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

WASTE LICENCE PROPOSED DECISION

Waste Licence	75-1
Register Number:	
Applicant:	Waterford Co. Council
Location of Facility:	Tramore Waste Disposal Site, Tramore Intake & Burrows, Tramore, Co. Waterford.

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 of an existing unlined landfill facility and a civic waste facility at Tramore, Co. Waterford. The existing facility covers an area of approximately 12 hectares and has been in operation since 1939. The facility accepts household, non-hazardous, commercial, industrial and construction and demolition waste. The waste intake at the existing facility under the draft Proposed Decision (PD) is limited to 15,000 tonnes per annum. It is estimated that the landfill will remain open to accept waste for approximately another two and a half to three years at this rate of filling.

The facility is located on a formerly reclaimed estuarine habitat in the inner reaches of Tramore Back Strand. The facility is situated in a high amenity area approximately 100m north of Tramore Beach, bounded on the landward side by a caravan park and the seaward side by Tramore Backstrand. Tramore Dunes and Backstrand (excluding the facility and the immediately adjoining estuarine habitats) is designated as a candidate Special Area of Conservation (cSAC), proposed Natural Heritage Area (pNHA), and a Special Protection Area for Birds (SPA). The intertidal area is also a Ramsar site and is to be proposed as a statutory Nature Reserve.

A Proposal to further extend the unlined landfill into the estuarine mudflats has not been granted as it would result in the destruction of adjoining intertidal mudflats which are directly linked with the habitats of the cSAC (i.e. places of special interest).

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DECISION & REASONS FOR THE DECISION

The Environmental Protection Agency (The Agency) is satisfied, on the basis of the information available, that the waste activity, or activities, licensed hereunder will comply with the requirements of Section 40(4) of the Waste Management Act, 1996.

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

Part I Activities Licensed

In pursuance of the powers conferred on it by the Waste Management Act, 1996, the Agency proposes, under Section 40(1) of the said Act to grant this Waste Licence to **Waterford Co.Council Arus Brugha, Dungarvan, Co. Waterford** to carry on the waste activities listed below at **Tramore Waste Disposal Site, Tramore Intake & Tramore Burrows, Tramore, Co. Waterford** 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 1.	Deposit on, in or under land (including landfill): This activity is limited to the landfilling of waste
Class 4.	Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons: This activity is limited to the storage of leachate and contaminated water at the facility
Class 12.	Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule. This activity is limited to the storage of waste at the Civic Waste Facility
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 Civic Waste 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 recycling of paper at the Civic Waste Facility
Class 3.	Recycling or reclamation of metals and metal compounds: This activity is limited to the storage of metal cans at the Civic Waste Facility
Class 4.	Recycling or reclamation of other inorganic materials: This activity is limited to the receipt, holding and recovery of inert wastes (such as bricks, cement, ceramics, soils) to be sent off site for reprocessing or to be used in the restoration of Tramore landfill site subject to the prior agreement of the Agency.
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 material diverted from the landfill to be used as cover material, intermediate cover or the formation of embankments at the site
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 temporary storage of waste on-site prior to being recycled, re-used or reclaimed.

Part II: Activities Refused

In pursuance of the powers conferred on it by the Waste Management Act, 1996, the Environmental Protection Agency (the Agency) proposes, under Section 40(1) of the said Act to refuse the following class of activity.

Refused waste disposal activity, in accordance with the Third Schedule of the Waste Management Act, 1996

Class 2.	Land treatment, including biodegradation of liquid or sludge discards in soils: Reason: No lined cells to cater for such waste
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INTERPRETATION

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

Aerosol	A suspension of solid or liquid particles in a gaseous medium.
Adequate lighting	20 lux measured at ground level.
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.
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	8.00 a.m. to 10.00 p.m.
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 Schedule D.

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.
Inert waste	Waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.
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	Waterford Co. 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.
Night-time	10.00 p.m. to 8.00 a.m.
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 with between 2% and 14% dry matter.
Specified Emissions	Those emissions listed in Schedule D: Emission Limits of this licence.
Specified	Those engineering works listed in Schedule C: Specified Engineering Works

Engineering Works	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.
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; 9.00 a.m. to 5.30 p.m. 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. TRA-LF-002* of the application. Any reference in this licence to “facility” shall mean the area thus outlined in red. 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.
- 1.3. Municipal Waste, Commercial Waste and Industrial Waste may be recovered and disposed of at the facility subject to the maximum quantities and other constraints listed in Schedule A.
- 1.4. No liquid wastes, animal wastes, animal by-products, hazardous wastes, or end of life vehicles shall be disposed of at the facility.
- 1.5. Waste Acceptance Hours and Hours of Operation
 - 1.5.1. Landfill
 - 1.5.1.1. Waste shall only be accepted at the facility for disposal at the landfill between the hours of 09:00 to 17:00 Monday to Friday inclusive and 10:00 to 13:00 on Saturdays.
 - 1.5.1.2. The landfill facility shall only be operated during the hours of 08:30 to 18:00 Monday to Friday inclusive and 9:30 to 14:00 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; and
 - 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

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

2.2 Management Structure

- 2.2.1 Within three months from the date of grant of this licence, the licensee shall submit written details of the 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 establish and maintain an EMS. Within eighteen months from the date of grant of this licence, the licensee shall submit to the Agency for its agreement a proposal for a documented Environmental Management System (EMS) for the facility. Following the agreement of the Agency, the licensee shall establish and maintain such a system. The EMS shall be updated on an annual basis with amendments being submitted to the Agency for its agreement.
- 2.3.2 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:

- (i) the items specified to be contained in an Environmental Management Plan in the Landfill Operational Practices Manual published by the Agency;
- (ii) methods by which the objectives and targets will be achieved and the identification of those responsible for achieving those objectives and targets;
- (iii) 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 The licensee shall establish and maintain a Communications Programme to ensure that members of the public can obtain information at the facility, at all reasonable times, concerning the environmental performance of the facility. This shall be established within three months from the date of grant of this licence.

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, to the Agency for its agreement, at least two months prior to the intended date of commencement of 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;
- a) a description of the works;
 - b) as-built drawings of the works;
 - c) records and results of all tests carried out (including failures);
 - d) drawings and sections showing the location of all samples and tests carried out;
 - e) daily record sheets/diary;
 - f) name(s) of contractor(s)/individual(s) responsible for undertaking the specified engineering works;
 - g) name(s) of individual(s) responsible for supervision of works and for quality assurance validation of works;
 - h) records of any problems and the remedial works carried out to resolve those problems; and
 - i) 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 Within three months from date of grant of this licence security and stockproof fencing and gates shall be installed and maintained around the facility boundary. The base of the fencing shall be set in the ground.

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 Hardstanding

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

3.5.2 A traffic control plan including signage within the facility shall be implemented within two months from the date of grant of this licence.

3.6 Facility Office

- 3.6.1 The licensee shall provide and maintain an office at the facility. The office shall be constructed and maintained in a manner suitable for the processing and storing of documentation.
- 3.6.2 The licensee shall provide and maintain a working telephone and a method for electronic transfer of information at the facility.
- 3.7 Waste Inspection and Quarantine Areas
- 3.7.1 Within six months from the date of grant of licence a Waste Inspection Area and a Waste Quarantine Area shall be provided and maintained at the facility.
- 3.7.2 These areas shall be constructed and maintained in a manner suitable, and be of a size appropriate, for the inspection of waste and subsequent quarantine if required. The waste inspection area and the waste quarantine area shall be clearly identified and segregated from each other.
- 3.8 Weighbridge
- (i) Within six months from the date of grant of this licence the licensee shall provide and maintain a weighbridge at the facility
- 3.9 Wheel cleaning
- 3.9.1 Within six months from the date of grant of this licence the licensee shall establish and maintain a wheel cleaning unit and a foulwater holding tank at the facility. The wheel cleaning water shall drain only to the holding tank.
- 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 Leachate Management Infrastructure
- 3.11.1 Within twelve months of the date of grant of this licence, the licensee shall install leachate management infrastructure at the facility. The infrastructure shall provide for the abstraction/collection of leachate from the waste in areas not subject to saline intrusion and its treatment either at the facility or at a suitable treatment works.
- 3.12 Landfill Gas Management

3.12.1 Within twelve months of the date of grant of this licence, infrastructure for the active collection and flaring of landfill gas shall be installed at the facility. The flare shall be of an enclosed type design.

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

3.13 Surface Water Management

3.13.1 Effective surface water management infrastructure shall be provided and maintained at the facility during construction, operation, restoration and aftercare. 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 Groundwater Management

3.14.1 Effective groundwater management infrastructure shall be provided and maintained at the facility during construction, operation, restoration and aftercare to prevent environmental pollution.

3.15 Replacement of Infrastructure

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

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

CONDITION 4 RESTORATION AND AFTERCARE

4.1. The licensee shall restore the facility on a phased basis. A Restoration and Aftercare Plan for the facility shall be submitted to the Agency for its agreement within six months of date of grant of licence. The Restoration plan shall take into account the proposed restoration plan as shown on *Drawing No. TRA-LF-008 – Plan Showing Final Restoration Contours* (dated November 2000) and *Drawing No. TRA-LF-009 – Cross Sections Showing Proposed Restoration Contours* (dated November 2000). In addition the plan shall give details of the ongoing protection from any negative impacts from this landfill on the habitats within and immediately adjoining Tramore Backstrand and Sand Dunes. This plan shall be developed following consultation with Duchas.

4.2. The final **profile/height** of the facility shall be **as shown in *Drawing No. TRA-LF-008***.

4.3. Final Capping

4.3.1. The final capping 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;

- 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 completed within **two years** of the final cessation of waste being deposited at the landfill.
- 4.7. Soil Storage
 - 4.7.1. All soils shall be stored to preserve the soil structure for future use.

REASON: To provide for the restoration of the facility

CONDITION 5 FACILITY OPERATIONS

- 5.1 Waste for disposal shall only be deposited in Landfill Areas 3, 6, 7 and 9 as shown in *TRA-LF-007 Rev. A*. No landfilling of waste shall occur in Area 10 as shown in *TRA-LF-007 Rev. A*. Wastes shall not be deposited in any cell or part of the landfill without the prior agreement of the Agency.
- 5.2 Waste Acceptance and Characterisation Procedures
 - 5.2.1 Within three months of date of grant of licence the licensee shall submit to the Agency written procedures for the acceptance and handling of all wastes at the facility. This shall also include the existing Civic Waste Facility and the existing glass bottle and can banks located immediately adjacent to the facility.
- 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 three months.
- 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 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 six 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 A detailed proposal for Landscaping of the facility shall be submitted to the Agency for agreement within six 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 over only with the prior agreement from the Agency.

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 Filled cells shall be permanently capped within twelve months of the cells having been filled to the required level.

5.7.5 Scavenging shall not be permitted at the facility.

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

5.7.7 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.

5.7.8 **Fuels shall only be stored at appropriately banded locations on the facility.**

5.7.9 All tanks and drums shall be labelled to clearly indicate their contents.

5.7.10 No smoking shall be allowed on the facility other than in the facility office.

5.8 Off-site Disposal and Recovery

5.8.1 Waste sent off-site for recovery or disposal shall only be conveyed by a waste contractor agreed by the Agency;

5.8.2 All waste transferred from the facility shall only be transferred to an appropriate facility agreed by the Agency;

5.8.3 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.

5.9 Civic Waste Facility

- 5.9.1 The Civic Waste facility shall only be used 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.
- 5.9.2 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; or
 - d) in the case where inspection is required, into a designated inspection area.
- 5.9.3 The licensee shall assign and clearly label each container at the Civic Waste Facility to indicate their contents.
- 5.9.4 At the end of the working day the floor of the Civic Waste Facility, the hopper and the compactor shall be cleared of waste.

5.10 Leachate Management

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

5.11. Maintenance

- 5.11.1 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.
- 5.11.2 The licensee shall maintain and clearly label and name all sampling and monitoring locations.
- 5.11.2 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 wheelwash and disposed of at the working face or to a skip. All wheel cleaning washwater shall be tankered off site to an agreed wastewater treatment facility when the holding tank capacity is full.
- 5.11.3 The septic tank treatment system on-site shall be inspected quarterly and shall be maintained, cleaned and de-sludged as necessary. The percolation area shall satisfy the criteria set out in the Wastewater Treatment Manual, Treatment Systems for Single Houses, published by the Agency.

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

CONDITION 6 EMISSIONS

- 6.1. No specified emission from the facility shall exceed the emission limit values set out in Schedule C: Emission Limits of this licence. There shall be no other emissions of environmental significance.
- 6.2. The licensee shall ensure that the activities shall be carried out in a manner such that emissions do not result in significant impairment of, or significant interference with the environment beyond the facility boundary.

6.3. Landfill Gas

6.3.1. The following are the trigger levels for landfill gas emissions from the facility measured in any service duct or manhole on, at or immediately adjacent to the facility and/or at any other point located outside the body of the waste:

- a) Methane, greater than or equal to 1.0% v/v; and
- b) Carbon dioxide, greater than or equal to 1.5% v/v.

6.3.2. The concentration limits for emissions to atmosphere specified in this licence shall be achieved without the introduction of dilution air and shall be based on gas volumes under standard conditions of :-

a) in the case of landfill gas flare:

Temperature 273 K, pressure 101.3 kPa, dry gas at 3% oxygen; and

b) in the case of landfill gas combustion plant:

Temperature 273 K, pressure 101.3 kPa, dry gas; 5% oxygen.

6.3.3. Emission limits for landfill gas emissions to atmosphere in this licence shall be interpreted in the following way:-

6.3.3.1. Continuous monitoring

- (i) No 24 hour mean value shall exceed the emission limit value.
- (ii) 97% of all 30 minute mean values taken continuously over an annual period shall not exceed 1.2 times the emission limit value.
- (iii) No 30 minute mean value shall exceed twice the emission limit value.

6.3.3.2. Non-Continuous Monitoring

- (i) 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.
- (ii) For all other parameters, no 30 minute mean value shall exceed the emission limit value.
- (iii) For flow, no hourly or daily mean value shall exceed the emission limit value.

6.4. Emissions to Surface Water

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

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 and dust 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 The measures and infrastructure as described in operational plan for future landfill operations submitted to the Agency 17 November 2000 shall be applied to control litter at the facility.
- 7.3.2 Litter fencing shall be installed and maintained around the perimeter of the active tipping area to the specifications shown on prior to the disposal of any waste in any cell.
- 7.3.3 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.
- 7.3.4 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 once installed.*
- 7.6 Bird Control
- 7.6.1 Birds shall be prevented from gathering on and feeding at the facility by implementation of a site specific Bird Control Programme excluding the use of birds of prey unless otherwise agreed with the Agency. This programme shall be implemented within three months from the date of grant of this licence and shall ensure the continued protection of the SPA and shall not impact on the use of the SPA by the natural population of birds.

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 and as specified in this licence. Unless otherwise specified by this licence, all environmental monitoring shall commence no later than two months after the date of grant of this licence.
- 8.2. The licensee shall amend the frequency, locations, methods and scope of monitoring as required by this licence only upon the written instruction of the Agency and shall provide such information concerning such amendments as may be requested in writing by the Agency. Such alterations shall be carried out within any timescale nominated by the Agency.
- 8.3. Monitoring and analysis equipment shall be operated and maintained in accordance with the manufacturers' instructions (if any) so that all monitoring results accurately reflect any emission, discharge or environmental parameter.
- 8.4. The licensee shall provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency.
- 8.5. **Landfill Gas**
- 8.5.1 All landfill gas monitoring equipment, other than permanent monitoring systems within buildings, shall be certified as being intrinsically safe.
- 8.5.2 Flare unit efficiency shall be tested upon installation and once every three years thereafter.
- 8.6. **Leachate Monitoring**
- 8.6.1. **Leachate levels within the filled waste shall be monitored at the locations detailed in Drawing No. TRA-LF- 007 Rev. A.**
- 8.7. **Surface Water Monitoring**
- 8.7.1. **Within two months from the date of grant of this licence, the licensee shall initiate a monitoring programme for the surface water discharged from the facility. The programme shall, at minimum, fulfil the requirements of Schedule D.4: Surface Water Monitoring.**
- 8.8. **Meteorological Monitoring**
- 8.8.1. **The licensee shall make arrangements for representative meteorological data to be collated for the facility to fulfil the requirements of Schedule D.6: Meteorological Monitoring.**
- 8.9. **Topographical Survey**
- 8.9.1. A topographical survey shall be carried out within **three months** of the date of grant of this licence. The survey shall include a measurement of the remaining available void space. It shall be repeated **annually** thereafter.
- 8.10. **Biological/Ecological Assessment**
- 8.10.1 The licensee shall carry out biological and ecological monitoring of the facility and the adjoining habitats (Tramore Back Strand and Dunes). This monitoring shall include as a minimum:
- a) an annual ecological and biological survey.

- b) an assessment of the toxicity of leachate using appropriate organisms which reflect the habitats in the vicinity of the site;
- c) an assessment of estuarine water quality and chemical analysis of estuarine sediments and benthic macrofauna adjacent to the facility. This shall also include chemical and microbiological analysis of cockles and mussels from the backstrand within 200m of the landfill to establish fluctuations in heavy metal content and microbiological counts on a seasonal basis.
- d) annual monitoring of birdlife and habitats within and outside the facility boundary. This monitoring shall be carried out following consultation with Duchas, The Heritage Service.

8.11. Stability Assessment

- 8.11.1. Within six months of the date of grant of this licence, and annually thereafter unless otherwise agreed with the Agency, the licensee shall carry out a stability assessment of the side slopes of the facility. This assessment shall also include the potential for damage due to tidal inundation and the potential for erosion of the perimeter embankment. The survey shall be in accordance with any written instructions issued by 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, and odours. Dust inspections shall be carried out weekly at the facility.

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;
- f) provide a proposal to the Agency for its agreement within one month of the incident occurring to:
 - i) identify and put in place measures to avoid reoccurrence of the incident; and
 - ii) identify and put in place any other appropriate remedial action.

9.2. The licensee shall, prior to commencement or within **six months** of the date of grant of this licence, submit a written Emergency Response Procedure (ERP) to the Agency for its agreement. The ERP shall address any emergency situations which may originate on the facility

and shall include provision for minimising the effects of any emergency on the environment. This shall include a risk assessment to determine the requirements at the facility for fire fighting and fire water retention facilities. The Fire Authority shall be consulted by the licensee during this assessment.

- 9.3. The licensee shall have in storage an adequate supply of containment booms and/or suitable absorbent material to contain and absorb any spillage at the facility. Once used the absorbent material shall be disposed of at an appropriate facility.
- 9.4. Emergencies
- 9.4.1. All significant spillages occurring at the facility shall be treated as an emergency and immediately cleaned up and dealt with so as to alleviate their effects;
- 9.4.2. No waste shall be burnt within the boundaries of the facility. A fire at the facility shall be treated as an emergency and immediate action shall be taken to extinguish it and notify the appropriate authorities;
- 9.4.3. In the event that monitoring of local wells indicates that the facility is having a significant adverse effect on the quantity and/or quality of the water supply this shall be treated as an emergency and the licensee shall provide an alternative supply of water to those affected;
- 9.4.4. In the event that monitoring of the slide 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;
 - 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
 - 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. Prior to installation of the weighbridge the quantity of waste shall be recorded in approximate 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;
- b) all training undertaken by facility staff;
- c) results from all integrity tests of bunds and other structures and any maintenance or remedial work arising from them;
- d) details of all nuisance inspections; and
- e) the names and qualifications of all persons who carry out all sampling and monitoring as required by this licence and who carry out the interpretation of the results of such sampling and monitoring.

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

- a) date and time of the complaint;
- b) the name of the complainant;
- c) details of the nature of the complaint;
- d) actions taken on foot of the complaint and the results of such actions; and,
- e) the response made to each complainant.

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

- a) the name of the carrier;
- b) the date and time of removal of leachate from the facility;
- c) the volume of leachate, in cubic metres, removed from the facility on each occasion;
- d) the name and address of the Waste Water Treatment Plant to which the leachate was transported;
- 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;
- (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 10.00 am 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; and
- c) 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) inert waste to be used for cover/restoration material at the facility;
- b) the recovery of Construction and Demolition Waste;
- c) the recovery of metal waste and white goods including written procedures for the de-gassing of CFC's from refrigerators;
- d) proposals for the contribution of the facility to the achievement of targets for the reduction of biodegradable waste to landfill, going to landfills as specified in the Landfill Directive;

11.4 Reports relating to Facility Operations

11.4.1. Achievement of Final Profile

11.4.2.1 Within six months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement, proposals for landfilling and restoration to achieve the final profile/height of the facility to the Agency for its agreement.

11.4.2. Operation in Adverse Wind Conditions

11.4.2.1 Within three months of the date of grant of this licence the licensee shall submit to the Agency for its agreement proposals for the operation of the facility in adverse wind conditions.

11.5 Vermin and Flies

11.5.1. Within three months of the date of grant of this this licence, the licensee shall submit to the Agency for its agreement a proposal for the control and eradication of vermin and fly infestations at the facility. This proposal should include as a minimum, operator training, details on the rodenticide(s) and insecticide(s) to be used, mode and frequency of application and measures to contain sprays within the facility boundary.

11.6 Monitoring Locations

11.6.1. Within four 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.

11.7 Historical Landfilling Report

11.7.1. Within nine months of the grant of this licence, the licensee shall submit to the Agency a plan showing the extent of current and historical landfilling.

11.10 Annual Environmental Report

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

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

REASON: To provide for proper report to and notification of 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 £ 10,397 (€13,201) or such sum as the Agency from time to time determines, towards the cost of monitoring the activity or otherwise in performing any functions in relation to the activity, as the Agency considers necessary for the performance of its functions under the Waste Management Act, 1996. The licensee shall in 2002 and subsequent years, not later than January 31 of each year, pay to the Agency this amount updated in accordance with changes in the Public Sector Average Earnings Index from the date of the licence to the renewal date. The updated amount shall be notified to the licensee by the Agency. For 2001, the licensee shall pay a pro rata amount from the date of this licence to 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 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.

12.2.2 Any fund established shall be maintained in an amount always sufficient to underwrite the current Restoration and Aftercare Plan.

12.2.3 The licensee shall revise the cost of restoration and aftercare annually and any details of the necessary adjustments to the fund or guarantee must, within two weeks of the revision, be forwarded to the Agency for its agreement. Any adjustment agreed by the Agency shall be effected within four weeks of said written agreement.

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

WASTE TYPE	MAXIMUM (TONNES PER ANNUM)
Household	8400
Commercial	3000
Construction and Demolition	3000
Industrial non-hazardous	600
TOTAL	15000

SCHEDULE B : Specified Engineering Works

Specified Engineering Works
Development of the facility including preparatory works and lining.
Final capping.
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 the monitoring points indicated in *Table D1.1 Monitoring locations*)

Day dB(A) L _{Aeq} (30 minutes)	Night dB(A) L _{Aeq} (30 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 Emission Limits Values for Landfill Gas Flare

Emission Point reference nos: (to be agreed with the Agency)

Location: Landfill flarestack(s)

Volume to be emitted:3000m³/hr

Minimum discharge height:5m

Parameter	Emission Limit Value
Nitrogen oxides as (NO ₂)	150 mg/m ³
CO	50 mg/m ³
Particulates	130 mg/m ³
TA Luft Organics Class I ^(Note 1)	20 mg/m ³ (at mass flows > 0.1 kg/hr)
TA Luft Organics Class II ^(Note 1)	100 mg/m ³ (at mass flows > 2 kg/hr)
TA Luft Organics Class III ^(Note 1)	150 mg/m ³ (at mass flows > 3kg/hr)
Hydrogen Chloride	50 mg/m ³ (at mass flows > 0.3 kg/h)
Hydrogen Fluoride	5 mg/m ³ (at mass flows > 0.05 kg/h)

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

SCHEDULE D :Monitoring

Monitoring to be carried out as specified below.

D.1 Monitoring Locations

Monitoring locations shall be those as set out in Table D.1.1 and Drawing No. *TRA-LF-007 Rev. A.* and Figure 1, Attachment C8 Noise of the application received 30 September 1998.

Table D.1.1 Monitoring Locations

LANDFILL GAS	NOISE	SURFACE WATER	GROUND WATER	LEACHATE
STATIONS	STATIONS	STATIONS	STATIONS	STATIONS
BH 1,2,3,4,5	B1	SW1,2,3,4,5, 6	BH 1,2,5	BH1
BH 7,8,9,10 RC 4,5,6.	B2		BH 8,9,10 RC 4,5,6.	RC6 BH7 NOTE 1

Note1 Two additional Leachate monitoring boreholes to be located near SW1 and BH10A within three months from date of grant of this licence

D.2 Landfill Gas

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

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

Note1: All monitoring equipment used should be intrinsically safe.

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

D.3 Noise

Table D.3.1 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.4 Surface Water, Groundwater and Leachate

Table D.4.1 Water and Leachate - Parameters /Frequency

Parameter ^{Note 1}	SURFACE WATER Monitoring Frequency	GROUNDWATER Monitoring Frequency	LEACHATE Monitoring Frequency
Visual Inspection/Odour ^{Note 2}	Weekly	Quarterly	Quarterly
Groundwater Level	Not Applicable	Monthly	Not Applicable
Leachate Level	Not Applicable	Not Applicable	Weekly
Ammoniacal Nitrogen	Quarterly	Quarterly	Quarterly
Arsenic	Bi-annually	Bi-annually	Bi-annually
BOD	Quarterly	Not Applicable	Quarterly
COD	Quarterly	Not Applicable	Quarterly
Chloride	Quarterly	Quarterly	Quarterly
Dissolved Oxygen	Quarterly	Quarterly	Not Applicable
Electrical Conductivity	Quarterly	Quarterly	Quarterly
pH	Quarterly	Quarterly	Quarterly
Total Suspended Solids	Quarterly	Not Applicable	Not Applicable
Temperature	Quarterly	Monthly	Quarterly
Boron	Not Applicable	Annually	Annually
Cadmium	Annually	Annually	Annually
Calcium	Annually	Annually	Annually
Chromium (Total)	Annually	Annually	Annually
Copper	Annually	Annually	Annually
Cyanide (Total)	Not Applicable	Annually	Annually
Fluoride	Not Applicable	Annually	Annually
Iron	Annually	Quarterly	Annually
Lead	Annually	Annually	Annually
List I/II organic substances ^{Note 4}	Note 4	Annually	Note 4
Magnesium	Annually	Annually	Annually
Manganese	Annually	Annually	Annually
Mercury	Annually	Annually	Annually
Potassium	Annually	Quarterly	Annually
Sulphate	Annually	Annually	Annually
Sodium	Annually	Quarterly	Annually
Total Phosphorus / orthophosphate	Annually	Annually	Annually
Total Oxidised Nitrogen	Annually	Quarterly	Quarterly
Total Organic Carbon	Not Applicable	Quarterly	Not Applicable
Residue on evaporation	Not Applicable	Annually	Not Applicable
Zinc	Annually	Annually	Annually
Phenols	Not Applicable	Quarterly	Not Applicable
Faecal Coliforms	Not Applicable	Quarterly	Annually
Total Coliforms	Not Applicable	Quarterly	Annually

Note 1: All the analysis shall be carried out by a competent laboratory using standard and internationally accepted procedures. **Provide details on the tide when sampling.**

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

Note 3: Samples screened for the presence of organic compounds using Gas Chromatography / Mass Spectrometry (GC/MS) or other appropriate techniques and using the list I/II Substances from EU Directive 76/464/EEC and 80/68/EEC as a guideline. Recommended analytical techniques include: volatiles (US Environmental Protection Agency method 524 or equivalent), semi-volatiles (US Environmental Protection Agency method 525 or equivalent, and pesticides (US Environmental Protection Agency

method 608 or equivalent). In cases where large quantities of harbour dredgings have been accepted at the facility it is recommended to analyse for organotin compounds. Where there is reason to suspect organophosphorous contamination it is recommended to also scan for these compounds.

Note 4: Once off for List I/II organic substances.

D.5 Meteorological Monitoring

Table D.5.1 Meteorological Monitoring:

Data to be obtained from the nearest meteorological monitoring station

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

D.6 Landfill Gas Flare

Monitoring to be obtained at locations to be agreed with the Agency within three months of the date of grant of this licence.

Parameter	Monitoring Frequency	Analysis Method ^{Note1} /Technique ^{Note2}
Inlet		
Methane (CH ₄) % v/v	Weekly	Infrared analyser/flame ionisation detector
Carbon dioxide (CO ₂)%v/v	Weekly	Infrared analyser
Oxygen (O ₂) %v/v	Weekly	Infrared analyser
Outlet		
Volumetric Flow rate	Biannually	Pitot Tube Method
SO ₂	Biannually	Flue gas analyser
NO _x	Biannually	Flue gas analyser
CO	Continuous	Flue gas analyser
Particulates	Annually	Isokinetic/Gravimetric
TA Luft Class I, II, III organics	Annually	Adsorption/Desorption / GC /GCMS ^(Note 3)
Hydrochloric acid	Annually	Impinger / Ion Chromatography
Hydrogen fluoride	Annually	Impinger / Ion Chromatography
Hydrocarbons	Annually	Impinger / Ion Chromatography

Note1: All monitoring equipment used should be intrinsically safe.

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

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

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.
Meteorological Monitoring	Annually	One month after end of the year 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 :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.

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

Report on training of staff.

Any other items specified by the Agency.

Signed on behalf of the said Agency
on the 9th day of April 2001

A. Bolger **Authorised Person**