



LICENCE REG NO. W0129-01 HAS BEEN REVISED.

**Please note that licence Reg. No W0129-01 was reviewed and replaced
by the revised licence Reg. No. W0129-02**

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

**WASTE LICENCE
LANDFILL FOR INERT WASTE**

Waste Licence	129-1
Register Number:	
Licensee:	Murphy Concrete Manufacturing Limited
Location of Facility:	Hollywood Great, Nags Head, The Naul, County Dublin.

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 operation of an inert landfill in an active shale and limestone quarry so as to effect its restoration into the surrounding landscape. The types of waste to be accepted are inert construction & demolition waste, inert dredging spoil and inert wastes which arise from the mineral extraction activities at this facility. The annual waste intake is limited to a maximum of 340,000 tonnes. The environmental controls in this licence are also applicable to any ongoing quarrying activities.

The licence requires that there will be no direct discharges to ground water. To this effect a low permeability clay liner shall be installed above the water table. The facility will be restored to agricultural use.

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

The licence sets out in detail the conditions under which Murphy Concrete Manufacturing Limited are required to operate and manage this facility.

Table of Contents

	Page No.
DECISION & REASONS FOR THE DECISION	1
<i>PART I ACTIVITIES LICENSED</i>	1
INTERPRETATION	2
<i>PART II CONDITIONS</i>	5
<i>CONDITION 1 SCOPE OF THE LICENCE</i>	5
<i>CONDITION 2 MANAGEMENT OF THE FACILITY</i>	6
<i>CONDITION 3 FACILITY INFRASTRUCTURE</i>	7
<i>CONDITION 4 RESTORATION AND AFTERCARE</i>	10
<i>CONDITION 5 FACILITY OPERATION AND WASTE MANAGEMENT</i>	11
<i>CONDITION 6 EMISSIONS</i>	12
<i>CONDITION 7 NUISANCE CONTROL</i>	13
<i>CONDITION 8 MONITORING</i>	13
<i>CONDITION 9 CONTINGENCY ARRANGEMENTS</i>	14
<i>CONDITION 10 RECORDS</i>	15
<i>CONDITION 11 REPORTS AND NOTIFICATIONS</i>	16
<i>CONDITION 12 CHARGES AND FINANCIAL PROVISIONS</i>	17
SCHEDULE A : Waste Acceptance	19
SCHEDULE B : Specified Engineering Works	25
SCHEDULE C : Emission Limits	25
SCHEDULE D : Monitoring	27
SCHEDULE E : Recording and Reporting to the Agency	31
SCHEDULE F : Content of the Annual Environmental Report	34

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, and all submissions received from other parties and the report of its inspectors. No objection having been received to the Proposed Decision, the licence is granted in accordance with the terms of the Proposed Decision and the reasons therefor.

Part I Activities Licensed

In pursuance of the powers conferred on it by the Waste Management Act, 1996, the Agency, under Section 40(1) of the said Act hereby grants this Waste Licence to Murphy Concrete (Manufacturing) Limited to carry on the waste activities listed below at Hollywood Great, Nags Head, The Naul, Co. Dublin subject to twelve 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 deposition of inert Construction and Demolition waste, inert dredge spoils and inert waste derived from on-site mineral extraction activities subject to the maximum quantities and other constraints listed in <i>Schedule A: Waste Acceptance</i> of this licence into a lined landfill.
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 storage of unacceptable wastes in the waste quarantine area pending their dispatch to appropriate disposal facilities.

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

Class 3	Recycling or reclamation of metals and metal compounds: This activity is limited to provide for the recovery of metal waste delivered to the facility with Construction & Demolition waste. Recovered metals shall be dispatched onwards to appropriate recovery facilities. Metal waste is not acceptable for disposal at this facility. This activity shall cease upon restoration of the landfill.
Class 4.	Recycling or reclamation of other inorganic materials: This activity is limited to the recovery of inert Construction and Demolition waste, inert dredge spoils and inert waste derived from on-site mineral extraction activities at the facility for use in site development and site restoration works.
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 storage of wastes for recovery purposes at this facility (eg. stockpiles of soil) and the temporary storage of unacceptable waste types such as timber and metal pending their dispatch to appropriate recovery facilities.

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.

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.
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.
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 <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.

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.
Hours of Waste Acceptance	The hours during which the facility is authorised to accept waste.
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	Murphy Concrete (Manufacturing) Limited
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 twelve times per year, at approximately monthly intervals.
Night-time	10.00 p.m. to 8.00 a.m.
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 <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.
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.
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 II 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 on Figure B.2.1 (Plot Ref. No. 39699-1) of the application. Any reference in this licence to “facility” shall mean the area thus outlined.
- 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 inert waste may be recovered and disposed of at the facility subject to the maximum quantities and other constraints listed in *Schedule A: Waste Acceptance* of this licence. No liquid wastes or sludges shall be accepted at the facility. No shredded Construction & Demolition waste may be accepted at the facility.
- 1.5. Waste Acceptance Hours and Hours of Operation (unless otherwise agreed by the Agency)
 - 1.5.1. Waste may only be accepted at the facility between the hours of 8.00am to 6.00pm Monday to Friday inclusive and 8.00am to 4.00pm on Saturdays.
 - 1.5.2. The facility may only be operated during the hours of 7.00am to 7.00pm Monday to Friday inclusive and 7.00am to 5.00pm on Saturdays.
 - 1.5.3. Waste shall not be accepted at the landfill on Bank Holidays.
- 1.6 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;
 - d) any indication that environmental pollution has, or may have, taken place, and;
 - e) The non-acceptance or rejection of any waste load at the facility.
- 1.7 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:
 - 1.7.1 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;
 - 1.7.2 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
 - 1.7.3 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.

1.8 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 Prior to the commencement of waste activities, 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. No later than the 31st January 2004 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 six months of the date of grant of the 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 prior to the commencement of the licensed activities or 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;
 - 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) state that the facility is a Landfill for Inert Waste;
- b) the name and telephone number of the facility;
- c) the normal hours of opening;
- d) the name of the licence holder;
- e) the licence reference number;
- f) an emergency out of hours contact telephone number; and,
- g) 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 as described in Section 4.3.1 *Site Security Arrangements* of the Environmental Impact Statement (March 1999). The base of the security 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.

3.4.3 Gates shall be locked shut when the facility is not operational.

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 The facility entrance area shall be paved and maintained as shown on Figure 4.1 *Proposed Site Entrance* of the Environmental Impact Statement (March 1999) unless otherwise agreed by the Agency.

3.5.3 Traffic awaiting access to the landfill may only queue inside the facility.

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 Prior to the commencement of any waste disposal or waste recovery at the facility, 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
- 3.8.1 The licensee shall provide and maintain a weighbridge at the facility.
- 3.9 Wheel Cleaning
- 3.9.1 The licensee shall establish and maintain a wheelwash at the facility. The licensee shall agree the discharge arrangements with the Agency within three months of the date of grant of this licence.
- 3.10 Waste Water Treatment Plant
- 3.10.1 The licensee shall provide and maintain a Wastewater Treatment plant at the facility for the treatment of wastewater arising from toilets and water services on-site. Any percolation area shall satisfy the criteria set out in the Wastewater Treatment Manual, *Treatment Systems for Single Houses*, published by the Environmental Protection Agency.
- 3.11 Tank and Drum Storage Areas
- 3.11.1 All tank and drum storage areas shall be rendered impervious to the materials stored therein. The location of the tank and drum storage areas shall be agreed with the Agency.
- 3.11.2 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.
- 3.11.3 All drainage from bunded areas shall be diverted for collection and safe disposal.
- 3.11.4 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.
- 3.11.5 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.
- 3.12 Landfill Lining
- 3.12.1 The landfill footprint shall equate to the existing quarry pit area as shown on Figure 1.2 *Existing Site Map* of the Environmental Impact Statement (March 1999).
- 3.12.2 The landfill liner shall comprise of the following:
- Base and side wall
- a) a mineral layer of a minimum thickness of 1m with a hydraulic conductivity less than or equal to 1.0×10^{-7} m/s, or similar with equivalent protection to the foregoing.
- 3.12.3 The liner detailed design and its construction shall be in accordance with the guidelines provided in the Agency's Landfill Manual, *Landfill Site Design*.

- 3.12.4 All boreholes located in the base of the quarry shall be adequately sealed prior to the emplacement of the liner.
- 3.12.5 The formation level of the basal liner prior to emplacement of compacted clay shall be constructed at least one metre above the water table and in any event the formation level of the liner shall be no lower than 104.5 mAOD Malin. Any excavations deeper than the formation level shall only be backfilled with granular materials quarried from the facility.
- 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 of the facility.
- 3.13.2 All surface water from the hardstanding areas, as shown on Figure 4.1 *Proposed Site Entrance* of the Environmental Impact Statement (March 1999), should pass through a silt trap and a Class 1 oil separator prior to discharge into the landfill body.
- 3.14 Monitoring Infrastructure
- 3.14.1 The licensee shall provide a minimum of one leachate monitoring borehole (50mm bore) per two hectares of landfill. These boreholes shall be designed to also facilitate landfill gas monitoring.
- 3.14.2 The licensee shall maintain and clearly label and name all sampling and monitoring locations.
- 3.14.3 All groundwater boreholes shall have their Top of Casing (TOC) elevations (mAOD Malin) marked on their respective casings. The licensee shall within three months of the date of grant of this licence submit to the Agency TOC and ground level elevations for all groundwater boreholes.
- 3.14.4 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 final profile of the facility shall tie-in the facility to the surrounding land levels and shall be as shown on Figure 4.2 *Phasing of Restoration* of the Environmental Impact Statement (March 1999). The final height shall not exceed 149.0 mAOD Malin.
- 4.2. All waste activities at the facility shall cease upon the installation of the final capping unless agreed otherwise by the Agency.
- 4.3. The licensee shall restore the facility on a phased basis as shown on Figure 4.2 *Phasing of Restoration* of the Environmental Impact Statement (March 1999).
- 4.4. The facility shall be restored as described in Attachment G.1 *Restoration Scheme* of the application and section 4.7 *Landscaping Plan* of the Environmental Impact Statement (March 1999) subject to the following:
- 4.4.1. The final capping shall consist of the following:
- a) top soil (150 -300mm); and,
 - b) subsoils, such that total thickness of top soil and subsoils is at least 1m.
- 4.4.2 Any other instructions issued or agreed by the Agency.
- 4.5. 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.
- 4.6. Soil Storage
- 4.6.1. All soils shall be stored to preserve the soil structure for future use.

CONDITION 5 FACILITY OPERATION AND WASTE MANAGEMENT

- 5.1 Wastes shall not be deposited in any part of the facility without the prior agreement of the Agency.
- 5.2 Waste shall only be accepted at the facility from holders of waste collection permits under the Waste Management (Collection) Permits Regulations 2000. The licensee must maintain copies of these waste permits on-site.
- 5.3 Waste Acceptance and Characterisation Procedures
- 5.3.1 Prior to commencement of waste acceptance at the facility, the licensee shall submit to the Agency for its agreement written procedures for the acceptance and handling of all wastes. The written procedures shall as a minimum include the requirements of *Schedule A.1: Waste Acceptance, Schedule A.2: Acceptable Waste, Schedule A.3 : Acceptance Criteria* and *Schedule A.4: Limit Values for Pollutant Content for Inert Landfills* of this licence.
- 5.3.2 Waste arriving at the facility shall be subject to inspection, weighed, documented and directed for disposal or recovery as appropriate. Each load of waste arriving at the Facility shall be inspected upon tipping. Only after such inspections shall the waste be processed for disposal or recovery.
- 5.3.3 Any waste deemed unsuitable for processing at the facility and/or in contravention of this licence 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. Waste shall be stored under appropriate conditions in the quarantine area to avoid putrefaction, odour generation, the attraction of vermin and any other nuisance or objectionable condition.
- 5.3.4 *Schedule A.3: Acceptance Criteria* and *Schedule A.4: Limit Values for Pollutant Content for Inert Landfills* of this licence will not apply to inert mineral extraction waste resulting from quarrying activities at the facility which are subsequently disposed of or recovered at the facility.
- 5.3.5 The Waste Acceptance and Characterisation Procedures described above may be revised as notified in writing by the Agency in order to reflect European Union Commission Decisions adopted pursuant to Article 16 and Annex II of the Council Directive 1999/31/EC on the landfill of waste.
- 5.4 Working Face
- 5.4.1 Unless the prior agreement of the Agency is given, only one working face shall exist at the landfill at any one time for the disposal of waste.
- 5.5 Operational Controls
- 5.5.1 The licensee shall ensure that inert waste is subject to pre-treatment off-site where technically feasible.
- 5.5.2 Wastes once deposited and covered shall not be excavated, disturbed or otherwise picked over, unless with the prior agreement from the Agency.
- 5.5.3 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.
- 5.5.4 Filled phases shall be permanently capped within twenty four months of the phases having been filled to the required level.
- 5.5.5 Scavenging shall not be permitted at the facility.
- 5.5.6 There shall be no general public access to the landfill.
- 5.5.7 Gates shall be locked shut when the facility is unsupervised.

- 5.5.8 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.
- 5.5.9 Fuels shall only be stored at appropriately banded locations on the facility.
- 5.5.10 All tanks and drums shall be labelled to clearly indicate their contents.
- 5.5.11 No smoking shall be allowed on the facility other than in the facility office.
- 5.6 Off-site Disposal and Recovery
- 5.6.1 Waste sent off-site for recovery or disposal shall only be conveyed by a waste contractor agreed by the Agency.
- 5.6.2 All waste transferred from the facility shall only be transferred to an appropriate facility agreed by the Agency.
- 5.6.3 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.
- 5.7 Landscaping
- 5.7.1 No boundary hedgerows, as shown on Figure 3.4.2 *Land Use and Habitat Assessment* of the Environmental Impact Statement (March 1999), shall be removed or damaged unless otherwise agreed by the Agency.
- 5.7.2 The facility shall be landscaped as described in Section 4.7 “Landscaping Plan” of the Environmental Impact Statement (March 1999). Phase I and Phase II landscaping, as shown on Figure 4.4 *Landscape Restoration – Phase I* and Figure 4.5 *Final Landscape Restoration Plan* of the Environmental Impact Statement (March 1999) shall be completed during the first planting season (winter/spring) following the licence issue.
- 5.8 Maintenance
- 5.8.1 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.
- 5.8.2 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 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. Emissions to Surface Water
- 6.3.1. No substance shall be discharged in a manner, or at a concentration which, following initial dilution causes tainting of fish or shellfish.
- 6.4. Ground water Management
- 6.4.1. There shall be no direct emissions to groundwater.
- 6.4.2. Prior to the acceptance of waste at the facility, the licensee shall submit to the Agency four data sets for groundwater monitoring in order to establish trigger levels in accordance with the requirements of the Directive 1999/31/EC. Groundwater trigger levels shall be agreed with the Agency prior to waste acceptance.

6.4.3. 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.

6.5. Particulate levels

6.5.1. The trigger level for PM₁₀ from the facility measured at any location on the boundary of the facility is:

- a) PM₁₀ greater than 50µg/m³ for a daily sample.

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 The licensee shall ensure that all vehicles delivering waste to and removing waste and materials from the facility are appropriately covered.

7.4 Prior to exiting the facility, all commercial vehicles shall use the wheelwash.

7.5 Dust Control

7.5.1. 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.

7.5.2. All stockpiles shall be adequately maintained to minimise dust generation.

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. Unless otherwise specified by this licence, all environmental monitoring shall commence no later than two weeks after the acceptance of waste at the facility.

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. All persons conducting the sampling, monitoring and interpretation as required by this licence shall be suitably competent.

8.6. Groundwater Monitoring

- 8.6.1. 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.
- 8.7. Surface Water Monitoring
- 8.7.1. Prior to the acceptance of waste at the facility and the emplacement of the landfill liner, the licensee shall undertake a baseline surface water quality survey at the locations specified in *Schedule D: Monitoring*, of this licence, Table D.1.1 for the surface water parameters listed in Tables D.4.1 and D.4.2.
- 8.7.2. Within two weeks of the commencement of waste acceptance at the facility, routine surface water monitoring for the parameters listed in *Schedule D: Monitoring*, of this licence, Table D.4.1 shall commence.
- 8.7.3. Within one year of the commencement of waste acceptance at the facility and as instructed by the Agency thereafter, surface water monitoring for the parameters listed in *Schedule D: Monitoring*, of this licence, Table D.4.2 shall be undertaken.
- 8.8. Meteorological Monitoring
- 8.8.1. Prior to the commencement of waste activities the licensee shall either provide and maintain a meteorological station at the facility capable of monitoring the parameters listed in *Schedule D.5: Meteorological Monitoring* of this licence, or the licensee shall make arrangements for representative meteorological data to be collated for the facility to fulfil the requirements of *Schedule D.5: Meteorological Monitoring* of this licence.
- 8.9. Topographical Monitoring
- 8.9.1. A topographical survey shall be carried out prior to the commencement of the waste activities on-site. The survey shall include a measurement of the remaining available void space (broken down into actual available void space and any estimated void space which will be generated by future quarrying activities). It shall be repeated annually thereafter. The survey shall be in accordance with any written instructions issued by the Agency.
- 8.10. Archaeological Assessment
- 8.10.1. Prior to the development of any undisturbed area, the advice of Dúchas the Heritage Service shall be sought. On completion of such development a report of the results of any archaeological monitoring shall be submitted to Dúchas and to the Agency.
- 8.11. Stability Assessment
- 8.11.1. Within six months of the date of grant of this licence, and annually thereafter, the licensee shall carry out a stability assessment of the side slopes of the quarry.
- 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.

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:
- identify the date, time and place of the incident;
 - carry out an immediate investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
 - isolate the source of any such emission;
 - 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 the acceptance of waste at the facility, 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 and the Dublin City Council Water Division 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 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;
 - d) all written procedures produced by the licensee which relate to the licensed activities; and,
 - e) all monitoring results, waste records and any other reports which relate to this licence.
- 10.2 The licensee shall maintain a written record for each load of waste arriving at and leaving the facility. The licensee shall record the following as appropriate:
- 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 month and 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) waste inspection records;
- 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 activity. Each such record shall give details of the following:

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

REASON: To provide for the 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 10.00 a.m. 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/sewer water, notify Eastern Regional Fisheries Board as soon as practicable and in any case not later than 10:00 a.m. 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 Monitoring Locations

- 11.3.1. Within three 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.

11.4 Annual Environmental Report

- 11.4.1. The licensee shall submit to the Agency for its agreement an Annual Environmental Report (AER) by the 31st January 2004 and within one month following the end of each year being reported on thereafter.

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

11.5 Energy Efficiency

The licensee shall carry out an audit of the energy efficiency of the site within one year of the date of grant of this licence. The licensee shall consult with the Agency on the nature and extent of the audit and shall develop an audit programme to the satisfaction of the Agency. A copy of the audit report shall be available on-site for inspection by authorised persons of the Agency and a summary of the audit findings shall be submitted to the Agency as part of the Annual Environmental Report. The energy efficiency audit shall be repeated at intervals as required 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 €20,615 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 2003 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 2002, 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 the completion of a comprehensive and fully costed Environmental Liabilities Risk Assessment for the facility which will address liabilities arising from the carrying on of the activities to which this licence relates. A report on this assessment shall be submitted to the Agency for its agreement within six months of date of grant of this licence and prior to the commencement of waste disposal activities.
- 12.2.2 Prior to the commencement of waste disposal activities, the licensee shall make a Proposal for Financial Provision to the Agency for its agreement to cover any liabilities incurred by the licensee in carrying on the activities to which this licence relates or in consequence of ceasing to carry on the activities. Such provision shall be maintained by the licensee unless otherwise agreed by the Agency.
- 12.2.3 The amount of financial provision, held under Condition 12.2.2 shall be reviewed and revised as necessary, but at least annually. Any proposal for such a revision shall be submitted to the Agency for its agreement.
- 12.2.4 The licensee shall within two weeks of purchase, renewal or revision of the financial provision required under Condition 12.2.2, forward to the Agency written proof of such indemnity.
- 12.2.5 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.

- 12.3 The licensee shall ensure the costs in the setting up, operation of, provision of financial security and closure and aftercare for a period of at least 30 years shall be covered by the price to be charged for the disposal of waste at the facility.

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)
Inert Construction & Demolition and inert dredging spoils.	340,000
Inert mineral extraction wastes arising from quarrying activities at the facility.	No limit

A.2 Acceptable Waste

Only the inert wastes in Table A.2.1 and Table A.2.2 are acceptable for disposal and recovery respectively at the facility unless otherwise agreed with the Agency. In addition the waste in Table A.2.1 below, unless otherwise specified therein and subject to Conditions 5.3.4 and 5.3.5, must satisfy the criteria in *Schedule A.3: Acceptance Criteria* and *Schedule A.4: Limit values for pollutant content for inert waste landfills* of this licence.

Table A.2.1 Waste for Disposal

EWC CODE	DESCRIPTION	RESTRICTIONS
Waste Resulting from Quarrying and Physical Treatment of Minerals		
010102	Wastes from mineral non-metalliferous excavation	Limited to such waste derived from on-site quarrying activities
010412	Tailings and other wastes from washing and cleaning of minerals other than those mentioned in 010407 and 010411	Limited to such waste derived from on-site quarrying activities
010499	Wastes not otherwise specified	Subject to the prior agreement of the Agency and limited to such inert waste derived from on-site quarrying activities
Construction and Demolition Wastes		
170101	Concrete	Note 1
170102	Bricks	Note 1
170103	Tiles and ceramics	Note 1
170107	Mixture of concrete, bricks, tiles and ceramics	Other than those mentioned in EWC 170106: ^{Note 1}
170202	Glass	Note 1
170302	Bituminous mixtures	Other than those mentioned in EWC 170301
170504	Soil and stones	Other than those mentioned in EWC 170503: ^{Note 2} .
170506	Dredging spoil	Other than those mentioned in EWC 170505

170604	Insulation materials	other than those mentioned in EWC 170601 and 170603
170904	Mixed construction and demolition wastes	Other than those mentioned in EWC 170901, 170902 and 170903, and subject to the prior agreement of the Agency.

Note 1: These wastes can be accepted without Level 1 or Level 2 testing provided

- The waste is a pure, single stream from a single source.
- Different wastes denoted by Note 1 may be accepted together provided they are from the same source.
- In the case of suspicion of contamination (either from visual inspection or from knowledge of the origin of the waste) testing should be applied or the waste should be refused.

Note 2: The terms of Note 1 apply to soil and stones other than topsoil and peat and soil or stones from contaminated sites.

Table A.2.2 Waste for Recovery

EWC CODE	DESCRIPTION	RESTRICTIONS ^{Note 1}
Waste Resulting from Quarrying and Physical Treatment of Minerals		
010102	Wastes from mineral non-metalliferous excavation	Limited to such waste derived from on-site quarrying activities
010412	Tailings and other wastes from washing and cleaning of minerals other than those mentioned in 010407 and 010411	Limited to such waste derived from on-site quarrying activities
010499	Wastes not otherwise specified	Subject to the prior agreement of the Agency and limited to such waste derived from on-site quarrying activities
Construction and Demolition Wastes		
170101	Concrete	For development works only.
170102	Bricks	For development works only.
170103	Tiles and ceramics	For development works only.
170107	Mixture of concrete, bricks, tiles and ceramics	For development works only. Other than those mentioned in EWC 170106.
170504	Soil and stones	Other than those mentioned in EWC 170503 and excluding peat.

Note 1: In the case of suspicion of contamination (either from visual inspection or from knowledge of the origin of the waste) testing should be applied or the waste should be refused.

A.3 Acceptance Criteria

The general characterisation and testing must be based on the following three level hierarchy:

Level 1: Basic Characterisation

This constitutes a through determination, according to standardised analysis and behaviour testing methods, of the short and long-term leaching behaviour and/or characteristic properties of the waste.

Level 2: Compliance Testing

This constitutes periodical testing by simpler standard analysis and behaviour-testing methods to determine whether a waste complies with condition and /or specific reference criteria. The tests focus on key variables and behaviour identified by basic characterisation.

Level 3: On-site verification

This constitutes rapid check methods to confirm that a waste is the same as that which has been subjected to compliance testing and that which is described in any accompanying documents. It may merely consist of a visual inspection of a load of waste before and after unloading at the landfill site.

All waste loads must provide the following information (if available) :

Waste owner	Amount of waste
Source and origin of waste	Existing data on the waste
Description of the waste	Physical form
Waste Type and EWC code	Colour
Type of process producing the waste	Odour

All wastes accepted for disposal or recovery at the landfill shall undergo the Level 3: On-site verification at a minimum.

In addition to the above a representative load from every excavation/demolition/waste removal/dredging works is subjected to a comprehensive assessment which must satisfy Level 1 characterisation.

The comprehensive assessment must at a minimum include the following:

1. A chemical analysis of a representative sample. At least one sample per 1,500 tonnes or portion thereof must be taken for chemical analysis for each excavation or demolition works. However, if the comprehensive assessment is undertaken prior to the commencement of excavation or clearance activity, the licensee may reduce the number of samples for chemical analysis to one for each 7,500 tonnes or portion thereof. The sampling location must be identified on a sampling grid and enclosed in the comprehensive assessment.
2. An evaluation of the acceptability of the disposal of the waste at the landfill including observance of limits for total pollutants contents in *Schedule A.4: Limit values for pollutant content for inert waste landfills*, of this licence.
3. A statement of any pre-treatment requirement (if any).
4. Evidence that the waste displays no hazardous properties upon disposal.

If as a result of examinations undertaken in the course of excavation or clearance activity, the suspicion of contamination should arise, the type and concentration of the contamination must be determined, and its extent established through additional sampling.

Wastes of unknown origin or with insufficient waste description must be subjected to a chemical analysis.

In addition to the assessment above, representative samples upon delivery of wastes must be taken for compliance testing purposes (Level 2). The tests shall focus on key variables and behaviour identified by the chemical analysis.

A representative sample shall be taken from one in every 100 loads of waste accepted at the facility. This sample shall be subjected to Level 2 testing. Part of this sample shall be retained at the facility for three months and be available for inspection/analysis by the Agency.

A.4 Limit values for pollutant content for inert waste landfills.

Unless otherwise instructed in writing by the Agency, the following leaching limit values apply for waste acceptable at landfills for inert waste. The leaching limit values are calculated at liquid to solid ratios (L/S) of 2 l/kg and 10 l/kg for total release and directly expressed in mg/l for C_0 (the first eluate of percolation test at L/S = 0.1 l/kg).

Parameter	L/S = 2 l/kg	L/S = 10 l/kg	C_0 (percolation test)	Total Pollutant Content
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	Mg/kg dry substance	mg/kg dry substance	mg/l	mg/kg dry substance
Arsenic (as As)	0.1	0.5	0.06	
Barium (as Ba)	7.0	20.0	4.0	
Cadmium (as Cd)	0.03	0.04	0.02	
Total Chromium (as Cr)	0.2	0.5	0.1	
Copper (as Cu)	0.9	2.0	0.6	

Parameter	L/S = 2 l/kg	L/S = 10 l/kg	C ₀ (percolation test)	Total Pollutant Content
	Mg/kg dry substance	mg/kg dry substance	mg/l	mg/kg dry substance
Mercury (as Hg)	0.003	0.01	0.002	
Molybdenum (as Mo)	0.3	0.5	0.2	
Nickel (as Ni)	0.2	0.4	0.12	
Lead (as Pb)	0.2	0.5	0.15	
Antimony (as Sb)	0.02	0.06	0.01	
Selenium (as Se)	0.06	0.1	0.04	
Zinc (as Zn)	2.0	4.0	1.2	
Chloride	550.0	800.0	450.0	
Fluoride	4.0	10.0	2.5	
Sulphate ^{Note 1}	560.0	1000.0	1500.0	
Phenol index	0.47	1.0	0.3	
Dissolved Organic Carbon (DOC) ^{Note 2}	240.0	500.0	160.0	
Total Dissolved Solids (TDS) ^{Note 3}	2500.0	4000.0		
Total Organic Carbon (TOC) ^{Note 4}				30,000.0
BTEX ^{Note 5}				6.0
PCB (7 congeners)				1.0
Mineral Oil (C10 – C40)				500.0
Total PAH ^{Note 6}				2.0

Note 1: If the waste does not meet these values for sulphate, it may still be considered as complying with the acceptance criteria if the leaching does not exceed either of the following values: 1500 mg/l as Co at L/S = 0.1 l/kg and 6000mg/kg at L/S = 10 l/kg. It will be necessary to use a percolation test to determine the limit value at L/S = 0.1 l/kg under initial equilibrium conditions, whereas the value at L/S = 10 l/kg may be determined either by a batch leaching test or by a percolation test under conditions approaching local equilibrium.

Note 2: If the waste does not meet these values for dissolved organic carbon (DOC) at its own pH value, it may alternatively be tested at L/S = 10 l/kg and a pH between 7.5 and 8.0. The waste may be considered as complying with the acceptance criteria for DOC, if the result of this determination does not exceed 500 mg/l. (A draft method based on prEN 14429 is available).

Note 3: The values for TDS (Total Dissolved Solids) can be used alternatively to the values for Sulphate and Chloride.

Note 4: The TOC limit value is complied with as long as the loss on ignition does not exceed 5% per weight. In the case of soils a higher limit value may be admitted by the Agency, provided the Dissolved Organic Carbon at pH 7 (DOC7) value of 500 mg/kg is achieved.

Note 5: Benzene, toluene, ethylbenzene, o-xylene, m-xylene and p-xylene.

Note 6: For determining the total of PAH, the following six compounds must be added to a sum: flouranthene, benzoic(a)pyrene, benzoic(b)flouranthene, benzoic(k)flouranthene, benzoic(g,h,i)perylene, indenoic(1,2,3,-c,d)pyrene.

Sampling and Test Methods

Sampling and testing shall be carried out by independent and qualified persons and institutions. Laboratories shall have proven experience in waste testing and analysis and an efficient quality assurance system. The methods provided in the draft Commission Decision (Brussels 01.05.2002) establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Council Directive 1999/31/EC on the landfill of waste shall be used.

SCHEDULE B : Specified Engineering Works

Specified Engineering Works
Development of the facility including preparatory works and lining.
Landfill capping including intermediate and final
Restoration and Aftercare works
Installation of Waste Water Treatment Plant
Installation of waste quarantine and waste inspection areas
Installation of Surface Water Management Infrastructure
Installation of Groundwater Management Infrastructure
Installation of Monitoring Infrastructure
Any other works notified in writing by the Agency.

SCHEDULE C : Emission Limits

C.1 Noise Emissions: (Measured at the noise sensitive locations indicated in Table D.1 *Monitoring Locations*.)

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

C.2 Dust Deposition Limits: (Measured at the monitoring points indicated in Table D.1 *Monitoring Locations*.)

Level (mg/m ² /day) ^{Note 1}
350

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

C.3 Surface Water Discharge Limits: (Measured at any discharge point to the stream which is located to the immediate north of the facility.)

Level (Suspended Solids mg/l)
35

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 Figure J.1, Revision A, dated Oct. 2001 of the further information submitted to the Agency on 5th October 2001.

Table D.1.1 Monitoring Locations

DUST STATIONS	NOISE STATIONS	SURFACE WATER STATIONS	LEACHATE STATIONS	GROUND WATER STATIONS
D1	N4	SW1 (Clonany Bridge)	As required by Condition 3	BH4
D2 ^{Note 1}	N5			BH5
D3	N6	SW2 (Joinery Bridge)		BH6
D4				BH8
				BH9
				BH10
				BH11
				Private wells required by Condition 8.6

Note 1: D.2 shall be relocated to the northeastern corner of the facility.

D.2 Dust

Table D.2.1 Dust Monitoring Frequency and Technique

Parameter	Monitoring Frequency	Analysis Method/Technique
Dust Deposition (mg/m ² /day)	Quarterly ^{Note 3}	Standard Method ^{Note 1}
PM ₁₀ (µg/m ³)	Six Monthly ^{Note 3}	See ^{Note 2}

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

Note 2: As described in prEN12341 "Air Quality - field test procedure to demonstrate reference equivalence of sampling methods for PM10 fraction of particulate matter" or an alternative agreed in writing with the Agency.

Note 3: A wind rose, obtained from the meteorological station for the relevant sampling period, shall be submitted with each set of results.

D.3 Noise

Table D.3.1 Noise Monitoring Frequency and Technique

Parameter	Monitoring Frequency	Analysis Method/Technique
L(A)_{EQ} [30 minutes]	Annually	Standard ^{Note 1}
L(A)₁₀ [30 minutes]	Annually	Standard ^{Note 1}
L(A)₉₀ [30 minutes]	Annually	Standard ^{Note 1}
Frequency Analysis (1/3 Octave band analysis)	Annually	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	LEACHATE Monitoring Frequency	GROUNDWATER Monitoring Frequency
Visual Inspection/Odour	Weekly	Six Monthly	Quarterly
Groundwater Level	Not Applicable	Not Applicable	Quarterly
Leachate Level	Not Applicable	Six Monthly	Not Applicable
Ammoniacal Nitrogen	Six Monthly	Six Monthly	Quarterly
BOD	Once Off ^{Note 4}	Not Applicable	Not Applicable
COD	Six Monthly	Six Monthly	Not Applicable
Chloride	Six Monthly	Six Monthly	Quarterly
Dissolved Oxygen	Six Monthly	Not Applicable	Quarterly
Electrical Conductivity	Six Monthly	Six Monthly	Quarterly
pH	Six Monthly	Six Monthly	Quarterly
Total Suspended Solids	Six Monthly	Not Applicable	Not Applicable
Temperature	Six Monthly	Not Applicable	Quarterly
Boron	Not Applicable	Not Applicable	Annually
Cadmium	Once Off ^{Note 4}	Not Applicable	Annually
Calcium	Annually	Not Applicable	Quarterly
Chromium (Total)	Not Applicable	Not Applicable	Annually
Copper	Not Applicable	Not Applicable	Annually
Cyanide (Total)	Not Applicable	Not Applicable	Annually
Fluoride	Not Applicable	Not Applicable	Annually
Iron	Not Applicable	Not Applicable	Quarterly
Lead	Not Applicable	Not Applicable	Annually
List I/II organic substances ^{Note 2}	Once Off	Annually	Annually

Parameter ^{Note 1}	SURFACE WATER Monitoring Frequency	LEACHATE Monitoring Frequency	GROUNDWATER Monitoring Frequency
Magnesium	Annually	Not Applicable	Annually
Manganese	Annually	Not Applicable	Quarterly
Mercury	Once Off ^{Note 4}	Not Applicable	Annually
Potassium	Not Applicable	Six Monthly	Quarterly
Sulphate	Annually	Six Monthly	Quarterly
Sodium	Annually	Six Monthly	Quarterly
Total Alkalinity	Annually	Not Applicable	Not Applicable
Total Phosphorus / Orthophosphate	Annually	Not Applicable	Annually
Total Oxidised Nitrogen	Not Applicable	Six Monthly	Quarterly
Total Organic Carbon	Not Applicable	Not Applicable	Quarterly
Residue on evaporation	Not Applicable	Not Applicable	Annually
Zinc	Not Applicable	Not Applicable	Annually
Phenols	Not Applicable	Six Monthly	Quarterly
Faecal Coliforms ^{Note 3}	Not Applicable	Not Applicable	Annually
Total Coliforms ^{Note 3}	Not Applicable	Not Applicable	Annually

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

Note 2: 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).

Note 3: In the case where groundwater is extracted for drinking water and there is evidence of bacterial contamination, the analysis at monitoring points downgradient of the landfill should include enumeration of total bacteria at 22°C and 37°C and faecal streptococci.

Note 4: Once off for the baseline survey required by Condition 8.7.1

Table D.4.2 Surface Water - Parameters

Parameter ^{Note 1} ^{Note 2}	
Atrazine	Chromium
Dichloromethane	Copper
Simazine	Cyanide
Toluene	Fluoride
Tributyltin ^{Note 3}	Lead
Xylenes	Nickel
Arsenic	Zinc
Hardness as mg/l Ca/CO ₃	

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

Note 2: Monitoring results are to be compared with the standards laid down in Water Quality (Dangerous Substances) Regulations, 2001 (S.I. No. 12 of 2001).

Note 3: Applies in relation to tidal water only.

Total metals (dissolved and colloidal/suspended solids) to be analysed for.

D.5 Meteorological Monitoring

Data to be obtained from a source agreed by the Agency.

Table D.5.1 Meteorological Monitoring:

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

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	By the 31 st January 2004 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	Prior to commissioning 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 Surface Water Quality	Six monthly	Ten days after end of the quarter being reported on.
Monitoring of Groundwater Quality	Six monthly	Ten days after end of the quarter being reported on.
Monitoring of Leachate Quality	Six monthly	Ten days after end of the quarter being reported on.
Meteorological Monitoring	Annually	One month after end of the year being reported on.
Dust Monitoring	Six monthly	Ten days after the period being reported on
Noise Monitoring	Annually	One month after end of the year being reported on.
Any other monitoring ^{Note 2}	As they occur	Within ten days of obtaining results.

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

Note 2: Other than Nuisance Monitoring Reports.

SCHEDULE F : Content of the Annual Environmental Report

Annual Environmental Report Content

Reporting Period.

Waste activities carried out at the facility.

The following summary information should be presented graphically where possible:

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

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

Methods of deposition of waste.

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

Report on restoration of completed phases.

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

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.

Sealed by the seal of the Agency on this the 4th day of December 2002

PRESENT when the seal of the Agency
was affixed hereto:

Iain Maclean, Director