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## WASTE LICENCE

<b>Waste Licence</b>	29-1
<b>Register Number:</b>	
<b>Licensee:</b>	Offaly County Council
<b>Location of Facility:</b>	Derryclure, Tullamore, Co. Offaly.

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## Reasons for the Decision

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

In reaching this decision the Agency has considered the application and supporting documentation received from the applicant, a submission received from another party and the report of its inspector.

No objection having been received to the proposed decision, the licence is granted in accordance with the terms of the proposed decision and the reasons therefor.

### ***Part I: Activities Licensed***

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 Offaly County Council to carry on the waste activities listed below at Derryclure Landfill, Tullamore, Co. Offaly subject to 11 No. conditions, with the reasons therefor and the associated schedules attached thereto as set out in the licence.

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

- Class 1:* Deposit on, in or under land (including landfill).
- Class 2:* Land treatment, including biodegradation of liquid or sludge discards in soils.
- Class 7:* Physico-chemical treatment not referred to elsewhere in this Schedule (including evaporation, drying and calcination) which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1. to 10. of this Schedule.
- Class 13:* Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.

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

- Class 2:* Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).
- Class 10:* The treatment of any waste on land with a consequential benefit for an agricultural activity or ecological system.
- Class 11:* Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule.
- Class 13:* Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.

# INTERPRETATION

<b>Act</b>	The Waste Management Act, 1996 (No. 10 of 1996).
<b>Adequate lighting</b>	20 lux measured at ground level.
<b>Agreement</b>	Agreement in writing.
<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>Attachment</b>	Any reference to Attachments in this licence refers to attachments submitted as part of the waste licence application.
<b>BATNEEC</b>	Best Available Technology Not Entailing Excessive Cost as defined in section 5 (2) of the Act.
<b>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>Commercial waste</b>	As defined in Section 5 (1) of the Act.
<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 subject to a proposal made by the licensee for the Agency's agreement.
<b>Daytime</b>	0800 hrs to 2200 hrs.
<b>Documentation</b>	Any report, record, result, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence
<b>Drawing</b>	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
<b>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 Schedule G.

<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>Green waste</b>	Waste wood, plant matter and other vegetation.
<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>Hazardous Waste</b>	As defined in Section 4 (2) of the Act.
<b>Household Waste</b>	As defined in Section 5 (1) of the Act.
<b>Industrial waste</b>	As defined in Section 5 (1) of the Act.
<b>Incident</b>	Any reference to an incident in this licence means an incident as defined in Condition 3.1.
<b>Landfill</b>	As defined in Section 5 (1) of the Act.
<b>Landfill Gas</b>	Gases generated from the landfilled waste.
<b>Leachate</b>	Any liquid percolating through the deposited waste and emitted from or contained within a landfill as defined in Section 5 (1) of the Act.
<b>LEL (Lower Explosive Limit)</b>	The lowest percentage concentration by volume of a mixture of flammable gas with air which will propagate a flame at 25°C and atmospheric pressure.
<b>Licence</b>	A Waste Licence issued in accordance with the Act.
<b>Licensee</b>	Offaly County Council
<b>List I/II Organics</b>	Substances classified pursuant to EC Directives 76/464/EEC and 80/68/EEC
<b>Liquid Waste</b>	Any waste in liquid form and containing less than 20% 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>Monthly</b>	At least 12 times per year, at approximately monthly intervals.
<b>Municipal Waste</b>	Municipal waste as defined in Section 5 (1) of the Act.
<b>Night-time</b>	2200 hrs to 0800 hrs.

<b>Non hazardous waste</b>	Non-Hazardous Waste is any waste which is not a hazardous waste as defined in the Act.
<b>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>Sludge</b>	The accumulation of solids resulting from chemical coagulation, flocculation and/or sedimentation after water or wastewater treatment.
<b>Specified Emissions</b>	Those emissions listed in Schedule G of this licence.
<b>Specified Engineering Works</b>	Those engineering works listed in Schedule E of this licence.
<b>Trigger Level</b>	A parameter value which when achieved or exceeded requires certain actions to be taken.
<b>Waste</b>	As defined in Section 4(1) of the Act.
<b>Waste disposal activity</b>	Includes the activities referred to in Section 4 of the Act and listed in the Third Schedule thereto.
<b>Waste recovery activity</b>	Includes the activities referred to in Section 4 of the Act and listed in the Fourth Schedule thereto.
<b>White Goods</b>	Refrigerators, cookers, ovens and other similar appliances.
<b>Working Day</b>	8.00 - 17.45 Monday to Friday inclusive; and 8.30 - 17.00 on Saturdays (March to October). 8.30 - 17.00 Monday to Saturday inclusive; (November to February) and excluding Bank Holidays
<b>Working Face</b>	The area of the site in which waste other than cover material is being deposited.

## ***Part II CONDITIONS***

### **CONDITION 1 SCOPE**

- 1.1. Waste activities at the facility shall be restricted to those listed and described in Schedule A and required by the licence.
- 1.2. Waste activities shall be restricted to the area of land outlined in red on Drawing No. B2.1 (Feb 98) of the application. Phase 1 only can be landfilled without a licence review. 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 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 eighteen months from the date of grant of this licence, submit to the Agency for its agreement a proposal for a documented Environmental Management System (EMS) for the facility. Following the agreement of the Agency, the licensee shall establish and maintain such a system. The EMS shall be updated on an annual basis with amendments being submitted to the Agency for agreement.

2.1.2    The EMS shall include as a minimum those elements specified in the Conditions 2.2 to 2.8 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 B: Content of the Environmental Management Programme. The EMP shall be reviewed and submitted to the Agency for its agreement annually.

### **2.4    Corrective Action**

2.4.1    Within three 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 nine 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**

2.6.1    Within nine months from the date of grant of this licence, the licensee shall submit written details of the management structure of the facility for the agreement of the Agency. Any proposed changes in the management structure shall be submitted in writing to the Agency for its agreement. Written details of the management structure shall include the following information:

- a) the names of all persons who are to provide the management and supervision of the waste activities authorised by the licence;
- b) details of the responsibilities for each individual named under a) above;
- c) details of the relevant experience, competence and qualifications held by each of the persons nominated under a) above; and
- d) contingency arrangements for the absences of the named persons from the facility.

## 2.7 Communications

2.7.1 Within twelve months from the date of grant of this licence, the licensee shall submit for agreement to the Agency a Communications Programme to ensure that members of the public can obtain information concerning the environmental performance of the facility at all reasonable times.

## 2.8 Annual Environmental Report

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

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

2.9 The licensee shall employ a suitably qualified and experienced facility manager who shall be designated as the person in charge. The facility manager or a suitably qualified and experienced deputy, shall be present at all times during the operation of the facility.

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

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

## **CONDITION 3 NOTIFICATION AND RECORD KEEPING**

- 3.1 The licensee shall make written records of the following incidents:
- a) any emission which results in the contravention of any relevant standard, including any standard for an environmental medium, or any relevant emission limit value, prescribed under any relevant enactment;
  - b) any emission which does not comply with the requirements of this licence;
  - c) any trigger level specified in this licence or in the EMS which is attained or exceeded;
  - d) any malfunction of any environmental control system;
  - e) any indication that contamination has, or may have, taken place;
  - f) the cessation of waste activities at the facility for a period in excess of 28 days, and their re-commencement;
  - g) any occurrence with the potential for environmental pollution; and,
  - h) any other significant incident.
- 3.2 The written record shall include all aspects (a) to (e) described in Condition 10.6.
- 3.3 Unless otherwise instructed in writing by the Agency, the licensee shall:
- a) notify the Agency by telephone, and by facsimile if available, as soon as practicable and in any case not later than 10.00 am the following working day after the occurrence of any incident; and
  - 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.
- 3.4 Should any further actions be taken after the date of notification, as a result of an incident occurring, the licensee shall forward a written report of those actions to the Agency as soon as practicable and no later than ten days after the initiation of those actions.
- 3.5 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) be identified by a unique code, indicate any modification or amendment, and be correctly dated to reflect any such modification or amendment;
  - (e) be submitted in accordance to the relevant reporting frequencies specified by this licence;

- (f) be certified as accurate and representative by the licensee; 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 D to this licence.
- 3.7 In the event of any incident which relates to discharges to surface water, or which affects the interests of the local authority, the licensee shall notify Shannon Regional Fisheries Board as soon as practicable by telephone and in writing (by facsimile if available) and in any case not later than 10:00am on the following working day after such an incident.
- 3.8 Unless otherwise agreed with the Agency, all documentation required to be maintained under this licence, shall be retained by the licensee.
- 3.9 Unless otherwise agreed in advance in writing with the Agency, the licensee must give at least fourteen days notice to the Agency of the following events:
- a) the cessation of waste disposal activities at the facility for a period in excess of twenty-eight days;
  - b) the re-commencement of waste disposal activities at the facility following a period of cessation referred to at a) above.
- 3.10 The licensee shall provide additional copies of any documentation referred to in this licence to the Agency upon written request, within the time specified in writing by the Agency.
- 3.11 The licensee shall keep the following documents at the facility office referred to in Condition 4.5.
- a) the current waste licence relating to the facility;
  - b) any previous waste licence in respect of the facility;
  - c) the current EMS for the facility;
  - d) the previous year's AER for the facility;
  - e) all written procedures produced by the licensee which relate to the licensed activities.
- 3.12 The licensee shall maintain a written record for each load of waste arriving at or departing from the facility. The licensee shall record the following:
- a) the name of the carrier;
  - b) the vehicle registration number;
  - c) the name of the producer(s)/collector(s) of the waste as appropriate;
  - d) a description of the waste;
  - e) the quantity of the waste, recorded in tonnes;
  - f) the name of the person checking the load; and,
  - g) where loads or wastes are removed or rejected, details of the date of occurrence, the types of waste and the facility to which they were removed.
- 3.13 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.

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

## **CONDITION 4 SITE INFRASTRUCTURE**

- 4.1. The licensee shall establish all infrastructure referred to in this licence prior to the commencement of the licensed activities or as instructed by the Agency.
- 4.2. Site Notice Board
  - 4.2.1. Within three months of the date of grant of this licence, a Site Notice Board shall be provided and maintained by the licensee on the facility so that it is legible to persons outside the main entrance to the facility. The minimum dimensions of the identification board shall be 1200 mm by 750 mm.
  - 4.2.2. The board shall clearly show:
    - a) the name and telephone number of the facility;
    - b) the normal hours of opening;
    - c) the name, address and telephone number of the licence holder;
    - d) an emergency out of hours contact telephone number;
    - e) the name, address and telephone number of the operator of the facility;
    - f) the licence reference number; and
    - g) where and when environmental monitoring information relating to the facility can be obtained.
- 4.3. Site Security
  - 4.3.1. Security, perimeter drains, fencing and gates shall be installed and maintained at the locations outlined in Map D.1 which was submitted to the Agency in the Drawings Volume of the application. which was submitted to the Agency in the Drawings Volume of the application. Within three months of the date of grant of this licence, gate and fence specifications shall be submitted to the Agency for its agreement.
  - 4.3.2. The licensee shall remedy any defect in the gates, perimeter drain and/or fencing as follows:
    - a) a temporary repair shall be made by the end of the working day; and,
    - b) a repair to the standard of the original gates and/or fencing shall be undertaken within three working days or as otherwise agreed in writing with the Agency.
  - 4.3.3. Gates shall be locked shut when the facility is unsupervised.
- 4.4. Site Roads and Hardstanding
  - 4.4.1. The landfill entrance road and the access road (internal) shall be provided and maintained at the location shown on Map D.1 which was submitted to the Agency in the Drawings Volume of the application. The road shall be to the specification outlined in attachment D.1 which was submitted to the Agency in the Attachment Volume of the application.

- 4.4.2. A hardstanding area shall be provided and maintained at the location shown on Map D.1 which was submitted to the Agency in the Drawings Volume of the application. The hardstanding shall be to the following specification;
- 250mm concrete slab with mesh reinforcement overlying a 300mm hardcore base and capping/cover material and waste.
- 4.5. The licensee shall provide and maintain an office on the facility, at the location shown in Map D.1 which was submitted to the Agency in the Drawings Volume of the application. The office shall be constructed and maintained in a manner suitable for the processing and storing of documentation.
- 4.6. The licensee shall provide and maintain a working telephone and facsimile machine in the office specified in Condition 4.5 above.
- 4.7. Public tipping area and Bottle Bank
- 4.7.1. Within six months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement detailed proposals for the storage of aluminium can, glass, batteries, oil and metal on site prior to collection.
- 4.7.2. All receptacles shall be clearly labelled to indicate their contents.
- 4.7.3. Storage areas for household hazardous waste including waste oils and batteries shall be constructed, tested and reported on in accordance with Condition 4.16.
- 4.8. Within six months of the date of grant of this licence, a proposals for a Waste Inspection Area and Waste Quarantine Area shall be submitted to the Agency for its agreement.
- The licensee shall ensure that this area shall be constructed and maintained in a manner suitable and be of a size appropriate for the inspection of waste and subsequent quarantine if required. The waste inspection area and the waste quarantine area shall be suitably and clearly segregated from each other.
- 4.9. The hardstanding area and public tipping area (including the bottle bank and equipment storage) and waste inspection/quarantine areas referred to in Conditions 4.4, 4.7 and 4.8 shall:
- a) be constructed with a hard impervious base graded to a longitudinal cross-sectional fall;
  - b) be contained by an impervious bund not less than 100 mm high; and,
  - c) drain only to a sump.
- 4.10. The licensee shall provide and maintain a weighbridge at the facility. Unless otherwise agreed in writing with the Agency the location of the weighbridge shall be as shown on Map D.1 which was submitted to the Agency in the Drawings Volume of the application.
- 4.11. The licensee shall establish and maintain a wheelwash at the facility in accordance with the specification shown in Drawing No. D.2. Unless otherwise agreed in writing with the Agency the location of the wheelwash shall be as shown on Map D.1 which was submitted to the Agency in the Drawings Volume of the application.
- The wheelwash shall be inspected on a daily basis and drained as required. Accumulated silt shall be removed and disposed of at the working face. The wheelwash water shall drain only to the leachate holding tank.
- 4.12. Within six months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement, details for the storage of fridges on site and the procedures for de-gassing of CFC's from these fridges.

- 4.13. The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness .
- 4.14. The licensee shall establish and maintain a septic tank system at the facility for the treatment of sewerage arising on-site. Unless otherwise agreed in writing with the Agency the location of the system shall be as shown on Map D.1 which was submitted to the Agency in the Drawings Volume of the application.
- 4.15. Storage Areas
- 4.15.1. No fuel shall be stored on site unless the prior agreement of the Agency has been obtained.
- 4.15.2. All waste 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
  - (b) 25% of the total volume of substance which could be stored within the bunded area.
- 4.15.3. All drainage from bunded areas shall be diverted for collection and safe disposal.
- 4.15.4. All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.
- 4.15.5. 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 from 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 as part of the AER. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.
- 4.15.6. All tanks and containers shall be labelled to clearly indicate their contents.
- 4.16. Specified Engineering Works
- 4.16.1. The licensee shall submit written proposals for all Specified Engineering Works, as defined in Schedule E: Specified Engineering Works, to the Agency for its agreement prior to any such works being carried out. No such works shall be carried out without the prior agreement of the Agency.
- 4.16.2. All specified engineering works shall be supervised by a competent person(s) agreed in writing in advance by the Agency and that person, or persons, shall be present at all times during which relevant works are being undertaken.
- 4.16.3. 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 validation report shall include the following information
- a) a description of the works;
  - b) as-built drawings of the works;
  - c) records and results of all tests carried out (including failures);
  - d) where relevant a drawing and sections showing the location of all samples and tests carried out;



- e) daily records sheets/diary;
- f) name(s) of contractor(s)/individual(s) responsible for undertaking the engineering works;
- g) name(s) of individual(s) responsible for supervision of works and for quality assurance validation of works;
- h) records of any problems and the remedial works carried out; and
- i) any other information requested in writing by the Agency.

4.17. In the event that monitoring of local wells (identified through Condition 9.5) indicates that the facility is having a significant adverse effect on the quantity and/or quality of the water supply this shall be treated as an incident. The licensee shall submit to the Agency for its agreement and within a time specified in writing by the Agency, written proposals for the provision of an alternative supply of water to those affected.

#### 4.18. Leachate Management

4.18.1. Within six months of the date of grant of this licence, the licensee shall submit proposals to the Agency for agreement for leachate management at the facility for the protection of surface waters and groundwater including timescales and objectives and targets relating to discharges.

#### 4.19. Landfill Gas Management:

4.19.1. Within twelve months of the date of grant of this licence, a proposal for the utilisation of landfill gas as an energy resource shall be submitted to the Agency for its agreement.

4.19.2. Within six months of the date of grant of this licence, a proposal for the active collection and flaring of landfill gas shall be submitted to the Agency for its agreement.

4.19.3. 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.

#### 4.20. Capping

4.20.1. Final capping shall at minimum consist of the following and subject to the agreement of the Agency;

- top soil (150 -300mm);
- subsoils of at least 1m total thickness;
- 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 (eg GCL) or similar that provides equivalent protection; and
- gas collection layer of natural material (minimum 0.3m) or a geosynthetic layer.

Consideration should be given to the inclusion of a flexible membrane liner in the capping system.

#### 4.21. Groundwater Management

4.21.1. Within six months of the date of grant of this licence, the licensee shall submit proposals to the Agency, for approval, for a groundwater management plan to

ensure the ongoing protection of the groundwater resources in the vicinity of the site.

4.22. Surface Water Management

4.22.1. Within six months of the date of grant of this licence the licensee shall submit to the Agency for its agreement an ongoing management programme for control of surface water run off from the facility during construction, operation and restoration.

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

## **CONDITION 5 WASTE MANAGEMENT**

- 5.1. No hazardous wastes nor industrial non-hazardous liquids or sludges shall be disposed of in the landfill.
- 5.2. Subject to Condition 5.1 only those Waste Types and quantities listed in Schedule H: Waste Types shall be accepted at the landfill unless the prior agreement of the Agency has been obtained.
- 5.3. Within three months of the grant of this licence, the licensee shall submit to the Agency for its agreement a plan showing the extent of current and historical landfilling. The area for current and future landfilling is restricted to the area defined in said agreed plan.
- 5.4. Within six months of the date of grant of this licence, the licensee shall submit for agreement to the Agency written procedures for the acceptance and handling of all wastes.
- 5.5. As a minimum 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 for disposal at an appropriate alternative facility. Such waste shall be stored in the Waste Quarantine Area only (Condition 4.8) and may be stored for a maximum of twenty-four hours.
- 5.6. The quantity of wastes to be accepted for disposal at the landfill, shall not exceed 40,000 tonnes per annum, unless otherwise agreed in writing in advance with the Agency.
- 5.7. Wastes shall not be deposited in any cell or part of the landfill without the prior agreement of the Agency.
- 5.8. Scavenging shall not be permitted at the facility.
- 5.9. Waste shall only be accepted at the facility between the hours of 8.00 - 17.45 Monday to Friday inclusive and 8.30 - 17.00 on Saturdays (March to October); and 8.30 - 17.00 Monday to Saturday inclusive (November to February), excluding Bank Holidays, unless otherwise agreed in writing in advance with the Agency.
- 5.10. Unless the prior written 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 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.
- 5.11. The working face of the operational cell shall, at the end of each day, be covered with material suitable to minimise any nuisances occurring. Any cover material at any location within the facility which is eroded, washed off or otherwise removed shall be replaced by the end of the working day.

- 5.12. Within nine months of the date of grant of this licence, a proposal for the recovery of construction and demolition waste at the facility shall be submitted to the Agency for approval.
- 5.13. All sewage sludge shall be covered immediately with other waste. Within six months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement, proposals for the handling and disposal of sewage sludge.
- 5.14. Within twelve months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement proposals for dewatering/lime stabilisation of sewage sludge having regard to good practice and sustainability.
- 5.15. Within eighteen months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement proposals for composting of biodegradable or green waste having regard to good practice and sustainability.
- 5.16. Within nine months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement proposals for separation of recyclables from the waste.
- 5.17. A steel wheeled compactor or other such vehicle as agreed in writing with the Agency shall be used for compacting all waste other than that used for restoration or construction purposes.
- 5.18. In order to prevent the formation of voids, all hollow objects and large articles deposited on the site shall be crushed, broken up, flattened or otherwise treated.
- 5.19. Wastes once deposited and covered shall not be excavated, disturbed or otherwise picked over without prior written agreement from the Agency.
- 5.20. No smoking shall be allowed on the facility other than in the site office as shown on Map D.1 which was submitted to the Agency in the Drawings Volume of the application.

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

## CONDITION 6 ENVIRONMENTAL NUISANCES

- 6.1. The licensee shall, at a minimum of one week intervals, inspect the facility and its immediate surrounds for nuisances caused by vermin 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. The measures and infrastructure described in Attachment F.3 of the application shall be applied to control litter at the facility.
- 6.4. All loose litter accumulated within the facility and its environs, excluding that which is deposited on the working face, shall be removed and appropriately disposed of on a daily basis.
- 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 10:00am 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 waste being delivered to the facility is appropriately covered.
- 6.7. In dry weather, site roads and any other areas used by vehicles shall be sprayed with water as and when required to minimise airborne dust nuisance.
- 6.8. The measures and infrastructure described in Attachment F.5 of the application shall be applied to road cleansing at the facility.
- 6.9. 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.
- 6.10. The licensee shall ensure that birds and vermin do not give rise to nuisance at the facility or the immediate area of the facility. The method used by the licensee to control birds and vermin at the facility shall not cause environmental pollution and shall be agreed in writing in advance with the Agency.

**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 G: Emissions of this licence.
- 7.2. All treatment/abatement and emission control equipment shall be calibrated and maintained, in accordance with the instructions issued by the manufacturer/supplier or installer. Written records of the calibrations and maintenance shall be made and kept by the licensee.
- 7.3. The licensee shall ensure that the activities shall be carried out in a manner such that emissions including odours do not result in significant impairment of, or significant interference with the environment beyond the facility boundary.
- 7.4. The following are the trigger levels for landfill gas emissions from the facility measured in any service on or immediately adjacent to the facility and/or at any other point located outside the body of the waste:
  - a) Methane, greater than or equal to 1.0% v/v; and
  - b) Carbon dioxide, greater than or equal to 1.5% v/v.
- 7.5. There shall be no direct emissions to groundwater.

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

## CONDITION 8 RESTORATION AND AFTERCARE

- 8.1. Unless otherwise agreed in advance in writing with the Agency, the final profile of the facility shall be as shown in Figure No. G.1.1 of Attachment G.1.
- 8.2. A Restoration and Aftercare Plan for the facility shall be submitted to the Agency for agreement within twelve months of the date of grant of this licence. The plan shall be in accordance with any written guidelines issued by the Agency. It shall be updated annually and proposed amendments thereto notified to the Agency for agreement as part of the AER.
- 8.3. Completed areas of the landfill shall be profiled so that no depressions exist in which water may accumulate. Any depressions arising after profiling shall be rectified by the emplacement of suitable capping or restoration materials.
- 8.4. No material or object that is incompatible with the proposed restoration of the site shall be present within one metre of the final soil surface levels.
- 8.5. In areas where tree planting is proposed to be carried out above waste filled areas a synthetic barrier shall be used to augment the clay cap and topsoil and subsoil depths shall be a minimum of 1m unless otherwise agreed in advance in writing with the Agency.

**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 F: 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 submit to the Agency for its agreement details of the permanent gas monitoring system to be installed in the site office. The licensee shall also submit within six months as-built details of the gas monitoring boreholes which have not already been submitted to the Agency.
- 9.3. Within six months from the date of grant of this licence, the licensee shall submit to the Agency for its agreement, monitoring proposals to detect off-site migration of landfill gas with particular regard to the possible increase in migration following the placement of the capping layer.
- 9.4. Within six months from the date of grant of this licence, the licensee shall submit a written proposal on monitoring of leachate levels within the filled waste to the Agency for its agreement. The report shall include a drawing showing all leachate monitoring locations. The drawing shall also contain a unique reference number and a twelve figure national grid reference for each monitoring point.
- 9.5. Within six months from the date of grant of this licence, the licensee shall submit to the Agency a drawing showing the location of all private water supplies within 500m of the facility. All such private wells, subject to well owner agreement, shall be included in the monitoring programme set out in Schedule F.
- 9.6. 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 site are to be kept clear such that monitoring can be carried out successfully.
- 9.7. Monitoring and analysis equipment shall be operated and maintained in accordance with the manufacturers instructions (if any) so that all monitoring results accurately reflect any emission or discharge or environmental parameter.
- 9.8. 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.
- 9.9. Unless otherwise agreed in writing with the Agency, a written record shall be kept of the names, qualifications and a summary of relevant experience of all persons who carry out all sampling and monitoring as required by this licence and who carry out the interpretation of the results of such sampling and monitoring.
- 9.10. The licensee shall maintain all sampling and monitoring points so that they may be used for the representative sampling and monitoring of emissions from the facility.
- 9.11. A topographical survey including the void space shall be carried out within three 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.
- 9.12. Prior to any development of the undisturbed area, the advice of Dúchas the Heritage Service shall be sought. On completion of such development a report of the results of any archaeological monitoring shall be submitted to Dúchas and copied to 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 proposals to the Agency for its agreement for an Emergency Response Procedure (ERP) for the facility. The ERP shall address any emergency situation which may originate on the facility and shall include provision for minimising the effects of any emergency on the environment.
- 10.2. In addition to the contingency arrangements set out in Attachment K of the application, the licensee shall within six months of the date of grant of this licence, submit to the Agency for its agreement proposals for contingency arrangements in the case of contaminated air, surface water, groundwater and any other environmental media.
- 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 case of repeat incidents, in the event that any monitoring, sampling or observations indicate that an incident has, or may have, taken place, the licensee shall immediately:
  - a) identify the date, time and place of the incident;
  - b) carry out an immediate investigation to identify the nature, source and cause of the incident and any emission;
  - c) isolate the source of the emission;
  - d) evaluate the environmental pollution, if any, caused by the incident;
  - e) identify and execute measures to minimise the emissions/malfunction and the effects thereof;
  - f) provide a proposal to the Agency for its agreement within one month to:
    - i) identify and put in place measures to avoid reoccurrence of the incident; and
    - ii) identify and put in place any other appropriate remedial action.

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

## CONDITION 11 CHARGES AND FINANCIAL PROVISIONS

### 11.1 Agency Charges

- 11.1.1 The licensee shall pay to the Agency an annual contribution of £ 13,115 or such sum as the Agency from time to time determines, towards the cost of monitoring the activity or otherwise in performing any functions in relation to the activity, as the Agency considers necessary for the performance of its functions under the Waste Management Act, 1996. The licensee shall in 2000 and subsequent years, not later than January 31 of each year, pay to the Agency this amount updated in accordance with changes in the Consumer Price Index from the date of the licence to the renewal date. The updated amount shall be notified to the licensee by the Agency. For 1999, the licensee shall pay a pro rata amount from the date of this licence to 31<sup>st</sup> December 1999. This amount shall be paid to the Agency within one month of the date of grant of this licence.
- 11.1.2 In the event that the frequency or extent of monitoring or other functions carried out by the Agency needs to be increased due to an incident occurring on or adjacent to the facility and associated with the facility, the licensee shall contribute such sums as determined by the Agency to defraying its costs.

### 11.2 Financial Provision for Closure, Restoration and Aftercare

- 11.2.1 The licensee shall from a date to be set by the Agency establish and maintain a fund, or other form of approved security, that is adequate to assure the Agency that the licensee is at all times financially capable of implementing the Restoration and Aftercare Plan required by Condition 8.2. The type of fund and means of its release/recovery shall be agreed in writing by the Agency prior to its establishment.
- 11.2.2 The fund shall be maintained in an amount always sufficient to underwrite the current Restoration and Aftercare Plan.
- 11.2.3 The licensee shall revise the cost of aftercare and restoration annually and any details of the necessary adjustments to the fund must, within two weeks of the revision, be forwarded to the Agency for agreement. Any adjustment agreed by the Agency shall be effected within four weeks of said written agreement.
- 11.2.4 Unless otherwise agreed any revision to the fund shall be computed using the following formula:

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

Where:

Cost	=	Revised restoration and aftercare cost
ECOST	=	Existing restoration and aftercare cost
WPI	=	Appropriate Wholesale Price Index [Capital Goods Building & Construction (i.e. Materials & Wages) Index], as published by the Central Statistics Office, for the year since last closure calculation/revision.

CiCC = Change in compliance costs as a result of change in site conditions, changes in law, regulations, regulatory authority charges, or other significant changes.

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

# SCHEDULE A Waste Activities

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

Waste Management Act, 1996: Third Schedule <sup>Note 1</sup>	
<b>Class 1.</b>	<b>Deposit on, in or under land (including landfill):</b>  This activity is limited to the landfilling of non-hazardous waste
<b>Class 2.</b>	<b>Land treatment, including biodegradation of liquid or sludge discards in soils:</b>  This activity is limited to the disposal of sewage sludge by means of discharge to ground from tankers
<b>Class 7.</b>	<b>Physico-chemical treatment not referred to elsewhere in this Schedule (including evaporation, drying and calcination) which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1. to 10. of this Schedule:</b>  This activity is limited to the proposed dewatering/lime stabilisation of sludge
<b>Class 13.</b>	<b>Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.</b>  This activity is limited to the storage of inert fill for use as on-site cover and capping material

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

Waste Management Act, 1996: Fourth Schedule <sup>Note 1</sup>	
<b>Class 2.</b>	<b>Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes):</b>  This activity is limited to proposed composting
<b>Class 10.</b>	<b>The treatment of any waste on land with a consequential benefit for an agricultural activity or ecological system:</b>  This activity is limited to the spreading of stabilised sewage sludge on land
<b>Class 11.</b>	<b>Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule:</b>  This activity is limited to the use of inert waste as cover material
<b>Class 13.</b>	<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>  This activity is limited to the use of containers for the temporary storage of refrigerators - CFC degassed on-site on a monthly basis prior to on-site disposal- Aluminium cans and glass, batteries, oil and metal are located at the facility for storage on-site prior to collection for recycling

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

# SCHEDULE B Content of the Environmental Management Programme

## Environmental Management Programme

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

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

Designation of Responsibility for Achieving Targets and Objectives

Other items as specified in writing by the Agency

# SCHEDULE C Content of the Annual Environmental Report

## Annual Environmental Report Content <sup>NOTE 1</sup>

Reporting Period.

Waste activities carried out at the facility.

Waste sent off site for recovery or disposal including details of the contractor and the final destination.

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

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

Area occupied by waste.

Methods of deposition of waste.

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

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

Resource and energy consumption summary.

Proposed development of the site and timescale of such development.

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

Report on development works undertaken during the reporting period, and those proposed during the coming year.

Report on restoration of completed cells/ phases.

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

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

Estimated annual and cumulative quantity of indirect emissions to groundwater.

Monthly water balance calculation and interpretation.

Meteorological Report.

Schedule of Environmental Objectives and Targets for the forthcoming year.

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

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

Tank, pipeline and bund testing and inspection report.

Reported incidents and Complaints summaries.

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

Any other items specified by the Agency.

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

# SCHEDULE D Recording and Reporting to the Agency

Table D.1 Recurring Reports

Report	Reporting Frequency <sup>Note1</sup>	Report Submission Date
<b>Environmental Management System Updates</b>	Annually	One month after the end of the year reported on.
<b>Environmental Management Programme</b>	Annually	Twelve months from the date of grant of licence and one month after the end of each year thereafter.
<b>Annual Environment Report (AER)</b>	Annually	Twelve 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>Incident Action Report</b>	As they occur	Within ten days of initiation of the action.
<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>Dust Monitoring</b>	three times a year	Ten days after end of the period being reported on.
<b>Noise Monitoring</b>	Annually	One month after end of the year 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>	Annually	One month after end of the year being reported on.
<b>Meteorological Monitoring</b>	Annually	One month after end of the year being reported on.

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



Table D.2 Once-off Reports

Report and Contents	Condition Number	Report Submission Date (Number of months within which to submit, from date of granting of licence, unless otherwise specified)
<b>Environmental Management System</b>		
(i) EMS Proposals	2.1	18
(ii) Schedule of Objectives and Targets	2.2	12
(iii) Environmental Management Programme	2.3	12
(iv) Corrective Action	2.4	3
(v) Awareness and Training	2.5	9
(vi) Management Structure	2.6	9
(vii) Communication Programme	2.7	12
(viii) Annual Environmental Report	2.8	12
<b>Infrastructure</b>		
(i) Site Notice Board	4.2.1	3
(ii) Fence and gate specifications	4.3.1	3
(iii) Storage of aluminium cans, glass etc.	4.7	6
(iv) Proposals for waste inspection area	4.8	6
(v) details of fridge storage and procedures for degassing on-site	4.12	6
(vi) Proposals for leachate management	4.18	6
(vii) Active Landfill Gas Control System	4.19.2	6
(viii) Proposals for landfill gas utilisation	4.19.1	12
(ix) Proposals for Groundwater Management	4.21	6
(x) Proposals for Surface Water Management	4.22	6
<b>Waste Acceptance Procedures</b>		
(i) Plan of current and historical landfill area	5.3	3
(ii) Waste acceptance and handling procedure	5.4	6
(iii) Recovery of C & D Waste	5.11	9
<b>Waste Management</b>		
(i) Proposals for handling sewage sludge	5.13	6
(ii) Proposals for dewatering/stabilisation of sewage sludge	5.14	12
(iii) Proposal for composting	5.15	18
(iv) Proposal for component separation	5.16	9
<b>Restoration and Aftercare</b>		
(i) Restoration and Aftercare Plan	8.2	12
<b>Environmental Monitoring</b>		
(i) A proposal for a permanent gas monitoring system to be installed in the site office.	9.2	6
(ii) monitoring proposals to detect off-site migration of landfill gas	9.3	6
(iii) A proposal for the monitoring of leachate levels within the waste	9.4	6
(iv) Well survey within 500 m	9.5	6
(v) topographical survey	9.11	3 and annually thereafter
<b>Contingency Arrangements</b>		
(i) Proposals for an Emergency Response Procedure	10.1	6
(ii) Proposals for contingency arrangements	10.2	6
(iii) Incident avoidance and remedial action	10.7	within 1 month of an incident

# SCHEDULE E Specified Engineering Works

## Specified Engineering Works

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

Fencing and site security works.

Bunding arrangements.

Installation of landfill gas management and monitoring systems.

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

Installation of alternative drinking water supplies.

Installation of groundwater control and/or monitoring systems.

Surface water management works.

Restoration and Aftercare works.

Nuisance control measures

Any future composting of organic wastes

Any lime stabilisation of sewage sludge

Any component separation on site

Any other works notified in writing by the Agency.

# SCHEDULE F Monitoring

Monitoring to be carried out as specified below.

## F.1 Landfill Gas

Landfill gas monitoring locations shall be those as set out in Table F.1.1 below and Table F.1.2.

Table F.1.1 Landfill Gas Monitoring Locations

STATION	EASTING	NORTHING
GP-01	235507	220291
GP-02	235256	220732
GP-03	235358	220370
GP-04	235441	220369
GP-05	235311	220572
GP-06	235449	220492
GP-08	235222	220747
GP-09	235272	220492
GP-10	235300	220295
site office	to be agreed with the Agency	

Table F.1.2 Landfill Gas Monitoring Frequency and Technique

Parameter	Monitoring Frequency		Analysis Method <sup>Note1</sup> /Technique <sup>Note2</sup>
	Gas Boreholes/ Vents/Wells	Site Office	
Methane (CH <sub>4</sub> ) % v/v	Monthly	Weekly	Infrared analyser/flame ionisation detector
Carbon dioxide (CO <sub>2</sub> )%v/v	Monthly	Weekly	Infrared analyser/ flame ionisation detector
Oxygen(O <sub>2</sub> ) %v/v	Monthly	Weekly	Infrared analyser
Atmospheric Pressure	Monthly	Weekly	Standard
Temperature	Monthly	Weekly	Standard

Note1: All monitoring equipment used should be intrinsically safe.

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

## F.2 Dust

Dust monitoring locations shall be those as set out in Table F.2.1.

Table F.2.1 Dust Monitoring Locations as shown in Drawing J.1(Revision 1 Amendment) of the application.

STATION	EASTING	NORTHING
DM-01	235510	220284
DM-02	235340	220308
DM-03	235474	220633
DM-04	235257	220728

Table F.2.2 Dust Monitoring Frequency and Technique

Parameter (mg/m <sup>2</sup> /day)	Monitoring Frequency	Analysis Method/Technique
Dust	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.**

### F.3 Noise

Noise monitoring locations shall be those as set out in Table F.3.1 and located on Drawing J.1(Revision 1 Amendment) of the application.

Table F.3.1 Noise Monitoring Locations

STATION	EASTING	NORTHING
N1	235528	220275
N2	235340	220286
N3	235252	220742
N4	235344	220761
N5	234972	221005

Table F.3.2 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."**

### F.4 Surface Water, Groundwater and Leachate

Surface water monitoring locations shall be those as set out in Table F.4.1 and located on Drawing J.1(Revision 1 Amendment) of the application and of the parameters and frequencies outlined in Table F.4.4.

Groundwater monitoring locations shall be those as set out in Table F.4.2 and located on Drawing C6.1(Amendment 1) of the application and of the parameters and frequencies outlined in Table F.4.4.

Leachate monitoring locations shall be those as set out in Table F.4.3 and located on Drawing J.1(Revision 1 Amendment) of the application and of the parameters and frequencies outlined in Table F.4.4.

Table F.4.1 Surface Water Monitoring Locations

STATION	EASTING	NORTHING
SW1	235285	220405
SW2	235280	220511
SW3	235498	220457
SW4	235283	220754
SW7	235086	220270
SW9	235144	220471
SW11	234919	220602

Table F.4.2 Groundwater Monitoring Locations

STATION	EASTING	NORTHING
MW-01S	235503	220284
MW-01D	235506	220289
MW-04S	235441	220496
MW-05S	235271	220488
MW-05D	235266	220487
MW-08S	235221	220746
MW-08B	235225	220748
MW-08D	235230	220748
Private wells	located during well survey Condition 9.5	

Leachate monitoring locations shall be those as set out in Table F.4.3 .

Table F.4.3 Leachate Monitoring Locations

LEACHATE	EASTING	NORTHING
L1	235293	220542
L2	235291	220564
others to be agreed subject to Condition 4.18		

Table F.4.4 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	Annually
Groundwater Level	Not Applicable	Monthly	Not Applicable
Leachate Level	Not Applicable	Not Applicable	Weekly
Ammoniacal Nitrogen	Quarterly	Monthly	Annually
BOD	Quarterly	Not Applicable	Annually
COD	Quarterly	Not Applicable	Annually
Chloride	Quarterly	Quarterly	Annually
Dissolved Oxygen	Quarterly	Quarterly	Not Applicable
Electrical Conductivity	Quarterly	Monthly	Annually
pH	Quarterly	Monthly	Annually
Total Suspended Solids	Quarterly	Not Applicable	Annually
Temperature	Quarterly	Monthly	Annually
Boron	Not Applicable	Annually	Annually
Cadmium	Annually	Annually	Annually
Calcium	Annually	Annually	Annually
Chromium (Total)	Annually	Annually	Annually
Copper	Annually	Annually	Annually
Cyanide (Total)	Not Applicable	Annually	Annually
Fluoride	Not Applicable	Annually	Annually
Iron	Annually	Annually	Annually
Lead	Annually	Annually	Annually
List I/II organic substances <sup>Note 3</sup>	Note 6	Annually	Note 5
Magnesium	Annually	Annually	Annually
Manganese	Annually	Annually	Annually
Mercury	Annually	Annually	Annually
Potassium	Annually	Quarterly	Annually
Sulphate	Annually	Annually	Annually
Sodium	Annually	Quarterly	Annually
Total Alkalinity	Annually	Annually	Not applicable
Total Phosphorus	Annually	Annually	Annually
Total Oxidised Nitrogen	Annually	Quarterly	Annually
Total Organic Carbon	Not Applicable	Quarterly	Not Applicable
Residue on evaporation	Not Applicable	Annually	Not Applicable
Zinc	Annually	Annually	Annually
Faecal Coliforms	Not Applicable	Annually <sup>Note 4</sup>	Annually <sup>Note 4</sup>
Total Coliforms	Not Applicable	Annually <sup>Note 4</sup>	Annually <sup>Note 4</sup>

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

Note 2: 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 site 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: If there is evidence of bacterial contamination, the analysis at up gradient and downgradient monitoring points should include enumeration of total bacteria at 22°C and 37°C and faecal streptococci.

Note 5: Once off for List I/II organic substances and thereafter as required by the Agency.

Note 6: Once off for List I/II organic substances at SW 11(234919, 220602) and thereafter as required by the Agency.

## F.5 Meteorological Monitoring

Table F.5.1 Meteorological Monitoring:  
At a location on the facility to be agreed with the Agency.

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

## SCHEDULE G Emission Limits

**G.1 Noise Emissions:** Measured at the monitoring points indicated in Table F.3.1 and Drawing J.1(Revision 1 Amendment) of the application.

Day dB(A) L <sub>Aeq</sub> (15 minutes)	Night dB(A) L <sub>Aeq</sub> (15 minutes)
55	45

**G.2 Landfill Gas Emission Limits:** Measured in any building on or adjacent to the facility.

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

**G.3 Dust Deposition:** Measured at the monitoring points DM-01, DM-02, DM-04 in Table F.2.1 and Drawing J.1(Revision 1 Amendment) of the application.

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.

# SCHEDULE H Waste Types

**TABLE H.1 WASTE CATEGORIES AND QUANTITIES**

<b>WASTE TYPE</b>	<b>MAXIMUM TONNES PER ANNUM</b>
<b>Household</b>	15,500
<b>Commercial</b>	9,500
<b>Sewage Sludge</b>	5,500
<b>Construction and Demolition</b>	2,000
<b>Industrial Non-Hazardous Solids</b>	7,500
<b>TOTAL</b>	40,000

**Sealed by the seal of the Agency on this 16<sup>th</sup> day of November, 1999.**

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

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**Anne Butler                      Director/Authorised Person**