Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Tata Steel UK Limited

Morfa Non-Hazardous Landfill
Port Talbot Installation
Port Talbot Works
Port Talbot
West Glamorgan
SA13 2NG

Permit number

EPR/BV7311IE

Morfa Non Hazardous Landfill
Permit number EPR/BV7311IE

Introductory note

This introductory note does not form a part of the permit

The main features of the permit are as follows.

The installation in its entirety consists of the whole steel works including the Morfa non-hazardous and Morfa hazardous landfills. This permit is for the Morfa Non-Hazardous Landfill which is an existing in-house waste management facility which accepts waste produced exclusively by Tata Steel UK Ltd. The non-hazardous wastes mainly comprise of steel slag, with flue dusts, water treatment solids, office waste, canteen wastes and demolition rubble arising from steel production at Port Talbot Steel Works, South Wales. The permitted maximum annual input is 500,000 tonnes. 12 of the Cells will receive non-biodegradable waste and 1 Cell will be designated for biodegradable wastes.

Only Cells 1, 2 and the Biodegradable cell are currently operational.

The western boundary comprises a series of coastal barrier dunes on the seaward edge, whilst the southern edge of the site is within 130 metres of the Kenfig National Nature Reserve, both of which are part of an EC protected nature reserve. The eastern boundary is defined by the low-lying Margam Moors which is a registered SSSI.

The permit was varied (KP3033MC) in December 2006 to accommodate an in-house waste treatment plant to sort and divert wastes from the landfill, and to include additional wastes to be accepted under the permit.

The status log of the permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	**Date**	**Comments**
Application BV7311IE received	09/10/03	
Request to extend determination	Received 07/05/04	07/06/04
Permit determined	17/12/04	
Variation Application KP3033MC received	14/08/06	Variation to include an in-house waste treatment plant and additional waste types
Permit varied (KP3033MC)	05/12/06	
Variation Application GP3430MH	19/09/06	
Variation Application GP3430MH issued	29/03/10	
NRW Initiated Variation	30/11/16	Variation issued to update financial provision agreement

NRW Initiated Variation	09/08/17	Natural Resources Wales Led variation to correct errors in permit.
NRW Initiated Variation Issued	22/09/17	Varied permit issued
Application EPR/BV7311IE	09/11/18	Variation to increase biocell size
Permit determined	xx/xx/xx	

Other Part A installation permits relating to this installation		
Operator	**Permit number**	**Date of issue**
Tata Steel UK Ltd (main steelworks)	EPR/BL7108IM	29/06/2009
Multiserve Group Limited)	BP3635MR	30/10/2006
Cambrian Stone	BL5636IF	07/12/2003
NuRock (Sonics) Limited (Revoked)	BS6165	31/03/2005
Suncoke	BX6987IB	08/07/2005
Tata Steel UK Ltd (Morfa Hazardous Landfill)	BW2692IM	17/12/2004

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number
EPR/BV7311IE

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BV7311IE/V006 authorising,

Tata Steel UK Limited ("the operator"),

whose registered office is

30 Millbank
London
SW1P 4WY

company registration number **02280000**

to operate an installation at

Morfa Non-Hazardous Landfill
Port Talbot Works
Port Talbot
West Glamorgan
SA13 2NG

to the extent authorised by and subject to the conditions of this permit.

Signed	Date
	xx/xx/xx

Authorised on behalf of Natural Resources Wales

Generic Conditions

1 Management

1.1 General management

1.1.1 The operator shall manage and operate the activities:

(a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and

(b) using sufficient competent persons and resources.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.1.4 The operator shall comply with the requirements of an approved competence scheme.

1.2 Finance

1.2.1 The financial provision for meeting the obligations under this permit set out in the operator's letter dated/agreement made between the operator and Natural Resources Wales dated 30th November 2016, or other financial provision as subsequently agreed in writing with Natural Resources Wales, shall be maintained by the operator throughout the subsistence of this permit and the operator shall produce evidence of such provision whenever required by Natural Resources Wales.

1.2.2 The operator shall ensure that the charges it makes for the disposal of waste in the landfill cover all of the following:

(a) the costs of setting up and operating the landfill;

(b) the costs of the financial provision required by condition 1.2.1; and

(c) the estimated costs for the closure and aftercare of the landfill.

1.3 Energy efficiency

1.3.1 *For the following activities referenced in schedule 1, table S1.1,* The operator shall:

(a) take appropriate measures to ensure that energy is used efficiently in the activities;

(b) Review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and

(c) Implement any appropriate measures identified by a review.

1.4 Efficient use of raw materials

1.4.1 The operator shall:

(a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;

(b) maintain records of raw materials and water used in the activities;

(c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and

(d) take any further appropriate measures identified by a review.

1.5 Avoidance, recovery and disposal of wastes produced by the activities

1.5.1 The operator shall:

(a) take appropriate measures to ensure that waste produced by the activities is avoided or reduced, or where waste is produced it is recovered wherever practicable or otherwise disposed of in a manner which minimises its impact on the environment;

(b) review and record at least every four years whether changes to those measures should be made; and

(c) take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the "activities").

2.2 The site

2.2.1 The activities shall not extend beyond the site, being the land shown edged in Green on the site plan at schedule 7 to this permit.

2.3 Operating techniques

2.3.1 (a) The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by Natural Resources Wales.

(b) If notified by Natural Resources Wales that the activities are giving rise to pollution, the operator shall submit to Natural Resources Wales for approval within the period specified, a revision of any plan or other documentation ("plan") specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

2.3.2 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:

(a) the nature of the process producing the waste;

(b) the composition of the waste;

(c) the handling requirements of the waste;

(d) the hazardous property associated with the waste, if applicable; and

(e) the waste code of the waste.

2.4 Improvement programme

2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by Natural Resources Wales.

2.4.2 Except in the case of an improvement which consists only of a submission to Natural Resources Wales, the operator shall notify Natural Resources Wales within 14 days of completion of each improvement.

2.5 Pre-operational conditions

2.5.1 The operations specified in schedule 1 table S1.4B shall not commence until the measures specified in that table have been completed.

2.6 Landfill Engineering

2.6.1 No construction of any new cell of the landfill shall commence until the operator has submitted construction proposals and Natural Resources Wales has confirmed that it is satisfied with the construction proposals.

2.6.2 Where the operator proposes to construct any new cell other than the first cell, but proposes no change from the design of the most recently approved cell which could have any impact on the performance of any element of the design, no construction of the new cell shall commence until the operator has submitted a cell layout drawing and Natural Resources Wales has confirmed that it is satisfied with the cell layout drawing.

2.6.3 The construction of a new cell shall take place only in accordance with the approved construction proposals unless:

(a) any change to the approved construction proposals would have no impact on the performance of any element of the design; or

(b) a change has otherwise been agreed in writing by Natural Resources Wales.

2.6.4 No disposal of waste shall take place in a new cell until the operator has submitted a CQA Validation Report and Natural Resources Wales has confirmed that it is satisfied with the CQA Validation Report.

2.6.5 No construction of landfill infrastructure shall commence until the operator has submitted relevant construction proposals or a written request to use previous construction proposals and Natural Resources Wales has confirmed that it is satisfied with the construction proposals.

2.6.6 The construction of the landfill infrastructure shall take place only in accordance with the approved construction proposals unless:

(a) any change to the approved construction proposals would have no impact on the performance of any element of the design; or

(b) a change has otherwise been agreed in writing by Natural Resources Wales.

2.6.7 The operator shall submit a CQA Validation Report as soon as practicable following the construction of the relevant landfill infrastructure.

2.6.8 Where pollution controls are immediately necessary to prevent an incident or accident, then conditions 2.6.5 and 2.6.6 do not apply and the relevant landfill infrastructure may be constructed, provided that the construction proposals are submitted to Natural Resources Wales as soon as practicable.

2.6.9 For the purposes of conditions 2.6.1,2.6.2, 2.6.4 and 2.6.5, Natural Resources Wales shall be deemed to be satisfied where it has not, within the period of four weeks from the date of receipt of the relevant construction proposals or CQA Validation Report, either:

(a) confirmed whether or not it is satisfied; or

(b) informed the operator that it requires further information.

2.6.10 Where Natural Resources Wales has required further information under condition 2.6.9(b), Natural Resources Wales shall be deemed to be satisfied where it has not, within the period of four weeks from the date of receipt of the further information, either:

(a) confirmed whether or not it is satisfied; or

(b) informed the operator that it requires further information.

2.7 Waste acceptance

2.7.1 Wastes shall only be accepted for disposal if:

(a) they are listed in schedule 2, and

(b) they are non- hazardous waste, and

(c) they are not whole used tyres (other than bicycle tyres and tyres with an outside diameter of more than 1400mm), and

(d) they are not shredded used tyres, and

(e) they are not liquid waste (including waste waters but excluding sludge, and

(f) they are not chemical substances from research and development or teaching activities, for example laboratory residues, which are unidentified and/or which are new and whose effects on man and/or the environment are unknown, and

(g) all the relevant waste acceptance procedures have been completed, and

(h) they fulfil the relevant waste acceptance criteria, and

(i) they have not been diluted or mixed solely to meet the relevant waste acceptance criteria, and

(j) they are wastes which have been treated, except for: inert wastes for which treatment is not technically feasible; or it is waste other than inert waste and treatment would not reduce its quantity or the hazards which it poses to human health or the environment, and

(k) where they are wastes with a code beginning with 07 05 and 16 03, they shall exclude waste medicinal products and pharmaceutically active waste materials arising from their manufacture.

2.7.2 Wastes shall only be accepted for recovery if:

(a) they are accepted in accordance with a waste recovery plan which has been approved in writing by Natural Resources Wales, as detailed in Table S1.4.

2.7.3 The operator shall visually inspect:

(a) without unloading it, waste that is not in an enclosed container or enclosed vehicle on arrival at the landfill; and

(b) waste at the point of deposit;

and shall satisfy itself that it conforms to the basic characterisation documentation submitted by the holder.

2.7.4 Where the operator has taken samples to establish that the waste is in conformity with the documentation submitted by the holder then the samples taken shall be retained for at least one month and results of any analysis for at least two years.

2.7.5 The operator on accepting each delivery of waste shall provide a receipt to the person delivering it.

2.7.6 The total quantity of waste that shall be deposited in the landfill shall be limited by the pre-settlement levels shown on drawing 1842/13 dated 08/2018.

2.7.7 The quantity of waste that is deposited in the landfill in any year shall not exceed the limits in schedule 1 table S1.5.

2.7.8 The operator shall maintain and implement a system which ensures that a record is made of the quantity, characteristics, date of delivery and, where practicable, origin of any waste that is received for disposal or recovery and of the identity of the producer, or in the case of municipal waste and multiple collection vehicles, of the collector of such waste. Any information regarded by the operator as commercially confidential shall be clearly identified in the record.

2.8 Leachate levels

2.8.1 The limits for the level of leachate listed in schedule 3 table S3.1 shall not be exceeded.

2.9 Closure and aftercare

2.9.1 The operator shall maintain a closure and aftercare management plan.

2.10 Landfill gas management

2.10.1 The operator shall take appropriate measures, including, but not limited to, those specified in any approved landfill gas management plan, to:

(a) collect landfill gas; and

(b) control the migration of landfill gas.

2.10.2 The operator shall use the collected landfill gas to produce energy. If the collected landfill gas cannot be used to produce energy, the operator shall flare the gas.

2.10.3 The operator shall:

(b) if notified by Natural Resources Wales, submit to Natural Resources Wales for approval within the period specified, a revised landfill gas management plan;

(b) implement the revised landfill gas management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

3 Emissions and monitoring

3.1 Emissions to water, air or land

3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 table S3.2.

3.1.2 The limits given in Table S3.2 shall not be exceeded.

3.1.3 Where a substance is specified in schedule 3 table S3.2 but no limit is set for it, the concentration of such substance in emissions to water from the relevant emission point shall be no greater than the background concentration.

3.1.4 There shall be no emission from the activities into groundwater of any hazardous substances contrary to the EP Regulations.

3.1.5 There shall be no emission from the activities into groundwater of any non-hazardous pollutants so as to cause pollution.

3.1.6 The trigger levels for emissions into groundwater for the parameter(s) and monitoring point(s) set out in schedule 3 table S3.3 shall not be exceeded.

3.1.7 The operator shall submit to Natural Resources Wales a review of the Hydrogeological Risk Assessment:

(a) between nine and six months prior to the sixth anniversary of the granting of the permit, and

(b) between nine and six months prior to every subsequent six years after the sixth anniversary of the granting of the permit.

3.1.8 The limits for landfill gas arising from the installation set out in schedule 3, tables S3.4, S3.5 and S3.6 shall not be exceeded.

3.1.9 The limits for particulate matter arising from the installation set out in schedule 3, table S3.10 shall not be exceeded.

3.2 Emissions of substances not controlled by emission limits

3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.

3.2.2 The operator shall:

(a) if notified by Natural Resources Wales that the activities are giving rise to pollution, submit to Natural Resources Wales for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;

(b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

33.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of Natural Resources Wales, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.

3.3.2 The operator shall:

(a) if notified by Natural Resources Wales that the activities are giving rise to pollution outside the site due to odour, submit to Natural Resources Wales for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;

(b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

3.4 Noise and vibration

3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of Natural Resources Wales, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.

3.4.2 The operator shall:

(a) if notified by Natural Resources Wales that the activities are giving rise to pollution outside the site due to noise and vibration, submit to Natural Resources Wales for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;

(b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

3.5 Monitoring

3.5.1 The operator shall, unless otherwise agreed in writing by Natural Resources Wales, undertake the monitoring and any other actions specified in the following tables in schedule 3 to this permit:

(a) Leachate specified in tables S3.1 and S3.7;

(b) Point source emissions specified in tables S3.2

(c) Groundwater specified in tables S3.3 and S3.9;

(d) Landfill gas specified in tables S3.4, S3.5 and S3.6;

(e) Surface water specified in table S3.8; and

(f) Particulate matter specified in table S3.10.

3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.

3.5.3 A topographical survey of the site referenced to ordnance datum shall be carried out:

(a) annually, and

(b) prior to the disposal of waste in any new cell or new development area of the landfill, and

(a) following closure of the landfill or part of the landfill.

The topographical survey shall be used to produce a plan of a scale adequate to show the surveyed features of the site.

3.6 Pests

3.6.1 The activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved pests management plan, have been taken to prevent or where that is not practicable, to minimise the presence of pests on the site.

3.6.2 The operator shall:

(a) if notified by Natural Resources Wales, submit to Natural Resources Wales for approval within the period specified, a pests management plan which identifies and minimises risks of pollution, hazard or annoyance from pests;

(b) implement the pests management plan, from the date of approval, unless otherwise agreed in writing by Natural resources Wales

4 Information

4.1 Records

4.1.1 All records required to be made by this permit shall:

(a) be legible;

(b) be made as soon as reasonably practicable;

(c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and

(d) be retained, unless otherwise agreed in writing by Natural Resources Wales, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:

(i) the results of groundwater monitoring;

(ii) the results of surface water monitoring;

(iii) sub-surface landfill gas monitoring;

(iv) leachate levels, quality and quantities;

(v) landfill gas generation and collection;

(vi) waste types and quantities;

(vii) topographical surveys; and

(viii) the specification and as built drawings of the basal, sidewall and capping engineering systems.

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by Natural Resources Wales.

4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by the permit to Natural Resources Wales using the contact details supplied in writing by Natural Resources Wales.

4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to Natural Resources Wales by 31 January (or other date agreed in writing by Natural Resources Wales) each year. The report(s) shall include as a minimum:

(a) a review of the results of the monitoring and assessment carried out in accordance with this permit against the relevant assumptions, parameters and results in the risk assessments submitted in relation to this installation and any agreed amendments thereto;

(b) where the operator's management system encompasses annual improvement targets, a summary report of the previous year's progress against such targets;

(c) the energy consumed at the site, reported in the format set out in schedule 4 table S4.3

(d) the annual production/treatment set out in schedule 4 table S4.2;

(e) details of any contamination or decontamination of the site which has occurred;

(f) the topographical surveys required by condition 3.5.3 other than those submitted as part of a CQA validation report;

(g) the volumetric difference (reported in cubic metres) between the most recent topographical survey and the previous annual topographical survey i.e. the additional volume of the landfill void that is occupied by waste;

(h) an assessment of the settlement behavior of the landfill body based on the difference between the most recent topographical survey and previous annual topographical survey for the areas of the landfill which did not receive waste between the surveys;

(i) a calculation of the remaining capacity (reported in cubic metres) derived from the pre-settlement contours and the most recent topographical survey.

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by Natural Resources Wales, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

(a) in respect of the parameters and emission points specified in schedule 4 table S4.1;

(b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4; and

(c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.4 Within one month of the end of each quarter, the operator shall submit to Natural Resources Wales using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

4.2.5 The operator shall, unless notice under this condition has been served within the preceding four years, submit to Natural Resources Wales, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.3 Notifications

4.3.1 (a) In the event that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—

(i) inform Natural Resources Wales,

(ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and

(iii) take the measures necessary to prevent further possible incidents or accidents;

(b) in the event of a breach of any permit condition the operator must immediately—

(i) inform Natural Resources Wales, and

(ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;

(c) in the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

4.3.2 Any information provided under condition 4.3.1 [(a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit,] shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 Where Natural Resources Wales has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform Natural Resources Wales when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to Natural Resources Wales at least 14 days before the date the monitoring is to be undertaken.

4.3.4 Natural Resources Wales shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

(a) any change in the operator's trading name, registered name or registered office address; and

(b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

(a) any change in the operator's name or address; and

(b) any steps taken with a view to the dissolution of the operator.

In any other case:

(a) the death of any of the named operators (where the operator consists of more than one named individual);

(b) any change in the operator's name(s) or address(es); and

(c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

(a) Natural Resources Wales shall be notified at least 14 days before making the change; and

(b) the notification shall contain a description of the proposed change in operation.

4.3.6 Natural Resources Wales shall be given at least 14 days notice before implementation of any part of the site closure plan.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "immediately, in which case it may be provided by telephone.

Schedule 1 - Operations

Table S1.1 activities		
Activity listed in Schedule 1 of the EP Regulations	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity**
Section 5.2 Part A(1) (a) , The disposal of waste in a landfill.	Landfill for non-hazardous waste	Receipt, handling, storage and disposal of wastes, consisting of the types and quantities specified in condition 2.7, as an integral part of landfilling.
Deposit of waste for recovery	**R13:** Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced) **R5:** Recycling/ reclamation of other inorganic compounds **R10:** Land treatment resulting in benefit to agriculture or ecological improvement	Receipt, handling, storage and recovery of non-hazardous wastes, consisting of the types and quantities specified in condition 2.7. This waste operation shall consist of the permanent deposit of waste on or in land for the purpose of recovery only. This activity is subject to the specifications set out in the pre-operational condition in table S1.4. In any event the total quantity of waste used shall not exceed the amount needed to complete the recovery operation to the final levels in the approved waste recovery plan. Topsoil and peat shall only be used for the R10 activity in the final 0.5m thick layer to achieve the restoration profile required.
Directly Associated Activity		
Leachate management e.g. biological treatment of leachate.	Storage of leachate	Leachate arising from the Permitted landfill
Water discharges to controlled waters	Discharge of site drainage	From surface water management system to points of entry to controlled waters

Table S1.1 activities		
Activity listed in Schedule 1 of the EP Regulations	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity**
Waste Treatment	Physio-chemical treatment of waste (D9) Storage Pending Disposal or Recovery (D15, R13, R2 & R4)	a). Treatment consisting only of manual sorting, separation and screening of non-hazardous or inert wastes into different components for disposal (no more than 50 Tonnes per day) or recovery; b). only waste arisings from the Tata Port Talbot Installation, shall be accepted for treatment; c). The keeping and treatment of wastes shall be undertaken upon an impermeable pavement with a sealed drainage system and within a covered building; d). Only the following waste types will be accepted for keeping or treatment: 150103; 150203; 161106; 170203; 170904; 200101; 200102; 200138; 200139; 200201, 200301 The bailing of waste for disposal is not permitted.

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Application	The response to questions 1.2, 2.1, 2.2, 2.3, 2.4 and 2.5 in part B of the Application Form	9 October 2003
Response to request for information by email	Request to include additional waste type EWC 11 01 10 and Shotton Filtercake Basic Characterisation. (Amendment to Table 39 of application) (PAS Ref: 118198 and 118200)	3 December 2004
Response to request for information by letter	Drawing Number 244 Drawing 08 dated May 2003 'Basal Liner Details' Replaced with Revised Drawing Number 244 Drawing 08 dated January 20th 2004 and Drawing Number 244 Drawing 02 dated May 2003 'Planning and PPC Permit Boundary'' replaced with revised Drawing number 244 Drawing 02 Revision 1 dated December 2003	14 January 2004
Regulation 16 change	Letter from Corus, dated 1st April 2005 (ref: PPC/Landfill/Morfa_N haz_ 1.4.05) for addition of Cold Mill Filtercake (11 01 10) to permitted waste types. Acknowledged by the Agency 11 April 2005.	3 April 2005
Response to Improvement condition 2 of original permit	Submission from L.A. Boorman, Dated July 2005, Sea Buckthorn Control Plan ("Control Plan for Sea Buckthorn at the Morfa Closed Landfill Port Talbot") accepted following CCW consultation	9 August 2005
Response to Improvement	Letter From Corus (Reference PPC011) regarding Leachate Management. Approved by the Agency on 9	28 October 2005

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
condition 1a and 1b of original permit BV7311IE	November 2005	
Response to Improvement condition 7 of original permit BV7311IE	Geotechnology Plan (Reference:- 399 Drawing B, Date 07.06) Establishment of a Buffer Strip. Accepted 1 August 2006 following CCW consultation	21 July 2006
Variation Application KP3033MC	The response to questions 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.7.1, 2.7.2, 2.7.3, 2.9, 3.1, 4.1 in Part C of the application.	14 August 2006
Further Information	Letter from Corus, dated 11th July 2006 (ref: PPC/Landfill/VariationJUL06)	14 July 2006
Further Information	Geotechnology Report (Report Number 447.1/0/0606).	14 July 2006
Further Information	Geotechnology report (Report Number 451.1/2/0806), dated August 2006	22 August 2006
Further Information	Letter from Corus, dated 25th August 2006 (ref: PPC/Landfill/VariationAug25_06)	8 September 2006
Response to Improvement condition 3 of original permit BV7311IE	Geotechnology Report (Report Number 403.1/1/1006).	Dated November 2006
	Letter from Corus (including attachments), (ref:RAL.IPPC.77). Revised Figure 2 "Current & Proposed Monitoring Network" Revision 0, ref. 403.1/10/1006.	Dated 22 January 2007
	Geotechnology Report (Report Number 528.1/0/0307).	Dated March 2007
	Letter from Geotechnology, (referenced: 244Permit_lt1/BRkp).	Dated 4 May 2007
Response to Improvement condition 4 of original permit BV7311IE	Geotechnology Report (Report Number 403.1/1/1006).	Dated November 2006
	Letter from Corus (including attachments), (ref:RAL.IPPC.77). Revised Figure 2 "Current & Proposed Monitoring Network" Revision 0, ref. 403.1/10/1006.	Dated 22 January 2007
	Geotechnology Report (Report Number 528.1/0/0307).	Dated March 2007
	Letter from Geotechnology, (referenced: 244Permit_lt1/BRkp).	Dated 4 May 2007
Pre Operational condition Submission for the waste treatment plant	Geotechnology Report:- Working Plan for the Morfa Waste Treatment Centre Ref:- 512.1/0/0107. Dated January 2007	10 January 2007
Pre Operational condition Submission for the waste treatment plant	Drawing 3 Morfa Waste Treatment Centre- Drainage Details Revision 1, 512.1/0/0107;	14 March 2007
Pre Operational condition Submission for the waste treatment plant	Validation Report submitted with Geotechnology Letter (ref 512/lt1/aj/kp and dated 14th February 2007)	14th March 2007
Pre Operational condition Submission Slag Sampling Protocol	Geotechnology Letter (ref:- 569/lt3/ET/kp and dated 19th July 2007)	Dated 19 July 2007
Regulation 16 change for the waste treatment plant	Letter from Corus (ref:BV7311IE) enclosing amended Plan (Figure 4 - Sub–divisions of waste treatments plant" Plan) namely:- Plan Reference: 496.1/0/0906 Revision 1 has been replaced by Plan Reference: 512.1/3/0607, Revision 3.	20th September 2007
Regulation 16 change	• Letter from Corus (*ref:* mnhl/bv7311ie/reg16)	13th march 2008

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
	• Geotechnology Report *(report number 658.1/0/0208)*	
Revised Dust Monitoring Plan & New Limits	Letter from Corus (*ref:Landfill_003*).	Dated 28th September 2007 (Received 28th September 2007)
Minor Operational Changes to the Landfill Permit	Letter from Corus (*ref:PPC/Landfill/LW*) Inclusion of new waste code into List of Permitted waste	Letter dated 24th June 2008
Minor Operational Changes to the Landfill Permit	Letter from Corus (*ref:Landfill_017*) enclosing details of minor changes and amendments: • Updated Monitoring Point Location Plan (471.2/0/0408 MSP M02- Revision 0); • Plan showing the location of gas vents and leachate wells in Biodegradable Cells (65.1/0/0408, Figure 2 –Revision 0); • Updated Monitoring Point Register (*ML/WL Environmental Monitoring –Location of monitoring installation/Rev1 Tables 1 to 6*); • Changes to Leachate Control Levels • Consolidation and amendments to the leachate Monitoring frequency and reporting; • Revision of Dust monitoring limits • Revised gas limit for GA16 • Consolidation and amendments to the Groundwater Monitoring frequency and reporting; • Consolidation and amendments to the Surface Water Monitoring frequency and reporting; • Incorporation of Changes to surface water control Levels	Letter dated 13th June 2008 (Received 23rd June 2008)
Response to Improvement condition 6 of original permit BV7311IE	• Geotechnology report 495.1/0/1206. Recharge Trench Design Report. 18 December 2006 • Geotechnology letter response (ref: 542/Recharge Trench Report/lt1 (Note: This letter was incorrectly dated 11 July 2006 – should have read 2007). • Geotechnology Report: Morfa Non Hazardous Landfill Cell 1 Restoration Scheme Report Number 629.1/0/1207 December 07.	20th December 2006 12th July 2007 13th February 2008
Minor Operational Changes to the Landfill Permit	Geotechnology Report *(*Reference(722R1V1D0908) *Landfilling Filter Pressed Filter* – Dated: September 2008	Report Received 10th October 2008 Approved 28th October 2008
Minor Operational Changes to the Landfill Permit	Letter from Corus (*ref:PPC/Landfill/LW/Feb09*) Waste Handling Procedures for conveyor belt waste.	Letter Received 27th February 2009 Approved 3rd March 2009
Hydrogeological Risk Assessment – Four Year Review	Geotechnology Report: "Four year review of Hydrogeological Risk Assessment" Report Number 711r1v1d0908	Report Received 18th December 2008 Approved 31st July 2009
Minor Operational Changes to the	Letter from Corus (*ref: PPC/Landfill/bv7311ie/jul08)* reclamation of materials	Letter dated 24th July 2009

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Landfill Permit		Approved 28th July 2009
Application	Proposed biocell extension and recovery of material from non-hazardous cell 1. Substantial variation report – 1842r1v1d0818	09/11/18

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
1	Review and establish Leachate control levels for Benzo (a) Pyrene. Once established the permit will be read as if it contained these figures as appropriate	Within six months of issue of permit.
2	The operator shall undertake a review of copper trigger levels set in Table S3.3 and shall submit a report to the Agency for written approval which will suggest alternative copper trigger limits to be set in Table S3.3. The review submitted by the operator shall include justification to the Agency for the proposed copper trigger limits. The operator shall implement any revised trigger levels as agreed in writing with Natural Resources Wales.	Within three months of issue of permit

Table S1.4B Pre-operational Measures for Future Development		
Reference	**Operation**	**Pre-operational Measures**
1	Three Months prior to the construction of Recharge Trenches C and (as shown on drawing reference: Figure 8 Recharge Trench Alignment Revision 0, Dated 12.07)	The operator shall review all relevant monitoring data and produce a written report which shall propose: • Upper and Lower Groundwater Levels for each of the three respective Recharge Trenches. The operator shall implement any improvements or measures as agreed in writing with Natural Resources Wales.
2	Three Months prior to the construction of Recharge Trenches E, F1 and F2 (as shown on drawing reference: Figure 8 Recharge Trench Alignment Revision 0, Dated 12.07)	The operator shall review all relevant monitoring data and produce a written report which shall propose: • Upper and Lower Groundwater Levels for each of the three respective Recharge Trenches. The operator shall implement any improvements or measures as agreed in writing with Natural Resources Wales.
3	Three Months prior to the construction of any element of the Recharge Trench	The operator shall review all relevant monitoring data and produce a written report which shall include, but not be limited to, the following issues: • An assessment of the choice of substances to derive control and emission Limits for each of the Recharge Trench discharges; • The setting of specific emission limits and control levels for the Recharge Trench discharges. The operator shall implement any improvements or measures as agreed in writing with Natural Resources Wales.

4	Prior to the construction of any further landfill cells at the Morfa Non Hazardous Landfill	The operator shall construct the first two phases of the engineered water recharge trench system, which will be constructed to ensure that along the edge of the landfill, the existing groundwater levels are maintained and groundwater chemistry remains suitable for the soligenous fen systems of the Margam Moors SSSI. Note: Phases one and two are defined as the construction of recharge trenches A, B, C and D (as outlined in *Figure 8, Recharge Trench Alignment* Revision 0, Dated 12.07) and associated infrastructure.
5	Deposit of waste for recovery	The operator shall submit to Natural Resources Wales a waste recovery plan, and shall have approval in writing from Natural Resources Wales before undertaking this activity. This plan shall specify: • A description of the proposed work, including proposed contours/ final levels; • The obligation to carry out the work; • The purpose of depositing the waste; • The proposed waste types; • Explanation for how the waste is fit for the intended purpose; • Waste quantities to be deposited, • Justification for waste quantities; • Explanation of how wastes will replace need for non-waste materials; • Demonstrate that consideration has been given to depositing smaller quantity of waste; • Demonstrate that the waste will not cause environmental problems such as pollution; • Waste acceptance procedures; • If waste is to be stored prior to use, give details of maximum storage times.

Table S1.5 Annual waste input limits

Category	Limit Tonnes/ Year
Non-hazardous waste	500,000
Deposit of waste for recovery	To be agreed in writing with Natural Resources Wales

Schedule 2 - List of permitted wastes

Table S2.1 Permitted waste types	
Waste code	**Description**
10	**Wastes from thermal processes**
10 02	**Wastes from the iron and steel industry**
10 02 01	Wastes from processing of slag
10 02 02	Unprocessed slag
10 02 08	Solid wastes from gas treatment other than those in 10 02 07
10 02 10	Mill scales
10 02 12	Wastes from cooling-water treatment other than those in 10 02 11
11	**Wastes from chemical surface treatment & coating of metals**
11 01	**Wastes from chemical surface treatment & coating of metals & materials (eg… pickling)**
11 01 10	Sludges and filter cakes other than those in 11 01 09
12	**Wastes from shaping & mechanical surface treatment of metals and plastics**
12 01	**Wastes from shaping & mechanical surface treatment of metals and plastics**
12 01 13	welding wastes
12 01 21	Spent grinding bodies and grinding materials other than those mentioned in 12 01 20
15	**Waste packaging, absorbents, wiping cloths, filter materials, and protective clothing not otherwise specified**
15 01	**Packaging (including separately collected municipal waste)**
15 01 03	Wooden packaging
15 02	**Absorbents, filter materials, wiping cloths and protective clothing**
15 02 03	Absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02
16	**Wastes not otherwise specified in the list**
16 03	**Off spec batches and unused products**
16 03 06	Organic wastes other than those mentioned in 16 03 05
16 11	**Waste linings and refractories**
16 11 06	Linings and refractories from non-metallurgical processes other than those mentioned in 16 11 05
17	**Construction and Demolition Wastes**
17 02	**Wood , glass and plastic**
17 02 03	plastic
17 05	**Soil (inc excavated soil from contaminated sites), stones and dredging spoil**
17 05 04	Soil and stones other than those mentioned in 17 05 03
17 06	**Insulation materials & asbestos-containing construction materials**
17 06 04	Insulation materials other than those mentioned in 17 06 01 and 17 06 03
17 09	**Other construction and demolition waste**
17 09 04	Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
19	**Wastes from waste management facilities, waste water treatment plants and preparation of water intended for human consumption and water for industrial use**
19 08	**Wastes from waste water treatment plants not otherwise specified**
19 08 14	Sludges from other treatment of industrial water other than those mentioned in 19 08 11
19 09	**Wastes from preparation of water intended for human consumption or water for industrial use**

Table S2.1 Permitted waste types	
Waste code	**Description**
19 09 05	Saturated or spent ion exchange resin
19 12	**Wastes from mechanical treatment of waste not otherwise specified**
19 12 01	Paper and cardboard
19 12 02	Ferrous metal
19 12 03	Non-ferrous metal
19 12 04	Plastic and rubber
19 12 05	Glass
19 12 06	Wood other than that mentioned in 19 12 06
19 12 07	Minerals (e.g. sand and stones)
19 12 12	Other wastes (incl mixtures of materials) from mechanical treatment of waste other than those mentioned in 19 2 11
20	**Municipal wastes including separately collected fractions**
20 01	**Separately collected fractions (except 15 01)**
20 01 01	Paper and cardboard
20 01 02	Glass
20 01 08	Biodegradable kitchen and canteen waste
20 01 38	Wood other than that mentioned in 20 01 37
20 01 39	plastics
20 02	**Garden and park wastes**
20 02 01	Biodegradable waste
20 03	**Other municipal waste**
20 03 01	Mixed municipal waste

Table S2.2 Permitted waste types for recovery
As agreed in writing by Natural Resources Wales in accordance with pre-operational condition 5 in table S1.4.

Schedule 3 – Emissions and monitoring

Table S3.1 Leachate level limits and monitoring requirements

Monitoring point reference/ Description	Limit	Monitoring frequency	Monitoring method
L1, L4, L5, L6 and L7 as shown on Monitoring *Point Location Plan (471.2/0/0408 MSP M02-Revision 0*) and all subsequent new leachate monitoring points installed within cells (at least one monitoring point per cell).	1m above base of leachate monitoring point	Weekly	1. Accurate to ±0.01m relative to Ordnance Datum. 2. Unless otherwise agreed in writing with the Agency, monitoring methods used shall be in accordance with Environment Agency document 'Guidance on monitoring of landfill leachate, groundwater and surface water (LFTGN02)

Table S3.2 Point source emissions to water (other than sewer) – emission limits and monitoring requirements

Emission point Ref. & Location	Source	Parameter	Limit (incl. unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
Recharge Chamber C as shown on drawing reference: Figure 8 Recharge Trench Alignment Revision 0, Dated 12.07	Surface Water Ponds	Water Level	In accordance with Pre-Operational Condition reference 1 of Table S1.4	Continuous	24-hour	-
Recharge Chamber D as shown on drawing reference: Figure 8 Recharge Trench Alignment Revision 0, Dated 12.07	Surface Water Ponds	Water Level	In accordance with Pre-Operational Condition reference 1 of Table S1.4	Continuous	24-hour	-
Recharge Chamber E, F1 and F2 as shown on drawing reference: Figure 8 Recharge Trench Alignment Revision 0, Dated 12.07	Surface Water Ponds	Water Level	In accordance with Pre-Operational Condition reference 2 of Table S1.4	Continuous	24-hour	-
Recharge Chamber C, D, E, F1 and F2 as shown on drawing reference: Figure 8 Recharge Trench Alignment Revision 0, Dated 12.07	Surface Water Ponds	*Chemical Parameters as outlined with Pre-Operational Condition reference 2 of Table S1.4*	In accordance with Pre-Operational Condition reference 3 of Table S1.4	In accordance with Pre-Operational Condition reference 2 of Table S1.4	In accordance with Pre-Operational Condition reference 2 of Table S1.4	-

* Unless otherwise agreed in writing with Natural Resources Wales

Table S3.3 Trigger levels for emissions into groundwater and monitoring requirements				
Monitoring point reference (as shown on Figure 1 "Available Monitoring Network" Revision 0, ref. 528.1/0/0307)) (Shallow Aquifer)	**Parameter**	**Limit (including unit)**	**Reference Period**	**Monitoring frequency**
BH3S (Shallow Aquifer)	Cadmium	1.1(µg/l)	Spot Sample	Quarterly
	Copper	6.5(µg/l)		
	Mercury	0.11(µg/l)		
	Ammonia	11.739 (mg/l)		
	Alkalinity (as $CaCO_3$)	2938 (mg/l)		
BH4S (Shallow Aquifer)	Cadmium	0.88(µg/l)	Spot Sample	Quarterly
	Copper	6.5(µg/l)		
	Mercury	0.33(µg/l)		
	Ammonia	3.12(mg/l)		
	Alkalinity (as $CaCO_3$)	748.8 (mg/l)		
BH6S (Shallow Aquifer)	Cadmium	2.86(µg/l)	Spot Sample	Quarterly
	Copper	14.3(µg/l)		
	Mercury	0.11(µg/l)		
	Ammonia	17.42 (mg/l)		
	Alkalinity (as $CaCO_3$)	1443 (mg/l)		
BH11S (Shallow Aquifer)	Cadmium	0.55 (µg/l)	Spot Sample	Quarterly
	Copper	6.5(µg/l)		
	Mercury	0.22(µg/l)		
	Ammonia	1.1 (mg/l)		
	Alkalinity (as $CaCO_3$)	656.5 (mg/l)		
BH12S (Shallow Aquifer)	Cadmium	1.1(µg/l)	Spot Sample	Quarterly
	Copper	13(µg/l)		
	Mercury	0.11(µg/l)		
	Ammonia	0.52 (mg/l)		
	Alkalinity (as $CaCO_3$)	335.4 (mg/l)		
BH13S (Shallow Aquifer)	Cadmium	1.1(µg/l)	Spot Sample	Quarterly
	Copper	7(µg/l)		
	Mercury	0.11(µg/l)		
	Ammonia	2.08 (mg/l)		
	Alkalinity (as $CaCO_3$)	872.3 (mg/l)		
BH14S (Shallow Aquifer)	Cadmium	3.41(µg/l)	Spot Sample	Quarterly
	Copper	6.5(µg/l)		
	Mercury	0.11(µg/l)		
	Ammonia	12.87 (mg/l)		
	Alkalinity (as $CaCO_3$)	210.6 (mg/l)		

Table S3.4 Landfill gas in external monitoring boreholes – limits and monitoring requirements				
Monitoring point Ref. /description	**Parameter**	**Limit (including units)**	**Monitoring frequency**	**Monitoring standard or method**
Boreholes GA 7 to 15 as shown on Monitoring *Point Location Plan (471.2/0/0408 MSP M02- Revision 0*)	Methane	1.0%	Monthly	Monitoring to be carried out in accordance with Environment Agency Document 'LFTN03: Guidance on Management of Landfill Gas' unless otherwise agreed by Natural Resources Wales
Boreholes GA 7 to 15 as shown on Monitoring *Point Location Plan (471.2/0/0408 MSP M02- Revision 0*)	Carbon Dioxide	1.5%		
Borehole GA 16 as shown on Monitoring *Point Location Plan (471.2/0/0408 MSP M02- Revision 0*)	Methane	6%		
Borehole GA 16 as shown on Monitoring *Point Location Plan (471.2/0/0408 MSP M02- Revision 0*)	Carbon Dioxide	2%		
GA 7 to 16 Boreholes as shown on Monitoring *Point Location Plan (471.2/0/0408 MSP M02- Revision 0*)	Oxygen	No Limit		
	Hydrogen Sulphide	No Limit		
	Atmospheric Pressure	No Limit		
	Differential Pressure	No Limit		
	Temperature	No Limit		
	Meteorological data	No Limit		

Table S3.5 Landfill gas from capped surfaces – limits and monitoring requirements				
Monitoring point Ref. /description	**Parameter**	**Monitoring frequency**	**Other specifications**	**Monitoring Standard or method**
Permanently capped zone (Biodegradable cells only)	Average methane flux and total methane emission	Annually*	Where the average zone emission rate of 0.001mg/m^2/second is exceeded appropriate measures must be taken to reduce the rate	As per LFTGN 07 or as agreed in writing with Natural Resources Wales
Temporarily capped zone (Biodegradable cells only)			Where the average zone emission rate of 0.1mg/m^2/second is exceeded appropriate measures must be taken to reduce the rate	

* If a cap has been shown compliant and there have been no significant physical changes in the gas management during the year, a detailed walkover survey can be used to demonstrate that the surface emissions are under control. If this survey shows no change in the pattern of methane emissions, it may be used as the annual survey and the values for average methane flux and total methane emissions measured in the previous year may be reported. A quantitative survey is not necessary. If the zone remains stable, the results of a detailed walkover survey will be acceptable for the annual report for a period of four years before a further quantitative survey is required

Table S3.6 Landfill gas – other monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
GA 1, GA2, W1 to W16 as shown on Monitoring Point Location Plan (471.2/0/0408 MSP M02- Revision 0	Methane	Monthly	Monitoring to be carried out in accordance with Environment Agency document 'LFTN03: Guidance on the management of Landfill Gas' unless otherwise agreed in writing with Natural Resources Wales	-
	Carbon Dioxide			
	Oxygen			
	Hydrogen Sulphide			
	Carbon Monoxide			
	Atmospheric Pressure			
	Differential Pressure			
	Meteorological Data			

Table S3.7 Leachate– other monitoring requirements			
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**
L1 and L7 as shown on Monitoring Point Location Plan (471.2/0/0408 MSP M02- Revision 0) and all subsequent new leachate monitoring points installed within cells (at least one monitoring point per cell).	Temperature	Quarterly	Unless otherwise agreed in writing by Natural Resources Wales, monitoring methods used shall be in accordance with Environment Agency document 'Guidance on monitoring of landfill leachate, groundwater and surface water (LFTN02)
	pH		
	Electrical Conductivity		
	Ammoniacal Nitrogen		
	Copper		
	Mercury		
	Cadmium		
	Total Alkalinity		
	Chloride		
	Calcium		
	Total Oxidised Nitrogen	Six Monthly	
	Total Organic Carbon		
	Biological Oxygen Demand		
	Chemical Oxygen Demand		
	Aluminium		
	Arsenic		
	Boron		
	Chromate		
	Chromium		
	Iron		
	Lead		
	Manganese		
	Nickel		
	Phosphorus		
	Silica		
	Titanium		
	Tin		
	Vanadium		
	Zinc		
	Magnesium		
	Nitrate		
	Nitrite		
	Sodium		
	Potassium		
	Phosphate		
	Sulphate		

Table S3.7 Leachate– other monitoring requirements			
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**
	Organo-halogens (Volatile Organic Compounds)		
	Semi-Volatile Organic Compounds		

Table S3.8 Surface water – other monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
SW Gauge 1, SW Gauge 2, SW Gauge 3, SW Gauge 4 as identified on plan reference Figure 3 Landfill Monitoring Network, Revision 0, 498.1/0/1106	Water Level	Monthly (unless otherwise agreed in writing with Natural Resources Wales).	Unless otherwise agreed in writing with Natural Resources Wales, monitoring methods used shall be in accordance with Environment Agency document 'Guidance on monitoring of landfill leachate, groundwater and surface water' (LFTGN02)	-
Margam Moors: SW2 to SW10 as identified on plan reference Figure 3 Landfill Monitoring Network, Revision 0, 498.1/0/1106	Temperature	Quarterly		
	pH			
	Electrical Conductivity			
	Dissolved Oxygen			
	Ammoniacal Nitrogen			
	Cadmium			
	Copper			
	Mercury			
	Calcium			
	Total Alkalinity			
	Chloride			
	Total Oxidised Nitrogen	Six Monthly		
	Total Organic Carbon			
	Biochemical Oxygen Demand			
	Chemical Oxygen Demand			
	Aluminium			
	Arsenic			
	Boron			
	Chromium			
	Chromium (vi)			
	Iron			
	Lead			
	Manganese			
	Nickel			
	Phosphorous			
	Silica			
	Titanium			
	Tin			
	Vanadium			

Table S3.8 Surface water – other monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
	Zinc		Unless otherwise agreed in writing with Natural Resources Wales, monitoring methods used shall be in accordance with Environment Agency document 'Guidance on monitoring of landfill leachate, groundwater and surface water' (LFTGN02)	
	Magnesium			
	Nitrate			
	Nitrite			
	Sodium			
	Potassium			
	Phosphate			
	Sulphate			
	Organo-halogens (volatile organic compounds),			
	Semi-volatile organic compounds.			
Pond 1 as identified on drawing reference: Figure 6 Capping Construction Phasing (reference 629.1/0/1207, Revision 0) (specific sampling location to be agreed in writing with Natural Resources Wales on completion of construction) any additional monitoring points agreed in writing with Natural Resources Wales.	Water Level	Quarterly		Note: These monitoring points will be constructed on a phased basis for example as part of the progressive restoration and capping at the facility and monitoring at these points will not commence until the relevant CQA report has been approved by Natural Resources Wales.
	pH			
	Ammoniacal Nitrogen			
	Chloride			
	Total Suspended Solids			
	Temperature			
	Electrical Conductivity 20°C			
	Dissolved Oxygen			
	Total Organic Nitrogen			
	Calcium			
	Magnesium			
	Nitrate			
	Nitrite			
	Sodium			
	Potassium			
	Sulphate			
	Total Alkalinity			
	Chloride			
Recharge Chambers C, D, E, F1 & F2 as shown on drawing reference: Figure 8 Recharge Trench Alignment Revision 0, Dated 12.07	pH	Monthly for first twelve months of operation. Quarterly thereafter.		
	Ammoniacal Nitrogen			
	Chloride			
	Total Suspended Solids			
	Temperature			
	Electrical Conductivity 20°C			
	Dissolved Oxygen			
	Total Organic Nitrogen			
	Calcium			
	Magnesium			

Table S3.8 Surface water – other monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
	Nitrate			
	Nitrite			
	Sodium			
	Potassium			
	Sulphate			
	Total Alkalinity			

Table S3.9 Groundwater – other monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Piezometers: - P1 to P24, TPG, TPV as shown on Monitoring Point Location Plan (471.2/0/0408 MSP M02-Revision 0) and all subsequent Groundwater	Groundwater Level	Monthly	Unless otherwise agreed in writing with Natural Resources Wales, monitoring methods used shall be in accordance with Environment Agency document 'Guidance on monitoring of landfill leachate, groundwater and surface water' (LFTGN02)	-
Groundwater Boreholes: BH1, BH2, BH3, BH4, BH6, BH10, BH11, BH12, BH13, BH14, BHm12, BHm13, BHm14, GWT3a, BH17, BH18, BH19, BH20, BH21, BH22, BH23, BH24, BH30 (Shallow and Deep Aquifers) as shown on Monitoring Point Location Plan (Figure 1 Available Monitoring network (reference: 764r1v10209)	Groundwater Level	Every 3 months		
	Temperature			
	pH,			
	Electrical Conductivity			
	Ammoniacal Nitrogen			
	Copper			
	Cadmium			
	Mercury			
	Calcium			
	Total Alkalinity			
	Chloride			
	Level	Every 6 months		
	Temperature			
	pH			
	Electrical Conductivity			
	Ammoniacal Nitrogen			
	Total Oxidised Nitrogen			
	Total Organic Carbon			
	Biological Oxygen Demand			
	Chemical Oxygen Demand			
	Aluminium			
	Arsenic			
	Boron			
	Cadmium			
	Chromium (vi)			
	Chromium			
	Copper			
	Iron			
	Lead			

Table S3.9 Groundwater – other monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
	Manganese Mercury Nickel Phosphorous Silica Titanium Tin Vanadium Zinc Calcium Magnesium Nitrate Nitrite Sodium Potassium Phosphate Sulphate Total Alkalinity Chloride Organo-halogens (volatile organic compounds) Semi-volatile organic compounds		Unless otherwise agreed in writing with Natural Resources Wales, monitoring methods used shall be in accordance with Environment Agency document 'Guidance on monitoring of landfill leachate, groundwater and surface water' (LFTGN02)	-

Table S3.10 Particulate matter in ambient air - limits and monitoring requirements					
Monitoring Point Ref. /Description	**Parameter**	**Limit (Including Unit)**	**Reference Period**	**Monitoring Frequency**	**Monitoring Standard or Method**
D15, D16, D17, D18 and D19 as shown on Monitoring Point Location Plan (471.2/0/0408 MSP M02 – Revision 0)	Gross dust depositional rate	200mg/m^2/day	Spot	Quarterly	50% correction factor to be applied (as outlined in Corus Letter (ref: Landfill_003). Dated 28th September 2007 – unless otherwise agreed in writing with Natural Resources Wales

Schedule 4 - Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S4.1 Reporting of monitoring data

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Leachate levels As required by condition 3.5.1	L1 to L16 inclusive and all subsequent new leachate monitoring points installed within cells	Every 3 months	
Emissions to water Parameters as required by condition 3.5.1	Recharge Trench Discharges L1 to L16 inclusive and all subsequent new leachate monitoring points installed within cells	Every 3 months Every 6 months	
Groundwater Parameters as required by condition 3.5.1	BH1 to BH24 Piezometers	Every 3 months	
Particulate matter Parameters as required by condition 3.5.1	D15, D16, D17, D18 and D19	Every 3 months	
Other Landfill gas monitoring Parameters as required by condition 3.5.1	In waste monitoring boreholes	Every 3 months	
Other leachate monitoring Parameters as required by condition 3.5.1	L1 to L16	Every 3 months	
Other surface water monitoring Parameters as required by condition 3.5.1	SW2 to SW 12 inclusive Pond 1 Recharge Trench Discharges	Every 3 months	

Table S4.2: Annual production/treatment

Leachate: Disposed of off-site; Disposed of to any on-site effluent treatment plant; Recirculated into the waste mass.	Cubic metres/year
Surface water and/or groundwater: Disposed of off-site; Disposed of to any onsite effluent treatment plant.	Cubic metres/year
Landfill gas: combustion in flares; combustion in gas engines; Other methods of gas utilisation.	Normalised cubic metres/year

Table S4.3 Performance Parameters			
Parameter	**Frequency of assessment**	**Annual total**	**Unit**
Energy used (including for leachate treatment)	Annually		MWh of electricity

Table S4.4 Reporting Forms	
Media/parameter	**Reporting Format**
Leachate	Form leachate 1 or other reporting format to be agreed in writing with Natural Resources Wales
Air	Form Air 1 or other reporting format to be agreed in writing with Natural Resources Wales
Controlled water	Form Water 1 or other reporting format to be agreed in writing with Natural Resources Wales
Groundwater	Form Groundwater 1 or other reporting format to be agreed in writing with Natural Resources Wales
Landfill gas	Form LFG 1 or other reporting format to be agreed in writing with Natural Resources Wales
Particulate matter	Form Particulate 1 or other reporting format to be agreed in writing with Natural Resources Wales
Waste Return	Waste Return Form RATS2E
Landfill topographical surveys and interpretation	Reporting format to be agreed in writing with Natural Resources Wales

Schedule 5 - Notification

This page outlines the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any activity that gives rise to an incident or accident which significantly affects or may significantly affect the environment	
To be notified Immediately	
Date and Time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a permit condition	
To be notified immediately	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	**Notification period**

(c) In the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment:	
To be notified immediately	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B to be supplied as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 - Interpretation

"accident" means an accident that may result in pollution.

"annually" means once every year.

"application" means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

"authorised officer" means any person authorised by Natural Resources Wales under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

"Background concentration" means such concentration of that substance as is present in:

- For emissions to surface water, the surface water quality up-gradient of the site; or
- For emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge; or
- For emissions of landfill gas, the ground or air outside the site and not attributable to the site.

"Cell layout drawing" means:

(a) A drawing or drawings of the proposed new cell that illustrate(s) in sufficient detail:

i. the location of the new cell on the site;

ii. the proposed level (Above Ordnance Datum) of the base of the excavation;

iii. the proposed finished levels of all containment and leachate drainage layers;

iv. the positions of leachate management infrastructure; and

v. the positions of landfill gas infrastructure (if appropriate).

(b) A detailed written explanation of any minor design changes from the most recently approved cell that result from the new cell layout. This would include, for example:

i. changes to slope length and gradient within the cell;

ii. new leachate or landfill gas infrastructure construction design;

iii. slope stability issues such as new basal excavation level; and/or

iv. depth of waste.

"Construction Proposals" means written information, at a level of detail appropriate to the complexity and pollution risk, on the design, specifications of materials selected, stability assessment (where relevant) and the construction quality assurance (CQA) programme in relation to the New Cell or Landfill Infrastructure.

"CQA Validation Report" means the final "as built" construction and engineering details of the New Cell or of the Landfill Infrastructure. It must provide a comprehensive record of the construction and must include, where relevant:

- The results of all testing required by the CQA programme - this must include the records of any failed tests with a written explanation, details of the remedial action taken, referenced to the appropriate secondary testing;
- Plans showing the location of all tests;
- "As-built" plans and sections of the works;

- Copies of the site engineer's daily records;
- Records of any problems or non-compliances and the solution applied;
- Any other site-specific information considered relevant to proving the integrity of the New Cell or Landfill Infrastructure;
- Validation by a qualified person that all of the construction has been carried out in accordance with the Construction Proposals.

"emissions to land" includes emissions to groundwater.

"EP Regulations" means The Environmental Permitting (England and Wales) Regulations SI 2016 No.1154 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

"emissions of substances not controlled by emission limits" means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission or background concentration limit**.**

"groundwater" means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

"*hazardous property*" has the meaning in Annex lll of the Waste Framework Directive

"*hazardous waste*" has the meaning given in the Hazardous Waste (Wales) Regulations 2005 (as amended)

"*hazardous substance*" means a substance classified as hazardous as a consequence of fulfilling the criteria laid down in parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008

"Landfill Infrastructure" means any specified element of the:

- permanent capping;
- temporary capping (i.e. engineered temporary caps not cover materials);
- leachate abstraction systems;
- leachate transfer, treatment and storage systems;
- surface water drainage systems;
- leachate monitoring wells;
- groundwater monitoring boreholes;
- landfill gas monitoring boreholes;
- landfill gas management systems;
- lining within the installation.

within the site.

"Liquids" means any liquid other than leachate within the engineered landfill containment system.

"LFTGN 05" means Environment Agency Guidance for monitoring enclosed landfill gas flares.

"LFTGN 07" means Environment Agency Guidance on monitoring landfill gas surface emissions.

"LFTGN 08" means Environment Agency Guidance for monitoring landfill gas engines.

"Medicinal product" means any medicine licensed by the Medicines and Healthcare Products Regulatory Agency (MHRA) of their predecessors under the Medicines Act 1968, section 130.

"M2" means Environment Agency Guidance Monitoring of stack emissions to air.

"New Cell" means any new cell, part of a cell or other similar new area of the site where waste deposit is to commence after issue of this permit and can comprise:

- groundwater under-drainage system;
- permanent geophysical leak location system;
- leak detection layer;
- sub-grade;
- barriers;
- liners;
- leachate collection system;
- leachate abstraction system;
- separation bund/layer;
- cell or area surface water drainage system;
- side wall subgrade and containment systems;

for the New Cell.

"No impact" means that the change made to the construction process will not affect the agreed design criteria, specification or performance in a way that has a negative effect.

"Pests" means Birds, Vermin and Insects.

"quarter" means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

"Review of the Hydrogeological Risk Assessment" means a written review of the hydrogeological risk assessment included in the Application, together with any other parts of the Application that addressed the requirements of the EP Regulations. The review shall assess whether the activities of disposal or tipping for the purpose of disposal of waste authorised by the permit continue to meet the requirements of the EP Regulations.

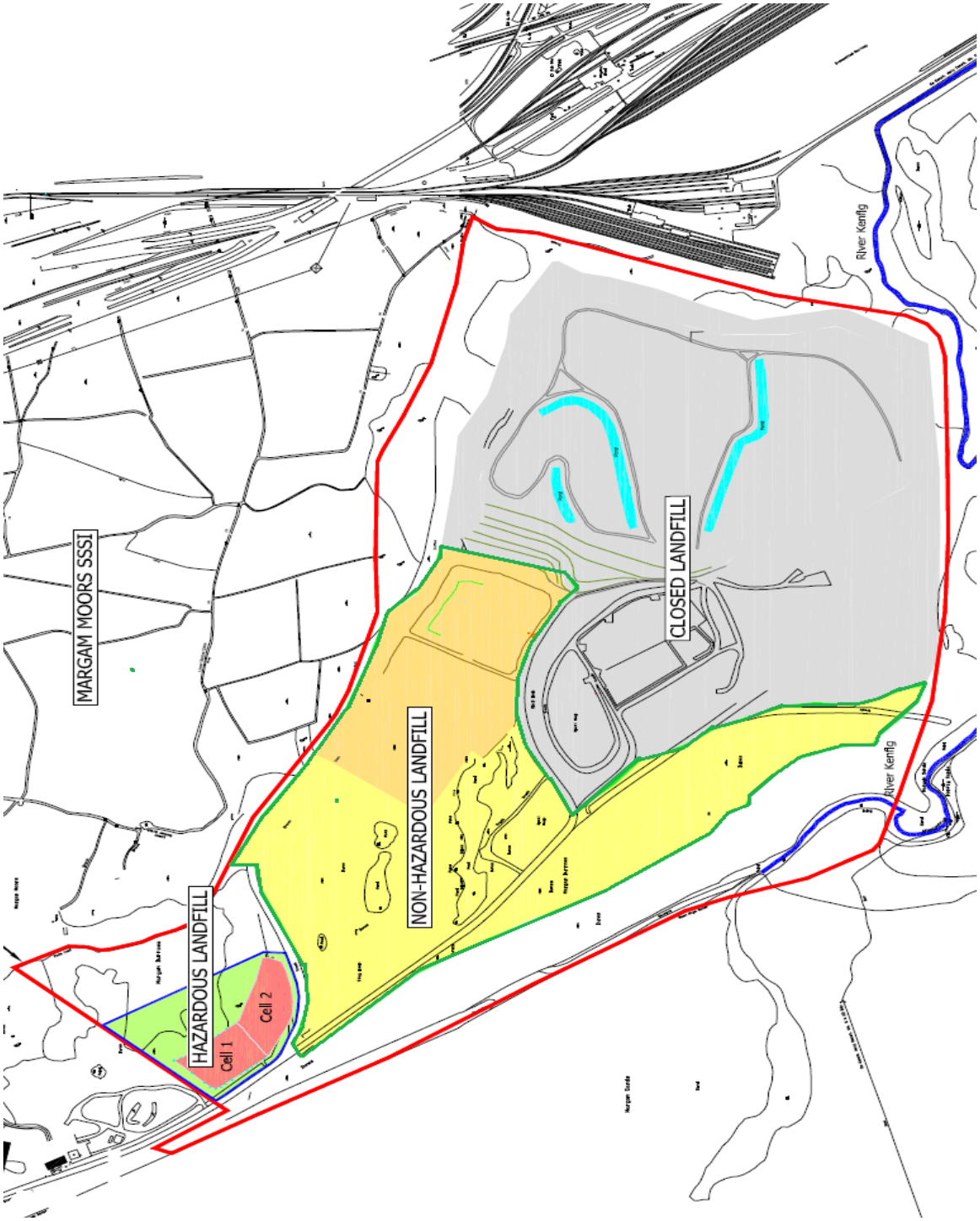
"Waste code" means the six-digit code referable to a type of waste in accordance with the list of wastes established by Commission Decision 2000/532/EC as amended from time to time (the 'List of Wastes Decision') and in relation to hazardous waste, includes the asterisk.

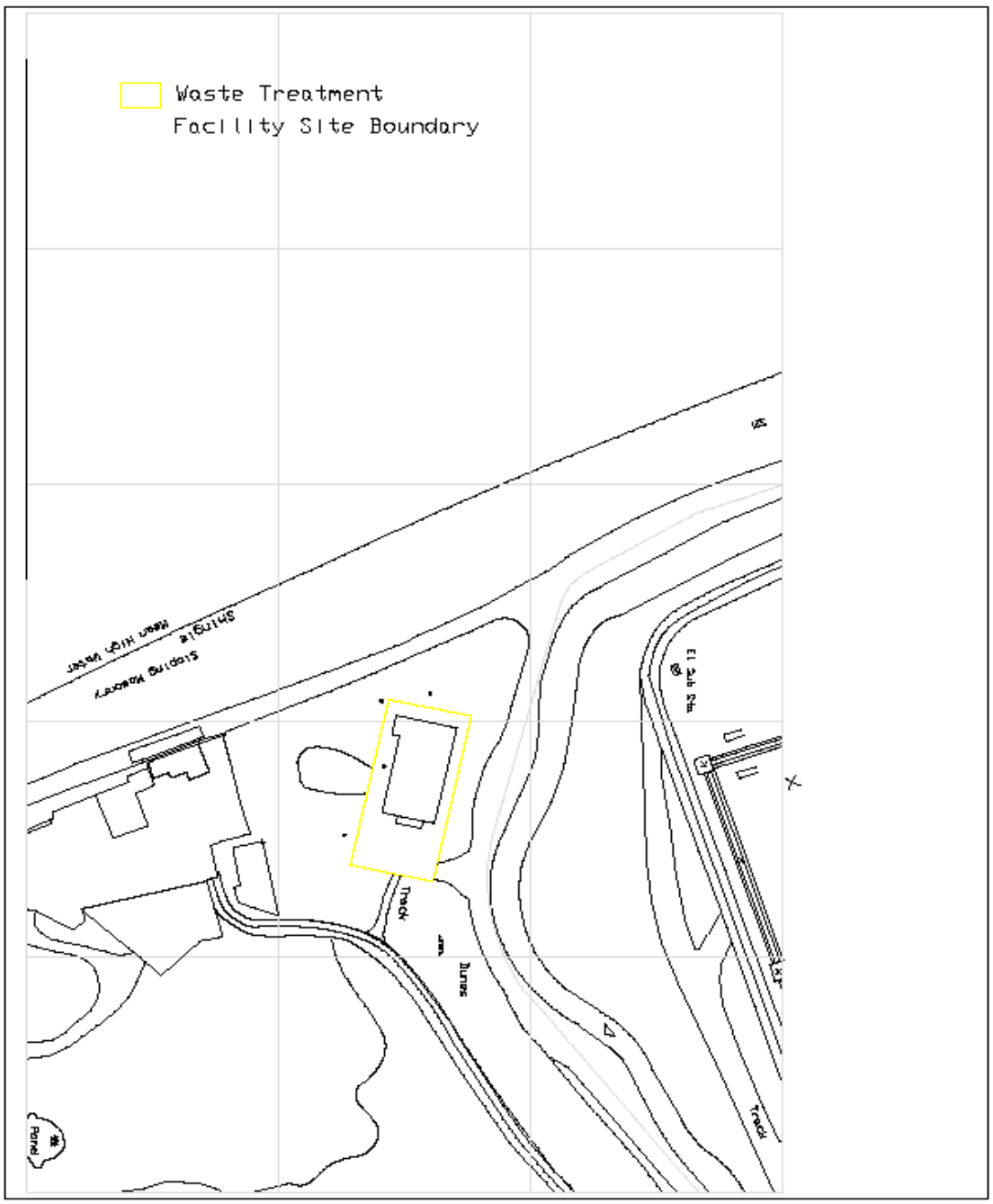
Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means the standards included in Environment Agency Guidance for Monitoring Enclosed Landfill Gas Flares LFTGN 05 or Guidance for Monitoring Landfill Gas Engine Emissions LFTGN 08.

"year" means calendar year ending 31 December.

Schedule 7 - Site plan





END OF PERMIT