

AMENDMENT UNDER SECTION 76(4) OF THE WASTE MANAGEMENT ACTS, 1996 TO 2003

This licence was amended on 20/10/05 under Section 76(4) of the Waste Management Acts, 1996 to 2003. The details of the amendment must be read in conjunction with this licence. The Amendment document is titled 27-2S76(4)AmendmentA.doc

This licence was amended on 15th January 2013 under Section 42B(1)(c) of the Waste Management Acts, 1996 to 2011. The details of Amendment B must be read in conjunction with this licence. The amendment document is entitled "Technical Amendment B"



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WASTE LICENCE
LANDFILL FOR NON-HAZARDOUS WASTE

Waste Licence	27-2
Register Number:	
Licensee:	Ballinasloe Town Council
Location of Facility:	Pollboy Landfill Facility, Pollboy, Ballinasloe, County Galway.

INTRODUCTION

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

This licence is for the continued operation and development by Ballinasloe Town Council of a landfill facility at Pollboy, Ballinasloe, County Galway. A new lined cell (Phase 1) having an area of approximately 2 hectares has recently been constructed at the facility and the licence provides for the disposal of waste into this cell. Additional waste disposal cells (Phases 2, 3) may also be constructed at the facility in future. The existing unlined waste disposal areas will be restored in accordance with a Restoration and Aftercare Plan which has been agreed with the Agency.

The maximum annual tonnage permitted to be landfilled at the facility is 120,000 tonnes and waste will not be permitted to be disposed of into unlined areas of the facility. The licence requires the provision of leachate, landfill gas and surface water management infrastructure at the facility. The licence also provides for the collection of wastes at a newly constructed civic waste facility and the composting of waste.

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

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

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DECISION & REASONS FOR THE DECISION

Reasons for the decision

The Environmental Protection Agency (the Agency) is satisfied, on the basis of the information available, that the requirements of Section 40(4) of the Waste Management Act, 1996 have been complied with in respect of the application for a waste licence for the activities listed hereunder in Part I.

In reaching this decision the Agency has considered the application and supporting documentation received from the applicant, all submissions and objections received from other parties and the reports of its inspectors.

Part I Activities Licensed

In pursuance of the powers conferred on it by the Waste Management Act, 1996, the Agency, under Section 46(2) of the said Act hereby grants this Waste Licence to Ballinasloe Town Council to carry on the waste activities listed below at Pollboy Landfill Facility, Pollboy, Ballinasloe, County Galway subject to conditions, with the reasons therefor and the associated schedules attached thereto set out in the licence.

Licensed Waste Disposal Activities, in accordance with the Third Schedule of the Waste Management Act 1996

Class 4	Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons: This activity is limited to the collection of leachate in a lined lagoon at the facility.
Class 5	Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment: This activity is limited to the disposal of the waste types specified in this licence in lined cells.
Class 6	Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 10 of this Schedule: This activity is limited to the treatment of leachate at the facility.
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 (including evaporation, drying and calcination): This activity is limited to the treatment of leachate at the facility.
Class 11	Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule: This activity is limited to the mixing of wastes.
Class 13	Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced: This activity is limited to the storage of waste at the facility prior to disposal.

*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): This activity is limited to the composting of waste at the facility.
Class 3	Recycling or reclamation of metals and metal compounds: This activity is limited to the collection of metals at the Civic Waste Facility.
Class 4	Recycling or reclamation of other inorganic materials: This activity is limited to the collection of waste at the Civic Waste Facility and for the use of inert waste for the restoration of the facility.
Class 9	Use of any waste principally as a fuel or other means to generate energy: This activity is limited to the possible future use of landfill gas as an energy source.
Class 10	The treatment of any waste on land with a consequential benefit for an agricultural activity or ecological system: This activity is limited to the possible use of composted materials in the restoration of the facility.
Class 11	Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule: This activity is limited to the use of inert waste for restoration of the facility.
Class 12	Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule: This activity is limited to the exchange of waste prior to recovery.
Class 13	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced: This activity is limited to the collection of wastes at the Civic Waste Facility and to the storage of materials prior to its removal off-site for recycling/recovery.

Part II: Activities Refused

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

*Refused 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): Reason: The disposal of waste at the facility is provided for under Class 5 of the Third Schedule.
Class 2	Land treatment, including biodegradation of liquid or sludge discards in soils: Reason: The disposal of sludges at the facility is provided for under Class 5 of the Third Schedule.

INTERPRETATION

All terms in this licence should be interpreted in accordance with the definitions in the Waste Management Act, (the Act), unless otherwise defined in this section.

Aerosol	A suspension of solid or liquid particles in a gaseous medium.
Agreement	Agreement in writing.
Annually	At approximately twelve monthly intervals.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of the waste licence application.
Application	The application by the licensee for this waste licence.
Appropriate facility	A waste management facility, duly authorised under relevant law and technically suitable.
BAT	Best Available Techniques as defined in Article 2(11) of Council Directive 96/61/EC concerning integrated pollution prevention and control.
Biodegradable waste	Any waste that is capable of undergoing anaerobic or aerobic decomposition, such as food, garden waste, sewage sludge, paper and paperboard.
Condition	A condition of this licence.
Construction and Demolition Waste	All wastes which arise from construction, renovation and demolition activities.
Containment boom	A boom which can contain spillages and prevent them from entering drains or watercourses.
Cover material	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.
Daily Cover	Is the term used to describe material spread (about 150mm if soil cover is used) over deposited waste at the end of each day. Synthetic materials may also be used. Its objective is to minimise odour, the amount of litter generated and to control flies and access to the waste by birds and vermin. Where soils are used for daily cover, it is recommended that they be removed at the start of the day and subsequently reused as much as possible.
Daytime	0800 hrs to 2200 hrs.
Documentation	Any report, record, result, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence.
Drawing	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
Emergency	Those occurrences defined in Condition 9.4.
Emission Limits	Those limits, including concentration limits and deposition levels established in <i>Schedule C: Emission Limits</i> , of this licence.

European Waste Catalogue (EWC)	A harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 94/3/EC and any subsequent amendment published in the Official Journal of the European Community.
Green waste	Waste wood (excluding timber), plant matter such as grass cuttings, and other vegetation.
Hazardous Waste	As defined in Section 4(2) of the Act.
Hours of Operation	The hours during which the facility is authorised to be operational. The hours of operation of a facility are usually longer than the hours of waste acceptance to facilitate preparatory and completion works, such as the removal and laying of daily cover. Different activities within the facility, such as the landfill and the civic waste facility, may have different hours of waste acceptance.
Hours of Waste Acceptance	The hours during which the facility is authorised to accept waste. Different activities within the facility, such as the landfill and the civic waste facility, may have different hours of waste acceptance.
Inert waste	Inert Waste as defined in SI 336 of 2002 Waste Management (Licensing) (Amendment) Regulations, 2002.
Intermediate Cover	Refers to placement of material (minimum 300mm if soil is used) for a period of time prior to restoration or prior to further disposal of waste.
Landfill	Refers to the area of the facility where the waste is disposed of by placement on the ground or on other waste.
Landfill Gas	Gases generated from the landfilled waste.
LEL (Lower Explosive Limit)	The lowest percentage concentration by volume of a mixture of flammable gas with air which will propagate a flame at 25°C and atmospheric pressure.
Licence	A waste licence issued in accordance with the Act.
Licensee	Ballinasloe Town Council.
List I/II Organics	Substances classified pursuant to EC Directives 76/464/EEC and 80/68/EEC.
Liquid Waste	Any waste in liquid form and containing less than 2% dry matter. Any waste tankered to the facility.
Maintain	Keep in a fit state, including such regular inspection, servicing and repair as may be necessary to adequately perform its function.
Mobile Plant	Self-propelled machinery used for the emplacement of wastes or for the construction of specified engineering works.
Monthly	A minimum of 12 times per year, at approximately monthly intervals.
Municipal Waste	As defined in Section 5 of the Act.
Night-time	2200 hrs to 0800 hrs.
Oil Separator	Device installed according to the draft European Standard prEN 858 (Installations for the separation of light liquids, e.g oil and petrol).

Recyclable Materials	Those waste types, such as cardboard, batteries, gas cylinders, etc which may be recycled.
Quarterly	At approximately three monthly intervals.
Sample(s)	Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments.
Sludge	The accumulation of solids resulting from chemical coagulation, flocculation and/or sedimentation after water or wastewater treatment.
Specified Emissions	Those emissions listed in <i>Schedule C: Emission Limits</i> , of this licence.
Specified Engineering Works	Those engineering works listed in <i>Schedule B: Specified Engineering Works</i> , of this licence.
Treated Sludge	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.
Treatment	Treatment means the physical, thermal, chemical or biological processes, including sorting, that change the characteristics of the waste in order to reduce its volume or hazardous nature, facilitate its handling or enhance recovery.
Trigger Level	A parameter value specified in the licence, the achievement or exceedance of which requires certain actions to be taken by the licensee.
White Goods	Refrigerators, cookers, ovens and other similar appliances.
EPA Working Day	Refers to the following hours: 0900 hrs to 1730 hrs Monday to Friday inclusive.
Working Face	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 III CONDITIONS

CONDITION 1 SCOPE OF THE LICENCE

- 1.1. Waste activities at the facility shall be restricted to those listed and described in Part I: Activities Licensed and authorised by this licence.
- 1.2. For the purposes of this licence, the facility is the area of land outlined in red on Drawing No. dg0001 entitled 'General Site Plan' of the application. Any reference in this licence to "facility" shall mean the area thus outlined in red.
- 1.3. This licence is for the purposes of waste licensing under the Waste Management Act, 1996 only and nothing in this licence shall be construed as negating the licensee's statutory obligations or requirements under any other enactments or regulations.
- 1.4. Only the wastes listed in *Schedule A: Waste Acceptance*, of this licence may be disposed of or recovered at the facility subject to the maximum quantities and other constraints specified therein.
- 1.5. Waste Acceptance
 - 1.5.1. Whole used tyres (other than bicycle tyres and tyres with an outside diameter greater than 1400mm) shall not be disposed of at the facility from 16 July 2003. Shredded tyres shall not be disposed of at the facility from 16 July 2006.
 - 1.5.2. No hazardous wastes, liquid wastes, animal wastes or asbestos wastes shall be disposed of at the facility.
 - 1.5.3. The licensee shall ensure that all waste accepted at the facility is subject to treatment by 16th July 2009 or earlier if otherwise instructed by the Agency. This provision may not apply to inert waste for which treatment is not technically feasible, nor to any other waste for which such treatment does not contribute to the objectives of the Landfill Directive (1999/31/EC) as set out in Article 1 of the Directive by reducing the quantity of the waste or the hazards to human health or the environment.
- 1.6. Waste Acceptance Hours and Hours of Operation
 - 1.6.1. Landfill
 - 1.6.1.1. Waste may be accepted at the facility for disposal at the landfill only between the hours of 8.30am and 5.00pm Monday to Friday inclusive and 9.00am and 4.00pm on Saturdays.
 - 1.6.1.2. The landfill at the facility may be operated only during the hours of 8.00am and 7.00pm Monday to Friday inclusive and 8.30am and 5.00pm on Saturdays.
 - 1.6.1.3. Waste shall not be accepted at the landfill on Sundays or Public Holidays.
 - 1.6.2. Civic Waste Facility
 - 1.6.2.1. Waste may be accepted at the Civic Waste Facility only between the hours of 8.30am and 5.00pm Monday to Friday inclusive and 9.00am and 4.00pm on Saturdays.
- 1.7. The following shall constitute an incident for the purposes of this licence:-
 - a) An emergency;
 - 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; and

- d) Any indication that environmental pollution has, or may have, taken place.
- 1.8. Where the Agency considers that a non-compliance with any condition of this licence has occurred, it may serve a notice on the licensee specifying.
- 1.8.1. That only those wastes as specified, if any, in the notice are to be accepted at the facility after the date set down in the notice.
- 1.8.2. That the licensee shall undertake the works stipulated in the notice, and/or otherwise comply with the requirements of the notice as set down therein, within the time-scale contained in the notice.
- 1.8.3. That the licensee shall carry out any other requirement specified in the notice.
- When the notice has been complied with, the licensee shall provide written confirmation that the requirements of the notice have been carried out. No waste, other than that which is stipulated in the notice, shall be accepted at the facility until written permission is received from the Agency.
- 1.9. Every plan, programme or proposal submitted to the Agency for its agreement pursuant to any condition of this licence shall include a proposed timescale for its implementation. The Agency may modify or alter any such plan, programme or proposal in so far as it considers such modification or alteration to be necessary and shall notify the licensee in writing of any such modification or alteration. Every such plan, programme or proposal shall be carried out within the timescale fixed by the Agency but shall not be undertaken without the agreement of the Agency. Every such plan, programme or proposal agreed by the Agency shall be covered by the conditions of this licence.
- 1.10 This licence is being granted in substitution for the waste licence granted to the licensee on the 25th August 2000 and bearing Waste Licence Register No: 27-1. The previous waste licence (Register No: 27-1) is superseded by this licence.

REASON: To clarify the scope of this licence.

CONDITION 2 MANAGEMENT OF THE FACILITY

2.1 Facility Management

- 2.1.1 The licensee shall employ a suitably qualified and experienced facility manager who shall be designated as the person in charge. The facility manager or a nominated, suitably qualified and experienced, deputy shall be present on the facility at all times during its operation.
- 2.1.2 The Civic Waste Facility shall be supervised by an appropriately qualified and competent person at all times while waste may be accepted.
- 2.1.3 Both the facility manager and deputy, and any replacement manager or deputy, shall successfully complete both the FAS Waste Management Training Programme (or equivalent agreed with the Agency) and associated on site assessment appraisal within twelve months of appointment.
- 2.1.4 The licensee shall ensure that personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and experience, as required and shall be aware of the requirements of this licence.

2.2 Management Structure

- 2.2.1 Within three months from the date of grant of this licence, the licensee shall submit written details of the updated management structure of the facility to the Agency. Any

proposed replacement in the management structure shall be notified in advance in writing to the Agency. Written details of the management structure shall include the following information:-

- a) The names of all persons who are to provide the management and supervision of the waste activities authorised by the licence, in particular the name of the facility manager and any nominated deputies;
- b) Details of the responsibilities for each individual named under a) above; and
- c) Details of the relevant education, training and experience held by each of the persons nominated under a) above.

2.3 Environmental Management System (EMS)

2.3.1 The licensee shall maintain an EMS. Within six months from the date of grant of this licence, the licensee shall submit to the Agency for its agreement a proposal for the updating (where appropriate) of the existing 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.

2.3.2 The EMS shall include as a minimum the following elements.

2.3.2.1 Schedule of Environmental Objectives and Targets

The objectives should be specific and the targets measurable. The schedule shall address a five-year period as a minimum. The schedule shall include a time-scale for achieving the objectives and targets and shall comply with any other written guidance issued by the Agency.

2.3.2.2 Environmental Management Plan (EMP)

The EMP shall include, as a minimum, the following: -

- a) The items specified to be contained in an Environmental Management Plan in the Landfill Operational Practices Manual published by the Agency;
- b) Methods by which the objectives and targets will be achieved and the identification of those responsible for achieving those objectives and targets; and
- c) Any other items required by written guidance issued by the Agency.

2.3.2.3 Corrective Action Procedures

The Corrective Action Procedures shall detail the corrective actions to be taken should any of the procedures detailed in the EMS not be followed.

2.3.2.4 Awareness and Training Programme

The Awareness and Training Programme shall identify training needs, for personnel who work in or have responsibility for the licensed facility.

2.4 Communications Programme

2.4.1 Within three months of the date of grant of this licence, the licensee shall submit to the Agency for agreement a revised Communications Programme to inform and involve the local community and ensure that members of the public can obtain information at the facility, at all reasonable times, concerning the environmental performance of the facility. This programme shall subsequently be implemented and maintained at the facility or as otherwise instructed by the Agency.

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

CONDITION 3 FACILITY INFRASTRUCTURE

- 3.1 The licensee shall establish all infrastructure referred to in this licence as required by the conditions of this licence.
- 3.2 Specified Engineering Works
- 3.2.1 The licensee shall submit proposals for all Specified Engineering Works, as defined in *Schedule B: Specified Engineering Works*, of this licence, to the Agency for its agreement at least two months prior to the intended date of commencement of any such works. No such works shall be carried out without the prior agreement of the Agency.
- 3.2.2 All specified engineering works shall be supervised by a competent person(s) and that person, or persons, shall be present at all times during which relevant works are being undertaken.
- 3.2.3 Following the completion of all specified engineering works, the licensee shall complete a construction quality assurance validation. The validation report shall be made available to the Agency on request. The report shall include the following information:-
- (i) A description of the works;
 - (ii) As-built drawings of the works;
 - (iii) Records and results of all tests carried out (including failures);
 - (iv) Drawings and sections showing the location of all samples and tests carried out;
 - (v) Daily record sheets/diary;
 - (vi) Name(s) of contractor(s)/individual(s) responsible for undertaking the specified engineering works;
 - (vii) Name(s) of individual(s) responsible for supervision of works and for quality assurance validation of works;
 - (viii) Records of any problems and the remedial works carried out to resolve those problems; and
 - (ix) Any other information requested in writing by the Agency.
- 3.3 Facility Notice Board
- 3.3.1 The licensee shall provide and maintain a Facility Notice Board on the facility so that it is legible to persons outside the main entrance to the facility. The minimum dimensions of the board shall be 1200 mm by 750 mm.
- 3.3.2 The board shall clearly show:-
- a) The name and telephone number of the facility;
 - b) The normal hours of opening;
 - c) The name of the licence holder;
 - d) An emergency out of hours contact telephone number;
 - e) The licence reference number; and
 - f) Where environmental information relating to the facility can be obtained.

3.4 Facility Security

3.4.1 Security and stockproof fencing and gates shall be installed and maintained around the boundary of the facility. Palisade fencing and gates shall be maintained along the eastern and northern boundaries of the facility. The base of the fencing shall be set in the ground. Subject to the implementation of the restoration and aftercare plan and to the agreement of the Agency, the requirement for such site security may be removed.

3.4.2 The licensee shall remedy any defect in the gates and/or fencing as follows:-

- a) A temporary repair shall be made by the end of the working day; and
- b) A repair to the standard of the original gates and/or fencing shall be undertaken within three working days.

3.5 Facility Roads and Site surfaces

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

3.5.2 The facility entrance area, access roads and the Civic Waste and Composting Facilities shall be surfaced with impervious materials so as to minimise infiltration.

3.6 Facility Office

3.6.1 The licensee shall provide and maintain an office at the facility. The office shall be constructed and maintained in a manner suitable for the processing and storing of documentation.

3.6.2 The licensee shall maintain a working telephone and a method for electronic transfer of information at the facility.

3.7 Waste Inspection and Quarantine Areas

3.7.1 A Waste Inspection Area and a Waste Quarantine Area shall be maintained at the facility.

3.7.2 These areas shall be constructed and maintained in a manner suitable, and be of a size appropriate, for the inspection of waste and subsequent quarantine if required. The waste inspection area and the waste quarantine area shall be clearly identified and segregated from each other.

3.7.3 Drainage from these areas shall be directed to the leachate collection system.

3.8 Weighbridge

3.8.1 The licensee shall maintain a weighbridge at the facility.

3.9 Wheel Cleaning

3.9.1 The licensee shall maintain a wheelwash at the facility.

3.10 Tank and Drum Storage Areas

3.10.1 All tank and drum storage areas shall be rendered impervious to the materials stored therein.

3.10.2 All tank and drum storage areas shall, as a minimum, be bunded, either locally or remotely, to a volume not less than the greater of the following:-

- (a) 110% of the capacity of the largest tank or drum within the bunded area; or

- (b) 25% of the total volume of substance which could be stored within the bunded area.

3.10.3 All drainage from bunded areas shall be diverted for collection and safe disposal.

3.10.4 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.

3.10.5 The integrity and water tightness of all the bunds and their resistance to penetration by water or other materials stored therein shall be confirmed by the licensee and shall be reported to the Agency following its installation and prior to its use as a storage area. This confirmation shall be repeated at least once every three years thereafter and reported to the Agency on each occasion.

3.11 Landfill Lining

3.11.1 Unless otherwise agreed with the Agency, the landfill liner shall comprise the following:-

- a) A composite liner consisting of a 1m layer of compacted soil with a hydraulic conductivity of less than or equal to 1×10^{-9} m/s (or equivalent to be agreed with the Agency) overlain by an appropriate geocomposite layer and which in turn is overlain by a 2mm thick high density polyethylene (HDPE) layer;
- b) A geotextile protection layer placed over the HDPE layer;
- c) A 500mm thick drainage layer placed over the geotextile layer with a minimum hydraulic conductivity of 1×10^{-3} m/s, of pre-washed, uncrushed, granular, rounded stone (16 - 32mm grain size) incorporating leachate collection drains;
- d) All side walls (with the exception of those side walls located on the interface between the new cells and the existing unlined waste disposal areas) shall be designed and constructed to achieve an equivalent protection; and
- e) For those side walls located on the interface between the new cells and the existing unlined waste disposal areas, the following shall apply:
 - (i) Gas collection layer of natural material (minimum 0.3m) or a geosynthetic layer overlain by a 2mm thick LLDPE layer which should be tied into the HDPE layer on base of the lined cell.
 - (ii) Geocomposite leachate collection layer placed over the LLDPE layer.

This work should be completed prior to the deposition of waste along the interface between the new cells and the existing unlined waste disposal areas.

3.11.2 The liner detailed design, its construction and the construction quality assurance testing shall be in accordance with the guidelines provided in the Agency's *Landfill Manual, Landfill Site Design*.

3.12 Leachate Management Infrastructure

3.12.1 Leachate management at the existing unlined waste disposal areas of the facility shall consist *inter alia* of the provision and maintenance of:

- (i) a leachate interceptor drain around the perimeter of the existing unlined waste disposal areas to facilitate the collection of leachate.
- (ii) a minimum of ten leachate abstraction wells fitted with a mechanism for pumping leachate to the leachate storage lagoon.

3.12.2 Leachate management infrastructure in the lined area entitled 'Phase I' shall be provided and maintained as described in the Article 13 reply which was received by the Agency on the 8th July 2002. Leachate management in any future lined areas at the facility shall have regard to the leachate management infrastructure provided in 'Phase I'.

- 3.12.3 The licensee shall provide and maintain (i) a leachate storage lagoon at the facility to facilitate the storage of leachate and (ii) a leachate rising main for pumping the leachate to Ballinasloe Wastewater Treatment Plant.
- 3.12.4 Leachate collected from the existing unlined waste disposal areas (via the leachate interceptor drain and leachate abstraction wells) and from the lined areas of the facility shall be pumped/drained to the leachate storage lagoon prior to discharge to the leachate rising main.
- 3.12.5 All structures for the storage and/or treatment of leachate shall be fully enclosed except for inlet and outlet piping.
- 3.12.6 Within twelve months of the date of grant of this licence, the licensee shall provide a means of removing dissolved methane from the leachate prior to its discharge. Any such technology employed shall ensure that dissolved methane does not exceed the limit specified in *Schedule C: Emission Limits*, of this licence.

3.13 Landfill Gas Management

- 3.13.1 The licensee shall provide and maintain infrastructure for the active collection and flaring of landfill gas at the facility. The efficiency of the enclosed flare shall be tested within six months of the date of grant of this licence and once every three years thereafter.
- 3.13.2 The combustion air supply to the enclosed gas flare shall be controlled so as to achieve a minimum temperature of 1,000°C and 0.3 seconds retention time at this temperature.
- 3.13.3 The licensee shall provide and maintain a minimum of 14 No. landfill gas extraction wells in the existing unlined areas of the facility for the purposes of extracting landfill gas from the waste body. The landfill gas collected in these wells shall be pumped for flaring in the landfill gas flare.
- 3.13.4 Landfill gas extraction wells shall be provided in the lined cells so as to match the phased development of the cells. Passive landfill gas management shall be carried out in the lined cells until such time as it is possible to flare the landfill gas.
- 3.13.5 Any landfill gas utilisation plant required by Condition 11.4 of the licence shall be installed at the facility.
- 3.13.6 All buildings constructed on the facility shall have regard to the guidance given in the Department of Environment 1994 publication "Protection of New Buildings and Occupants from Landfill Gas" and any subsequent revisions.

3.14 Surface Water Management

- 3.14.1 Effective surface water management infrastructure shall be provided and maintained at the facility during construction, operation, restoration and aftercare of the facility. As a minimum, the infrastructure shall be capable of the following:-
 - a) The prevention of contaminated water and leachate discharges into surface water drains and courses; and
 - b) The collection/diversion of run off arising from capped and restored areas.
- 3.14.2 Surface water management shall be provided and maintained as described in the Article 13 reply which was received by the Agency on the 8th July 2002.
- 3.14.3 Any surface water drainage swales at the facility shall be designed and constructed in such a manner so as to prevent erosion, stagnation and under capacity.
- 3.14.4 Surface water from all impermeable areas (excluding run-off from waste inspection/quarantine areas) of the extension to the landfill as shown on Drawing No.

DG012, Rev A01 shall pass via a Class I oil separator prior to discharging to the receiving surface water.

3.14.5 Surface water shall be discharged from the facility to the receiving surface water via three locations: (i) outfall to Northern stream and outfall to Southern stream as shown on Drawing No. DG014, Rev A01 and (ii) outfall from those areas referred to in Condition 3.14.4. The discharge of surface water may be altered following the construction of Phases 2 and 3 or following the implementation of recommendations arising from Condition 11.4.

3.14.6 All silt traps and oil separators shall be in accordance with European Standard prEN 858 (installation for the separation of light liquids).

3.15 Groundwater Management

3.15.1 Effective groundwater management infrastructure shall be provided and maintained at the facility during construction, operation, restoration and aftercare of the facility. As a minimum, the infrastructure shall be capable of the following:

- a) the protection of the groundwater resources from pollution by the waste activities; and
- b) the protection of other infrastructure, such as the liner, from any adverse effects caused by the groundwater.

3.15.2 The licensee shall ensure that the groundwater levels are maintained below the base level of the clay layer of the lining system until such time as agreed in advance with the Agency. This shall be carried out through the installation and maintenance of the groundwater control drainage layer beneath the lining system. Drainage from the groundwater control drainage layer shall be diverted to the surface water management system.

3.16 Civic Waste Facility

3.16.1 The licensee shall provide and maintain a Civic Waste Facility at the facility.

3.17 Compost facility

3.17.1 The licensee shall maintain the existing composting system at the facility. Any upgrade to the existing composting facility shall be considered as a Specified Engineering Works under Condition 3.2.

3.18 Telemetry system

3.18.1 A automated control system shall be provided and maintained at the facility. This system shall include for:-

- a) Recording of leachate levels in the lined cells, pumping chambers and leachate lagoon; and
- b) Recording groundwater levels in the groundwater sump(s) beneath the lined cell(s).

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

3.19 Monitoring Infrastructure

3.19.1 Landfill Gas

The licensee shall provide the following:

- (i) a minimum of 14 landfill gas monitoring points within the existing unlined waste disposal areas;

- (ii) a representative number of monitoring points for the measurement of the potential off-site migration of landfill gas; and
- (iii) an effective permanent gas monitoring system in the site office and any other on-site buildings.

3.19.2 Groundwater/Leachate/Surface Water

The licensee shall provide and maintain the groundwater, leachate and surface water monitoring points specified in Table D.1.1 to allow for representative sampling.

3.19.3 Replacement of Infrastructure

Monitoring infrastructure which is damaged or proves to be unsuitable for its purpose shall be replaced within three months of it being damaged or recognised as being unsuitable.

REASON: To provide appropriate infrastructure for the protection of the environment.

CONDITION 4 RESTORATION AND AFTERCARE

- 4.1. Within twelve months of the date of grant of this licence the licensee shall submit a revised restoration plan for the facility for the agreement of the Agency. The plan shall take into account the requirements of this licence.
- 4.2. The maximum height of the facility shall not exceed 58mOD. Notwithstanding this, the maximum heights of Phases 1, 2 and 3 shall be in accordance with the details provided on Fig 3.01 entitled 'Final Restoration Contours' which was received by the Agency on the 7th February 2003 as part of the enforcement of Waste Licence Reg. No. 27-1.
- 4.3. Final Capping
 - 4.3.1. The final capping (with the exception of those side walls located on the interface between the new cells and the existing unlined waste disposal areas) shall consist of the following:-
 - a) Top soil (150 -300mm);
 - b) Subsoils, such that total thickness of top soil and subsoils is at least 1m;
 - c) Drainage layer of 0.5m thickness having a minimum hydraulic conductivity of 1×10^{-4} m/s or equivalent material;
 - d) Compacted mineral layer of a minimum 0.6m thickness with a permeability of less than 1×10^{-9} m/s or a geosynthetic material (e.g. GCL) or similar that provides equivalent protection; and
 - e) Gas collection layer of natural material (minimum 0.3m) or a geosynthetic layer.
- 4.4. No material or object that is incompatible with the proposed restoration of the facility shall be present within one metre of the final soil surface levels.
- 4.5. Where tree planting is to be carried out above waste-filled areas, a synthetic barrier shall be used to augment the clay cap. Combined topsoil and subsoil depths shall be a minimum of 1m.
- 4.6. The restoration of the landfill facility shall be carried out on a phased basis and shall commence as soon as a cell is final capped. Landfill restoration shall be completed within twenty-four months of the date of cessation of waste deposition at the landfill facility. The phasing shall satisfy the following.
 - 4.6.1. Existing cells which have already been filled shall be final capped within twelve months of the date of grant of this licence.

4.6.2. Operational cells shall be final capped within twelve months of the cells having been filled to the required level, unless otherwise agreed with or instructed by the Agency.

4.7. Soil Storage

4.7.1. All soils shall be stored to preserve the soil structure for future use and in addition shall be stored in such a manner so as to minimise dust emissions.

REASON: To provide for the restoration of the facility.

CONDITION 5 FACILITY OPERATION AND WASTE MANAGEMENT

5.1 Wastes shall not be deposited in any cell or part of the landfill without the prior agreement of the Agency. No waste shall be disposed of into any unlined areas at the facility.

5.2 Waste Acceptance and Characterisation Procedures

5.2.1 Within three months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement revised written procedures for the acceptance and handling of all wastes. These procedures shall include methods for the characterisation of waste in order to distinguish between inert, non-hazardous and hazardous wastes. The procedures shall have regard to the EU decision (2003/33/EC) on establishing the criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive (1999/31/EC) on the landfill of waste.

5.3 All wastes shall be checked at the working face. Any wastes not suitable for acceptance shall be removed for recovery or disposal at an appropriate alternative facility. Such waste shall be stored in the Waste Quarantine Area only. No waste shall be stored in the Waste Quarantine Area for more than one month.

5.4 Working Face

5.4.1 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; and
- b) The working face of the landfill shall be no more than 2.5 metres in height after compaction, no more than 25 metres wide and 40 metres in length and have a slope no greater than 1 in 3.

5.4.2 All waste deposited at the working face shall be compacted, using a steel wheeled compactor, and covered as soon as is practicable and at any rate prior to the end of the working day.

5.4.3 The working face, or faces, shall each day at the end of the day, be covered with suitable material.

5.5 Daily and Intermediate Cover

5.5.1 Any cover material at any location within the facility which is eroded, washed off or otherwise removed shall be replaced by the end of the working day.

5.5.2 Within three months of the date of grant of this licence, appropriate cover material shall be placed across the whole landfill so that no waste, other than the following is exposed:-

- a) Waste suitable for specified engineering works; and
- b) Waste on the working face during the operational hours of the facility.

5.6 Landscaping

- 5.6.1 The licensee shall complete a programme of planting along the boundaries of the facility so as to minimise the visual impact of the facility. A plan outlining the proposed programme of planting shall be submitted to the Agency for its agreement within three months of the date of grant of this licence.

5.7 Operational Controls

- 5.7.1 All large hollow objects and other large articles deposited at the facility shall be crushed, broken up, flattened or otherwise treated.
- 5.7.2 Wastes once deposited and covered shall not be excavated, disturbed or otherwise picked with the exception of works associated with the construction and installation of the landfill gas collection system and the restoration of the facility.
- 5.7.3 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.
- 5.7.4 Scavenging shall not be permitted at the facility.
- 5.7.5 Gates shall be locked shut when the facility is unsupervised.
- 5.7.6 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.
- 5.7.7 Fuels shall be stored only at appropriately bunded locations on the facility.
- 5.7.8 All tanks and drums shall be labelled to clearly indicate their contents.
- 5.7.9 No smoking shall be allowed on the facility other than at an area to be agreed with the Agency.

5.8 Waste Handling

5.8.1 Sludges

- 5.8.1.1 Only treated sewage sludge with greater than 15% solids content shall be disposed of at the facility.
- 5.8.1.2 Treated sewage sludge shall be accepted at the facility only between the hours of 0830 hrs and 1400 hrs. Monday to Friday inclusive. All sewage sludge shall be covered immediately with other waste.

5.8.2 Compost

- 5.8.2.1 All composting shall be carried out in line with the treatment regimes outlined in Table D.8: *Monitoring of Composting Processes* of this licence.
- 5.8.2.2 In order not to be considered a waste, compost produced by the facility shall comply with the quality standards established in *Schedule F: Standards for Compost Quality*, of this licence. Analysis of the compost shall be in accordance with the requirements of that Schedule.

5.8.3 Inert Waste

- 5.8.3.1 Only the inert wastes specified in *Schedule G: Acceptance of Inert Waste* shall be accepted at the facility.

5.9 Off-site Disposal and Recovery

- 5.9.1 Waste sent off-site for recovery or disposal shall be conveyed only by a waste contractor agreed by the Agency.
- 5.9.2 All waste transferred from the facility shall be transferred only to an appropriate facility agreed by the Agency.

5.9.3 All wastes removed off-site for recovery or disposal shall be transported from the facility to the consignee in a manner which will not adversely affect the environment.

5.10 Civic Waste Facility

5.10.1 The Civic Waste Facility shall be used only by private vehicles. 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.

5.10.2 All waste deposited in the Civic Waste Facility shall be either:-

- a) Into a skip;
- b) Into the hopper of the compactor for disposal;
- c) Into a receptacle for recovery; and
- d) In the case where inspection is required, into a designated inspection area.

5.10.3 The licensee shall assign and clearly label each container at the Civic Waste Facility to indicate their contents.

5.10.4 At the end of the working day the floor of the Civic Waste Facility shall be cleared of waste.

5.11 Leachate Management

5.11.1 Leachate levels in the waste shall not exceed a level of 1.0m over the top of the liner at the base of the landfill.

5.11.2 The level of leachate in the pumping chambers, lined cells and leachate lagoon shall be monitored continuously by a system that shall automatically activate leachate pumps to maintain leachate at the required level. A high level alarm shall also be installed in the pumping chambers and the leachate lagoon.

5.11.3 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.

5.11.4 Leachate stored in the leachate storage lagoon shall be pumped to Ballinasloe Wastewater Treatment Plant. In the event that Ballinasloe Wastewater Treatment Plant cannot be used to treat leachate, the leachate shall be tankered off-site to a wastewater treatment plant which has been agreed in advance with the Agency.

5.11.5 Recirculation of leachate or other contaminated water shall not be undertaken without the prior agreement of the Agency and, in any case, shall be undertaken only within cells which have been lined to the satisfaction of the Agency.

5.12 Wastewater Management

5.12.1 Any wastewater arising at the facility shall be discharged to the leachate rising main (post leachate storage lagoon) for pumping to Ballinasloe Wastewater Treatment Plant.

5.13 Maintenance

5.13.1 All treatment/abatement and emission control equipment shall be calibrated and maintained, in accordance with the instructions issued by the manufacturer/supplier or installer. Written records of the calibrations and maintenance shall be made and kept by the licensee.

5.13.2 All lagoon structures on the facility shall be inspected and certified fit for purpose every three years by an independent chartered engineer or equivalent.

- 5.13.3 The licensee shall maintain and clearly label and name all sampling and monitoring locations.
- 5.13.4 The wheel-wash shall be inspected on a daily basis and drained as required. Silt, stones and other accumulated material shall be removed as required from the wheel-wash and disposed of at the working face.

REASON: To provide for appropriate operation of the facility to ensure protection of the environment.

CONDITION 6 EMISSIONS

- 6.1. No specified emission from the facility shall exceed the emission limit values set out in *Schedule C: Emission Limits*, of this licence. There shall be no other emissions of environmental significance.
- 6.2. The licensee shall ensure that the activities shall be carried out in a manner such that emissions do not result in significant impairment of, or significant interference with the environment beyond the facility boundary.
- 6.3. Landfill Gas
- 6.3.1. The following are the trigger levels for landfill gas emissions from the facility measured in any service duct or manhole on, at or immediately adjacent to the facility and/or at any other point located outside the body of the waste:-
- Methane, greater than or equal to 1.0% v/v; or
 - Carbon dioxide, greater than or equal to 1.5% v/v.
- 6.3.2. The concentration limits for emissions to atmosphere specified in this licence shall be achieved without the introduction of dilution air and shall be based on gas volumes under standard conditions of:
- In the case of landfill gas flare:
Temperature 273 K, pressure 101.3 kPa, dry gas at 3% oxygen; and
 - In the case of landfill gas combustion plant (where relevant):
Temperature 273 K, pressure 101.3 kPa, dry gas; 5% oxygen.
- 6.3.3. Emission limits for emissions from landfill gas flare/combustion plant to atmosphere in this licence shall be interpreted in the following way.
- 6.3.3.1. Continuous monitoring
- No 24 hour mean value shall exceed the emission limit value;
 - 97% of all 30 minute mean values taken continuously over an annual period shall not exceed 1.2 times the emission limit value; and
 - No 30 minute mean value shall exceed twice the emission limit value.
- 6.3.3.2. Non-Continuous Monitoring
- For any parameter where, due to sampling/analytical limitations, a 30 minute samples is inappropriate, a suitable sampling period should be employed and the value obtained therein shall not exceed the emission limit value;
 - For all other parameters, no 30 minute mean value shall exceed the emission limit value; and
 - For flow, no hourly or daily mean value shall exceed the emission limit value.

6.4. Groundwater

6.4.1 Within three months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement, groundwater monitoring trigger (2 upgradient, 3 downgradient) levels in accordance with the requirements of Directive 1999/31/EC.

6.5. Leachate Emissions

6.5.1. Unless otherwise agreed in advance with the Agency and the Sanitary Authority, the following shall apply for the discharge of leachate from the facility. There shall be no other discharge or emission to sewer of environmental significance.

6.5.2. 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.

6.5.3. 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.

6.5.4. No discharge or emission to sewer shall take place which might give rise to any reaction within the sewer or to the liberation of by-products which may be of environmental significance.

6.5.5. 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.

6.5.6. 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 or emission.

6.5.7. All discharges of leachate from the landfill facility to Ballinasloe Wastewater Treatment Plant shall be controlled at the landfill so as to ensure that the organic and hydraulic load discharged to the wastewater treatment plant at any time does not overload the wastewater treatment plant.

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

a) Continuous monitoring.

No flow value shall exceed the specified limit.

b) Non-Continuous monitoring.

Eight out of ten consecutive results, calculated as daily mean concentration or mass emission values on the basis of flow proportional composite sampling shall not exceed 1.2 times the emission limit value.

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

6.6. Emissions to Surface Water

6.6.1. No raw leachate, treated leachate or contaminated surface water shall be discharged to any receiving surface water body.

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

6.6.3. The trigger levels for emissions to surface water at (i) outfall to Northern stream (ii) outfall to Southern stream and (iii) outfall from those areas referred to in Condition 3.14.5 are as follows:

- (a) BOD: 25mg/l
- (b) Suspended Solids: 60mg/l

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

CONDITION 7 NUISANCE CONTROL

- 7.1 The licensee shall ensure that vermin, birds, flies, mud, dust, litter and odours do not give rise to nuisance at the facility or in the immediate area of the facility. Any method used by the licensee to control any such nuisance shall not cause environmental pollution.
- 7.2 The road network in the vicinity of the facility shall be kept free from any debris caused by vehicles entering or leaving the facility. Any such debris or deposited materials shall be removed without delay.
- 7.3 Litter Control
- 7.3.1 Litter fencing shall be installed and maintained around the perimeter of the active tipping area prior to the disposal of any waste in any cell. Within three months of the date of grant of this licence, portable litter nets/screens shall also be used at the active tipping face.
- 7.3.2 All litter control infrastructure shall be inspected on a daily basis. 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.
- 7.3.3 The licensee shall implement procedures for the operation of the facility during adverse wind conditions.
- 7.3.4 All loose litter or other waste, placed on or in the vicinity of the facility, other than in accordance with the requirements of this licences, shall be removed, subject to the agreement of the landowners, immediately and in any event by 10.00am of the next working day after such waste is discovered.
- 7.3.5 The licensee shall ensure that all vehicles delivering waste to and removing waste and materials from the facility are appropriately covered.
- 7.4 Dust Control
- 7.4.1 In dry weather, site roads and any other areas used by vehicles shall be sprayed with water as and when required to minimise airborne dust nuisance.
- 7.5 Prior to exiting the facility, all waste vehicles shall use the wheelwash.
- 7.6 The licensee shall ensure the following:
- (a) that low sound level plant is used on site,
 - (b) all heavy machinery and mechanical plant used on site are fitted with acoustic panels and acoustics mufflers (exhaust silencers).
- 7.7 Bird Control

- 7.7.1 Birds shall be prevented from gathering on and feeding at the facility by the use of birds of prey and/or other bird scaring techniques.
- 7.7.2 The licensee shall assess the effectiveness of the bird control measures in place at the facility on an annual basis and report to the Agency as part of the AER. Where necessary, the control measures shall be modified.

REASON: To provide for the control of nuisances.

CONDITION 8 MONITORING

- 8.1 The licensee shall carry out such monitoring and at such locations and frequencies as set out in *Schedule D: Monitoring*, of this licence and as specified in this licence.
- 8.2 The licensee shall amend the frequency, locations, methods and scope of monitoring as required by this licence only upon the written instruction of the Agency and shall provide such information concerning such amendments as may be requested in writing by the Agency. Such alterations shall be carried out within any timescale nominated by the Agency.
- 8.3 Monitoring and analysis equipment shall be operated and maintained in accordance with the manufacturers' instructions (if any) so that all monitoring results accurately reflect any emission, discharge or environmental parameter.
- 8.4 The licensee shall provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency.
- 8.5 The licensee shall maintain the following information at the facility: the names, qualifications and a summary of the relevant experience of all persons that will 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. Any proposed changes to the above shall be submitted to the Agency for its agreement.
- 8.6 Within six months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement an updated appropriately scaled drawings) showing all the monitoring locations that are stipulated in this licence. The drawing shall include the twelve figure National Grid Reference for the various monitoring points.
- 8.7 Groundwater Monitoring
- 8.7.1 Subject to the agreement of the well owners, all private wells within 250m of the facility shall be included in the monitoring programme set out in *Schedule D: Monitoring*, of this licence.
- 8.8 Meteorological Monitoring
- 8.8.1 The licensee shall provide for the monitoring/collection of meteorological data as referred to in *Schedule D.6: Meteorological Monitoring*, of this licence.
- 8.8.2 Within three months of the date of grant of this licence, the licensee shall install in a prominent location on the facility a wind sock or other wind direction indicator.
- 8.9 Topographical Survey
- 8.9.1 A topographical survey shall be carried out within six months of the date of grant of this licence and on an annual basis thereafter. The survey shall be in accordance with any written instructions issued by the Agency.

8.10 Biological Assessment

8.10.1 A biological assessment of surface waters in the vicinity of the facility shall be undertaken every 2 years. This assessment shall use appropriate biological methods such as the EPA Q-rating system for the assessment of rivers and streams. The location of monitoring points shall be agreed with the Agency.

8.11 Archaeological Assessment

8.11.1 Prior to the development of any undisturbed area in the development of lined cells, the advice of the Development Applications Sections of the Department of the Environment, Heritage & Local Government (formerly known as 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 Development Applications Sections of the Department of the Environment, Heritage & Local Government (formerly known as Dúchas, the Heritage Service) and to the Agency.

8.12 Nuisance Monitoring

8.12.1 The licensee shall, at a minimum of one week intervals, inspect the facility and its immediate surrounds for nuisances caused by litter, vermin, birds, flies, mud, dust and odours.

8.13 Odour Monitoring

8.13.1 The licensee shall implement an odour control programme at the facility. As part of this programme, the licensee shall carry out a monthly review of odour measures in place at the facility. This shall include:

- (i) consideration of odour complaints received (including details and nature of the complaints, times and weather conditions);
- (ii) details of any monitoring carried out (including to validate complaints and identify the source of the complaint and actions taken, where relevant); and,
- (iii) recommendations to deal with odour problems and implementation of these recommendations.

The licensee shall maintain these reports on site and forward them to the Agency on request.

8.13.2 A windsock shall be installed at the facility and wind direction and strength shall be recorded during all nuisance inspections.

REASON: To ensure compliance with the conditions of this licence by provision of a satisfactory system of monitoring of emissions.

CONDITION 9 CONTINGENCY ARRANGEMENTS

9.1. In the event of an incident the licensee shall immediately:-

- a) Identify the date, time and place of the incident;
- b) Carry out an immediate investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
- c) Isolate the source of any such emission;
- d) Evaluate the environmental pollution, if any, caused by the incident;
- e) Identify and execute measures to minimise the emissions/malfunction and the effects thereof; and

- f) Provide a proposal to the Agency for its agreement within one month of the incident occurring to:-
 - a) Identify and put in place measures to avoid reoccurrence of the incident;
 - b) Identify and put in place any other appropriate remedial action.
- 9.2. The licensee shall, within six months of the date of grant of this licence, submit a written Emergency Response Procedure (ERP) to the Agency for its agreement. The ERP shall address any emergency situations which may originate on the facility and shall include provision for minimising the effects of any emergency on the environment. This shall include a risk assessment to determine the requirements at the facility for fire fighting and fire water retention facilities. The Fire Authority shall be consulted by the licensee during this assessment.
- 9.3. The licensee shall have in storage an adequate supply of containment booms and/or suitable absorbent material to contain and absorb any spillage at the facility. Once used the absorbent material shall be disposed of at an appropriate facility.
- 9.4. Emergencies
 - 9.4.1. All significant spillages occurring at the facility shall be treated as an emergency and immediately cleaned up and dealt with so as to alleviate their effects.
 - 9.4.2. No waste shall be burnt within the boundaries of the facility. A fire at the facility shall be treated as an emergency and immediate action shall be taken to extinguish it and notify the appropriate authorities.
 - 9.4.3. In the event that monitoring of local wells indicates that the facility is having a significant adverse effect on the quantity and/or quality of the water supply this shall be treated as an emergency and the licensee shall provide an alternative supply of water to those affected.
 - 9.4.4. In the event that monitoring of side slopes of the facility indicate that there may be a risk of slope failure this will be treated as an emergency.

REASON: To ensure compliance with the conditions of this licence by provision of a satisfactory system of monitoring of emissions.

CONDITION 10 RECORDS

- 10.1 The licensee shall keep the following documents at the facility office:-
 - a) The current waste licence relating to the facility;
 - b) The current EMS for the facility;
 - c) The previous year's AER for the facility; and
 - d) All written procedures produced by the licensee which relate to the licensed activities.
- 10.2 The licensee shall maintain a written record for each load of waste arriving at the facility, excluding those arriving at the Civic Waste Facility. The licensee shall record the following:-
 - a) The date;
 - b) The name of the carrier (including if appropriate, the waste carrier registration details);
 - c) The vehicle registration number;
 - d) The name of the producer(s)/collector(s) of the waste as appropriate;
 - e) The name of the waste facility (if appropriate) from which the load originated including the waste licence or waste permit register number;
 - f) A description of the waste including the associated EWC codes;

- g) The quantity of the waste, recorded in tonnes;
- h) The name of the person checking the load; and
- i) Where loads or wastes are removed or rejected, details of the date of occurrence, the types of waste and the facility to which they were removed.

10.3 Written Records

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

- a) The types and quantities of waste recovered and disposed of at the facility each year. These records shall include the relevant EWC Codes and any details required to complete National Reports on Waste Statistics;
- b) All training undertaken by facility staff;
- c) Details of maintenance records for the landfill gas flare;
- d) Results from all integrity tests of bunds and other structures and any maintenance or remedial work arising from them;
- e) Details of all nuisance inspections; and
- f) The names and qualifications of all persons who carry out all sampling and monitoring as required by this licence and who carry out the interpretation of the results of such sampling and monitoring.

10.4 The licensee shall maintain a written record of all complaints relating to the operation of the facility. Each such record shall give details of the following:-

- a) Date and time of the complaint;
- b) The name of the complainant;
- c) Details of the nature of the complaint;
- d) Actions taken on foot of the complaint and the results of such actions; and
- e) The response made to each complainant.

10.5 A written record shall be kept of each consignment of leachate removed from the facility (where relevant). The record shall include the following:-

- a) The name of the carrier;
- b) The date and time of removal of leachate from the facility;
- c) The volume of leachate, in cubic metres, removed from the facility on each occasion;
- d) The name and address of the Waste Water Treatment Plant to which the leachate was transported; and
- e) Any incidents or spillages of leachate during its removal or transportation.

10.6 A written record shall be kept for each load of waste departing from the Civic Waste Facility. The following shall be recorded:-

- a) The name of the carrier;
- b) The vehicle registration number;
- c) The destination of the waste (facility name and waste licence/permit number as appropriate);
- d) A description of the waste (if recovered or rejected waste, the specific nature of the waste);
- e) The quantity of waste, recorded in tonnes;
- f) The name of the person checking the load; and
- g) The time and date of departure.

- 10.7 A written record shall be kept at the facility of the programme for the control and eradication of vermin and fly infestations at the facility. These records shall include as a minimum the following:-
- a) The date and time during which spraying of insecticide is carried out;
 - b) Contractor details;
 - c) Contractor logs and site inspection reports;
 - d) Details of the rodenticide(s) and insecticide(s) used;
 - e) Operator training details;
 - f) Details of any infestations;
 - g) Mode, frequency, location and quantity of application; and
 - h) Measures to contain sprays within the facility boundary.

REASON: To provide for the keeping of proper records of the operation of the facility.

CONDITION 11 REPORTS AND NOTIFICATIONS

- 11.1 Unless otherwise agreed by the Agency, all reports and notifications submitted to the Agency shall:-
- a) Be sent to the Agency's headquarters;
 - b) Comprise one original and three copies unless additional copies are required;
 - c) Be formatted in accordance with any written instruction or guidance issued by the Agency;
 - d) Include whatever information as is specified in writing by the Agency;
 - e) Be identified by a unique code, indicate any modification or amendment, and be correctly dated to reflect any such modification or amendment;
 - f) Be submitted in accordance to the relevant reporting frequencies specified by this licence, such as in *Schedule E: Recording and Reporting to the Agency*, of this licence;
 - g) Be accompanied by a written interpretation setting out their significance in the case of all monitoring data; and
 - h) Be transferred electronically to the Agency's computer system if required by the Agency.
- 11.2 In the event of an incident occurring on the facility, the licensee shall:-
- a) Notify the Agency as soon as practicable and in any case not later than 1000 hrs the following working day after the occurrence of any incident;
 - b) Submit a written record of the incident, including all aspects described in Condition 9.1(a-e), to the Agency as soon as practicable and in any case within five working days after the occurrence of any incident;
 - c) In the event of any incident which relates to discharges to surface water, notify Shannon Regional Fisheries Board as soon as practicable and in any case not later than 1000 hrs on the following working day after such an incident; and
 - d) Should any further actions be taken as a result of an incident occurring, the licensee shall forward a written report of those actions to the Agency as soon as practicable and no later than ten days after the initiation of those actions.
- 11.3 Waste Recovery Reports
- Within six months of the date of grant of this licence, a report examining waste recovery options shall be submitted to the Agency for its agreement. This report shall address methods to contribute to the achievement of the recovery targets stated in national and European Union waste policies and shall include the following:-

- a) Proposals for the contribution of the facility to the achievement of targets for the reduction of biodegradable waste to landfill, as specified in the Landfill Directive;
- b) The treatment of waste as required by the Landfill Directive;
- c) The separation of recyclable materials from the waste;
- d) The recovery of Construction and Demolition Waste;
- e) The recovery of metal waste and white goods including written procedures for the de-gassing of CFC's from refrigerators;
- f) The recovery of commercial waste, including cardboard;
- g) Composting of biodegradable or green waste and treated sewage sludge at the facility having regard to good practice and sustainability; and
- h) Inert waste to be used for cover/restoration material at the facility;

11.4 Reports relating to Facility Operations

11.4.1 Surface Water Management

11.4.1.1 Within three months of the date of grant of this licence, the licensee shall submit a report to the Agency which shall assess the need for additional surface water control measures at the facility. Any recommendations arising from this report shall be implemented within a timeframe agreed with the Agency.

11.4.2 European Pollution Emission Register reporting shall be in accordance with any relevant guidance issued by the Agency.

11.4.3 Landfill Gas Utilisation

11.4.3.1 Within twelve months of the date of grant of this licence, 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. This assessment shall include proposals regarding the utilisation of heat energy from this plant.

11.5 Monitoring Locations

11.5.1 Within six months of the date of grant of this licence, the licensee shall submit to the Agency an appropriately scaled drawing(s) showing all the monitoring locations that are stipulated in this licence. The drawing(s) shall include the reference code of each monitoring point.

11.6 Annual Environmental Report

11.6.1 The licensee shall submit to the Agency for its agreement, not later than January 31 of each year, an Annual Environmental Report (AER).

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

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

CONDITION 12 CHARGES AND FINANCIAL PROVISIONS

12.1 Agency Charges

12.1.1 The licensee shall pay to the Agency an annual contribution of €30,511 or such sum as the Agency from time to time determines, towards the cost of monitoring the activity or otherwise in performing any functions in relation to the activity, as the Agency considers necessary for the performance of its functions under the Waste Management

Act, 1996. The licensee shall in 2004 and subsequent years, not later than January 31 of each year, pay to the Agency this amount updated in accordance with changes in the Public Sector Average Earnings Index from the date of the licence to the renewal date. The updated amount shall be notified to the licensee by the Agency. For 2003, the licensee shall pay a pro rata amount from the date of this licence to 31st December. This amount shall be paid to the Agency within one month of the date of grant of this licence.

- 12.1.2 In the event that the frequency or extent of monitoring or other functions carried out by the Agency needs to be increased the licensee shall contribute such sums as determined by the Agency to defraying its costs.

12.2 Financial Provision for Closure, Restoration and Aftercare

- 12.2.1 The licensee shall arrange for a risk assessment of the facility to be carried out. The risk assessment shall have particular regard to any accidents, emergencies, or other incidents, which might occur at the facility and their effect on the environment. The risk assessment shall include a comprehensive and fully costed Environmental Liabilities Risk Assessment for the facility together with a proposal for Financial Provision arising from the carrying on of the activities to which this licence relates.

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

- 12.2.3 The licensee shall provide a statement in writing to the Agency on an annual basis as part of the AER in respect of the determination of charges for the disposal of waste. The Statement shall be in accordance with the requirements of SI 337 of 2002 European Communities (Amendment of Waste Management (Licensing) Regulations, 2000) Regulation, 2002.

- 12.2.4 Unless otherwise agreed any revision to the fund shall be computed using the following formula:-

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

Where:-

Cost = Revised restoration and aftercare cost

ECOST = Existing restoration and aftercare cost

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

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

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

SCHEDULE A : Waste Acceptance

A.1 Waste Acceptance

Table A.1 Waste Categories and Quantities to be accepted for Disposal

Waste Type	Maximum (Tonnes Per Annum) ^{Note 1}
Municipal	70,000
Industrial	46,000
Sewage Sludge (treated) ^{Note 2}	4,000
TOTAL	120,000

Note 1: The categories and quantities referred to in this table may be amended with the agreement of the Agency provided the total quantity of waste specified is not exceeded.

Note 2: Unless otherwise agreed with the Agency, the following wastes must be accepted at the Civic Waste Facility: metal, paper/cardboard, plastic, glass, aluminium cans, waste oils, batteries, paints, fluorescent tubes, magazines, aerosols, white goods, waste electrical and electronic equipment (WEEE).

Table A.2 Waste Categories and Quantities to be accepted for Recovery

Waste Type	Maximum per annum
Waste accepted for composting	Note 1
Waste to be accepted at Civic Waste Facility ^{Note 2}	Tonnes to be agreed with the Agency
Inert Waste	Tonnes to be agreed with the Agency

Note 1: Unless otherwise agreed with the Agency, the composting of biodegradable waste is limited to the storage and processing of a maximum of 1000m³ of biodegradable waste (including compost) at any one time.

Note 2: Unless otherwise agreed with the Agency, the following wastes may be accepted at the Civic Waste Facility: metal, paper/cardboard, plastic, glass, aluminium cans, waste oils, batteries, paints, fluorescent tubes.

SCHEDULE B : Specified Engineering Works

Specified Engineering Works
Development of the facility including preparatory works and lining.
Final capping.
Future composting infrastructure.
Installation of Landfill Gas Management Infrastructure.
Installation of Leachate Management Infrastructure.
Installation of Groundwater Control Infrastructure.
Installation of Surface Water Management Infrastructure.
Any other works notified in writing by the Agency.

SCHEDULE C : Emission Limits

C.1 Noise Emissions:

Measured at noise sensitive locations.

Day dB(A) L_{Aeq} (15 minutes)	Night dB(A) L_{Aeq} (15 minutes)
55	45

C.2 Landfill Gas Concentration Limits:

Measured in any building on or adjacent to the facility.

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

C.3 Dust Deposition Limits:

Measured at the monitoring points indicated in Table D.1.1.

Level (mg/m ² /day) ^{Note 1}
350

Note 1: 30 day composite sample with the results expressed as mg/m²/day.

C.4 Emission Limits Values for Landfill Gas Plant

Emission Point Reference numbers: To be agreed with the Agency

Location: Landfill Gas Utilisation Plant and/or flare

Volume to be emitted: 3000m³/hr (unless otherwise agreed with the Agency)

Minimum discharge height: 7.5m (unless otherwise agreed with the Agency)

Parameter	Flare (enclosed) Emission Limit Value ^{Note 1,2}	Utilisation Plant Emission Limit Value ^{Note 1,2}
Nitrogen oxides (NO _x)	150 mg/m ³	500 mg/m ³
CO	50 mg/m ³	1400 mg/m ³
Particulates	Not applicable	130 mg/m ³
Total Volatile Organic Compounds (VOCs)	Not applicable	1000 mg/m ³
Total non-methane VOCs	Not applicable	75 mg/m ³
Total organic carbon (TOC)	10 mg/m ³	Not applicable
Hydrogen Chloride	50 mg/m ³ (at mass flows > 0.3 kg/h)	50 mg/m ³ (at mass flows > 0.3 kg/h)
Hydrogen Fluoride	5 mg/m ³ (at mass flows > 0.05 kg/h)	5 mg/m ³ (at mass flows > 0.05 kg/h)

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

Note 2: These emission limit values may be revised with the agreement of the Agency on the basis of the technology employed.

C.5 Emission Limits for Leachate Being Discharged Off-site

Emission Point Reference No. Leachate lagoon outlet pumping chamber (to be agreed with the Agency)

Volume to be emitted: Maximum in any one day: 518 m³
Maximum rate per hour: 22 m³/hr

Parameter	Emission Limit Value		
	Grab Sample (mg/l)	Daily Mean Concentration (mg/l)	Daily Mean Loading (kg/day)
BOD	3,000	2,500	270
COD	3,500	3,000	-
Ammoniacal Nitrogen (NH ₄ -N)	-	800	-
Sulphates (as SO ₄)	-	50	-
pH	6-9		
Methane	0.14 mg/l		

SCHEDULE D : Monitoring

D.1 Monitoring Locations

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

Table D.1.1 Monitoring Locations

Landfill Gas	Dust Deposition Note 4	Noise Note 4	Surface Water Notes 4, 9	Ground Water Notes 8, 9	Leachate
14 wells within existing unlined area	D1, D2, D3, D4	NSL1, NSL2	SW1, SW3, SW4, SW5, SW6	MW1, B2AP, B8AP	Lagoon outlet chamber Note 1
Lined areas Note 2		B1, B2, B3	SW7, SW8, SW9 Note 5	MW3, MW6, B8A	L1, L7 Note 6
Perimeter locations Notes 1, 3				MW2, RC2, RC3	CH1, CH2 Note 7
Flare/ Utilisation Plant Note 1					

Note 1: To be agreed with the Agency.

Note 2: At least 2 per cell within lined waste disposal areas.

Note 3: Perimeter wells to monitor for potential off-site migration of landfill gas to be provided within three months of the date of grant of this licence.

Note 4: As indicated on Drawing No. DG0017, Rev A01 entitled 'All Environmental Monitoring Locations' received by the Agency on 08/07/02.

Note 5: Locations as per Condition 3.14.4.

Note 6: Within existing unlined waste disposal areas.

Note 7: Within Phase 1 lined area. Leachate locations within Phases 2 and 3 to be agreed with the Agency.

Note 8: As indicated on Drawing No. DG0016 Rev A01 entitled 'Groundwater Boreholes & Observation Wells Location Plan' received by the Agency on 08/07/02.

Note 9: Monitoring locations to be amended within six months of date of grant of licence following agreement with the Agency.

D.2 Landfill Gas

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

Parameter	Monitoring Frequency		Analysis Method/Technique ^{Note1}
	Gas Boreholes/ Vents/Wells	Site Office	
Methane (CH₄) % v/v	Monthly	Continuous	Infrared analyser/flame ionisation detector
Carbon dioxide (CO₂) % v/v	Monthly	Continuous	Infrared analyser/ flame ionisation detector
Oxygen(O₂) % v/v	Monthly	Continuous	Electrochemical cell
Atmospheric Pressure	Monthly	Continuous	Standard
Temperature	Monthly	Continuous	Standard

Note 1: Or other methods agreed in advance with the Agency.

Table D.2.2 Landfill Gas Combustion Plant/Enclosed Flare

Parameter	Flare (enclosed) Monitoring Frequency	Utilisation Plant Monitoring Frequency	Analysis Method ^{Note1} /Technique ^{Note2}
Methane (CH₄) % v/v	Continuous	Weekly	Infrared analyser/flame ionisation detector/thermal conductivity
Carbon dioxide (CO₂)% v/v	Continuous	Weekly	Infrared analyser/ thermal conductivity
Oxygen (O₂) % v/v	Continuous	Weekly	Electrochemical/thermal conductivity
Total Sulphur	Annually	Annually	Ion chromatography
Total Chlorine	Annually	Annually	Ion chromatography
Total Fluorine	Annually	Annually	Ion Selective Electrode
Process Parameters			
Combustion Temperature	Continuous	Quarterly	Temperature Probe/datalogger
Outlet			
CO	Continuous	Continuous	Flue gas analyser/datalogger
NO_x	Annually	Continuous	Flue gas analyser
SO₂	Annually	Annually	Flue gas analyser
TOC	Annually	Not applicable	Flame ionisation
Total VOCs	Not applicable	Annually	Flame ionisation
Total non-methane VOCs	Not applicable	Annually	Adsorption-thermal desorption
Particulates	Note applicable	Annually	Isokinetic/Gravimetric
Hydrochloric acid	Annually	Annually	Impinger / Ion Chromatography
Hydrogen fluoride	Annually	Annually	Impinger / Ion Chromatography

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

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

D.3 Dust Monitoring

Table D.3.1 Dust Monitoring Frequency and Technique

Parameter (mg/m ² /day)	Monitoring Frequency	Analysis Method/Technique
Dust	Three times a year ^{Note 2}	Standard Method ^{Note 1}

Note 1: Standard method VDI2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Engineering Institute). Any modifications to eliminate interference due to algae growth in the gauge should be reported to the Agency.

Note 2: Twice during the period May to September.

D.4 Noise

Table D.4.1 Noise Monitoring Frequency and Technique

Parameter	Monitoring Frequency	Analysis Method/Technique
L(A) _{EQ} [30 minutes]	Annual	Standard ^{Note 1}
L(A) ₁₀ [30 minutes]	Annual	Standard ^{Note 1}
L(A) ₉₀ [30 minutes]	Annual	Standard ^{Note 1}
Frequency Analysis (1/3 Octave band analysis)	Annual	Standard ^{Note 1}

Note 1: "International Standards Organisation. ISO 1996. Acoustics - description and Measurement of Environmental noise. Parts 1, 2 and 3."

D.5 Surface Water, Groundwater and Leachate

Table D.5.1 Water and Leachate - Parameters / Frequency

PARAMETER ^{Note 1}	SURFACE WATER ^{Note 2}	GROUNDWATER	LEACHATE ^{Note 3}
	Monitoring Frequency	Monitoring Frequency	Monitoring Frequency
Visual Inspection/Odour ^{Note 2}	Weekly	Quarterly	Quarterly
Groundwater Level	Not Applicable	Monthly	Not Applicable
Leachate Level	Not Applicable	Not Applicable	Continuous
Ammoniacal Nitrogen	Quarterly	Quarterly	Annually
BOD	Quarterly	Not Applicable	Annually
COD	Quarterly	Not Applicable	Annually
Chloride	Quarterly	Quarterly	Annually
Dissolved Oxygen	Quarterly	Quarterly	Not Applicable
Electrical Conductivity	Quarterly	Quarterly	Annually
pH	Quarterly	Quarterly	Annually
Total Suspended Solids	Quarterly	Not Applicable	Not Applicable
Temperature	Quarterly	Quarterly	Quarterly
Metals / non metals ^{Note 3}	Annually	Annually	Annually
Cyanide (Total)	Not Applicable	Annually	Annually
Fluoride	Not Applicable	Annually	Annually
List I/II organic substances ^{Note 4}	Once off ^{Note 5}	Annually ^{Notes}	Once off ^{Note 5}
Mercury	Annually	Annually	Annually
Sulphate	Annually	Annually	Annually
Total Alkalinity	Annually	Annually	Not applicable
Total P/orthophosphate	Annually	Annually	Annually
Total Oxidised Nitrogen	Annually	Annually	Annually
Total Organic Carbon	Not Applicable	Quarterly	Not Applicable
Residue on evaporation	Not Applicable	Annually	Not Applicable
Biological Assessment	Every two years ^{Note 6}	Not Applicable	Not Applicable

Note 1: All the analysis shall be carried out by a competent laboratory using standard and internationally accepted procedures.

Note 2: Where there is evident gross contamination of leachate, additional samples should be analysed.

Note 3: Metals and elements to be analysed by AA/ICP should include as a minimum: boron, cadmium, calcium, chromium (total), copper, iron, lead, magnesium, manganese, nickel, potassium, sodium and zinc.

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

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

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

D.6 Meteorological Monitoring

Table D.6.1 Meteorological Monitoring:
At a location 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
Humidity	Daily	Standard
Atmospheric Pressure ^{Note 1}	Daily	Standard

Note 1: Monitoring frequency for this parameter may be decreased with the agreement of the Agency.

D.7 Monitoring of Emissions of Leachate Discharged Off-site

Emission Point Reference No.: Leachate lagoon outlet pumping chamber (to be agreed with the Agency)

Table D.7.1 Monitoring - Parameters / Frequency

Parameter	Monitoring Frequency	Analysis Method/Technique ^{Note 1}
Flow	Daily	Flow meter / recorder ^{Note 1}
BOD	Quarterly	Standard Methods
COD	Quarterly	Standard Methods
Ammoniacal Nitrogen	Quarterly	Standard Methods
Sulphates	Quarterly	Standard Methods
pH	Quarterly	pH meter/recorder
Methane	To be agreed ^{Note 2}	To be agreed ^{Note 2}

Note 1: Flow meter and recorder to be installed within three months of the date of grant of the licence.

Note 2: The licensee shall within three months of the date of grant of the licence agree with the Agency a suitable method and frequency for the monitoring of methane in the leachate emissions.

D.8: Monitoring of Composting Processes

Table D.8.1 Monitoring - Parameters / Frequency

Parameter	Monitoring Frequency	Monitoring equipment/method
Enclosed Composting /vessels		
Temperature vs. time	Continuous	Temperature probe/recorder
Maturation (curing)		
Temperature	Weekly	Temperature probe
Moisture	Weekly	Subjective by operator
Biofilter		
Visual inspection	Weekly	Subjective by operator
Odour assessment	Weekly	Subjective by operator
Moisture	Annually	Standard laboratory method
pH	Annually	Standard laboratory method

SCHEDULE E : Recording and Reporting to the Agency

Report	Reporting Frequency ^{Note1}	Report Submission Date
Environmental Management System Updates	Annually	One month after the end of the year reported on.
Annual Environment Report (AER)	Annually	Thirteen months from the date of grant of licence and one month after the end of each year thereafter.
Record of incidents	As they occur	Within five days of the incident.
Bund, tank and container integrity assessment	Every three years	Six months from the date of grant of licence and one month after end of the three year period being reported on.
Specified Engineering Works reports	As they arise	Prior to the works commencing.
Monitoring of landfill gas	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Surface Water Quality	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Groundwater Quality	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Leachate	Quarterly	Ten days after end of the quarter being reported on.
Odour Monitoring	Quarterly	Ten days after end of the quarter being reported on.
Dust Monitoring	Three times a year	Ten days after the period being reported on.
Compost Monitoring	Bi-annually	Ten days after the period being reported on.
Noise Monitoring	Annually	One month after end of the year being reported on.
Any other monitoring	As they occur	Within ten days of obtaining results.

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

SCHEDULE F : Standards for Compost Quality

Compost/digestate shall meet the standards below if not more than 25% of samples fail the criteria below. No sample shall exceed 1.2 times the quality limit values set.

[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, NH₄-N, NO₃-N, pH and dry matter content should also be measured].

1. Maturity (Compost only)

The state of the curing pile must be conducive to aerobic biological activity.

Compost shall be deemed to be mature if it meets two of the following groups of requirements;

1. Respiration activity after four days AT₄ is ≤10mg/O₂/g dry matter or Dynamic Respiration Index is ≤1,000mgO₂/kg VS/h.

2. 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.

3. Compost must be cured for at least 21 days; and
Compost will not reheat upon standing to greater than 20°C above ambient temperature.

4. If no other determination of maturity is made, the compost must be cured for a six month period. In addition, offensive odours from the compost shall be minimal for the compost to be deemed mature.

5. Or other maturity tests as may be agreed with the Agency.

2. Trace Elements ^{Note 1}

Maximum Trace Element Concentration Limits ^{Note 2}

Parameter (mg/kg, dry mass)	Compost Quality Standards ^{Note 3}		Stabilised Biowaste
	Class 1	Class 2	
Cadmium (Cd)	0.7	1.5	5
Chromium (Cr)	100	150	600
Copper (Cu)	100	150	600
Mercury (Hg)	0.5	1	5
Nickel (Ni)	50	75	150
Lead (Pb)	100	150	500
Zinc (Zn)	200	400	1500
Impurities >2mm ^{Note 4}	<0.5%	<0.5%	<3%
Gravel and Stones >5mm ^{Note 4}	<5%	<5%	-

Note 1: These limits apply to the compost just after the composting phase and prior to mixing with any other materials.

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.

Note 3: Normalised to 30% organic matter content

Note 4: 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

3. Pathogens

Pathogenic organism content must not exceed the following limits:

<i>Salmonella sp.</i>	Absent in 50g	n=5
<i>Faecal Coliforms</i>	≤ 1000 Most Probable Number (MPN) in 1g	n=5

Where: n = Number of samples to be tested

4. Monitoring

The licensee shall monitor the compost product biannually. The licensee shall submit to the Agency for its agreement, prior to commencement of the composting operations, details of the sampling protocol, methods of analyses and sample numbers.

SCHEDULE G : Acceptance of Inert Waste

G.1 Acceptable Waste for Recovery

Only the wastes listed below are acceptable for recovery at the facility, unless otherwise agreed with the Agency.

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

SCHEDULE H : Content of the Annual Environmental Report

Annual Environmental Report Content

Reporting Period.

Waste activities carried out at the facility.

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

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

Methods of deposition of waste.

Summary report on emissions.

Summary of results and interpretation of environmental monitoring.

Resource and energy consumption summary.

Proposed development of the facility and timescale of such development.

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

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

Report on restoration of completed cells / phases.

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

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

Estimated annual and cumulative quantity of indirect emissions to groundwater.

Annual water balance calculation and interpretation.

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

Schedule of Environmental Objectives and Targets for the forthcoming year.

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

Tank, pipeline and bund testing and inspection report.

Reported incidents and Complaints summaries.

Review of Nuisance Controls including bird control measures.

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

Report on training of staff.

Any other items specified by the Agency.

Sealed by the seal of the Agency on this the 6th day of October 2003.

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

Gerry Carty, Director/Authorised Person