

This licence was amended on 7th May 2009 under Section 42B(1) of the Waste Management Acts, 1996 to 2008. The details of Amendment A must be read in conjunction with this licence. The amendment document is entitled “ Technical Amendment A”



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WASTE LICENCE

Licence Register Number:	W0201-02
Licensee:	Bord na Móna Plc
Location of Facility:	Drehid Waste Management Facility, In the townlands of Parsonstown, Loughnacush, Kilkeaskin, Drummond, Timahoe West, Coolcarrigan, Killinagh Lower & Killinagh Upper, County Kildare.

INTRODUCTION

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

This proposal is for the review of a licence consisting of a request to increase waste intake from 120,000tpa to 360,000tpa. This increased intake will occur for a period of seven years only. The proposed operational life of the facility will remain at c. 20 years.

Simultaneously, the site will operate composting facility accepting 25,000tpa bio-wastes for processing together with the associated infrastructure. The composting operations have yet to commence at the time of considering this review application.

The landfill footprint will increase from c. 21ha to 39ha and will have a capacity of c.4.1Mt waste (c. 5.0Mm³ void space).

The facility will not be open to the general public and only waste contractors with pre-arranged contracts with the licensee would be allowed access to the facility.

The landfill accepts residual waste only, i.e., it has been subjected to pre-treatment in accordance with the requirements of the Landfill Directive. This will also be the case with the composting facility once it becomes operational.

The licence sets out in detail the conditions under which Bord na Móna Plc will operate and manage this facility.

For the purposes of the IPPC Directive (96/61/EC) the facility authorised herein comes within the scope of Class 5.4 of Annex I of the directive.

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Glossary of Terms

All terms in this licence should be interpreted in accordance with the definitions in the Environmental Protection Agency Acts 1992 to 2007 / Waste Management Acts 1996 to 2008, unless otherwise defined in the section.

Adequate lighting	20 lux measured at ground level.
AER	Annual Environmental Report.
Aerosol	A suspension of solid or liquid particles in a gaseous medium.
Agreement	Agreement in writing.
Annually	At approximately twelve-monthly intervals.
Application	The application by the licensee for this licence.
Appropriate Facility	A waste management facility, duly authorised under relevant law and technically suitable.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of this licence application.
BAT	Best Available Techniques.
Biannually	All or part of a period of six consecutive months.
Biennially	Once every two years.
Biodegradable	Waste that is capable of undergoing anaerobic or aerobic decomposition, such as food and garden waste, and paper and cardboard, etc.
Biodegradable Municipal Waste (BMW)	The biodegradable component of municipal waste. Biodegradable municipal waste is typically composed of food and garden waste, wood, paper, cardboard and textiles. Approximately 74% of the household and commercial waste managed in Ireland in 2006 was biodegradable.
Biological Treatment	Composting, anaerobic digestion, mechanical biological treatment or any other biological treatment process for stabilising and sanitising biodegradable waste, including pre-treatment processes.
Biowaste	Household, commercial or industrial waste of an organic or putrescible character.
BOD	5 day Biochemical Oxygen Demand.
CEN	Comité Européen De Normalisation – European Committee for Standardisation.

COD	Chemical Oxygen Demand.
Construction and demolition (C&D) 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 that can contain spillages and prevent them from entering drains or watercourses or from further contaminating watercourses.
CRAMP	Closure, Restoration and Aftercare Management Plan.
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 2200 hrs.
dB(A)	Decibels (A weighted).
DO	Dissolved oxygen.
Documentation	Any report, record, results, 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.
EMP	Environmental Management Programme.
Emission limits	Those limits, including concentration limits and deposition rates, established in <i>Schedule B: Emission Limits</i> of this licence.
Environmental damage	As defined 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 purpose 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.
ha	hectare.
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.
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 as incident for the purposes of this licence: <ul style="list-style-type: none">(i) an emergency;(ii) any emission which does not comply with the requirements of this licence;(iii) any exceedance of the daily duty capacity of the waste handling equipment;(iv) any trigger level specified in this licence which is attained or exceeded;(v) any indication that environmental pollution has, or may have, taken place; and,(vi) any outage of the landfill gas flare lasting more than 60 minutes (continuously), or any outage over a 24hr period lasting more than 100 minutes (cumulatively).
Industrial waste	As defined in Section 5(1) of the Waste Management Acts 1996 to 2008.
Initial development works	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 in advance of the commencement of construction of the landfill cells.
Intermediate Cover	Refers to placement of suitable, adequate and stable material (minimum 300mm if soil is used) for a period of time prior to restoration or prior to further disposal of waste.
IPPC	Integrated Pollution Prevention & Control.
K	Kelvin.
kPa	Kilopascals.
Landfill Directive	Council Directive 1999/31/EC.

Landfill footprint	The area of the facility where waste is deposited.
L_{eq}	Equivalent continuous sound level.
Licensee	Bord na Móna, Leabeg, Tullamore, County Offaly.
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 perform its function adequately.
Mass flow limit	An emission limit value expressed as the maximum mass of a substance that can be emitted per unit time.
Mass flow threshold	A mass flow rate above which a concentration limit applies.
Mechanical-Biological Treatment (MBT)	The treatment of residual municipal waste through a combination of manual & mechanical processing and biological stabilisation, in order to stabilise and reduce the volume of waste which requires disposal.
Monthly	A minimum of 12 times per year, at intervals of approximately one month.
Municipal Solid Waste (MSW)	Household waste as well as commercial and other waste which, because of its nature or composition, is similar to household waste. It excludes municipal sludges and effluents.
Night-time	2200 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.
Oil separator	Device installed according to the International Standard I.S. EN 858-2:2003 (Separator system for light liquids, (e.g. oil and petrol) – Part 2: Selection of normal size, installation, operation and maintenance).
OFBMW	Organic Fraction of Biodegradable Municipal Waste.
PRTR	Pollutant Release and Transfer 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	Southern Regional Fisheries Board.
Residual Waste	The fraction of collected waste remaining after a treatment step, which generally requires further treatment or disposal.
Sample(s)	Unless the context of this licence indicates to the contrary, the term samples shall include measurements taken by electronic instruments.
Sanitary effluent	Wastewater from facility toilet, washroom and canteen facilities.
Sludge	The accumulation of solids resulting from industrial processes, or from biological, chemical coagulation, flocculation and/or sedimentation processes associated with water or wastewater treatment, with >2% dry matter.
SOP	Standard operating procedure.
Source segregated waste	Waste which is separated at source; meaning that the waste is sorted at the point of generation into a recyclable fraction(s) for separate collection (e.g., paper, metal, glass, plastic, bulk dry recyclables, biodegradables, etc.) and a residual fraction. The expression 'separate at source' shall be construed accordingly.
Specified emissions	Those emissions listed in <i>Schedule B: Emission Limits</i> of this licence.
Stabilised Biowaste	'Stabilisation' means the reduction of the decomposition properties of biowaste to such an extent that offensive odours are minimised and that either the Respiration Activity after four days (AT_4) is below 10 mg O ₂ /g dm or the Dynamic Respiration Index is below 1,000 mg O ₂ /kg VS/h1.
Standard method	A National, European or internationally recognised procedure (e.g. I.S. EN, ISO, CEN, BS or equivalent); or 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.
The Agency	Environmental Protection Agency.
TOC	Total organic carbon.
Trade effluent	Trade effluent has the meaning given in the Water Services Act, 2007.
Treatment/pre-Treatment	includes, in relation to waste, any manual, thermal, physical, chemical or biological processes that change the characteristics of waste in order to reduce its volume or hazardous nature or facilitate its handling, disposal or recovery.

¹ from the EU Working Document on Biological Treatment of Biowaste 2nd Draft

Trigger level	A parameter value, the achievement or exceedance of which requires certain actions to be taken by the licensee.
Water Services Authority	Kildare County Council.
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 Decision

The Environmental Protection 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 2008.

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

Part I Schedule of Activities Licensed

In pursuance of the powers conferred on it by the Waste Management Acts 1996 to 2008, the Environmental Protection Agency (the Agency), under Section 46(8) of the said Acts hereby grants this revised Waste Licence to Bord na Móna, Leabeg, Tullamore, County Offaly to carry on the waste activities listed below at Drehid Waste Management Facility, in the townlands of Parsonstown, Loughnacush, Kilkeaskin, Drumond, Timahoe West, Coolcarrigan, Killinagh Lower and Killinagh Upper, Carbury, County 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 (S.I. No. 395 of 2004) 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 2008

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. [Principal Class]
Class 6.	Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 10 of this Schedule.
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 2008

Class 2.	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).
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 Schedule of Activities Licensed*, and shall be as set out in the licence application or as modified under Condition 1.4 of this licence and subject to the conditions of this licence.
- 1.2 Activities at this facility shall be limited as set out in *Schedule A: Limitations* of this licence.
- 1.3 For the purposes of this licence, the facility authorised by this licence is the area of land outlined in red on Drawing No. 3369-2606 of the application. Any reference in this licence to “facility” shall mean the area thus outlined in red. The licensed activities shall be carried on only within the area outlined.
- 1.4 No alteration to, or reconstruction in respect of, the activity, or any part thereof, that 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,
- (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.
- 1.5 **Waste Acceptance Hours and Hours of Operation**
- Waste may be accepted at the facility for disposal at the landfill only between the hours of 0800 and 1830 Monday (Public Holidays excluded) to Saturday inclusive. The hours of operation are limited to between the hours of 0800 and 1900.
- 1.6 The facility shall be controlled, operated and maintained and emissions shall take place as set out in the licence. All programmes required to be carried out under the terms of this licence become part of this licence.
- 1.7 This licence is for purposes of waste licensing under the Waste Management Acts 1996 to 2008 only and nothing in this licence shall be construed as negating the licensee’s statutory obligations, or requirements under any other enactments or regulations.
- 1.8 This licence has been granted in substitution for the licence granted to the licensee on 03/08/2005 (Reg. No. W0201-01). The previous Waste Licence (Reg. No. W0201-01) is superseded by this revised 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 suitable 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 by the Agency.

2.2 Environmental Management System (EMS)

- 2.2.1 The licensee shall maintain an Environmental Management System (EMS) on-site. 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 prepare and maintain 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 (including emissions prevention/reduction), and the beneficial re-use (recovery) of waste in landfill engineering operations. The schedule shall include time frames for the achievement of set targets and shall address a five-year period as a minimum. In relation to waste recovery the schedule shall include an initial waste recovery target of 70% of waste throughput, as well as time frames for achieving higher recovery targets than specified herein. 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, maintain an EMP, including a time schedule, for achieving the Environmental Objectives and Targets prepared under Condition 2.2.2.2. Once agreed the EMP shall be maintained by the licensee. It shall include:

- designation of responsibility for targets;
- the means by which they may be achieved;
- 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 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 maintain procedures to ensure that corrective action is taken should the specified requirements of this licence not be fulfilled. The responsibility and authority for persons 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 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 maintain a Public Awareness and Communications Programme to ensure that members of the public can obtain information at the facility, at all reasonable times, concerning the environmental performance of the facility. This programme shall in particular provide for periodic meetings with local interested groups to provide a forum for information exchange and issue management.

2.2.2.8 Maintenance Programme

The licensee shall establish and maintain a programme for maintenance of all plant and equipment based on the instructions issued by the manufacturer/supplier or installer of the equipment. Appropriate record keeping and diagnostic testing shall support this maintenance programme. The licensee shall clearly allocate responsibility for the planning, management and execution of all aspects of this programme to appropriate personnel (see Condition 2.1 above).

2.2.2.9 Efficient Process Control

The licensee shall establish and maintain a programme to ensure there is adequate control of processes under all modes of operation. The programme shall identify the key indicator parameters for process control performance, as well as identifying methods for measuring and controlling these parameters. Abnormal process operating conditions shall be documented, and analysed to identify any necessary corrective action.

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, for each component of the facility, all infrastructure referred to in this licence in advance of the commencement of the licensed activities in that component, or as required by the conditions of this licence. Infrastructure specified in the application that relates to the environmental performance of the facility and is not specified in the licence, shall be installed in accordance with the schedule submitted in the application.

3.2 Facility Notice Board

3.2.1 The licensee shall, within four months of the date of grant of this licence, provide 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. The notice board shall be maintained thereafter.

3.2.2 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 licence reference number; and
- (vi) where environmental information relating to the facility can be obtained.

3.2.3 A plan of the facility clearly identifying the location of each storage and treatment area shall be displayed as close as is possible to the entrance to the facility. The plan shall be displayed on a durable material such that is legible at all times. The plan shall be replaced as material changes to the facility are made.

3.3 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.

3.4 Wastes shall not be deposited in any new cell without the prior agreement of the Agency.

3.5 The landfill footprint (maximum lateral extent of landfilling) shall be as indicated in Drawing Reference No: 3369-2606 of the application.

3.6 Phased Construction Plan

Three months prior to the commencement of any significant site development works, the licensee shall submit to the Agency for its agreement a construction schedule, sequence and timescale (Construction Plan) incorporating the requirements of this licence and to give effect to the commitments in the application documentation. This Plan shall have regard to the following development phases:

- (i) Initial Development Works,
- (ii) Main infrastructure development works (pre acceptance of waste for disposal),
- (iii) Future/planned works (in parallel with waste disposal, e.g., future cell development/phasing), and
- (iv) Any amendments to the on-site monitoring infrastructure, e.g., groundwater monitoring well locations, etc.
- (v) The Construction Plan for cell development shall have regard to the sequencing necessary to provide short, medium and long-term screening of the operational areas.

3.7 Specified Engineering Works

3.7.1 The licensee shall submit proposals for all Specified Engineering Works, as defined in *Schedule D: Specified Engineering Works* of this licence, to the Agency for its agreement at least two months prior to the intended date of commencement of any such works. No such works shall be carried out without the prior agreement of the Agency.

3.7.2 All specified engineering works shall be supervised by a competent person(s) and that person, or persons, shall be present at all times during which relevant works are being undertaken.

- 3.7.3 Following the completion of all specified engineering works, the licensee shall complete a construction quality assurance validation. The validation report, to be undertaken by an appropriately qualified independent specialist, 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.
- 3.8 The licensee shall have regard to the guidance given in the Environmental Protection Agency Landfill Manuals (Site Design, Operational Practices, Monitoring, Site Investigations, and Restoration and Aftercare), as may be relevant, in the development, operation and closure of the facility.
- 3.9 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 retained for Agency use. Volatile sample duplicates/sub-samples shall be refrigerated immediately after collection and retained in a refrigerator. The storage of all duplicates/sub-samples shall be at the facility or at the laboratory of receipt for a minimum of two months under a chain of custody or as required by the Agency.
- 3.10 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.
- 3.11 Landfill Lining
- Unless otherwise agreed in writing, the landfill lining system shall comprise:
- (i) A composite liner consisting of a 0.5m layer of Bentonite Enhanced Sand (BES) with a hydraulic conductivity of less than or equal to 5×10^{-10} m/s, overlain by a 2mm thick high density polyethylene (HDPE) layer;
 - (ii) A geotextile protection layer ($>750\text{g/m}^2$) placed over the HDPE layer;
 - (iii) A 500mm thick drainage layer placed over the geotextile layer with a minimum hydraulic conductivity of 1×10^{-3} m/s, of pre-washed, uncrushed, granular, rounded stone (16-32mm grain size) incorporating leachate collection drains;
 - (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.
- 3.12 Tank, Container and Drum Storage Areas
- 3.12.1 All tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Agency guidelines '*Storage and Transfer of Materials for Scheduled Activities*' (2004).
- 3.12.2 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 that could be stored within the bunded area.

- 3.12.3 All drainage from bunded areas shall be treated as hazardous waste unless it can be demonstrated to be otherwise. All drainage from bunded areas shall be diverted for collection and safe disposal.
- 3.12.4 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.
- 3.12.5 All tanks, containers and drums shall be labelled to clearly indicate their contents.
- 3.13 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.
- 3.14 Waste handling, ventilation and processing plant
- 3.14.1 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.
- 3.14.2 The licensee shall maintain on site a record 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.
- 3.14.3 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.
- 3.15 Compost facility
- 3.15.1 The licensee shall, prior to the acceptance of waste for composting, provide and maintain enclosed biodegradable waste composting facilities and associated infrastructure as specified in the licence, or as otherwise may be agreed by the Agency.
- 3.15.2 All wastewater from composting operations shall be collected and reused or discharged to the landfill leachate system.
- 3.16 Silt Traps and Oil Separators
- 3.16.1 The licensee shall maintain silt traps and oil separators at the facility. All storm water discharges from the facility hardstanding and service areas shall pass through a silt trap and oil separator prior to discharge. All storm water discharges from the borrow pits shall pass through a silt trap prior to discharge. The separator shall be a Class I full retention separator and shall be in accordance with EN 858-1:2002 (separator systems for light liquids).
- 3.16.2 The licensee shall install and maintain appropriately sized sedimentation lagoons at the facility to ensure that all other storm water discharges from the facility pass through the lagoons prior to discharge.
- 3.16.3 The licensee shall ensure that the final design of the surface water treatment & polishing lagoons includes the necessary flow control and retention options to achieve the specified emission standards. This detail including supporting calculations, is to be included with the Specified Engineering Works proposal for the surface water management system.

3.17 Facility Security

3.17.1 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.

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

3.17.3 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.

3.18 Facility Roads and Hardstanding

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

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

3.19 Facility Office

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

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

3.20 Waste Inspection and Quarantine Areas

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

3.20.2 These areas shall be 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.

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

3.21 Weighbridge and Wheel Cleaner

3.21.1 The licensee shall maintain a weighbridge and a wheel cleaner unit at the facility.

3.21.2 The wheel cleaners shall be used by all vehicles leaving the facility as required to ensure that waste is not carried off-site. All water from the wheel cleaning area shall be directed to the leachate management system.

3.22 Leachate Management Infrastructure

3.22.1 Leachate management infrastructure shall be provided and maintained at the facility as described in the Application documentation, or as may be varied by a licence condition.

3.22.2 All structures for the storage and/or treatment of leachate shall be fully enclosed except for inlet and outlet piping.

3.23 Landfill Gas Management

3.23.1 Landfill Gas management infrastructure shall be provided and maintained at the facility as described in the Application documentation (Section 3.8 of EIS), or as may be varied by a licence condition.

- 3.23.2 All buildings constructed on the facility shall have regard to the guidance given in the Department of Environment 1994 publication "*Protection of New Buildings and Occupants from Landfill Gas*" and any subsequent revisions.
- 3.24 Sanitary Wastewater Treatment Plant
- The licensee shall maintain a Sanitary Wastewater Treatment plant at the facility for the treatment of sanitary wastewater arisings on-site. The system shall satisfy the relevant criteria set out in the Wastewater Treatment Manual, Treatment Systems for Single Houses, published by the Environmental Protection Agency. This system shall be included in the sites maintenance program and desludged at least annually. Sludges shall be removed for agreed disposal/recovery. Effluent from the system shall be discharged to the leachate collection system.
- 3.25 Groundwater
- 3.25.1 All wells & boreholes shall be adequately sealed to prevent surface contamination and, as may be appropriate, decommissioned according to the UK Environment Agency guidelines '*Decommissioning Redundant Boreholes and Wells*' (or as otherwise may be agreed).
- 3.25.2 Groundwater monitoring wells shall be constructed having regard to the guidance given in the Agency's landfill manual "*Landfill Monitoring*".
- 3.26 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) from the date of grant of this licence.
- 3.27 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 Environmental Objectives and Targets set out in Condition 2 of this licence for the reduction in fugitive emissions.
- 3.28 The licensee shall maintain 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.
- 3.29 The licensee shall operate a weather monitoring station on the site at a location agreed by the Agency.

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 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:
- (i) Temperature 273 K, pressure 101.3 kPa, dry gas at 3% oxygen; and
- 4.2.2 In the case of landfill gas combustion gas:
- (ii) Temperature 273K, 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 specific 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 results 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 matters 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 No emissions, including odours, from the activities carried on at the site shall result in an impairment of, or an interference with amenities or the environment beyond the facility boundary or any other legitimate uses of the environment beyond the facility boundary.
- 5.3 No substance shall be discharged in a manner, or at a concentration, that, following initial dilution, causes tainting of fish or shellfish.
- 5.4 The licensee shall ensure that all or any of the following:

- Vermin,
- Birds,
- Flies,
- Mud,
- Dust,
- Litter,

associated with the activity do not result in an impairment of, or an interference with, amenities or the environment at the facility or beyond the facility boundary or any other legitimate uses of the environment beyond the facility boundary. Any method used by the licensee to control or prevent any such impairment/interference shall not cause environmental pollution.

- 5.5 The road network in the vicinity of the facility shall be kept free from any debris caused by vehicles entering or leaving the facility. Any such debris or deposited materials shall be removed without delay.

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

Condition 6. Control and Monitoring

- 6.1 Test Programme
- 6.1.1 The licensee shall prepare to the satisfaction of the Agency, a test programme for abatement equipment installed to abate emissions to atmosphere. This programme shall be submitted to the Agency in advance of implementation.
- 6.1.2 The programme, following agreement with the Agency, shall be completed within three months of the commencement of operation of the abatement equipment.
- 6.1.3 The criteria for the operation of the abatement equipment as determined by the test programme, shall be incorporated into the standard operating procedures.
- 6.1.4 The test programme shall as a minimum:
- (i) establish all criteria for operation, control and management of the abatement equipment to ensure compliance with the emission limit values specified in this licence; and
 - (ii) assess the performance of any monitors on the abatement system and establish a maintenance and calibration programme for each monitor.
- 6.1.5 A report on the test programme shall be submitted to the Agency within one month of completion.
- 6.2 The licensee shall carry out such sampling, analyses, measurements, examinations, maintenance and calibrations as set out below and as in accordance with *Schedule C: Control & Monitoring* of this licence.

- 6.2.1 Analysis shall be undertaken by competent staff in accordance with documented operating procedures.
- 6.2.2 Such procedures shall be assessed for their suitability for the test matrix and performance characteristics shall be determined.
- 6.2.3 Such procedures shall be subject to a programme of Analytical Quality Control using control standards with evaluation of test responses.
- 6.2.4 Where any analysis is sub-contracted it shall be to a competent laboratory.
- 6.3 The licensee shall ensure that:
- (i) sampling and analysis for all parameters listed in the Schedules to this licence; and
 - (ii) any reference measurements for the calibration of automated measurement systems;
- shall be carried out in accordance with CEN-standards. If CEN standards are not available, ISO, national or international standards that will ensure the provision of data of an equivalent scientific quality shall apply.
- 6.4 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.
- 6.5 Monitoring and analysis equipment shall be operated and maintained as necessary so that monitoring accurately reflects the emission/discharge (or ambient conditions where that is the monitoring objective).
- 6.6 Prior to any construction works being undertaken for the development of the landfill extension, the licensee shall provide a scaled drawing showing all monitoring locations referred to in this licence. All locations to be appropriately labelled. Any amendments to this drawing resulting from the extension shall to be notified to the Agency as part of the AER.
- 6.7 The licensee shall ensure that groundwater monitoring well sampling equipment is available/installed on-site and is fit for purpose at all times. The sampling equipment shall be to Agency specifications.
- 6.8 All treatment/abatement and emission control equipment shall be calibrated and maintained in accordance with the instructions issued by the manufacturer/supplier or installer.
- 6.9 The frequency, methods and scope of monitoring, sampling and analyses, as set out in this licence, may be amended with the agreement of the Agency following evaluation of test results.
- 6.10 The licensee shall prepare a programme, to the satisfaction of the Agency, for the identification and reduction of fugitive emissions using an appropriate combination of best available techniques. This programme shall be included in the Environmental Management Programme.
- 6.11 The integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee within eighteen months of the date of grant of this licence. This testing shall be carried out by the licensee at least once every three years thereafter and reported to the Agency on each occasion. This testing shall be carried out in accordance with any guidance published by the Agency. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.
- 6.12 The drainage system (i.e., gullies, manholes, any visible drainage conduits and such other aspects as may be agreed) and bunds, silt traps and oil separators shall be inspected weekly and desludged as necessary. All sludge and drainage from these operations shall be collected for safe disposal. The drainage system, bunds, silt traps and oil interceptors shall be properly maintained at all times.

6.13 Storm Water

A visual examination of the storm water discharges shall be carried out daily. A log of such inspections shall be maintained.

6.14 Dust

6.14.1 The licensee shall maintain those dust monitoring locations as illustrated on Drawing No: 3369-2610 '*Site Investigation and Environmental Monitoring Locations*' of the application documentation. Any subsequent variation to these locations shall be agreed in advance with the Agency.

6.15 Ground Water

6.15.1 The licensee shall maintain a minimum of 8 groundwater monitoring locations located around the circumference of the facility (at least two up-gradient of the facility).

6.15.2 The licensee shall maintain groundwater monitoring trigger levels in accordance with the requirements of Directive 1999/31/EC.

6.16 Noise

The licensee shall carry out a noise survey of the site operations annually. The survey programme shall be undertaken in accordance with the methodology specified in the '*Environmental Noise Survey Guidance Document*' as published by the Agency.

6.17 Pollutant Release and Transfer Register (PRTR)

The licensee shall prepare and report a PRTR for the site. The substances and/or waste to be included in the PRTR shall be as agreed by the Agency each year by reference to EC Regulations No. 166/2006 concerning the establishment of the European Pollutant Release and Transfer Register and amending Council Directives 91/689/EEC and 96/61/EC. The PRTR shall be prepared in accordance with any relevant guidelines issued by the Agency and shall be submitted electronically in specified format and as part of the AER.

6.18 Telemetry

6.18.1 A telemetry system shall be maintained at the facility. 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.

6.18.2 The telemetry system shall include for:

- (i) Recording of leachate levels in the lined cells and lagoon;
- (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.

6.19 Leachate Management

6.19.1 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.

6.19.2 The level of leachate in the pump sumps shall be monitored as outlined in *Schedule C.2.3. Leachate Monitoring* of this licence.

6.19.3 The frequency of leachate removal from the leachate holding tank shall be such that a minimum freeboard of 0.5m shall be maintained in the tank at all times.

6.19.4 Unless treated on the facility, leachate stored in the leachate storage lagoon shall be disposed of by tankering off-site in fully enclosed road tankers.

- 6.19.5 Recirculation of leachate or other contaminated water shall only be undertaken within cells which have been engineered to the satisfaction of the Agency.
- 6.20 The licensee shall monitor meteorological conditions as specified in *Schedule C: Control & Monitoring* of this licence.
- 6.21 Landfill Gas
- 6.21.1 The licensee shall maintain external gas monitoring facilities at 50m intervals around the landfill facility, and at suitable locations in service buildings, leachate management facilities and other risk structures.
- 6.21.2 The licensee shall ensure that there are landfill gas monitoring facilities in each landfill cell.
- 6.21.3 Flares shall be operated to ensure a burn chamber residence time of minimum 0.3 sec and burn temperature of minimum 1000°C.
- 6.21.4 The following shall constitute an incident;
- (i) Landfill derived methane greater than 1% v/v, or
 - (ii) Landfill derived 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.
- 6.21.5 In relation to landfill derived gas in capped areas of the facility, the following shall constitute a trigger level:
- VOC 50ppm
- 6.22 Litter Control
- 6.22.1 The measures and infrastructure as described in the Application documentation for this licence shall be applied to control litter at the facility.
- 6.22.2 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.
- 6.22.3 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.
- 6.22.4 The licensee shall ensure that all vehicles delivering waste to and removing waste and materials from the facility are appropriately covered.
- 6.23 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.
- 6.24 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. The licensee shall consult with the National Parks and Wildlife Service of the Department of Environment, Heritage & Local Government in relation to ecologically sensitive control strategies.

- 6.25 Odour Control
- 6.25.1 All odorous or odour-forming wastes shall be covered as soon as practicable and in any case at the end of the working day.
- 6.25.2 When siting and operating landfill gas infrastructure, regard shall be had to the potential for, and mitigation of, odour nuisance. This matter is to be addressed in the relevant Specified Engineering Works proposals as required by Condition 3.7.
- 6.26 Operational Controls
- 6.26.1 Unless otherwise agreed by the Agency only one working face shall exist at the landfill at any one time for the deposit of waste other than cover or restoration materials.
- 6.26.2 Unless otherwise agreed in advance by the Agency, the working face of the landfill shall be no more than 25 metres long and 25 wide (i.e. 625m^2 surface area), no more than 2.5 metres in height after compaction, and have a slope no greater than 1 in 3.
- 6.26.3 All waste deposited at the working face shall be compacted, using a steel wheeled compactor, and covered as soon as is practicable and at any rate prior to the end of the working day.
- 6.26.4 The working face shall, at the end of the each day, be covered with suitable daily cover to ensure control of odour, flies and litter.
- 6.26.5 Unless otherwise agreed in writing, daily cover shall be replaced by Intermediate Cover in any area of an active cell where a new covering lift of waste is not proposed within 7 days.
- 6.26.6 All large hollow objects and other large articles deposited at the facility shall be crushed, broken up, flattened or otherwise treated.
- 6.26.7 Wastes once deposited 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.
- 6.26.8 Any cover material at any location within the facility which is eroded, washed off or otherwise removed shall be replaced by the end of the working day.
- 6.26.9 Scavenging shall not be permitted at the facility.
- 6.26.10 Unless otherwise agreed, all sludges shall be covered immediately with other waste.
- 6.26.11 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.
- 6.26.12 No smoking shall be allowed at the facility.
- 6.27 Stability Assessment
- 6.27.1 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.
- 6.28 Topographical Monitoring
- A topographical survey shall be carried out within twelve months of the date of commencement of waste deposition at the facility and shall be repeated annually thereafter. The survey shall be in accordance with any written instructions issued by the Agency and shall include a measurement of the remaining available void space following the commencement of waste disposal.
- 6.29 Composting Operation
- 6.29.1 The licensee shall provide and maintain an odour abatement system in the composting unit(s) which satisfies the following requirements:
- (i) Installation and maintenance of integrity and negative pressure throughout the unit(s) to ensure no significant escape of odours or dust.
 - (ii) Installation of an odour management system and abatement equipment (biofilter or similar approved).

- (iii) 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.
- 6.30 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 monitoring data generated as a result of this licence.
- 6.31 The licensee shall establish and operate a fly population/infestation monitoring and control programme. This programme shall be supported by documented procedures which shall be available on-site for inspection by the EPA as part of the EMP. The procedures shall include recording of use of any pesticides. The scope of the programme shall be risk based and subject to periodic review.

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. 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 practicable 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 Landfill Waste Acceptance and Characterisation Procedures
- 8.1.1 Only residual waste that has been subject to adequate pre-treatment is permitted to be accepted for disposal at the landfill facility.
- (i) Treatment shall, as a minimum, reflect any published EPA guidance.
 - (ii) This requirement may, subject to the agreement of the Agency, not apply to:
 - inert wastes for which treatment is not technically feasible;
 - other waste for which such treatment does not contribute to the objectives of the Landfill Directive as set out in Article 1 of the Directive by reducing the quantity of the waste or the hazards to human health or the environment.
- 8.1.2 The pre-treatment referred to in Condition 8.1.1 must include diversion or treatment of Biodegradable Municipal Waste (BMW) in line with any published EPA Guidance.
- (i) By 1st January 2010 a minimum of 50% of all BMW accepted at the facility shall be biologically pre-treated (including diversion).

- (ii) By 1st January 2013 a minimum of 70% of all BMW accepted at the facility shall be biologically pre-treated (including diversion).
 - (iii) By 1st January 2016 a minimum of 90% of all BMW accepted at the facility shall be biologically pre-treated (including diversion).
 - 8.1.3 Stabilised waste accepted at the facility must achieve a biological stability standard published, or agreed, by the EPA.
 - 8.1.4 The licensee is required to maintain on-site as part of their waste acceptance procedures and associated documentation, evidence to demonstrate compliance with the obligations of Condition 8.1.1, 8.1.2 & 8.1.3, which shall be available for inspection on request by Agency personnel.
 - 8.1.5 The licensee shall as part of the Annual Environmental Report for the site submit a statement on the achievement of the waste acceptance and pre-treatment obligations articulated in Conditions 8.1.1 and 8.1.2, and as otherwise may be specified in national or EU policy.
 - 8.1.6 Waste shall only be accepted at the facility from Local Authority waste collection or transport vehicles or holders of valid waste collection permits, unless exempted or excluded, issued under the Waste Management (Collection Permit) Regulations 2007, or as may be amended.
 - 8.1.7 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.
 - 8.1.8 No hazardous wastes or liquid wastes shall be disposed of at the facility.
 - 8.1.9 The licensee shall ensure that inert waste accepted at the facility is subject to treatment where technically feasible.
 - 8.1.10 Prior to commencement of waste acceptance at the facility, the licensee shall submit to the Agency for its agreement written procedures for the acceptance and handling of all wastes. 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 comply with 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.
 - 8.1.11 Bulk gypsum wastes shall not be placed in any landfill cell accepting biodegradable waste.
 - 8.1.12 In addition to the characterisation required under the Waste Acceptance Procedures, the licensee shall carry out analyses on a minimum of two samples per annum for all industrial sludges being accepted at the facility. The results of these analyses shall be presented in the Annual Environmental Report (AER).
 - 8.1.13 No waste which in the conditions of the landfill, is explosive, corrosive, oxidising, highly flammable or flammable as defined in EU Council Directive 91/689/EEC shall be accepted at the landfill.
 - 8.1.14 The dilution or mixture of waste solely in order to fulfil relevant waste acceptance criteria established under Condition 8.1.10, is prohibited.
 - 8.1.15 The licensee shall maintain a register of any waste received at the facility that does not meet the waste acceptance criteria. The register shall include a description of the waste, details of its provenance, and details of the carrier. The licensee shall as part of their AER notify this register to the Agency, and include information on the off-site disposal/recovery of such non-conforming wastes.
 - 8.1.16 The licensee shall provide a written acknowledgement (to carrier/waste contractor) of receipt of each delivery of waste to the facility (for disposal in the landfill).
- 8.2 Waste Inspection
- 8.2.1 The waste acceptance procedures established under Condition 8.1.10 shall provide:
 - (i) For the checking of waste documentation on receipt of waste in the waste reception area;

- (ii) For non pre-cleared customers, the visual inspection of waste at the waste reception area;
 - (iii) For the visual inspection of waste when deposited at the working face;
 - (iv) For the keeping for a month of any sampling and analytical results associated with on-site verification sampling of waste accepted at the facility.
- 8.3 Inert Waste

Inert waste used in construction of the facility shall comply with the standards established in the EU Decision (2003/33/EC).
- 8.4 Composting Operations
 - 8.4.1 Prior to the acceptance of waste for composting on site, the licensee shall develop procedures for the handling/management of the composting process to include operational controls to ensure the quality of the finished product and mitigate emissions.
 - 8.4.2 Prior to the acceptance of waste for composting on site, the licensee shall submit a proposal detailing the specifications for the finished compost product to be agreed by the Agency. The proposal shall include details of the analysis of the compost to be carried out, and shall include as a minimum the parameters specified in *Schedule C.4: Compost Monitoring* of this licence.
 - 8.4.3 No biodegradable waste for composting shall be deposited outside the biodegradable waste composting building.
 - 8.4.4 The licensee shall ensure that the appropriate Department of Agriculture & Food authorisations for the operation of the composting plant have been obtained.
- 8.5 Disposal or recovery of waste on-site shall only take place in accordance with the conditions of this licence and in accordance with the appropriate National and European legislation and protocols.
- 8.6 Waste sent off-site for recovery or disposal shall be transported only by an authorised waste contractor. The waste shall be transported from the site of the activity to the site of recovery/disposal only in a manner that will not adversely affect the environment and in accordance with the appropriate National and European legislation and protocols.
- 8.7 The licensee shall ensure that, in advance of transfer to another person, waste shall be classified, packaged and labelled in accordance with National, European and any other standards which are in force in relation to such labelling.
- 8.8 The loading and unloading of potentially polluting materials shall be carried out in designated areas protected against spillage and leachate run-off.
- 8.9 Waste destined for off-site disposal/recovery shall be stored in designated areas, protected as may be appropriate against spillage and leachate run-off. The waste shall be clearly labelled and appropriately segregated.
- 8.10 No waste classified as green list waste in accordance with the EU Shipment of Waste Regulations (Council Regulation EEC No. 1013/2006, as may be amended) shall be consigned for recovery without the agreement of the Agency.
- 8.11 Waste for disposal/recovery off-site shall be analysed in accordance with *Schedule C5: Waste Monitoring* of this licence.
- 8.12 Unless approved in writing by the Agency the licensee is prohibited from mixing a hazardous waste of one category with a hazardous waste of another category or with any other non-hazardous waste.
- 8.13 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.

- 8.14 Without prejudice to the waste activities specifically authorised by this licence, no waste may be placed into any part of the facility without the prior agreement of the Agency.

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

Condition 9. Accident Prevention and Emergency Response

- 9.1 The licensee shall ensure that a documented Accident Prevention Procedure is in place that addresses 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 ensure that a documented Emergency Response Procedure is in place that addresses 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 Incidents
- 9.3.1 In the event of an incident the licensee shall immediately:
- (i) carry out an investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
 - (ii) isolate the source of any such emission;
 - (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) notify the Agency and other relevant authorities.
- 9.3.2 The licensee shall provide a proposal to the Agency for its agreement within one month of the incident occurring or as otherwise agreed by the Agency, to:
- (i) identify and put in place measures to avoid recurrence of the incident; and
 - (ii) identify and put in place any other appropriate remedial actions.

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

Condition 10. Closure, Restoration and Aftercare Management

- 10.1 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.
- 10.2 Finished Levels/Profile
- 10.2.1 Landscaping of the facility shall be as described in the application documentation.
- 10.2.2 Unless otherwise agreed by the Agency, the finished (post settlement restored) levels of the landfill shall be as indicated in Drawing Reference No. 3369-2639 of the Application.
- 10.2.3 Completed areas of the landfill shall be profiled so that no depressions exist in which water may accumulate. Any depressions arising after profiling shall be rectified by the emplacement of suitable capping or restoration materials.
- 10.2.4 Final contours and landscaping should be such that the finished slopes of the facility are structurally stable, resistant to erosion, and protective of pollution control and monitoring infrastructure.

- 10.3 Final Capping
- 10.3.1 Unless otherwise agreed, 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 0.3m thickness having a minimum hydraulic conductivity of 1×10^{-4} m/s or a geosynthetic material that provides equivalent transmissivity;
 - (iv) Compacted mineral layer of a minimum 0.2m thickness, overlain by a 2mm LLDPE geomembrane, or similar that provides equivalent protection; and
 - (v) Gas collection layer of natural material (minimum 0.3m) or a geosynthetic layer providing equivalent control.
- 10.4 No material or object that is incompatible with the proposed restoration of the facility shall be present within one metre of the final soil surface levels.
- 10.5 All soils shall be stored to preserve the soil structure for future use.
- 10.6 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, subsoil, buildings, plant or equipment, or any waste, materials or substances or other matter contained therein or thereon, that may result in environmental pollution.
- 10.7 Closure, Restoration & Aftercare Management Plan (CRAMP)
- 10.7.1 The licensee shall maintain 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 licence application documentation (as may be varied in this licence).
- 10.7.2 The plan shall be reviewed annually and proposed amendments thereto notified to the Agency for agreement as part of the AER. No amendments may be implemented without the written agreement of the Agency. A copy of the Plan is to be held on site and available for inspection.
- 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 activity or part thereof, 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: <i>To make provision for the proper closure of the activity ensuring protection of the environment.</i>
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Condition 11. Notification, Records and Reports

11.1 The licence shall notify the Agency by both telephone and facsimile, 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:

- (i) Any release of environmental significance to atmosphere from any potential emissions point including bypasses;
- (ii) Any emission that does not comply with the requirements of this licence;
- (iii) Any malfunction or breakdown of key control equipment or monitoring equipment set out in *Schedule C: Control and Monitoring* of this licence, which is likely to lead to loss of control of the abatement system; and
- (iv) Any incident with the potential for environmental contamination of surface water or groundwater, or posing an environment 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 case of any incident relating to discharges to water, the licensee shall notify the Local and Water Services Authority and the Southern Regional Fisheries Board as soon as practicable after such an incident.

11.3 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.

11.4 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 (if provided), 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.

11.5 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.

11.6 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) up to date site drawings/plans showing the location of key process and environmental infrastructure, including monitoring locations and emission points;
 - (vii) up to date Standard Operational Procedures for all processes, plant and equipment necessary to give effect to this licence or otherwise to ensure that standard operation of such processes, plant or equipment does not result in unauthorised emissions to the environment; and
 - (viii) the current Landfill Environmental Management Plan (LEMP); and
 - (ix) any elements of the licence application or EIS documentation referenced in this licence.
- This documentation shall be available to the Agency for inspection at all reasonable times.

11.7 Archaeological & Ecological Notification

Prior to the development of any undisturbed area, the advice of both the Heritage Section, and the National Parks & Wildlife Services Section, of the Department of the Environment, Heritage and Local Government shall be sought.

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 F: Annual Environmental Report* of this licence 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 by authorised persons of the Agency at all times, shall be kept by the licensee on matters relating to the waste management operations and practices at this site. This record shall be maintained on a monthly 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 waste consigned abroad for Recovery and classified as 'Green' in accordance with the EU Shipment of Waste Regulations (Council Regulation EEC No. 1013/2006, as may be 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: Control & Monitoring* of this licence; and
- (ix) the tonnage and EWC Code for the waste materials recovered/disposed on-site.

11.10 A record shall be kept of each consignment of trade effluent or leachate 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 or leachate from the facility;
- (iii) the volume of trade effluent or leachate, in cubic metres, removed from the facility on each occasion;
- (iv) the results of any waste analyses required under *Schedule C. Control and Monitoring* of this licence;
- (v) the name and address of the Waste Water Treatment Plant to which the trade effluent or leachate was transported; and
- (vi) any incidents or spillages of trade effluent or leachate during its removal or transportation.

11.11 Waste Recovery Reports

The licensee shall as part of the Annual Environmental Report for the site submit a report on the contribution by this facility to the achievement of the waste recovery objectives stated in Condition 2.2.2.2 and as otherwise may be stated in National and European Union waste policies and shall, as a minimum, include tonnages of the following:

- (i) the recovery of Construction and Demolition Waste;
- (ii) the recovery of other waste in landfill operations and restoration;

- (iii) the recovery of energy through landfill gas combustion.
- 11.12 The licensee shall submit report(s) as required by the conditions of this licence to the Agency's Headquarters in Wexford, or to such other Agency office as may be specified by the Agency.
- 11.13 All reports shall be certified accurate and representative by the facility manager or a nominated, suitably qualified and experienced deputy.

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 €24,599, 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 2008. The first payment shall be a pro-rata amount for the period from the date of grant of this licence to the 31st day of December, and shall be paid to the Agency within one month from the date of grant 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 2008, 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 defray 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 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 appropriate qualified consultant, of a comprehensive and fully costed Environmental Liabilities Risk Assessment (ELRA) to address 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. The results of the review shall 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.

- 12.3 The licensee shall have regard to the Environmental Protection Agency Guidance on Environmental Liability Risk Assessment, Decommissioning Management Plans and Financial Provision when implementing Conditions 12.2.2 and 12.2.3 above.

- 12.4 Cost of landfill of waste

In accordance with the provisions of Section 53A of the Waste Management Acts 1996 to 2008, the licensee shall ensure the costs in the setting up, operation of, and 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.

- 12.5 Community Fund

Unless otherwise provided for by a condition of any planning permission granted in respect of this application, the Licensee shall pay €1.27 (Index Linked) for every tonne of waste accepted for disposal in the landfill, into a secure and dedicated to purpose community support and development fund. Prior to the commencement of waste disposal activities the Licensee shall establish a community managed charitable trust (or equivalent) to manage and discharge this fund for the benefit of the social and physical environment of the local community.

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

SCHEDULE A: Limitations

The following waste related processes are authorised:

- Composting
- Shredding, crushing, mixing
- Landfilling of waste
- Controlled recirculation of leachate
- Use of compost & inert waste in landfill operation
- Storage of waste
- Use of inert waste for engineering/construction purposes

No additions to these processes are permitted unless agreed in advance by the Agency.



A.2 Waste Acceptance

Table A.2.1 Waste Categories and Quantities

WASTE TYPE ^{Note 1}	MAXIMUM (TONNES PER ANNUM) ^{Note 2}
Non-Hazardous Municipal, Commercial & Industrial wastes	360,000 Landfill ^{Note 3} 25,000 Composting Unit
Inert Waste	No limit where used in landfill engineering
TOTAL	385,000

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

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

Note 3: The increased figure of 360,000 tonnes of residual waste (as per Condition 8.1.1) shall be permitted for a period of seven years or until the end of 2015, whichever is the sooner. After this period the intake of waste for landfilling shall revert to 120,000 tonnes per annum.



Table A.2.2 Total Permitted Landfill Capacity

Total volume of waste permitted to be disposed in the landfill facility (over authorised life of facility)	4,080,000 m ³
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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 to be illustrated on Drawing No. 3369-2610.

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 from biodegradable waste composting unit

Location: Biofilter Unit

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



B.2 Emissions to Water**Emission Point Reference No.:** Outlets from borrow pit and landfill sedimentation lagoons**Name of Receiving Waters:** Cushaling River

Parameter	Emission Limit Value (mg/l)
BOD	25
Ammonia (as NH ₄) ^{Note 1}	0.5
Suspended Solids	35

Note 1: Not applicable to borrow pit works.**B.3 Noise Emissions**

Daytime dB(A) L _{Aeq} (30 minutes)	Night-time 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 of 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

Parameter	Flare (enclosed) Monitoring Frequency	Utilisation Plant Monitoring Frequency	Analysis Method ^{Note 1} /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 (NO _x)	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 shall be intrinsically safe.



C.1.3. Monitoring of Landfill Gas Emissions

Locations (refer condition 6.21): Perimeter Landfill Gas boreholes ^{Note 1}
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)	Monthly	InfraRed Analyser/FID
Carbon Dioxide (CO ₂)	Monthly	InfraRed
Oxygen (O ₂)	Monthly	Electrochemical Cell
Atmospheric Pressure & Trend	Monthly	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 Emissions

Emission Point Reference No.: Composting Unit Biofilter

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 & Direct Moisture)
Moisture content	Bi-annually	Moisture gauge
pH	Bi-annually	pH probe
Ammonia	Bi-Annually (Inlet & Outlet gas)	Sampling tubes, fresh bed media
Mercaptans	Bi-Annually (Inlet & Outlet gas)	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

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.



C.2.1. Control of Emissions to Water**Emission Control Location:** Surface water sedimentation lagoons**Description of Treatment:** Sedimentation

Control Parameter	Monitoring	Key Equipment ^{Note 1}
Residence time & flow restriction	Flow rate, depth	Flow meter, overflow alarm, emergency storage

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.**C.2.2. Monitoring of Emissions to Water****Emission Point Reference No.:** Outlet from Sedimentation Lagoons

Parameter ^{Note 1}	SURFACE WATER Monitoring Frequency
Visual Inspection/Odour ^{Note 2}	Daily
Lagoon Level	Daily
Dissolved Oxygen	Daily
Electrical Conductivity	Daily
Ammoniacal Nitrogen	Weekly
Chloride	Weekly
pH	Weekly
Total Suspended Solids	Weekly
BOD	Quarterly
COD	Quarterly
Metals / Non metals ^{Note 3}	Annually
List I/II Organic substances (Screen) ^{Note 4}	Annually
Mercury	Annually
Sulphate (SO ₄)	Annually
Nitrate	Annually
Total P/Orthophosphate	Annually
Faecal Coliforms	Annually
Total Coliforms	Annually

Note 1: All the analysis shall be carried out by a competent laboratory using standard and internationally accepted procedures.**Note 2:** Where there is evident gross contamination, 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:** Screening for priority pollutant list substances (such as US EPA volatile and/or semi-volatile compounds). This analysis shall include those organic solvents in use in the process, which are likely through normal process operators to be diverted to the wastewater streams.

C.2.3. Leachate Monitoring

Location: Leachate Holding Tank, Leachate Sumps and Leachate Monitoring Points in the Cells (locations to be shown on plan referred to in Condition 6.6).

Parameter ^{Note 1}	LEACHATE ^{Note 2} Monitoring Frequency
Visual Inspection/Odour (Holding Tank only)	Daily
Leachate Levels	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: All the analysis shall be carried out by a competent laboratory using standard and internationally accepted procedures.

Note 2: 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: Screening for priority pollutant list substances (such as US EPA volatile and/or semi-volatile compounds). This analysis shall include those organic solvents in use in the process, which are likely through normal process operators to be diverted to the wastewater streams.

C.2.4 Control & Monitoring of Sanitary Waste Water Treatment System

Emission Point Reference: Proprietary waste water treatment plant

Description of Treatment: Biological treatment of sanitary effluent

Control Parameter	Monitoring	Key Provision / Equipment ^{Note 1}
BOD removal	BOD removal efficiency (annual inlet and outlet analysis) Aeration fan operation (continuous automatic) Effluent transfer (continuous automatic)	Automated fault diagnostics with alarm, sludge & effluent pumps, fan/blower,
Solids build-up	Solids levels (Quarterly visual)	Frequent solids removal

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

C.3 Ambient Monitoring

Air Monitoring

Locations: As illustrated on Drawing No. 3369-2610 of the application documentation.

Parameter	Monitoring Frequency	Analysis Method/Technique
Dust deposition	Monthly	Bergerhoff Gauge



Groundwater Monitoring

Location: Groundwater Wells (refer Condition 6.15), and shown on Drawing referred to in Condition 6.6.

Parameter ^{Note 1}	Monitoring Frequency
Visual Inspection/Odour ^{Note 2}	Monthly
Groundwater Level (wells)	Monthly
Electrical Conductivity	Monthly
Ammoniacal Nitrogen	Monthly
Chloride	Monthly
Sulphate (SO ₄)	Annually
Metals / Non metals ^{Note 3}	Annually
List I/II Organic substances (Screen) ^{Note 4}	Annually
Mercury	Annually
Nitrate	Annually
Total Phosphorous/Orthophosphate	Annually
Faecal Coliforms	Annually
Total Coliforms	Annually

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

Note 2: Where there is evident gross contamination, 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: Screening for priority pollutant list substances (such as US EPA volatile and/or semi-volatile compounds). This analysis shall include those organic solvents in use in the process, which are likely through normal process operators to be diverted to the wastewater streams.



Receiving Water Monitoring

Location: Cushaling River d/s of any discharge from the landfill.

Parameter	Monitoring Frequency	Analysis Method/Technique
Biological Quality (Q) Rating/Q Index	Annually ^{Note 1}	To be agreed by the Agency
Parameters in Table C 2.2	Visual Inspection Weekly All others parameters Quarterly unless specified as Annually in Table C 2.2	Standard Methods

Note 1: Monitoring period - June to September.



Meteorological Monitoring

Location: Adjacent to administrative building.

Parameter ^{Note 1}	Monitoring Frequency	Analysis Method/Technique
Precipitation Volume	Daily	Standard
Temperature (min/max.)	Daily	Standard
Atmospheric Pressure ^{Note 2}	Daily	Standard

Note 1: Refer also Condition 3.28 of this licence.

Note 2: Monitoring frequency for this parameter may be decreased with the agreement of the Agency.

C.4 Compost Monitoring

Material/Emission	Frequency	Parameter	Method
Compost	Bi-annually	Metals, Organic Screen ^{Note 1} , % Organic matter, Sulphate, Chloride, Foreign matter, Coliforms, Pathogen, Moisture content.	Standard Method

Note 1: Screening for priority pollutant list substances (such as US EPA volatile and/or semi-volatile compounds). This analysis shall include those organic solvents in use in the process, which are likely through normal process operators to be diverted to the wastewater streams.

C.5 Waste Monitoring

Waste Class	Frequency	Parameter	Method
Waste sent off-site for Disposal/Recovery ^{Note 1}			

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

SCHEDULE D: Specified Engineering Works

Specified Engineering Works
Development of the facility extension including preparatory works and lining. Final capping. Installation of Landfill Gas Management Infrastructure. Installation of Leachate Management Infrastructure. Installation of composting plant and air abatement system. Installation of ancillary Surface Water Management Infrastructure. Any other works notified in writing by the Agency.

SCHEDULE E: Reporting

Completed reports shall be submitted to:

The Environmental Protection Agency
Office of Environmental Enforcement
PO Box 3000
Johnstown Castle Estate
Wexford **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 31st March of each year.
Licence Monitoring requirements: - Landfill gas - leachate - groundwater quality - surface water quality - dust - surface emissions (capped areas)	Annually	As part of the AER.
Record of incidents	As they occur	Within five days of the incident.
Specified Engineering Works reports	As they arise	In advance of 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.
Revised drawing with monitoring locations	-	In advance of commencement of construction of landfill extension.
Revised Phased Construction Plan	-	In advance of commencement of development of extension.

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

SCHEDULE F: Annual Environmental Report

Annual Environmental Report Content ^{Note 1}
Emissions from the facility.
Waste management record.
Waste Recovery Report.
Topographical survey.
Stability Assessment.
Remaining void, projected completion date.
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.
Pollution emission register – report for previous year.
Pollution emission register – proposal for current year.
Noise monitoring report summary.
Meteorological data summary.
Ambient monitoring summary.
Proposed monitoring location reference drawing.
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).
Detailed Statement, with mass balance, of C & D wastes and compost used in construction.
Report on management and staffing structure of the facility.
Report on the programme for public information.
Reports on financial provision made under this licence.
Statement of measures in relation to prevention of environmental damage and remedial actions (Environmental Liabilities).
Statement on the costs of Landfill.
Contributions to Community Fund.
Environmental Liabilities Risk Assessment Review (every three years or more frequently as dictated by relevant on site change including financial provisions).
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.

Sealed by the seal of the Agency on this the 9th day of April 2009.

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

Dara Lynott, Director/Authorised Person