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Ireland

WASTE LICENCE

Recommended Decision

Licence Register Number:	W047-02
Applicant/Licensee:	Neiphin Trading Limited, 3 Broomhill Business Complex, Broomhill Road, Tallagh, Dublin 24
Location of Facility:	Kerdiffstown, Naas, Co Kildare

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 integrated waste facility consisting of a composting facility, a non-hazardous waste landfill, inert waste landfilling, and infrastructure for the processing and recovery of commercial/industrial/household waste and construction and demolition waste at Kerdiffstown, Naas, County Kildare. The facility covers an area of approximately 30.6 hectares. It is a sand and gravel pit, which has a history of various extractive and backfilling operations.

The licence allows up to 630,000 tonnes of waste per annum to be processed at the facility, provided adequate processing capacity is available. This includes acceptance into the facility of 565,000t/a (commercial/industrial waste, household dry recyclables, construction/demolition waste, and waste previously landfilled at the facility), and 65,000t/a compostable waste. A lined landfill is proposed in the void created from the extracted waste. Only pre-treated residual waste, and inert waste may be landfilled.

The licensee must manage and operate the facility to ensure that the activities do not cause environmental pollution. The licensee is required to carry out regular environmental monitoring and submit all monitoring results, and a 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 Neiphin Trading Limited will operate and manage this facility.

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Glossary of Terms

All terms in this licence should be interpreted in accordance with the definitions in the Waste Management Acts 1996 to 2003, (the Acts), unless otherwise explained in this section.

Applications	Means the application documentation for waste licence register 47-01 and 47-02.
BAT	Best Available Techniques.
Bi-annually	All or part of a period of six consecutive months.
Biennially	Once every two years.
Biodegradable waste/Biowaste	Any waste that is capable of undergoing anaerobic or aerobic decomposition, such as food, garden waste, sewage sludge, paper and paperboard.
BOD	5 day Biochemical Oxygen Demand.
CEN	Comité Européen De Normalisation – European Committee for Standardisation
COD	Chemical Oxygen Demand.
Compost	Stable, sanitised and humus like material rich in organic matter and free from offensive odours resulting from composting, of separately collected biowaste which complies with the environmental quality classes outlined in <i>Schedule E</i> of this licence.
Construction and Demolition Waste	Wastes that arise from construction, renovation and demolition activities: Chapter 17 of the EWC or as otherwise may be agreed with Agency.
Construction and Demolition Waste	Wastes that arise from construction, renovation and demolition activities: Chapter 17 of the EWC or as otherwise may be agreed.
Containment boom	A boom which can contain spillages and prevent them from entering drains or watercourses or from further contaminating watercourses.
Daily	During all days of plant operation, and in the case of emissions, when emissions are taking place; with at least one measurement on any one day.
Day	Any 24 hour period.
Daytime	0800 hrs to 2000 hrs.
dB(A)	Decibels (A weighted).
DO	Dissolved Oxygen.
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.
Emission Limits	Those limits, including concentration limits and deposition rates established in <i>Schedule B</i> of this licence.
EMP	Environmental Management Programme.

Environmental Damage	Has the meaning given it in Directive 2004/35/EC
EPA	Environmental Protection Agency.
European Waste Catalogue (EWC)	A harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 2000/532/EC and any subsequent amendment published in the Official Journal of the European Community.
Facility	Any site or premises used for the purposes of the recovery or disposal of waste.
Fortnightly	A minimum of 24 times per year, at approximately two week intervals.
GC/MS	Gas Chromatography/Mass Spectroscopy
Green waste	Waste wood (excluding timber), plant matter such as grass cuttings, and other vegetation.
Heavy Metals	This term is to be interpreted as set out in “Parameters of Water Quality, Interpretation and Standards” published by the Agency in 2001. ISBN 1-84095-015-3.
HFO	Heavy Fuel Oil.
Hours of Operation	The hours during which the facility is authorised to be operational.
Hours of Waste Acceptance	The hours during which the facility is authorised to accept waste
ICP	Inductively Coupled Plasma Spectroscopy.
Incident	The following shall constitute an incident for the purposes of this licence: <ul style="list-style-type: none">a) an emergency;b) any emission which does not comply with the requirements of this licence;c) any exceedence of the daily duty capacity of the waste handling equipment;d) any trigger level specified in this licence which is attained or exceeded; and,e) any indication that environmental pollution has, or may have, taken place.
Industrial Waste	As defined in Section 5(1) of the Waste Management Acts 1996 to 2003.
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.
Initial Development Works	Means such works, actions or constructions as may be specified, which for the purposes of environmental protection and safe construction and operation of the facility, have to be carried out in the initial stages of site development, and in any case prior to the commencement of construction of

	the landfill cells.
Landfill Directive	Council Directive 1999/31/EC.
Landfill Footprint	The area of the facility where waste is approved to be deposited.
Leq	Equivalent continuous sound level.
Licensee	Neiphin Trading Limited, 3 Broomhill Business Complex, Broomhill Road, Tallagh, Dublin 24
Liquid Waste	Any waste in liquid form and containing less than 2% dry matter.
List I	As listed in the EC Directives 76/464/EEC and 80/68/EEC and amendments.
List II	As listed in the EC Directives 76/464/EEC and 80/68/EEC and amendments.
Local Authority	Kildare County Council
Maintain	Keep in a fit state, including such regular inspection, servicing, calibration and repair as may be necessary to adequately perform its function.
Mass Flow Limit	An Emission Limit Value which is expressed as the maximum mass of a substance which can be emitted per unit time.
Mass Flow Threshold	A mass flow rate, above which, a concentration limit applies.
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	2000 hrs to 0800 hrs.
Noise Sensitive Location (NSL)	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other facility or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.
Odour Sensitive Location (OSL)	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other facility or area of high amenity, which for its proper enjoyment requires the absence of odour at nuisance levels.
Oil Separator	Device installed according to the International Standard I.S.EN 858-2:2003 (Separator systems for light liquids, (e.g. oil and petrol)-Part 2:Selection of nominal size, installation, operation and maintenance.
PER	Pollution Emission Register.
Quarterly	All or part of a period of three consecutive months beginning on the first day of January, April, July or October.
Regional Fisheries Board	Eastern Regional Fisheries Board.
Review Application	The application for waste licence register 47-02.

Sample(s)	Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments.
Sanitary Authority	Kildare County Council
Sanitary Effluent	Waste water from facility toilet, washroom and canteen facilities
SOP	Standard Operating Procedure.
Stabilised Biowaste	Waste resulting from the mechanical/biological treatment of unsorted waste or residual municipal waste including treated biowaste which does not comply with the environmental quality classes outlined in Schedule F of this licence.
Standard Method	A National, European or internationally recognised procedure (eg, I.S. EN, ISO, CEN, BS or equivalent), as an in-house documented procedure based on the above references, a procedure as detailed in the current edition of “Standard Methods for the Examination of Water and Wastewater”, (prepared and published jointly by A.P.H.A., A.W.W.A & W.E.F), American Public Health Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA; or, an alternative method as may be agreed by the Agency.
Storm Water	Rain water run-off from roof and non-process areas.
Temporary storage	In relation to waste is a period of less than six months as defined in the Waste Management Acts 1996 to 2005.
The Agency	Environmental Protection Agency.
TOC	Total Organic Carbon.
Trade Effluent	Trade Effluent has the meaning given in the water pollution Acts 1977 and 1990
Trigger Level	A parameter value, the achievement or exceedance of which requires certain actions to be taken by the licensee.
WEEE	As defined in S.I. No. 340 of 2005
Weekly	During all weeks of plant operation, and in the case of emissions, when emissions are taking place; with at least one measurement in any one week.
WWTP	Waste Water Treatment Plant.

Decision & Reasons for the Decisions

Reasons for the Decision

The Agency is satisfied, on the basis of the information available, that subject to compliance with the conditions of this licence, any emissions from the activity will comply with and will not contravene any of the requirements of Section 40(4) of the Waste Management Acts 1996 to 2005.

In reaching this decision the Environmental Protection 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 Schedule of Activities Licensed

In pursuance of the powers conferred on it by the Waste Management Acts 1996 to 2005, the Environmental Protection Agency (the Agency) proposes, under Section 46(2) of the said Act to grant this Waste Licence to Neiphin Trading Limited to carry on the waste activity/activities listed below at Kerdiffstown, Naas, Co Kildare subject to conditions, with the reasons therefor and the associated schedules attached thereto set out in the licence. For the purposes of Article 48 of the Waste Management Licensing Regulations 2004 (SI 395) this facility is classed as a non-hazardous waste landfill.

Licensed Waste Disposal Activities, in accordance with the Third Schedule of the Waste Management Acts 1996 to 2005

Class 1.	Deposit on, in or under land (including landfill).
Class 4.	Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.
Class 5.	Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment. [<i>Principal Activity.</i>]
Class 6.	Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 5 or paragraphs 7 to 10 of this Schedule.
Class 11.	Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.
Class 12.	Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.
Class 13.	Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.

Licensed Waste Recovery Activities, in accordance with the Fourth Schedule of the Waste Management Acts 1996 to 2005

Class 2.	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological processes).
Class 3.	Recycling or reclamation of metals and metal compounds.
Class 4.	Recycling or reclamation of other inorganic materials.
Class 11.	Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule.
Class 13.	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.

Part II Conditions

Condition 1. Scope

- 1.1 Waste activities at this facility shall be restricted to those listed and described in Part I Activities Licensed, and shall be as set out in the licence applications or as modified under Condition 1.6 of this licence and subject to the conditions of this licence.
- 1.2 **Waste processing operations** at this facility shall be limited as set out in *Schedule A: Limitations*.
- 1.3 The facility shall be controlled, operated, and maintained and emissions shall take place as set out in this licence. All programmes required to be carried out under the terms of this licence, become part of this licence.
- 1.4 For the purposes of this licence, the facility authorised by this licence, is the area of land outlined in **red on Drawing No. NTL/1001 Rev A – Site Location Map** of the application. Any reference in this licence to “facility” shall mean the area thus outlined in red colour (as appropriate). The licensed activities shall be the carried on only within the area outlined.
- 1.5 Waste Acceptance Hours and Hours of Operation
- 1.5.1 With the exception of emergencies or as may be agreed by the Agency, waste shall be accepted at or despatched from the facility only between the hours of **0800 to 1800** Monday to Friday inclusive and **0800 to 1300** on Saturdays.
- 1.5.2 The facility shall be operated (automated continuous processes excepted) only during the hours of **0900 to 1800 Monday to Friday inclusive and 0800 to 1300 on Saturdays**.
- 1.5.3 Except in an emergency, the facility shall not operate or accept/despatch waste on Sundays or on Bank Holidays without the agreement of the Agency.
- 1.6 No alteration to, or reconstruction in respect of, the activity or any part thereof which would, or is likely to, result in
- (i) a material change or increase in:
- The nature or quantity of any emission,
 - The abatement/treatment or recovery systems,
 - The range of processes to be carried out,
 - The fuels, raw materials, intermediates, products or wastes generated,
- or,
- (ii) any changes in:
- Site management infrastructure or control with adverse environmental significance,
- shall be carried out or commenced without prior notice to, and without the agreement of, the Agency.
- 1.7 Before commencing full scale composting operations the licensee must satisfy the Agency that it has obtained consent from the Department of Agriculture and Food to treat animal by-products in composting/biogas facilities
- 1.8 This licence is for the purposes of waste licensing under the Waste Management Acts 1996 to 2005 only and nothing in this licence shall be construed as negating the licensee’s statutory obligations or requirements **under the Planning and Development Act 2000 (as amended), or any** other enactments or regulations.

- 1.9 This licence is being granted in substitution for the waste licence granted to the licensee on 16th July 2003, and bearing Waste Licence Register No: 47-1. The previous waste licence (Register No: 47-01) is superseded by this licence.

Reason: To clarify the scope of this licence.

Condition 2. Management of the Facility

2.1 Facility Management

2.1.1 The licensee shall employ a suitably qualified and experienced facility manager who shall be designated as the person in charge. The facility manager or a nominated, suitably qualified and experienced, deputy shall be present on the facility at all times during its operation or as otherwise required by the Agency.

2.1.2 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. In addition, the facility manager and his/her deputy shall successfully complete FAS waste management training programme or equivalent agreed with the Agency.

2.2 Environmental Management System (EMS)

2.2.1 The licensee shall maintain an Environmental Management System (EMS). The EMS shall be updated on an annual basis.

2.2.2 The EMS shall include as a minimum the following elements:

2.2.2.1 Management and Reporting Structure.

2.2.2.2 Schedule of Environmental Objectives and Targets.

The licensee shall operate a Schedule of Environmental Objectives and Targets. The Schedule shall as a minimum provide for a review of all operations and processes, including an evaluation of practicable options, for energy and resource efficiency, the use of cleaner technology, cleaner production, and the prevention, reduction and minimisation of waste, and shall include waste reduction targets. The Schedule shall include time frames for the achievement of set targets and shall address a five year period as a minimum. The Schedule shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report (AER).

2.2.2.3 Environmental Management Programme (EMP)

The licensee shall operate and maintain an EMP, which shall include a time schedule, for achieving the Environmental Objectives and Targets prepared under Condition 2.2.2.2. The EMP shall:

- (i) designation of responsibility for targets;
- (ii) the means by which they may be achieved;
- (iii) the time within which they may be achieved.

The EMP shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report (AER).

A report on the programme, including the success in meeting agreed targets, shall be prepared and submitted to the Agency as part of the AER. Such reports shall be retained on-site for a period of not less than seven years and shall be available for inspection by authorised persons of the Agency.

2.2.2.4 Documentation

- (i) The licensee shall establish and maintain an environmental management documentation system, which shall be to the satisfaction of the Agency.
- (ii) The licensee shall issue a copy of this licence to all relevant personnel whose duties relate to any condition of this licence.

2.2.2.5 Corrective Action

The licensee shall establish procedures to ensure that corrective action is taken should the specified requirements of this licence not be fulfilled. The responsibility and authority for initiating further investigation and corrective action in the event of a reported non-conformity with this licence shall be defined

2.2.2.6 Awareness and Training

The licensee shall establish and maintain procedures for identifying training needs, and for providing appropriate training, for all personnel whose work can have a significant effect upon the environment. Appropriate records of training shall be maintained.

2.2.2.7 Communications Programme

The licensee shall establish and maintain a Public Awareness and Communications Programme to ensure that members of the public are informed, and can obtain information at the facility, at all reasonable times, concerning the environmental performance of the facility.

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

Condition 3. Infrastructure and Operation

- 3.1 The licensee shall establish **and maintain** all infrastructure referred to in this licence, to the design set out in the Application's documentation or as may be otherwise specified or varied by the conditions of this licence, **or otherwise instructed by, or agreed with, the Agency.**
- 3.2 The landfill footprint (maximum lateral extent of approved landfilling) shall be as indicated 'Outline of landfill construction phase' in Drawing Reference NTL 1002 Rev A, dated 29/07/04, of the Review Application.
- 3.3 Wastes shall not be deposited in any new engineered phase/cell without the prior written agreement of the Agency.
- 3.4 Facility Notice Board

- 3.4.1 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.
- 3.4.2 The board shall clearly show:-
- (i) the name and telephone number of the facility;
 - (ii) the normal hours of opening;
 - (iii) the name of the licence holder;
 - (iv) an emergency out of hours contact telephone number;
 - (v) the **current** licence reference number; and
 - (vi) where environmental information relating to the facility can be obtained.
- 3.5 The licensee shall install on all emission points such sampling points or equipment, including any data-logging or other electronic communication equipment, as may be required by the Agency. All such equipment shall be consistent with the safe operation of all sampling and monitoring systems.
- 3.6 Sampling equipment shall be operated and maintained such that sufficient sample is collected to meet both internal monitoring requirements and those of the Agency. A separate composite sample or homogeneous sub-sample (of sufficient volume as advised) should be refrigerated immediately after collection and retained as required for EPA use.
- 3.7 The licensee shall clearly label and provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency.
- 3.8 Tank and Drum Storage Areas
- 3.8.1 All tank and drum storage areas shall be rendered impervious to the materials stored therein.
- 3.8.2 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:-
- (i) 110% of the capacity of the largest tank or drum within the bunded area; or
 - (ii) 25% of the total volume of substance which could be stored within the bunded area.
- 3.8.3 All drainage from bunded areas shall be diverted for collection and safe disposal.
- 3.8.4 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.
- 3.8.5 The integrity and water tightness of all the bunding structures and their resistance to penetration by water or other materials stored therein shall be tested and demonstrated by the licensee at least once every three years, and reported as part of the AER. This testing shall be carried out in accordance with any guidance published by the Agency.
- 3.9 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.
- 3.10 Surface Water Management.**
- 3.10.1 Effective surface water management infrastructure shall be provided and maintained at the facility during construction, operation,**

restoration and aftercare of the facility. As a minimum, the infrastructure shall be capable of the following:

- (i) **the prevention of contaminated water and leachate discharges into surface water drains and courses; and**
- (ii) **the collection/diversion of run off arising from capped and restored areas.**

3.11 As part of the construction of hardstanding areas and buildings for use in the storage, treatment and recovery of waste, the licensee shall carry out the following works to the trade effluent/surface water handling system at the facility:

3.11.1 Run off shall be separated into trade effluent (from operational hard-standing and floor areas), and storm-water drainage (from roof areas) systems.

3.11.2 Trade effluent from hardstanding areas and buildings for use in the storage, treatment and recovery of waste shall discharge to adequately sized silt traps and oil interceptors. The interceptors shall be a Class II full retention interceptors and the silt traps and interceptors shall be in accordance with European Standard I.S. EN 585-2:2003 (installations for the separation of light liquids).

3.11.3 Collected trade effluent shall be directed to the leachate collection system.

3.12 All pump sumps, storage tanks, lagoons or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as are likely to breach local or remote containment or separator, shall be fitted with high liquid level alarms (or oil detectors as appropriate) within **six months** from the date of grant of this licence.

3.13 The provision of a catchment system to collect any leaks from flanges and valves of all over-ground pipes used to transport material other than water shall be examined. This shall be incorporated into a schedule of objectives and targets set out in Condition 2.2 of this licence for the reduction in fugitive emissions.

3.14 Sanitary Waste-water Treatment System.

The licensee shall provide and maintain a Sanitary Waste-water Treatment System at the facility for the treatment of sanitary waste arising from toilets and personnel related 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.

3.15 Groundwater

3.15.1 All wellheads, whose locations are shown on drawing reference NTL/1008 Rev A, dated 29/07/04, and titled – Proposed Monitoring Locations, of the licence application shall be adequately protected to prevent contamination or physical damage, and, as may be appropriate, decommissioned according to the UK Environment Agency guidelines ‘Decommissioning Redundant Boreholes and Wells’ (or as otherwise may be agreed by the Agency).

3.15.2 **Any additional groundwater monitoring wells as may be specified by the Agency – having regard to the principles of BAT – shall be similarly protected and recorded/notified according to the provisions of Condition 6.22.**

3.15.3 Groundwater monitoring wells shall be constructed having regard to the guidance given in the Agency’s landfill manual “Landfill Monitoring”.

- 3.16 The licensee shall, within three months of the date of grant of this licence, install in a prominent location on the site a wind-sock, or other wind direction indicator, which shall be visible from the public roadway outside the site.
- 3.17 The licensee shall operate a weather monitoring station on the site at a location agreed by the Agency, which records the data specified in *Schedule C.6*.
- 3.18 Specified Engineering Works
- 3.18.1 The licensee shall submit proposals for any Specified Engineering Works, as defined in *Schedule D: Specified Engineering Works*, of this licence, to the Agency for its agreement at least three 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. **Any works agreed are without prejudice to the licensees obligations under the Planning and Development Act 2000 (as amended).**
- 3.18.2 All specified engineering works shall be supervised by an appropriately qualified person, and that person, or persons, shall be present at all times during which relevant works are being undertaken.
- 3.18.3 Following the completion of any 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, as appropriate, include the following information:-
- (i) A description of the works;
 - (ii) As-built drawings of the works;
 - (iii) Records and results of all tests carried out (including failures);
 - (iv) Drawings and sections showing the location of all samples and tests carried out;
 - (v) Name(s) of contractor(s)/individual(s) responsible for undertaking the specified engineering works;
 - (vi) Records of any problems and the remedial works carried out to resolve those problems; and
 - (vii) Any other information requested in writing by the Agency.
- 3.19 Landfill Lining
- 3.19.1 Unless otherwise agreed in writing, the landfill lining system shall comprise:-
- (i) A composite liner consisting of a 1m layer of clay with a hydraulic conductivity of less than or equal to $1 \times 10^{-9} \text{ m}^3/\text{m}^2/\text{s}$, overlain by a 2mm thick high density polyethylene (HDPE) layer;
 - (ii) A geotextile protection layer placed over the HDPE layer;
 - (iii) A 500mm thick drainage layer placed over the geotextile layer with a minimum hydraulic conductivity of $1 \times 10^{-3} \text{ m}^3/\text{m}^2/\text{s}$, of pre-washed, uncrushed, granular, rounded stone (16-32mm grain size) incorporating leachate collection drains;
 - (iv) The lining system on the base of the facility shall be laid to a minimum slope of 1:50, and
 - (v) The side-walls shall be designed and constructed to achieve an equivalent protection.
- 3.20 Facility Security
- 3.20.1 Security and stockproof fencing and gates shall be installed and maintained. The base of the fencing shall be set in the ground. Subject to the

implementation of the restoration and aftercare plan and to the agreement of the Agency, the requirement for such site security may be removed.

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

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

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

3.21 Facility Roads and Hardstanding

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

3.21.2 The facility entrance and hardstanding areas, shall be appropriately paved and maintained in a fit and clean condition.

3.22 Facility Office

3.22.1 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.

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

3.23 Waste Intake, Treatment, Set-down and Storage (including Recovered materials storage) Areas

3.23.1 The licensee shall provide and maintain appropriate waste intake, processing/treatment, set-down and storage areas. This infrastructure shall at a minimum comprise the following:-

- (i) An impermeable concrete slab (or equivalent approved);
- (ii) Collection and disposal infrastructure for all run-off;
- (iii) Appropriate bunding to provide visual and noise screening;
- (iv) All stockpiles shall be adequately contained to minimise dust generation;
- (v) **Enclosed negative air pressure facilities with treated ventilation air for putrescible wastes, compostable MBT residues and other odorous wastes;**
- (vi) **Appropriate Agency approved storage arrangements for recovered materials.**

3.24 Waste Inspection and Quarantine Areas

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

3.24.2 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.

3.24.3 Drainage from these areas shall be directed to the leachate management system.

3.25 Weighbridge and Wheel Cleaner

- 3.25.1 The licensee shall provide and maintain a weighbridge and wheel cleaners at the facility.
- 3.25.2 The wheel cleaners shall be used by all vehicles leaving the facility as required to ensure that no process water or waste is carried off-site. All water from the wheel cleaning area shall be directed to the leachate management system.
- 3.26 Waste handling, ventilation and processing plant
- 3.26.1 Items of plant deemed critical to the efficient and adequate processing of waste at the facility (including inter alia waste loading vehicles and ejector trailers) shall be provided on the following basis:-
- (i) 100% duty capacity;
 - (ii) 20% standby capacity available on a routine basis; and
 - (iii) Provision of contingency arrangements and/or back up and spares in the case of breakdown of critical equipment.
- 3.26.2 The licensee shall, as part of the AER, provide a report for the agreement of the Agency detailing the duty and standby capacity in tonnes per day, of all waste handling and processing equipment to be used at the facility. These capacities shall be based on the licensed waste intake, as per *Schedule A: Limitations*, of this licence.
- 3.26.3 The quantity of waste to be accepted at the facility on a daily basis shall not exceed the duty capacity of the equipment at the facility. Any exceedance of this intake shall be treated as an incident.
- 3.27 Noise
- The licensee shall, in consultation with Mr & Mrs L Foley of Kerdiffstown, install a 2.5m high engineered acoustic barrier along the boundary of the facility that adjoins their land.**
- 3.28 Compost facility
- 3.28.1 Appropriate infrastructure for the composting of waste shall be established and maintained at the facility prior to any waste being composted. **This infrastructure shall at a minimum comprise for invessel composting, an appropriately sized biofilter, and associated plant, as outlined in the licence review application.**
- 3.28.2 **The compost feed-stock preparation building shall be maintained under negative pressure with ventilated air passed through the bio-filter(s).**
- 3.28.3 Unless otherwise agreed, or as may be conditions in this licence, the licensee shall provide a composting area and associated infrastructure at the location shown on Drawing NTL/238 Rev B, dated 30/09/04, of the review application.
- 3.28.4 **Facilities for the curing of compost shall not be located within 200m of a private residence.**
- 3.28.5 To provide for aerobic composting, the licensee shall provide the composting material with: a 5% minimum concentration of oxygen within the pore spaces, appropriate moisture levels, pH 6.0-9.0, appropriate C:N ratio.
- 3.29 Leachate Management Infrastructure
- 3.29.1 Leachate management infrastructure shall be provided and maintained at the facility as described in the Application's documentation, or as may be varied by a licence condition.

- 3.29.2 All structures for the storage and/or treatment of leachate shall be fully enclosed except for inlet and outlet piping.
- 3.29.3 Any leachate produced from waste recovery activities shall be directed to the leachate collection system.
- 3.30 Landfill Gas Management
- 3.30.1 Landfill Gas management infrastructure shall be provided and maintained at the facility as described in the Application's documentation, or as may be varied by a licence condition.
- 3.30.2 Until the operation of the landfill gas combustion plant/flare, passive landfill gas management at the facility shall be carried out. Landfill gas management and infrastructure shall meet the recommendations given in the Agency Manual on "Landfill Operational Practices".
- 3.30.3 In conjunction with the installation of final capping of a cell/cells the licensee shall submit to the Agency for its agreement an assessment of whether the utilisation of landfill gas as an energy resource is feasible. If feasible such a system shall be installed within a timeframe agreed with or specified by the Agency. This assessment shall include proposals regarding the utilisation of heat energy from this plant.**
- 3.30.4 Where landfill gas utilisation is not feasible, effective infrastructure shall be provided and maintained at the facility for the collection and flaring of landfill gas for each cell or any part of the facility, which contains previous landfilled waste, upon final capping.**
- 3.30.5 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.

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

Condition 4. Interpretation

- 4.1 Emission limit values for emissions to atmosphere in this licence shall be interpreted in the following way:
- 4.1.1 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.
- 4.1.2 For Non-Continuous Monitoring
- (i) For any parameter where, due to sampling/analytical limitations, a 30 minute sample is inappropriate, a suitable sampling period should be employed and the value obtained therein shall not exceed the emission limit value.
 - (ii) For flow, no hourly or daily mean value, calculated on the basis of appropriate spot readings, shall exceed the relevant limit value.

- (iii) For all other parameters, no 30 minute mean value shall exceed the emission limit value.
- 4.2 The concentration and volume flow 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 :-
- 4.2.1 In the case of landfill gas flare:
Temperature 273 K, pressure 101.3 kPa, dry gas at 3% oxygen; and
- 4.2.2 In the case of any landfill gas combustion plant:
Temperature 273 K, pressure 101.3 kPa, dry gas; 5% oxygen.
- 4.3 Emission limit values for emissions to waters in this licence shall be interpreted in the following way:-
- 4.3.1 Continuous monitoring:
- (i) No flow value shall exceed the specified limit.
- (ii) No pH value shall deviate from the specified range.
- (iii) No temperature value shall exceed the limit value.
- 4.3.2 Composite Sampling:
- (i) No pH value shall deviate from the specified range.
- (ii) For parameters other than pH and flow, eight out of ten consecutive composite results, based on flow proportional composite sampling, shall not exceed the emission limit value. No individual result similarly calculated shall exceed 1.2 times the emission limit value.
- 4.3.3 Discrete Sampling
For parameters other than pH and temperature, no grab sample value shall exceed 1.2 times the emission limit value.
- 4.4 Where the ability to measure a parameter is affected by mixing before emission, then, with agreement from the Agency, the parameter may be assessed before mixing takes place.
- 4.5 Noise
Noise from the facility shall not give rise to sound pressure levels (Leq,T) measured at **noise sensitive locations** of the facility which exceed the limit value(s).
- 4.6 Dust and Particulate Matter
Dust and particulate matter from the activity shall not give rise to deposition levels which exceed the limit value(s).

Reason: To clarify the interpretation of limit values fixed under the licence.

Condition 5. Emissions

- 5.1 No specified emission from the facility shall exceed the emission limit values set out in *Schedule B: Emission Limits* of this licence. There shall be no other emissions of environmental significance.

- 5.2 Unless otherwise agreed by the Agency, no trade effluent, leachate and/or contaminated storm water shall be discharged to groundwater, surface water drains or surface water courses.
- 5.3 The licensee shall ensure that the activities shall be carried out in a manner such that emissions including odours do not result in significant impairment of, and/or significant interference with amenities or the environment beyond the facility boundary.
- 5.4 No substance shall be discharged in a manner, or at a concentration which, following initial dilution, causes tainting of fish or shellfish.
- 5.5 Prior to dispatch of leachate or trade effluent off-site for disposal, the licensee shall submit to the Agency for approval, evidence to demonstrate that an agreement is in place regarding acceptance and treatment of such effluents.
- 5.6 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.
- 5.7 The road network in the vicinity of the installation/facility shall be kept free from any debris caused by vehicles entering or leaving the installation/facility. Any such debris or deposited materials shall be removed without delay.

Reason: To provide for the protection of the environment by way of control and limitation of emissions.

Condition 6. Control and Monitoring

- 6.1 The licensee shall carry out such sampling, analyses, measurements, examinations, maintenance and calibrations as set out below and as in accordance with *Schedule C* of this licence:
 - 6.1.1 Analysis shall be undertaken by competent staff in accordance with documented operating procedures.
 - 6.1.2 Such procedures shall be assessed for their suitability for the test matrix and performance characteristics determined.
 - 6.1.3 Such procedures shall be subject to a programme of Analytical Quality Control using control standards with evaluation of test responses.
 - 6.1.4 Where analysis is sub-contracted it shall be to a competent laboratory.
- 6.2 All automatic monitors and samplers shall be functioning at all times (except during maintenance and calibration) when the activity is being carried on unless alternative sampling or monitoring has been agreed in writing by the Agency for a limited period. In the event of the malfunction of any continuous monitor, the licensee shall contact the Agency as soon as practicable, and alternative sampling and monitoring facilities shall be put in place. Agreement for the use of alternative equipment, other than in emergency situations, shall be obtained from the Agency.
- 6.3 Monitoring and analysis equipment shall be operated and maintained as necessary so that monitoring accurately reflects the emission or discharge.
- 6.4 All treatment/abatement and emission control equipment shall be calibrated and maintained, in accordance with the instructions issued by the manufacturer/supplier or installer.

- 6.5 The frequency, methods and scope of monitoring, sampling and analyses, as set out in this licence, may be amended with the agreement of, **or as instructed by (having regard to the principles of BAT)** the Agency following evaluation of test results.
- 6.6 The licensee shall, within six months of the date of grant of this licence, develop and establish a Data Management System for collation, archiving, assessing and graphically presenting the environmental monitoring data generated as a result of this licence.
- 6.7 The licensee shall prepare a programme, to the satisfaction of the Agency, for the identification and reduction of fugitive emissions. This programme shall be included in the Environmental Management Programme.
- 6.8 The storm water and trade effluent drainage system, bunds, any silt traps and oil separators shall be inspected weekly, desludged as necessary and properly maintained at all times. All sludge and drainage from these operations shall be collected for safe disposal. A written record shall be kept of the inspections, desludging, cleaning, disposal of associated waste products, maintenance and performance of the interceptors, bunds and drains.
- 6.9 All tanks and pipelines shall be maintained impervious to the materials carried out or stored therein. The integrity and water tightness of all underground pipes and tanks and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee. This testing shall be carried out by the licensee at least once every three years thereafter and reported to the Agency on each occasion. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.
- 6.10 Storm water
- A visual examination of the storm water discharge shall be carried out daily. A log of such inspections shall be maintained.
- 6.11 Noise
- 6.11.1 The licensee shall carry out a noise survey of the site operations Biannually. The survey programme shall be undertaken in accordance with the methodology specified in the 'Environmental Noise Survey Guidance Document' as published by the Agency.
- 6.11.2 In order to mitigate noise nuisance, the licensee shall, within six months of date of grant of this licence and in consultation with the HSA, present a report to the Agency on the use of alternatives to the standard high pitch vehicle reversing alarms. The licensee shall implement any noise attenuation measures consider appropriate arising from this report.**
- 6.12 Pollution Emission Register (PER)
- The licensee shall prepare and maintain a PER for the site. The substances to be included in the PER shall be agreed by the Agency each year by reference to the list specified in the Agency's AER Guidance Note. The PER shall be prepared in accordance with any relevant guidelines issued by the Agency and shall be submitted as part of the AER.
- 6.13 Telemetry
- 6.13.1 The licensee shall install, operate and maintain at the facility, a telemetry system. All facility operations linked to the telemetry system shall also have a manual control which will be reverted to in the event of break in power supply or during maintenance.
- 6.13.2 This system shall, where relevant, include for:-
- (i) Recording of leachate levels in the lined cells and lagoon/tanks;

- (ii) Recording of levels in the surface water lagoon and flows to the perimeter streams;
- (iii) Quality of the surface water at the inlet to the surface water lagoons and being discharged to the perimeter streams; and
- (iv) Permanent gas monitoring system to be installed in the site office and any other enclosed structures at the facility.

6.14 Leachate Management

- 6.14.1 Leachate levels in the waste shall not exceed a level of 1.0m over the top of the liner at the base of the landfill.
- 6.14.2 The level of leachate in the pump sumps shall be monitored as outlined in *Schedule C2.2*.
- 6.14.3 The frequency of leachate removal from the leachate holding lagoon/tank shall be such that a minimum freeboard of 0.5m shall be maintained in the lagoon/tank at all times. The required freeboard shall be clearly indicated in the lagoon/tank.
- 6.14.4 Unless treated on the facility, leachate stored in the leachate storage lagoon/tank shall be disposed of by tankering off-site in fully enclosed road tankers.
- 6.14.5 Recirculation of leachate or other contaminated water shall only be undertaken within cells which have been lined to the satisfaction of the Agency.

6.15 The licensee shall monitor meteorological conditions as specified in *Schedule C.6*.

6.16 Landfill Gas

- 6.16.1** The licensee shall operate perimeter landfill gas monitoring boreholes at maximum 45m intervals around the periphery of the facility. **These boreholes should be installed to 2m below the groundwater table or to 2m below the maximum depth of landfilled waste, whichever is the least.**
- 6.16.2 The specification for the construction and location of landfill gas monitoring facilities, shall be to the satisfaction of the Agency.
- 6.16.3 At least two rounds of landfill gas sampling (one during falling atmospheric pressure) in locations external to the disposal cells should be completed prior to commencement of filling of any new area.
- 6.16.4 Flares shall be operated to ensure a burn chamber residence time of minimum 0.3sec and burn temperature of minimum 1000°C.
- 6.16.5 In relation to landfill derived gases the following shall constitute a trigger level:
 - (i) Methane greater than 1% v/v; or,
 - (ii) Carbon Dioxide greater than 1.5% v/v,measured in any monitoring borehole, service duct, manhole or other point as may be specified, located external to the body of waste.

6.17 Litter Control

- 6.17.1 The measures and infrastructure as described in the Applications documentation shall be applied to control litter at the facility.
- 6.17.2 All litter control infrastructure shall be inspected on a daily basis. The licensee shall remedy any defect in the litter netting as follows:-

- (i) A temporary repair shall be made by the end of the working day; and
- (ii) A repair to the standard of the original netting shall be undertaken within three working days.

6.17.3 Operation in Adverse Wind Conditions

The licensee shall, to the Agency's satisfaction, implement a management programme for the operation of the facility in adverse wind conditions. The programme is to set the maximum wind speed for continued operation of external waste handling (covered transport excluded) operations on the site

- 6.17.4 All loose litter or other waste, placed on or in the vicinity of the facility, other than in accordance with the requirements of this licence, 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.
- 6.17.5 The licensee shall ensure that all vehicles delivering waste to and removing waste and materials from the facility are appropriately covered.

6.18 Dust & Odour Control

- 6.18.1 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.
- 6.18.2 The licensee shall operate and maintain adequate measures for the control of odours and dust emissions, including fugitive dust emissions, from the facility.
- 6.18.3 Dust curtains (or equivalent approved by the Agency) shall be maintained on the entry/exit points from the waste transfer & processing buildings, all other doors in these building's shall be kept closed where possible.
- 6.18.4 Unless otherwise agreed by the Agency, all buildings processing putrescible waste shall be maintained at negative air pressure with ventilated gases being subject to treatment as specified by the Agency.**
- 6.18.5 Provision of 100% duty capacity and 20% stand by capacity, back-ups and spares must be provided for the air handling, ventilation and abatement plant.
- 6.18.6 Leachate holding tanks/lagoons shall be covered, and head gases vented to treatment as may be required by the Agency.
- 6.18.7 All odorous or odour forming wastes deposited in the landfill shall be covered as soon as practicable and in any case at the end of the working day.
- 6.18.8 Where it is proposed to take biological sludges at the facility, these must be subject to pre-treatment (e.g. lime stabilisation) prior to acceptance at the facility.
- 6.18.9 When siting and operating landfill gas infrastructure regard shall be had to the potential for, and mitigation of, odour nuisance. **The gas plant shall not be sited within 250m of an odour sensitive receptor.** This matter is to be addressed in the relevant Specified Engineering Works proposals as required by Condition 3.18.
- 6.18.10 In order to assist in mitigation of dust nuisance, the Phase I landscaping plan (detailed in the review application) shall be completed within 12 months of the date of grant of this licence.**

- 6.19 Prior to exiting the facility, all **operational** waste vehicles shall use the wheelwash. 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 or to a skip for recovery/disposal.

6.20 Bird Control

Birds shall be prevented from gathering on and feeding at the facility by the use of birds of prey and/or other bird scaring techniques. The birds of prey and/or other techniques shall be in place at least two weeks prior to any waste being disposed of and shall maintain their presence every day, from before dawn to after dark, until the waste activities cease and all the waste is capped to the written satisfaction of the Agency.

6.21 Operational Controls

- 6.21.1 Only one working face shall exist at the authorised landfill at any one time for the deposit of waste other than cover or restoration materials.
- 6.21.2 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.
- 6.21.3 All waste deposited at the landfill 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.
- 6.21.4 The landfill working face, or faces, shall each day at the end of the day, be covered with suitable material.
- 6.21.5 All large hollow objects and other large articles deposited at the facility shall be crushed, broken up, flattened or otherwise treated.
- 6.21.6 Wastes once deposited in the authorised landfill, and covered, shall not be excavated, disturbed or otherwise picked over with the exception of works associated with the construction and installation of necessary infrastructure or otherwise only with the prior agreement from the Agency.
- 6.21.7 Scavenging shall not be permitted at the facility.
- 6.21.8 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.
- 6.21.9 The floor of the waste transfer building(s) shall be cleaned on a weekly basis and on a daily basis where putrescible waste is handled. The floor of the storage bays for recovered wastes shall be washed down and cleaned on each occasion such bays are emptied, or as a minimum on a weekly basis.
- 6.21.10 All wastewater from composting operations shall be collected and re-used in the composting process where possible. Any wastewater from the composting operations that is not re-used shall be either discharged to the leachate drainage system for tankering off-site for treatment at a location to be agreed in advance with the Agency
- 6.21.11 Any biowaste accepted at the facility for composting (other than bulking agents, e.g. woodchip, cardboard) shall be delivered directly to the composting feedstock preparation building (operating under negative air pressure), and shall be processed and put into the aerated composting area within 24 hours of its arrival at the facility.
- 6.21.12 The licensee shall ensure that the doors to the biowaste treatment building remain closed at all times other than to facilitate the delivery/removal of wastes from the building.
- 6.21.13 All timber shredding operations are to be carried out within a suitable building.
- 6.21.14 No smoking shall be allowed at the facility.

- 6.21.15 Fuels shall be stored only at appropriately bunded locations on the facility.
- 6.21.16 All tanks and drums shall be labelled to clearly indicate their contents.
- 6.21.17 There shall be no casual public access to the facility.
- 6.21.18 Daily and Intermediate Cover
- (i) Appropriate cover material shall be used in the authorised cells so that no landfilled waste, other than the following is exposed:-
- Waste suitable for specified engineering works.
 - Waste on the working face during the operational hours of the facility.
- (ii) Any cover material at any location within the facility (other than that in storage) which is eroded, washed off or otherwise removed shall be replaced by the end of the working day.

6.22 Monitoring Locations

The licensee shall maintain, and have available on site, a scaled drawing(s) showing all the monitoring locations that are stipulated in this licence including any noise sensitive locations and private wells to be monitored. The drawing shall include the eight-digit national grid reference of each monitoring point. A copy of this plan with any amendments is to be included as part of the AER.

6.23 Nuisance Monitoring

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. The licensee shall maintain a record of all nuisance inspections.

6.24 Groundwater Trigger Levels

6.24.1 Within three months of the date of grant of this, the licensee shall implement an appropriate program for monitoring of groundwater trigger levels, in accordance with the requirements of Directive 1999/31/EC.

6.24.2 The trigger levels as specified in Condition 6.24.1 for groundwater shall be measured at monitoring boreholes 5A, 15 & 16 on plan NTL/1008, Rev A, dated 29/07/04 of the review application.

6.24.3 The monitoring program, trigger levels, and location of monitoring points shall be adjusted as necessary to accommodate any Agency specifications as may be issued.

6.25 Compost Quality

Compost quality monitoring shall be undertaken as set out in *Schedule E: Standards for Compost Quality*.

6.26 Stability Assessment

The licensee shall carry out a stability assessment of the side slopes of the facility annually. The results of this assessment shall be reported as part of the AER.

6.27 Topographic Survey

The licensee shall, to the satisfaction of the Agency, carry out a topographic survey annually and report it as part of that years' AER. The report shall as a minimum explain any changes to the site profile since the previous years' survey, as well as detail the void created (from excavating illegally deposited historical waste) and any void consumed (through approved landfilling).

6.28 Vibration

The licensee shall, within six months of date of grant of this licence and subject to the assistance of the property owner, arrange for an independent survey, assessment and report by an appropriately qualified structural engineer on the nature, extent and cause of structural damage to the residence of Mr & Mrs L Foley, Kerdiffstown, Sallins, Naas, Co Kildare. The report on this assessment is to be presented simultaneously to the licensee, the EPA and Mr & Mrs L Foley.

Reason: To provide for the protection of the environment by way of treatment and monitoring of emissions.

Condition 7. Resource Use and Energy Efficiency

- 7.1 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, and report the results as part of the AER. The audit shall be carried out in accordance with the guidance published by the Agency; “Guidance Note on Energy Efficiency Auditing”. The energy efficiency audit shall be repeated at intervals as required by the Agency.
- 7.2 The audit shall identify all opportunities for energy use reduction and efficiency and the recommendations of the audit will be incorporated into the Schedule of Environmental Objectives and Targets under Condition 2 above.
- 7.3 The licensee shall identify opportunities for reduction in the quantity of water used on site including recycling and reuse initiatives, wherever possible. Reductions in water usage shall be incorporated into Schedule of Environmental Objectives and Targets.
- 7.4 The licensee shall undertake an assessment of the efficiency of use of raw materials in all processes, having particular regard to the reduction in waste generated. The assessment should take account of best international practice for this type of activity. Where improvements are identified, these shall be incorporated into the Schedule of Environmental Objectives and Targets.

Reason: To provide for the efficient use of resources and energy in all site operations.

Condition 8. Materials Handling

- 8.1 Disposal or recovery of waste shall only take place in accordance with the conditions of this licence and in accordance with the appropriate National and European legislation and protocols.
- 8.2 Waste sent off-site for recovery or disposal shall be transported only by an authorised waste contractor. The waste shall be transported only from the site of the activity to the site of recovery/disposal in a manner which will not adversely affect the environment and in accordance with the appropriate National and European legislation and protocols.
- 8.3 The licensee shall ensure that waste prior to transfer to another person shall be classified packaged and labelled in accordance with National, European and any other standards which are in force in relation to such labelling.
- 8.4 Material Storage/Placement

- 8.4.1 Waste imported to the site for processing, and historical waste excavated on the site for processing in the on-site plant, shall be stored in designated areas, protected as may be appropriate, against spillage and leachate run-off. Incompatible waste streams are to be appropriately segregated.**
- 8.4.2 The temporary storage of fully or part-processed waste, recovered material, and waste for disposal off site, shall be in designated areas, protected as may be appropriate, against spillage and leachate run-off.**
- 8.4.3 **Within three months of date of grant of this licence the licensee shall submit to the Agency for approval a plan indicating the various designated waste and recovered materials (pre-processed, part-processed and processed) temporary storage and set-down areas for the site. Any variation to this plan requires the prior written approval of the Agency.**
- 8.4.4 **Except as may be specifically authorised by, or under, a condition of this licence, or otherwise in writing by the Agency, there shall, from date of grant of this licence, be no further placement of waste or material, including part or fully processed waste or material, on any part of the area of the facility north of line A-B on the Plan attached as Schedule A.3 to this licence.**
- 8.4.5 **Except as may be specifically authorised by, or under, a condition of this licence, or otherwise in writing by the Agency, the licensee shall not place waste or recovered materials outside the line marked ‘Limit of landfilling’, on the Plan NTL 1002, Rev A, dated 29/07/04, attached to the review application.**
- 8.4.6 **The licensee shall as part of the AER submit a report (supported by plans) outlining the landfill development sequence/proposals for the subsequent year(s). This report is to include the proposed operational sequence of excavation and processing of the illegally placed historical waste.**
- 8.5 No waste classified as green list waste in accordance with the EU Transfrontier Shipment of Waste Regulations (Council Regulation EEC No.259/1993, as amended) shall be consigned for recovery without the agreement of the Agency.
- 8.6 Waste for disposal/recovery off-site shall be analysed in accordance with *Schedule C* of this licence.
- 8.7 Waste Acceptance and Characterisation Procedures
- 8.7.1 Only pre-treated wastes are acceptable for disposal to the landfill as set out in Article 6 (a) of the Landfill Directive.
- 8.7.2 Waste shall only be accepted at the facility, from Local Authority waste collection or transport vehicles or holders of waste permits, unless exempted or excluded, issued under the Waste Management (Collection Permit) Regulations 2001.
- 8.7.3 Whole used tyres (other than bicycle tyres and tyres with an outside diameter greater than 1400mm) shall not be disposed of at the facility. Shredded tyres shall not be disposed of at the facility from 16 July 2006.
- 8.7.4 No hazardous wastes or liquid wastes shall be recovered or disposed of at the facility.
- 8.7.5 The licensee shall maintain written procedures for the acceptance and handling of all wastes. These procedures shall include details of the pre-treatment of all waste to be carried out prior to acceptance at the facility and shall also include methods for the characterisation of waste in order to

distinguish between inert, non-hazardous and hazardous wastes. The procedures shall have regard to the EU Decision (2003/33/EC) on establishing the criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive (1999/31/EC) on the landfill of waste. Any amendment

- 8.7.6 The licensee shall maintain and operate written procedures, methodologies and standards to distinguish between waste and categories of recovered materials. These procedures, methods and standards shall be agreed in advance with the Agency.**
- 8.7.7 Bulk gypsum wastes shall not be placed in any landfill cell accepting biodegradable waste.
- 8.7.8 In addition to the characterisation required under the Waste Acceptance Procedures, the licensee shall carry out analyses on a minimum of one sample per annum for each industrial sludge source being accepted at the facility. The results of these analyses shall be presented in the Annual Environmental Report (AER).
- 8.8 Compost
- 8.8.1 Unless otherwise agreed with the Agency, only the wastes as outlined in *Schedule A.2: Waste Acceptance* of this licence and as listed under Annex 1 of the EC Working Document 'Biological Treatment of Biowaste' (2nd draft) or subsequent amendments shall be accepted at the facility for the production of compost.
- 8.8.2 In order not to be considered a waste, compost produced by the facility shall, unless otherwise agreed by the Agency, comply with the quality standards established in *Schedule E: Standards for Compost Quality*, of this licence. Analysis of the compost shall be in accordance with the requirements of that Schedule.
- 8.8.3 Compost not meeting the above standard will be regarded as waste and records shall be kept of such waste. Such material may be reused in the on-site processes.
- 8.9 Inert Waste
- 8.9.1 Inert waste accepted at the facility shall comply with the standards established in the EU Decision (2003/22/EC).
- 8.9.2 No waste, other than inert waste, shall be disposed in any approved landfilling area within 100m of a private residence.**
- 8.10 With the exception of use of recovered fuels as may be approved for this site by the Agency, no waste shall be burnt at the facility.

Reason: To provide for the appropriate handling of materials and the protection of the environment.

Condition 9. Accident Prevention and Emergency Response

- 9.1 The licensee shall, within six months of date of grant of this licence, ensure that a documented Accident Prevention Policy is in place which will address the hazards on-site, particularly in relation to the prevention of accidents with a possible impact

on the environment. This procedure shall be reviewed annually and updated as necessary.

- 9.2 The licensee shall **maintain** a documented Emergency Response Procedure **for the facility**, which shall address any emergency situation which may originate on-site. This Procedure shall include provision for minimising the effects of any emergency on the environment. This procedure shall be reviewed annually and updated as necessary.
- 9.3 In the event of an incident the licensee shall immediately:-
- (i) isolate the source of any such emission;
 - (ii) carry out an immediate investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
 - (iii) evaluate the environmental pollution, if any, caused by the incident;
 - (iv) identify and execute measures to minimise the emissions/malfunction and the effects thereof;
 - (v) identify the date, time and place of the incident;
 - (vi) provide a proposal to the Agency for its agreement within one month of the incident occurring or as otherwise agreed with the Agency to:-
 - identify and put in place measures to avoid reoccurrence of the incident; and
 - identify and put in place any other appropriate remedial action.
- 9.4 In the event of a breakdown of equipment or any other occurrence which results in the closure of the transfer station buildings, any waste arriving at or already collected at the facility shall be transferred directly to appropriate landfill sites or any other appropriate facility until such time as the transfer station buildings are returned to a fully operational status. Such a breakdown event will be treated as an emergency and rectified as soon as possible.
- 9.5 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.
- 9.6 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.

Reason: To provide for the protection of the environment.

Condition 10. Decommissioning & Closure, Restoration and Aftercare Management Plan

- 10.1 Following termination, or planned cessation for a period greater than six months, of use or involvement of all or part of the site in the licensed activity, the licensee shall, to the satisfaction of the Agency, decommission, render safe or remove for disposal/recovery, any soil, subsoils, buildings, plant or equipment, or any waste, materials or substances or other matter contained therein or thereon, that may result in environmental pollution.

- 10.2 The licensee shall restore the facility on a phased basis. Unless otherwise agreed, filled cells shall be permanently capped within twenty-four months of the cells having been filled to the required level.
- 10.3 Landscaping
- Completed areas of the landfill shall be profiled **so that slopes are stable, runoff is directed to appropriate drainage networks**, and 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.
- 10.4 Final Capping
- 10.4.1 Unless otherwise agreed by the Agency, the final capping shall consist of the following:-
- (i) Top soil (150 - 300mm);
 - (ii) Subsoils, such that total thickness of top soil and subsoils is at least 1m;
 - (iii) Drainage layer of 0.5m thickness having a minimum hydraulic conductivity of $1 \times 10^{-4} \text{ m}^3/\text{m}^2/\text{s}$ or a geosynthetic material that provides equivalent transmissivity;
 - (iv) Compacted mineral layer of a minimum 0.6m thickness with a permeability of less than $1 \times 10^{-9} \text{ m}^3/\text{m}^2/\text{s}$ or a geosynthetic material (e.g. GCL) or similar that provides equivalent protection; and
 - (v) Gas collection layer of natural material (minimum 0.3m) or a geosynthetic layer approved.
- 10.5 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.
- 10.6 All soils shall be stored to preserve the soil structure for future use.
- 10.7 Closure, Restoration & Aftercare Management Plan (CRAMP):
- 10.7.1 Within twelve months of date of grant of this licence, the licensee shall prepare for agreement by the Agency, a fully detailed and costed plan for the closure, restoration and long-term aftercare of the site or part thereof. This plan shall have regard to the commitments given in the application's documentation (as may be varied herein).
- 10.7.2 The plan shall be maintained and reviewed annually and proposed amendments thereto notified to the Agency for agreement as part of the AER. No amendments may be implemented without the prior written agreement of the Agency.
- 10.8 The CRAMP shall include as a minimum, the following:-
- 10.8.1 A scope statement for the plan.
- 10.8.2 The criteria, including those specified in this licence, which define the successful closure & restoration of the facility or part thereof, and which ensures minimum impact to the environment.
- 10.8.3 A programme to achieve the stated criteria.
- 10.8.4 Where relevant, a test programme to demonstrate the successful implementation of the plan.

- 10.8.5 Details of the long-term supervision, monitoring, control, maintenance and reporting requirements for the restored facility,
- 10.8.6 Details of costings for the plan and a statement as to how these costs will be underwritten.
- 10.9 A final validation report to include a certificate of completion for the CRAMP, for all or part of the site as necessary, shall be submitted to the Agency within three months of execution of the plan. The licensee shall carry out such tests, investigations or submit certification, as requested by the Agency, to confirm that there is no continuing risk to the environment.

Reason: To make provision for the proper closure of the activity ensuring protection of the environment.

Condition 11. Notifications, Records and Reports

- 11.1 The licensee shall notify the Agency by both telephone and either facsimile or electronic mail, if available, to the Agency's Headquarters in Wexford, or to such other Agency office as may be specified by the Agency, as soon as practicable after the occurrence of any of the following:
 - 11.1.1 Any release of environmental significance to atmosphere from any potential emission point including bypasses.
 - 11.1.2 Any emission which does not comply with the requirements of this licence.
 - 11.1.3 Any malfunction or breakdown of key control equipment or monitoring equipment set out in *Schedule C: Control & Monitoring* which is likely to lead to loss of control of the abatement system.
 - 11.1.4 Any incident with the potential for environmental contamination of surface water or groundwater, or posing an environmental threat to air or land, or requiring an emergency response by the Local Authority.
- The licensee shall include as part of the notification, date and time of the incident, summary details of the occurrence, and where available, the steps taken to minimise any emissions.
- 11.2 In the event of any incident which relates to discharges to sewer, having taken place, the licensee shall notify the Local and Sanitary Authority as soon as practicable, after such an incident.
 - 11.3 In the case of any incident which relates to discharges to water, the licensee shall notify the Local Authority and the **Eastern** Regional Fisheries Board as soon as practicable after such an incident.
 - 11.4 The licensee shall make a record of any incident. This record shall include details of the nature, extent, and impact of, and circumstances giving rise to, the incident. The record shall include all corrective actions taken to; manage the incident, minimise wastes generated and the effect on the environment, and avoid recurrence. The licensee shall as soon as practicable following incident notification, submit to the Agency the incident record.
 - 11.5 The licensee shall record all complaints of an environmental nature related to the operation of the activity. Each such record shall give details of the date and time of the complaint, the name of the complainant and give details of the nature of the

complaint. A record shall also be kept of the response made in the case of each complaint.

- 11.6 The licensee shall record all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the facility.
- 11.7 The licensee shall as a minimum keep the following documents at the site:-
- (i) the licences relating to the facility;
 - (ii) the current EMS for the facility;
 - (iii) the previous year's AER for the facility;
 - (iv) records of all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the facility;
 - (v) relevant correspondence with the Agency;
 - (vi) an up to date site drawings/plans showing the location of key process and environmental infrastructure, including monitoring locations and emission points

and this documentation shall be available to the Agency for inspection **on-site** at all reasonable times.

- 11.8 The licensee shall submit to the Agency, by the 31st March of each year, an AER covering the previous calendar year. This report, which shall be to the satisfaction of the Agency, shall include as a minimum the information specified in *Schedule G* and shall be prepared in accordance with any relevant guidelines issued by the Agency.
- 11.9 A full record, which shall be open to inspection **on-site**, by authorised persons of the Agency at all times, shall be kept by the licensee on matters relating to the waste management/**recovered materials** operations and practices at this site. This record shall be maintained on a **weekly** basis and shall as a minimum contain details of the following:
- (i) The tonnages and EWC Code for the waste materials imported and/or sent off-site for disposal/recovery.
 - (ii) The names of the agent and carrier of the waste, and their waste collection permit details, if required (to include issuing authority and vehicle registration number).
 - (iii) Details of the ultimate disposal/recovery destination facility for the waste and its appropriateness to accept the consigned waste stream, to include its permit/licence details and issuing authority, if required.
 - (iv) Written confirmation of the acceptance and disposal/recovery of any hazardous waste consignments sent off-site.
 - (v) Details of all wastes consigned abroad for Recovery and classified as 'Green' in accordance with the EU Transfrontier Shipment of Waste Regulations (Council Regulation EEC No. 259/1993, as amended). The rationale for the classification must form part of the record.
 - (vi) Details of any rejected consignments.
 - (vii) Details of any approved waste mixing.
 - (viii) The results of any waste analyses required under Schedule C.
 - (ix) The tonnages and EWC Code for the waste materials recovered/disposed on-site.

- (x) A description, sample results and tonnages of all recovered materials (subject to the approved standards agreed under Condition 8.7.6) dispatched from, or consumed on, the site.
- 11.10 In relation to landfilling activities, the licensee shall notify the Agency of any wastes presented at but not accepted to the facility.
- 11.11 A record shall be kept of each consignment of trade effluent, leachate and/or contaminated storm water removed from the facility. The record shall include the following:-
- (i) the name of the carrier;
 - (ii) the date and time of removal of trade effluent, leachate and/or contaminated storm water from the facility;
 - (iii) the volume of trade effluent, leachate and/or contaminated storm water, in cubic metres, removed from the facility on each occasion;
 - (iv) the name and address of the Waste Water Treatment Plant to which the trade effluent, leachate and/or contaminated storm water was transported; and
 - (v) any incidents or spillages of trade effluent, leachate and/or contaminated storm water during its removal or transportation.
- 11.12 A 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:-
- (i) the date and time during which spraying of insecticide is carried out;
 - (ii) contractor details;
 - (iii) contractor logs and site inspection reports;
 - (iv) details of the rodenticide(s) and insecticide(s) used;
 - (v) operator training details;
 - (vi) details of any infestations;
 - (vii) mode, frequency, location and quantity of application; and,
 - (viii) measures to contain sprays within the facility boundary.
- 11.13 Waste Recovery Reports
- The licensee shall on an annual basis prepare a report examining waste recovery achievements and options at the facility. This report shall be submitted to the Agency for its agreement in the AER. 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:-**
- (i) proposals for the contribution of the facility to the achievement of targets for the reduction of biodegradable waste to landfill as specified in the Landfill Directive;
 - (ii) the separation of recyclable materials from the waste;
 - (iii) the recovery of Construction and Demolition Waste;
 - (iv) the recovery of metal waste;
 - (v) inert waste to be used for cover/restoration material at the facility or elsewhere.
- 11.14 Birds.
- The licensee shall ensure that the Heritage Section of the Department of the Environment, Heritage & Local Government are consulted in relation to any

measures to be taken to prevent disturbance to the local population of Sand Martins during the breeding season (April to August).

Reason: To provide for the collection and reporting of adequate information on the activity.

Condition 12. Financial Charges and Provisions

12.1 Agency Charges

12.1.1 The licensee shall pay to the Agency an annual contribution of **€28,570.00**, or such sum as the Agency from time to time determines, having regard to variations in the extent of reporting, auditing, inspection, sampling and analysis or other functions carried out by the Agency, towards the cost of monitoring the activity as the Agency considers necessary for the performance of its functions under the Waste Management Acts 1996 to 2005. The first payment shall be a pro-rata amount for the period from the date of this licence to the 31st day of December, and shall be paid to the Agency within one month from the date of the licence. In subsequent years the licensee shall pay to the Agency such revised annual contribution as the Agency shall from time to time consider necessary to enable performance by the Agency of its relevant functions under the Waste Management Acts 1996 to 2005, and all such payments shall be made within one month of the date upon which demanded by the Agency.

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 in regard to items not covered by the said annual contribution.

12.2 Environmental Liabilities

12.2.1 The licensee shall as part of the AER provide an annual statement as to the measures taken or adopted at the site in relation to the prevention of environmental damage, and the financial provisions in place in relation to the underwriting of costs for remedial actions following anticipated events **(including closure)** or accidents/incidents, as may be associated with the carrying on of the activity.

12.2.2 The licensee shall arrange for the completion, by an independent and appropriately qualified consultant, of a comprehensive and fully costed Environmental Liabilities Risk Assessment (ELRA), which addresses the liabilities from past and present activities. The assessment shall include those liabilities and costs identified in Condition 10 for execution of the CRAMP. A report on this assessment shall be submitted to the Agency for agreement within twelve months of date of grant of this licence. The ELRA shall be reviewed as necessary to reflect any significant change on site, and in any case every three years following initial agreement: review results are to be notified as part of the AER.

12.2.3 As part of the measures identified in Condition 12.2.1, the licensee shall, to the satisfaction of the Agency, make financial provision to cover any liabilities identified in Condition 12.2.2. The amount of indemnity held shall be reviewed and revised as necessary, but at least annually. Proof of renewal or revision of such financial indemnity shall be included in the annual 'statement of measures' report identified in Condition 12.2.1.

- 12.2.4 Unless otherwise agreed, any revision to that part of the indemnity dealing with restoration and aftercare liabilities (refer Condition 10), 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

- 12.2.5 Cost of landfill of waste

In accordance with the provisions of Section 53A of the Waste Management Acts 1996 to 2005, the licensee shall ensure the costs in the setting up, operation of, provision of financial security and closure and after-care 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. The statement required under Section 53A(5) of said Acts is to be included as part of the AER.

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

SCHEDULE A: Limitations

A.1 Approved Waste Processes

The following waste related processes are authorised:

- i. Composting
- ii. Crushing, sorting, shredding, screening, bailing, blending, repackaging processes
- iii. Landfilling of pre-treated (residual) non-hazardous waste
- iv. Use of compost & inert waste in landfill operation
- v. Storage of waste
- vi. Use of inert waste for land improvement
- vii. Recovery of dry recyclables
- viii. Excavation of historically deposited waste for processing in the on-site recovery plant

No addition to these processes is permitted unless agreed in advance with the Agency.



A.2 Waste Acceptance

Table A.1 Waste Categories and Quantities

WASTE TYPE ^{Note 1}	MAXIMUM (TONNES PER ANNUM) ^{Note 2}
Commercial, Industrial, and C & D wastes, Household dry recyclables, Waste excavated on-site ^{Note 3}	565,000
Biodegradable waste for composting (including MBT ^{Note 4} residues from treatment of municipal waste, household putrescibles, and green waste)	65,000
TOTAL	630,000

Note 1: Any proposals to accept other compatible waste streams must be agreed in advance with the Agency and the total amount of waste must be within that specified.

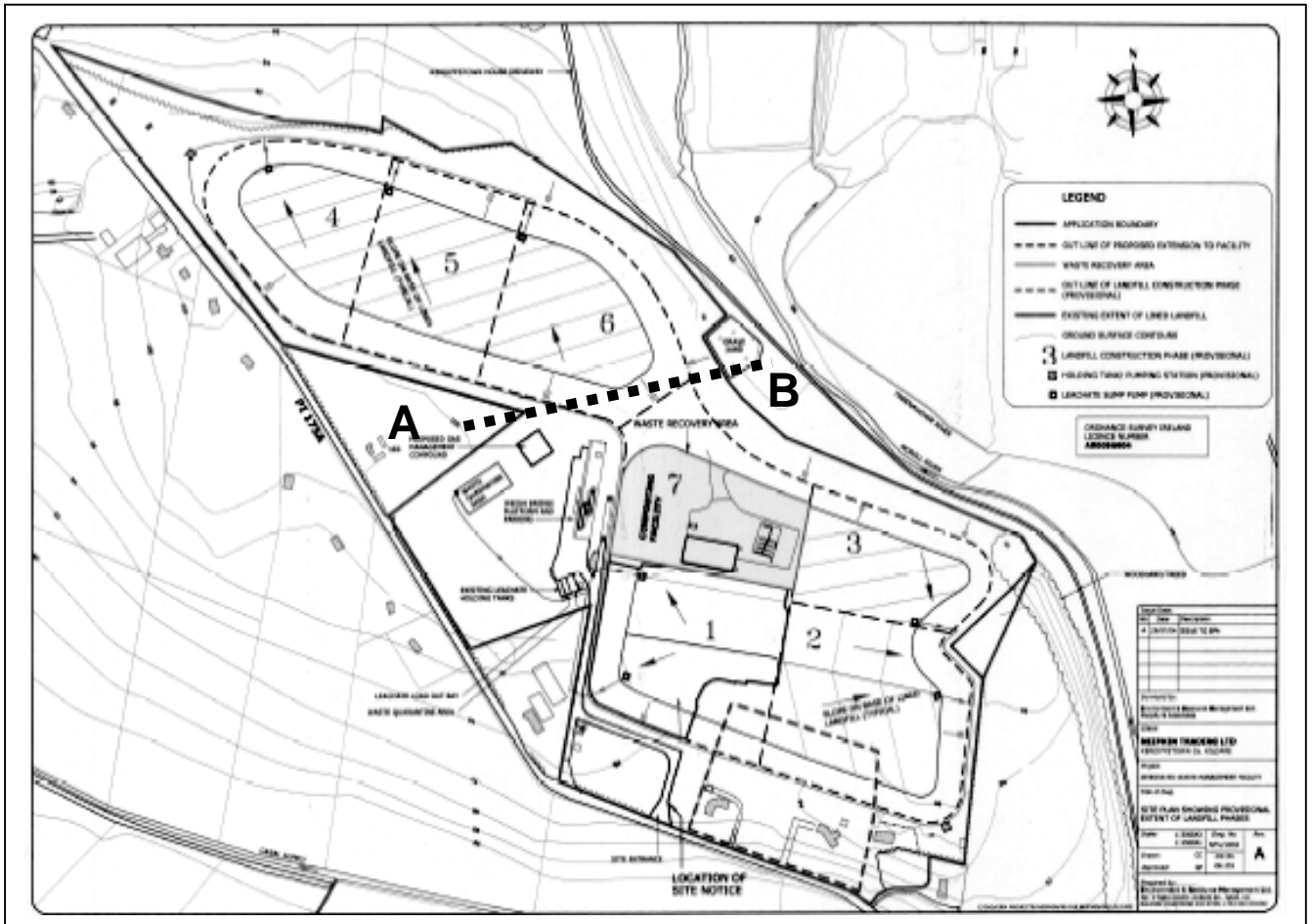
Note 2: The individual limitation on waste streams may be varied with the agreement of the Agency subject to the overall total limit staying the same.

Note 3: The proportion of illegally deposited waste excavated on-site for processing must, on an annual basis, be at least 45% of the Total annual amount of waste authorised (45% of 630,000t), up until the point the illegally deposited waste has been removed to the satisfaction of the Agency.

Note 4: Mechanical Biological Treatment



A.3 Plan showing restriction regarding the placement of waste and recovered materials at the Neiphin Trading Ltd facility W047-02 (refer Condition xxx)



SCHEDULE B: Emission Limits

B.1 EMISSIONS TO AIR

Landfill Derived Gas Concentration Limits:

(Measured in any building on or adjacent to the facility and perimeter boreholes).

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



Emission Limits Values for Landfill Gas Plant:

Emission Point Reference numbers: (To be agreed by Agency in advance.)

Minimum discharge height: 5m

Parameter	Flare (enclosed) Emission Limit Value ^{Note 1}	Utilisation Plant Emission Limit Value ^{Note 1}
Nitrogen oxides (NO _x)	150 mg/m ³	500 mg/m ³
Particulates	Not applicable	130 mg/m ³

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



Activity Derived Dust Deposition Limits:

Measured at the monitoring points identified on Drawing NTL/1008 Rev A, dated 29/07/04 in the Review Application, or as may be amended by written agreement.

Level (mg/m ² /day) ^{Note 1}
350

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



Emission Point Reference No.: Biofilter emission(s) from Biodegradable waste composting unit

Location: Biofilter Unit(s)

Parameter	Emission Limit Value
Ammonia	50 mg/m ³
Hydrogen sulphide	5 mg/m ³
Mercaptans	5 mg/m ³



B.3 NOISE EMISSIONS

Measured at any noise sensitive location.

Day dB(A) L_{Aeq} (30 minutes)	Night dB(A) L_{Aeq} (30 minutes)
55 ^{Note 1}	45 ^{Note 1}

Note 1: There shall be no clearly audible tonal component or impulsive component in the noise emission from the activity at any noise sensitive location.



SCHEDULE C: Control & Monitoring

C.1.1 CONTROL OF EMISSIONS TO AIR

Emission Point Reference No.: Gas vents, Flare Stacks & Generation Plant

Description of Treatment: Gas Extraction & Combustion

Control Parameter	Monitoring	Key Equipment ^{Note 1}
Passive Vents Carbon filtration	Olfactory & visual (monthly)	Carbon filters
Continuous burn	Continuous with alarm/call-out	Flame detector or equivalent approved Pumps/engines
Extraction	Continuous with alarm/call-out	Pressure gauge or equivalent approved Pumps/engines

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.



C.1.2 MONITORING OF EMISSIONS TO AIR

Emission Point Reference No.: Flare Stacks & Generation Plant (location to be agreed)

Parameter	Flare (enclosed) Monitoring Frequency	Utilisation Plant Monitoring Frequency	Analysis Method ^{Note1} /Technique
Inlet			
Methane (CH ₄) % v/v	Continuous	Weekly	Infrared analyser or equivalent approved
Carbon dioxide (CO ₂) % v/v	Continuous	Weekly	Infrared analyser or equivalent approved
Oxygen (O ₂) % v/v	Continuous	Weekly	Electrochemical or equivalent approved
Process Parameters			
Combustion Temperature	Continuous	Quarterly	Temperature Probe/datalogger
Residence Time	Quarterly	Quarterly	To be agreed.
Outlet			
Carbon monoxide (CO)	Continuous	Continuous	Flue gas analyser/datalogger or equivalent approved
Nitrogen Oxides (Nox)	Biannually	Biannually	Flue gas analyser or equivalent approved
Sulphur dioxide (SO ₂)	Biannually	Biannually	Flue gas analyser or equivalent approved
Particulates	Not applicable	Annually	Isokinetic/Gravimetric or equivalent approved

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



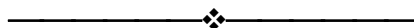
C.1.3 MONITORING OF LANDFILL GAS EMISSIONS

Locations: Perimeter Landfill Gas boreholes identified on Drawing NTL/1008 Rev A, dated 29/07/04, in the review application^{Note1} or as may be amended by written agreement;
 And
 At least one monitoring point per cell (to be Agreed);
 And
 Other selected locations as may be specified

Parameter	Monitoring Frequency	Analysis Method/Technique ^{Note 2}
Methane (CH ₄) Carbon Dioxide (CO ₂) Oxygen (O ₂) Atmospheric pressure & Trend	All Monthly	InfraRed Analyser/FID InfraRed Electrochemical Cell Standard method

Note 1: All perimeter monitoring boreholes must be installed to the standards specified in the Agency Guidance on Landfill Monitoring.

Note 2: Or other method agreed.



C.1.4 CONTROL & MONITORING OF COMPOSTING PROCESS & EMISSIONS

Biofilter

Emission Point Reference No.: Composting Unit Biofilter(s)

Description of Treatment: Biofiltration

Control Parameter	Monitoring	Key Provision/Equipment ^{Note 1}
<u>Bed Media</u>		
Odour assessment ^{Note 2}	Daily	Designated employee (Subjective)
Condition and depth of biofilter ^{Note 3}	Daily	Designated employee (Visual)
Moisture content	Bi-annually	Moisture gauge
pH	Bi-annually	pH probe
Ammonia	Bi-Annually (Inlet & Outlet	Sampling tubes, fresh bed media
Mercaptans	Bi-Annually (Inlet & Outlet	Sampling tubes, fresh bed media
Total viable counts	Annually (Inlet & Outlet gas)	Sampling equipment, fresh bed media
<u>Air Handling</u>		
Flow/Negative Air Pressure	Pressure gauge/flow	Fans/air pump/alarm

Note 1: The licensee shall maintain appropriate access to backup, standby and/or spares to ensure the operation and control of the abatement system.

Note 2: This subjective assessment should be carried out by a staff member immediately upon arriving on-site

Note 3: The biofilter shall be examined to ensure that no channelling is evident, and that moisture content is adequate. Watering, turning, restructuring and the addition of supplementary bed materials, or total bed replacement shall be carried out, as required, subject to bed performance.



Monitoring of Composting process

Parameter	Monitoring Frequency	Monitoring equipment/method
<ul style="list-style-type: none"> Composting units 		
<i>Temperature vs. time</i>	Continuous	Temperature probe/recorder
<i>Oxygen Content</i>	Daily	Oxygen Probe with recorder
<ul style="list-style-type: none"> Compost maturation (curing) piles 		
<i>Temperature</i>	Continuous	Temperature probe
<i>Moisture</i>	Daily	Subjective by operator.



C.2.1 CONTROL OF EMISSIONS TO GROUND

Emission Control Location: Stormwater percolation areas adjacent to waste processing facilities.

Description of Treatment: Oil interceptor/Silt Trap

Control Parameter	Monitoring	Key Equipment ^{Note 1}
Oil Removal	Visual inspection of water discharging from interceptors. Sludge/solids levels in interceptor chambers	Class I Full Retention Oil Interceptor
Suspended Solids		Silt traps

Note 1: The licensee shall ensure that in the event of contamination on the stormwater, that the outlets from the interceptor(s) are sealed for the duration of clean-up operations.



C2.2 LEACHATE MONITORING

Location: Leachate Holding Tank, Leachate Sumps and Leachate Monitoring Points in the Cells.

PARAMETER ^{Note 1}	LEACHATE ^{Note 2} Monitoring Frequency
Visual Inspection/Odour	Daily
Leachate Level	Weekly
BOD	Quarterly
COD	Quarterly
Chloride	Annually
Ammoniacal Nitrogen	Annually
Electrical Conductivity	Annually
Ph	Annually
Metals / non metals ^{Note 3}	Annually
Cyanide (Total)	Annually
Fluoride	Annually
List I/II organic substances ^{Note 4}	Annually
Mercury	Annually
Sulphate	Annually
Total P/orthophosphate	Annually
Total Oxidised Nitrogen	Annually

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

Note 2: Visual Inspection and Leachate Levels to be monitored at all leachate monitoring points in the cells, Collection sumps and holding tank. Leachate composition to be monitored at the leachate holding tank.

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

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



C.3 WASTE MONITORING

Waste Class	Frequency	Parameter	Method
Recovered Soil stockpiles	Per 3,000t of recovered soil	Metals / non metals Note 2	Standard Method
Other ^{Note 1}		List I/II organic substances ^{Note 3}	

Note 1: Analytical requirements to be determined on a case by case basis.

Note 2: Metals and elements to be analysed by AA/ICP should include as a minimum: boron, cadmium, calcium, chromium (total), copper, iron, lead, magnesium, manganese, nickel, potassium, sodium and zinc.

Note 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 (USEPA method 525 or equivalent, and pesticides (USEPA method 608 or equivalent).



C.4 NOISE MONITORING

Noise Monitoring Frequency and Technique

Location: At locations identified on Drawing NTL/1008 Rev A, dated 29/07/04, in review application, or as may be amended by written agreement

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

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



C.5 COMPOST MONITORING

Material/Emission	Frequency	Parameter	Method
Cured Compost	Bi-annually	Metals, Organic Screen ^{Note 1} , %'age Organic Matter, Sulphate, Chloride, Foreign matter, Coliforms, moisture content	Standard Method

Note 1: 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 2: Analytical requirements to be determined on a case by case basis.



C.6 AMBIENT MONITORING

Air Monitoring

Location: At locations identified on Drawing NTL/1008 Rev A, dated 29/07/04, in review application.

Parameter	Monitoring Frequency	Analysis Method/Technique
Dust (mg/m ² /day)	Four times a year ^{Note 2}	Standard Method ^{Note 1}
PM ₁₀ (mg/m ² /day)	Annually	See ^{Note 3}
Odour	Bi-annually	Olfactometric

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

Note 2: Twice during the period May to September.

Note 3: As described in prEN12341 or an equivalent agreed with the Agency



Groundwater Monitoring

Location: Groundwater Wells (identified on Drawing NTL/1008 Rev A, dated 29/07/04, in review application, excluding BH12A)

PARAMETER ^{Note 1}	SURFACE WATER Monitoring Frequency
Visual Inspection/Odour ^{Note 2}	Monthly
Groundwater Level (wells)	Monthly
Electrical Conductivity	Monthly
Ammoniacal Nitrogen	Monthly
Chloride	Monthly
pH	Monthly
Sulphate (SO ₄)	Monthly
Metals / non metals ^{Note 3}	Annually
List I/II organic substances (Screen) ^{Note 4}	Annually
Mercury	Annually
Nitrate	Annually
Total P/orthophosphate	Annually
Faecal Coliforms	Annually
Total Coliforms	Annually

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

Note 2: Where there is evident gross contamination, additional samples should be analysed and the full suite of parameters shown tested.

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

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



Surface Water Monitoring

Location: Locations identified on Drawing NTL/1008 Rev A, dated 29/07/04, in review application, or as may be amended by written agreement.

Parameter	Monitoring Frequency	Analysis Method/Technique ^{Note 2}
Biological Quality (Q) Rating/Q Index	Annually ^{Note 1}	To be agreed with the Agency
Visual Inspection ^{Note 3} DO Electrical Conductivity (EC) Ammoniacal Nitrogen Chloride pH Sulphate (SO₄) Metals / non metals ^{Note 3} List I/II organic substances (Screen) ^{Note 4} Mercury Nitrate Total P/orthophosphate	Visual Inspection, DO and EC at Weekly intervals. All others Quarterly	Standard Methods

Note 1: Monitoring period - June to September.

Note 2: Where relevant, all the analysis shall be carried out by a competent laboratory using standard and internationally accepted procedures.

Note 3: Where there is evident gross contamination, additional samples should be analysed and the full suite of parameters shown tested.

Note 4: Metals and elements to be analysed by AA/ICP should include as a minimum: boron, cadmium, calcium, chromium (total), copper, iron, lead, magnesium, manganese, nickel, potassium, sodium and zinc.

Note 5: Samples screened for the presence of organic compounds using Gas Chromatography / Mass Spectrometry (GC/MS) or other appropriate techniques and using the list I/II Substances from EU Directive 76/464/EEC and 80/68/EEC as a guideline. Recommended analytical techniques include: volatiles (US Environmental Protection Agency method 524 or equivalent), semi-volatiles (USEPA method 525 or equivalent, and pesticides (USEPA method 608 or equivalent).



Meteorological Monitoring

Location : At the facility at a location to be agreed, or from an agreed representative station in the region.

Parameter	Monitoring Frequency	Analysis Method/Technique
Precipitation Volume	Daily	Standard
Temperature (min/max.)	Daily	Standard
Wind Direction	Daily	Standard
Wind Force ^{Note 1}	Daily	Standard
Atmospheric Pressure ^{Note 1}	Daily	Standard

Note 1: Monitoring frequency for these parameters may be decreased with the agreement of the Agency.



SCHEDULE D: Specified Engineering Works

Specified Engineering Works

Development of the facility including preparatory works and lining, installation of waste handling, processing, recycling/recovery infrastructure (**including buildings**) and installation of increased waste processing capacity **as well as any abatement system(s)**.

Final capping.

Installation of Landfill Gas Management Infrastructure.

Installation of Leachate Management Infrastructure.

Installation of Groundwater Control Infrastructure.

Installation of Surface Water Management Infrastructure.

Installation drainage network including of silt traps and oil interceptors.

Installation of dust/odour system.

Installation/expansion of Compost Facility.

Any other works notified in writing by the Agency.



SCHEDULE E: Standards for Compost Quality

The following criteria are deemed a quality standard for the use of compost as a soil improver and should not be deemed as criteria for fertiliser. In addition N, P, K, NH₄-N, NO₃-N, pH and dry matter content should also be measured.

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

1. Maturity

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

- C/N ratio ≤ 25
- oxygen uptake rate ≤ 150 mg O₂/kg volatile solids per hour; and
- germination of cress (*Lepidium sativum*) seeds and of radish (*Raphanus sativus*) seeds in compost must be greater than 90 percent of the germination rate of the control sample, and the growth rate of plants grown in a mixture of compost and soil must not differ more than 50 percent in comparison with the control sample.
- Elimination of the following test organisms (used to evaluate composting system efficiency in removing plant pathogens and weed seeds during the composting process): *Plasmodiophora brassicae*, tobacco-mosaic-virus (TMV) and tomato seeds.

Guidance on test may be obtained from the German document LAGA M10 'Quality Criteria and Application Recommendations for Compost'.

2. Foreign Matter

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

Foreign matter content as a percentage of oven-dried mass	≤1.5%
Foreign matter, maximum dimensions, in mm	25 mm

3. Trace Elements

Maximum Trace Element Concentration Limits for Compost^{Note 1}

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

Note 1: The above alone should not be taken as an indication of suitability for addition to soil as the cumulative metal additions to soil should be first calculated.

Note 2: Monitoring of these parameters required if waste from an industrial source.

4. Pathogens

Pathogenic organism content must not exceed the following limits:

- Escherichia coli $\leq 1,000$ CFU/g
- Salmonella species absent in 25 g sample.

5. Monitoring

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

The analyses shall be carried out:

- every six months for plants producing more than 500 and up to 1 000 tonnes of **compost** per year;
- at intervals of at least every 1 000 tonnes of treated biowaste produced or every 3 months, whichever comes first, for plants producing more than 1 000 and up to 10 000 tonnes of **compost** per year;
- every month for plants producing more than 10 000 tonnes of **compost compost** per year.



SCHEDULE F: Reporting

Completed reports shall be submitted to:

The Environmental Protection Agency
Office of Environmental Enforcement
Regional Inspectorate
McCumiskey House
Richview
Clonskeagh Road
Dublin 14

or Any other address as may be specified by the Agency

Reports are required to be forwarded as required in the licence and as may be set out below:

Report	Reporting Frequency ^{Note1}	Report Submission Date
Annual Environment Report (AER)	Annually	By 31 st March of each year.
Record of incidents	As they occur	Within five days of the incident.
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.
Dust Monitoring	Quarterly	Ten days after end of the quarter being reported on.
Closure Plan (CRAMP)	-	Within six months of date of grant of this licence.
Reversing Alarm review report	-	
Designated materials storage areas report	-	Within three months of date of grant of this licence.
Independent assessment of cracking on house of Mr & Mrs L Foley	-	Within six months of date of grant of this licence.
Phased Construction Plan	-	Prior to commencement of any major development
Leachate Disposal Agreement	-	Prior to commencement of leachate disposal off-site

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



SCHEDULE G: Annual Environmental Report

Annual Environmental Report Content^{Note 1}

Statement of waste activities carried out at the facility in the reporting year.

Emissions from the installation/facility.

Waste management record.

Waste analysis.

Waste Recovery Report.

Quantity and Composition of waste recovered, received and disposed of during the reporting period and each previous year (relevant EWC codes to be used).

Annual topographical survey

Remaining engineered void, projected completion date.

Remaining volumes of historically deposited waste to be treated.

Detailed Statement, with mass balance, of C & D wastes and compost used in on-site construction.

Resource consumption summary.

Complaints summary.

Schedule of Environmental Objectives and Targets

Environmental management programme – report for previous year

Environmental management programme – proposal for current year

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

Pollution emission register – report for previous year

Pollution emission register – proposal for current year

Noise monitoring report summary

Meteorological data summary

Review of Nuisance Controls.

Ambient monitoring summary

Current monitoring location reference drawing (with any amendments shown).

Volume of trade effluent/leachate and/or contaminated stormwater produced and volume transported off-site.

Tank and pipeline testing and inspection report

Reported incidents summary

Energy efficiency audit report summary

Report on progress made and proposals being developed to minimise generation of leachate for disposal.

Development / Infrastructural works summary (completed in previous year or prepared for current year).

Report on management and staffing structure of the installation/facility.

Report on the programme for public information.

Report on Duty & Standby capacities of waste processing plant at the facility.

Reports on financial provision made under this licence.

Statement on the costs of Landfill.

Review of Environmental Liabilities.

Any amendments to the CRAMP.

Any other items specified by the Agency.

Note 1: Content may be revised subject to the agreement of the Agency

Signed on behalf of the said Agency
on the xx day of xxxxxx, 2005

xxxxxxx,

Authorised Person