitoring Locations

STATION
Landfill Gas Piezometers: G1, G2, G3, G4, G5, G6, G7, G8, G9, G10, G11, G12, G13, G14, G15
Boreholes: BH1, BH2, BH3, BH4, BH5, BH6, BH7
Boreholes required under Condition 9.2
Buildings: Site offices and buildings. Neighbouring grainstore and representative dwellings in Riverside Crescent and Newry Road subject to permission <sup>Note 1</sup> .

Note 1: Monitoring at these locations can be reduced subject to review and after the installation of the landfill gas management system and associated trench.

Table E.1.2 Landfill Gas Monitoring Frequency and Technique

Parameter	Monitoring Frequency		Analysis Method <sup>Note 1</sup> / Technique <sup>Note 2</sup>
	Gas Boreholes/ Vents/Wells	Site Office/ Adjacent Buildings	
<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
<b>Oxygen(O<sub>2</sub>) %v/v</b>	Monthly	Weekly	Electrochemical cell
<b>Atmospheric Pressure</b>	Monthly	Weekly	Standard
<b>Temperature</b>	Monthly	Weekly	Standard
<b>Minor Landfill Gas Constituents</b>	Annually	Annually	See Note 2

Note 1: All monitoring equipment used should be intrinsically safe. FID to be used for methane migration monitoring.

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.

## E.2 Landfill Gas Combustion Plant and Flarestack

Monitoring to be obtained at locations to be agreed with the Agency.

Table E.2.1

Parameter	Monitoring Frequency	Analysis Method <sup>Note1</sup> /Technique <sup>Note2</sup>
<b>Inlet</b>		
Methane (CH <sub>4</sub> ) % v/v	Weekly	Infrared analyser/flame ionisation detector
Carbon dioxide (CO <sub>2</sub> )%v/v	Weekly	Infrared analyser
Oxygen (O <sub>2</sub> ) %v/v	Weekly	Electrochemical Cell
<b>Outlet</b>		
Volumetric Flow rate	Biannually	Pitot Tube Method
SO <sub>2</sub>	Biannually	Flue gas analyser
Nox	Biannually	Flue gas analyser
CO	Continuous	Flue gas analyser
Particulates	Annually	Isokinetic/Gravimetric
TA Luft Class I, II, III organics	Annually	Adsorption/Desorption / GC /GCMS <sup>(Note 3)</sup>
Hydrochloric acid	Annually	Impinger / Ion Chromatography
Hydrogen fluoride	Annually	Impinger / Ion Chromatography
Hydrocarbons	Annually	Flame ionisation detector

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

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

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

## E.3 Dust

Dust monitoring locations shall be those as set out in Table E.3.1 and Drawing No. 4606.01/J1 (RevAB) "Monitoring Locations" of the application.

Table E.3.1 Dust Monitoring Locations

STATION
DG1
DG2
DG3

Table E.3.2 Dust Monitoring Frequency and Technique

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

Note 1: Standard method VDI2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Engineering Institute). A modification (not included in the standard) which 2 methoxy ethanol may be employed to eliminate interference due to algae growth in the gauge.

Note 2: Twice during the period May to September, or as otherwise specified in writing by the Agency. With the agreement of the Agency monitoring can cease once landfill restoration is complete.



## E.4 Noise

Noise monitoring locations shall be those as set out in Table E.4.1 and Section C 8 (Figure 2) of the application.

Table E.4.1 Noise Monitoring Locations

STATION
1
2
3
4

Table E.4.2 Noise Monitoring Frequency and Technique

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."

## E.5 Surface Water, Groundwater and Leachate

Surface water monitoring locations shall be those as set out in Table E.5.1 and Drawing No. 4606.01/J1 (Rev AB) "Monitoring Locations" of the application. Parameters and frequencies shall be as outlined in Table E.5.3.

Table E.5.1 Surface Water Monitoring Locations

STATION
SW1 (surface water drain)
SW2 (surface water drain)
SW3 (surface water drain)
SW4 (surface water drain)
SW5 (sediment & estuary water quality)
SW6 (culvert or adjacent sediment & estuary water quality)
SW7 (sediment & estuary water quality)

Groundwater and Leachate monitoring locations shall be those as set out in Table E.5.2 and Drawing No. 4606.01/J1 (Rev AB) "Monitoring Locations" of the application. Parameters and frequencies shall be as outlined in Table E.5.3.

Table E.5.2 Groundwater and Leachate Monitoring Locations

STATION
BH1, BH2, BH3, BH4, BH5, BH6, BH7
W (groundwater monitoring well in concrete plant subject to owners permission)

Table E.5.3 Water and Leachate - Parameters /Frequency

Parameter <sup>Note 1</sup>	SURFACE WATER	GROUNDWATER	LEACHATE
	Monitoring Frequency	Monitoring Frequency	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	Quarterly
BOD	Quarterly	Not Applicable	Quarterly
COD	Quarterly	Not Applicable	Quarterly
Chloride	Quarterly	Quarterly	Quarterly
Dissolved Oxygen	Quarterly	Quarterly	Not Applicable
Electrical Conductivity	Quarterly	Quarterly	Quarterly
pH	Quarterly	Quarterly	Quarterly
Total Suspended Solids	Quarterly	Not Applicable	Not Applicable
Temperature	Quarterly	Monthly	Quarterly
Boron	Not Applicable	Annually	Annually
Cadmium	Annually <sup>Note 4</sup>	Annually	Annually
Calcium	Annually	Annually	Annually
Chromium (Total)	Annually <sup>Note 4</sup>	Annually	Annually
Copper	Annually <sup>Note 4</sup>	Annually	Annually
Cyanide (Total)	Quarterly <sup>Note 4</sup>	Quarterly	Quarterly
Fluoride	Not Applicable	Annually	Annually
Iron	Annually <sup>Note 4</sup>	Quarterly	Annually
Lead	Annually <sup>Note 4</sup>	Annually	Annually
List I/II organic substances <sup>Note 3</sup>	Once off for List I/II organic substances from SW6	Annually from one representative upgradient borehole and two representative downgradient boreholes.	Annually for the leachate discharged to sewer
Magnesium	Annually	Annually	Annually
Manganese	Annually <sup>Note 4</sup>	Annually	Annually
Mercury	Annually <sup>Note 4</sup>	Annually	Annually
Potassium	Annually	Quarterly	Annually
Sulphate	Annually	Annually	Annually
Sodium	Annually	Quarterly	Annually
Total Alkalinity	Annually	Annually	Annually
Total Phosphorus / orthophosphate	Annually	Annually	Annually
Total Oxidised Nitrogen	Annually	Quarterly	Quarterly
Total Organic Carbon	Not Applicable	Quarterly	Not Applicable
Residue on evaporation	Not Applicable	Annually	Not Applicable
Zinc	Annually <sup>Note 4</sup>	Annually	Annually
Phenols	Quarterly	Quarterly	Not Applicable
Faecal Coliforms	Quarterly	Annually	Annually
Total Coliforms	Quarterly	Annually	Annually

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 with the Agency in advance.

- Note 2: Where there is evident gross contamination of leachate, additional samples should be analysed.
- Note 3: 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 (US Environmental Protection Agency method 525 or equivalent), and pesticides (US Environmental Protection Agency method 608 or equivalent). In cases where large quantities of harbour dredgings have been accepted at the facility it is recommended to analyse for organotin compounds. Where there is reason to suspect organophosphorous contamination it is recommended to also scan for these compounds.
- Note 4: Sediment samples at SW5, SW6 and SW7 to be analysed for parameters marked.

## E.6 Meteorological Monitoring

Table E.6.1 Meteorological Monitoring:

Data to be obtained at the location to be agreed by the Agency within three months of the date of grant the licence.

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

## E.7 Monitoring of Emissions to Sewer

Emission Point Reference No.: S1 & S2

**Location:** S1: Discharge from Civic Amenity Facility to be agreed with the Agency  
S2: Discharge of leachate to sewer to be agreed with the Agency

Table E.7.1 Sewer Monitoring - Parameters /Frequency

Parameter	Monitoring Frequency	Analysis Method/Technique <sup>Note 1</sup>
Flow to Sewer	Continuous	Flowmeter
Biochemical Oxygen Demand	Quarterly	Standard Method <sup>Note 2</sup>
Chemical Oxygen Demand	Quarterly	Standard Method <sup>Note 2</sup>
Ammoniacal nitrogen	Quarterly	Standard Method <sup>Note 2</sup>
Suspended Solids	Quarterly	Gravimetric
Sulphates	Quarterly	Standard Method <sup>Note 2</sup>
pH	Quarterly	pH meter/recorder
Temperature	Quarterly	Standard Method <sup>Note 2</sup>

Note 1: Or an equivalent method acceptable to the Agency.

Note 2: "Standards Methods for the Examination of Water and Wastewater", (prepared and published jointly by A.P.H.A., A.W.W.A & W.E.F) 19th Ed. 1995, American Public Health Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA".

## SCHEDULE F : Emission Limits

**F.1 Noise Emissions:** (Measured at the monitoring points indicated in Table E.4.1).

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

**F.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

**F.3 Dust Deposition Limits:** (Measured at the monitoring points indicated in Table E.3.1).

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.

### F.4 Emission Limit Values for Landfill Gas Flares & Utilisation Plant

Emission Point: reference numbers to be agreed in advance with the Agency

Location: Landfill Gas Combustion Plant and Flarestacks

Volume to be emitted from each stack: To be agreed.

Minimum discharge height for each stack: To be agreed.

Parameter	Emission Limit Value <sup>Note 2</sup>
Nitrogen oxides as (NO <sub>2</sub> )	150 mg/m <sup>3</sup> (500 mg/m <sup>3</sup> ) <sup>Note 3</sup>
CO	50 mg/m <sup>3</sup> (650 mg/m <sup>3</sup> ) <sup>Note 3</sup>
Particulates	130 mg/m <sup>3</sup>
TA Luft Organics Class I <sup>Note 1</sup>	20 mg/m <sup>3</sup> (at mass flows > 0.1 kg/hr)
TA Luft Organics Class II <sup>Note 1</sup>	100 mg/m <sup>3</sup> (at mass flows > 2 kg/hr)
TA Luft Organics Class III <sup>Note 1</sup>	150 mg/m <sup>3</sup> (at mass flows > 3kg/hr)
Hydrogen Chloride	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)
Hydrocarbons	10mg/m <sup>3</sup>

Note 1: In addition to the above individual limits, the sum of the concentrations of Class I, II and III shall not exceed the Class III limits.

Note 2: Dry gas referenced to 5% oxygen by volume.

Note 3 Emission limit Values in brackets represent limit values for gas utilisation plant.

## F.5 Emission Limits for Leachate Being Discharged to Sewer

Emission Point Reference No. S1 (Civic Amenity Facility)

Volume to be emitted: Maximum in any one day: 160 m<sup>3</sup>  
 Maximum rate per hour: 115 m<sup>3</sup>/hr

Emission Point Reference No. S2 (Leachate from Landfill)

Volume to be emitted: Maximum in any one day: to be agreed with the Agency.  
 Maximum rate per hour: to be agreed with the Agency.

Parameter	Emission Limit Value	
	S1 : Civic Amenity Facility Grab Sample (mg/l)	S2 : Leachate from Landfill Grab Sample (mg/l)
BOD	750	2000
COD	1000	9000
Suspended solids	1000	2000
Sulphate	300	400
pH	6 – 9	6-9
Temperature	40 °C	40 °C

## SCHEDULE G : Waste Acceptance

### G.1 Waste Acceptance

Table G.1 Waste Categories and Quantities for Disposal at the Landfill

WASTE TYPE	MAXIMUM TONNES PER ANNUM <small>Note 1</small>
Household	21,000
Commercial	4,000
Sewage Sludge	3,100
Industrial Non-Hazardous Sludges	1,200
Industrial Non-Hazardous Solids	60
<b>TOTAL</b>	<b>29,360</b>

Note 1: As detailed in Table E.1.1 "Waste Categories and Quantities" of the additional information supplied to Agency on 19 June 2000.

# SCHEDULE H : Compost Quality

Unless otherwise agreed with the Agency, the licensee shall monitor the compost product, at least monthly, from the organic waste composting unit and green waste composting unit to ensure it meets the following criteria.

The following criteria are deemed a quality standard for the use of compost as a soil improver and should not be deemed as criteria for fertiliser. In addition N, P, K, NH<sub>4</sub>-N, NO<sub>3</sub>-N, pH and dry matter content should also be measured.

Compost shall be deemed unsatisfactory if more than 10% of samples fail the criteria below. No sample shall exceed 1.2 times the quality limit values set.

## 1. Maturity

Compost shall be deemed to be mature if:

it meets two of the following requirements:

- C/N ratio  $\leq 25$
- oxygen uptake rate  $\leq 150$  mg O<sub>2</sub>/kg volatile solids per hour; and
- germination of cress (*Lepidium sativum*) seeds and of radish (*Raphanus sativus*) seeds in compost must be greater than 90 percent of the germination rate of the control sample, and the growth rate of plants grown in a mixture of compost and soil must not differ more than 50 percent in comparison with the control sample.
- Elimination of the following test organisms (used to evaluate composting system efficiency in removing plant pathogens and weed seeds during the composting process): *Plasmidiophora brassicae*, tobacco-mosaic-virus (TMV) and tomato seeds. Guidance on test may be obtained from the German document LAGA M10 'Quality Criteria and Application Recommendations for Compost'.

## 2. Foreign Matter

Compost must not contain any sharp foreign matter measuring over a 2 mm dimension that may cause damage or injury to humans, animals and plants during or resulting from its intended use.

Foreign matter content as a percentage of oven-dried mass	$\leq 1.5$
Foreign matter, maximum dimensions, in mm	25

## 3. Trace Elements

### Maximum Trace Element Concentration Limits for Compost

Trace Elements	(mg/kg, dry mass)
Arsenic (As) <sup>Note 1</sup>	15
Cadmium (Cd)	1.5
Chromium (Cr)	100
Copper (Cu)	100
Mercury (Hg)	1
Molybdenum (Mo) <sup>Note 1</sup>	5
Nickel (Ni)	50
Lead (Pb)	150
Selenium (Se) <sup>Note 1</sup>	2
Zinc (Zn)	350

Note 1: Monitoring of these parameters required if waste from an industrial source.

Note 2: The above alone should not be taken as an indication of suitability for addition to soil as the cumulative metal additions to soil should be first calculated.

#### **4. Pathogens**

Pathogenic organism content must not exceed the following limits:

- the quantity of faecal coliforms must be < 1,000 Most Probable Number (MPN)/g of total solids calculated on a dry weight basis; and
- there can be no salmonellae present ( < 3 MPN/4g total solids).

#### **5. Monitoring**

The licensee shall monitor the compost product at least monthly. The licensee shall submit to the Agency for its agreement, prior to commencement of compost operations, details of methods of analyses and sample numbers.

**Sealed by the seal of the Agency on this  
20th day of April, 2001.**

**PRESENT when the seal of the Agency  
was affixed hereto:**

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**Declan Burns      Authorised Person**