

Permitting Decisions- Environment Agency Initiated Variation

We have decided to issue an Environment Agency initiated variation for Daneshill Landfill operated by FCC Recycling (UK) Limited.

The variation number is EPR/NP3538MF/V010.

This variation is undertaken in response to an appeal by the operator against refusal of the asbestos treatment process applied for in their variation application number EPR/NP3538MF/V009, which was to introduce a soil treatment facility (“STF”) at the site. Part of the STF application relating to bioremediation of waste was issued.

This variation is to include an asbestos treatment installation activity under Sections 5.3 Part A(1)(a)(vi) and 5.6 Part A(1)(a). Soils contaminated with bonded asbestos will be mechanically screened and handpicked to remove the bonded asbestos fragments. The removed asbestos will then be disposed of to landfill. The recovered soil fractions will be used on the landfill as restoration material if suitable, or if also impacted hydrocarbons, undergo further treatment via bioremediation in the existing STF. Screened non-hazardous oversize material will be used for site infrastructure (roads etc). The screening and handpicking activities are permitted (subject to approval via a pre-operational condition) to demonstrate appropriate measures are being applied, including:

- Adequate enclosure
- Abatement of the screening operation emissions
- monitoring of the processes

to prevent and minimise emissions of asbestos fibres. There is no increase in waste throughput at the STF as a result of this application.

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

Purpose of this document

This decision document provides a record of the decision making process. It:

- highlights key issues in the determination;

- summarises the engagement carried out because this is an application of high public interest.

Read the permitting decisions in conjunction with the environmental permit and the variation notice.

Key issues of the decision

We previously refused part of the operator's EPR/NP3538MF/V009 variation application relating to adding asbestos waste treatment at the site as part of the STF. The reasons are set out in the separate decision document for that determination and are not repeated here.

The operator has appealed that partial refusal decision. In preparation for the appeal, the Environment Agency ("the Agency") reviewed the initial decision determination to refuse the asbestos treatment process. After reviewing the initial determination, the Agency initiated a variation under Regulation 20(1) of the Environmental Permitting (England and Wales) 2016 ("EPR 2016") otherwise known as an Agency Initiated Variation ("AIV").

In the operator's proposals for asbestos treatment under EPR/NP3538MF/V009, waste soils contaminated with bonded asbestos fragments were firstly to be screened in a mechanical 3-way screener to separate:

- i) oversize material,
- ii) the soil fraction large enough to include bonded asbestos fragments, and
- iii) fine soil, containing minimal asbestos fragments.

The waste from i) and iii) was to be reused onsite or submitted to further treatment. The waste from ii) would be suitable for handpicking of the bonded asbestos fragments and would pass to that operation via conveyor system.

The mechanical screening process proposed by the operator may agitate the asbestos containing waste and result in the generation of asbestos fibres. We consider that to carry out this process effectively without endangering human health or without harming the environment, the screener must be fully enclosed and the air within the enclosure (potentially contaminated with asbestos fibres) must be treated via an abatement system prior to release. It is also a requirement of the Agency's Chemical Waste appropriate measures guidance (Nov 2020) to minimise fugitive emissions to air. Treatment of the air to remove particulates and asbestos fibres is typically done using filtration. High Efficiency Particulate Air ("HEPA") filters are a commonly available technique to control asbestos fibre emissions and are used at other sites as part of Best Available Techniques ("BAT") for emissions control. We have therefore included a pre-operational condition on the screening operation (PO7 in table S1.4) for the operator to demonstrate they have fully enclosed the mechanical screener and that all air is being suitably treated prior to operation of the screener.

In addition, we have included an improvement condition (IC12 in table S1.3). This requires the operator to provide a report on the monitoring undertaken as part of the sampling of the incoming waste and the separated wastes streams, from the operation of the asbestos screening process over the first 4 months of operation. The intention is to require the operator to demonstrate that:

- the mechanical screening process is working as intended in separating the bonded asbestos waste fraction in the hand-pickable stream,
- the asbestos screening itself is not creating additional asbestos fibre contamination, and
- the residual waste streams are suitably low in asbestos contamination to allow reuse without endangering human health or without harming the environment.

We have also included a restriction in the permit table S1.1 such that soils impacted with asbestos are stored inside a building in a way that minimises emissions (such as using water sprays to dampen waste and sheeting of stockpiles) to prevent fugitive emissions.

The operator's original proposals for handpicking included an enclosed picking station where operatives in personal protective equipment handpick bonded asbestos fragments from the segregated soil fraction described above. Spray rails for damping down will be used on the input conveyers to the picking station to suppress dust and asbestos fibres. This process is considered to meet the Agency's appropriate measures.

The handpicked bonded asbestos fragments are then double bagged and transferred to sealed, lockable containers (generally a skip) for onward disposal to landfill. This is in accordance with the Agency's appropriate measures for handling asbestos waste for transfer and disposal.

Decision Considerations

Confidential information

A claim for commercial or industrial confidentiality has not been made.

The decision was taken in accordance with our guidance on confidentiality.

Identifying confidential information

We have not identified information provided as part of the application that we consider to be confidential.

The decision was taken in accordance with our guidance on confidentiality.

Engagement

We consider this application to be of high public interest.

There was a public consultation undertaken before the partial refusal decision for EPR/NP3538MF/V009 was made. All interested parties (respondents to the initial consultation) have been written to notifying them of the appeal, as per correct process.

We have considered the previous public consultation comments under EPR/NP3538MF/V009 as part of this AIV. We have ensured that appropriate controls are in place under the varied permit to minimise the risks to human health and the environment from the asbestos treatment activity.

Please refer to the decision document for variation EPR/NP3538MF/V009 for further detail on the previous comments raised under that application.

The regulated facility

We considered the extent and nature of the facilities at the site in accordance with:

- RGN2 'Understanding the meaning of regulated facility',
- Appendix 2 of RGN2 'Defining the scope of the installation.'

The existing site comprises a landfill for non-hazardous waste, waste installation storage and treatment activities, and waste operations. This variation includes a new activity as follows.

- Section 5.3 Part A(1)(a)(vi): Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment. (Recovery of soils impacted with identifiable pieces of bonded asbestos by separation, R5).

It also varies the existing Section 5.6 Part A(1)(a) activity (Storage of hazardous waste prior to on-site treatment for the purpose of recovery) to include storage of asbestos impacted wastes.

The extent of the facilities are defined in the site plan and in the permit. The activities are defined in table S1.1 of the permit.

The site

The operator has provided a plan which we consider to be satisfactory.

These show the extent of the site and the facility.

The plan is included in the permit.

Nature conservation, landscape, heritage and protected species and habitat designations

We have checked the location of the application to assess if it is within the screening distances we consider relevant for impacts on nature conservation, landscape, heritage and protected species and habitat designations. The application is within our screening distances for these designations:

- Mattersley Hill Marsh Site of Special Scientific Importance (SSSI) approximately 500 m northwest of the STF location.
- A number of Local Wildlife Sites (LWSs), the nearest being Daneshill Lakes and Woodland approximately 400 m west and southwest of the STF location.

We have assessed the application and its potential to affect sites of nature conservation, landscape, heritage and protected species and habitat designations identified in the nature conservation screening report as part of the permitting process.

We consider that the application will not affect any site of nature conservation, landscape and heritage, and/or protected species or habitats identified.

We have not consulted Natural England.

The decision was taken in accordance with our guidance.

Operating techniques

The operating techniques that the applicant must use are specified in S1.2 in the environmental permit.

Changes to the permit conditions

We have varied the permit as stated in the variation notice.

This is to allow the treatment of asbestos impacted soils via pre-screening and hand picking, in accordance with Chemical Waste Appropriate Measures Guidance as set out in the key issues section. As well as the conditions/requirements set out in the sections below, the variation includes the necessary changes to make the permit enforceable, such as including European Waste Catalogue (“EWC”) waste codes for the asbestos wastes, monitoring, reporting and other consequential amendments. A full list of added or amended conditions is set out in the variation notice.

Improvement programme

We have included an improvement programme. This is covered in the Key Issues section.

Emission limits

Emission Limit Values (“ELV’s”) based on BAT, have been added for the following substances in table S3.2 for the air abatement system for the mechanical screener:

- Particulate matter (dust) = 5 mg/m³ (BAT-AEL requirement)
- Asbestos fibres = 0.1 f/ml (Environment Agency requirement)

We made these decisions in accordance with Chemical Waste Appropriate Measures and the Waste Treatment Best Available Techniques Conclusions (“BATCs”).

Monitoring

We have decided that monitoring should be added for the following parameters, using the methods detailed and to the frequencies specified:

- Particulate matter (dust) = 6 monthly (BAT-AEL requirement).
- Asbestos fibres = monthly, with the possibility to fall to quarterly with our written agreement (Environment Agency requirement).

Methods as specified in table S3.2 of the permit.

These monitoring requirements have been included in order to check compliance with the emission limits stated above.

We have also included ambient air monitoring for asbestos fibres in table S3.11A.

We made these decisions in accordance with Chemical Waste Appropriate Measures and the Waste Treatment BATCs.

Based on the information in the application we are not fully satisfied that the operator’s techniques, personnel and equipment have either Monitoring Certification Scheme (“MCERTS”) certification or MCERTS accreditation as appropriate.

We have applied the requirements and expect the operator to meet MCERTS standards as appropriate.

Reporting

We have added reporting in the permit for the following parameters:

- Particulate matter (dust)

- Asbestos fibres

These are included under the requirement to report the requirements of the monitoring under tables S3.2 and S3.11A.

We made these decisions in accordance with Chemical Waste Appropriate Measures and the Waste Treatment BATCs.

Growth Duty

We have considered our duty to have regard to the desirability of promoting economic growth set out in section 108(1) of the Deregulation Act 2015 and the guidance issued under section 100 of that Act in deciding whether to grant the variation of this permit.

Paragraph 1.3 of the guidance says:

“The primary role of regulators, in delivering regulation, is to achieve the regulatory outcomes for which they are responsible. For a number of regulators, these regulatory outcomes include an explicit reference to development or growth. The growth duty establishes economic growth as a factor that all specified regulators should have regard to, alongside the delivery of the protections set out in the relevant legislation.”

We have addressed the legislative requirements and environmental standards to be set for this operation in the body of the decision document above. The guidance is clear at paragraph 1.5 that the growth duty does not legitimise non-compliance and its purpose is not to achieve or pursue economic growth at the expense of necessary protections.

We consider the requirements and standards we have set in this permit are reasonable and necessary to avoid a risk of an unacceptable level of pollution. This also promotes growth amongst legitimate operators because the standards applied to the operator are consistent across businesses in this sector and have been set to achieve the required legislative standards.

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

FCC Recycling (UK) Limited

Daneshill Landfill
Daneshill Road
Lound
Nottinghamshire
DN22 8RB

Variation application number

EPR/NP3538MF/V010

Permit number

EPR/NP3538MF

Daneshill Landfill

Permit number EPR/NP3538MF

Introductory note

This introductory note does not form a part of the notice

Under the Environmental Permitting (England & Wales) Regulations 2016 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made. Only the variations specified in schedule 1 are subject to a right of appeal.

The variation adds an asbestos screening and picking activity for asbestos impacted soils to the Soil Treatment Facility (STF) located within the existing permitted landfill boundary. Screening of asbestos impacted soils will be enclosed and abated to minimise emissions from the process. The STF will accept and treat up to 29,999 tonnes per annum of hazardous waste (including the asbestos impacted soils) and 20,001 tonnes of non-hazardous waste by bioremediation. Once treated the wastes will be tested for suitability for use in the wider landfill restoration. Soils that don't meet the reuse criteria will be disposed of in the landfill.

The schedules specify the changes made to the permit.

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

Status log of the permit		
Description	Date	Comments
Application received EPR/NP3538MF/A001 (Ref NP3538MF)	Duly made 15/05/2007	Application for non-hazardous landfill.
Permit determined EPR/NP3538MF	13/11/2009	Original permit issued to Waste Recycling Limited.
Application EPR/NP3538MF/V002 (Ref. AP3130CC)	Duly made 22/12/2011	Application to add leachate treatment.
Variation determined EPR/NP3538MF	20/03/2012	Varied permit issued.
Notified of change of company name	23/08/2012	Name changed to FCC Recycling (UK) Limited and update of the wording of the financial provision condition.
Variation issued EPR/NP3538MF/V003	12/09/2012	Varied permit issued to FCC Recycling (UK) Limited.
Agency variation determined EPR/NP3538MF/V004	14/05/2013	Agency variation to implement the changes introduced by IED.
Administrative variation determined EPR/NP3538MF/V005	08/10/2013	
Environment Agency Landfill Sector Review Permit reviewed Variation determined EPR/NP3538MF/V006	10/01/2017	Varied and consolidated permit issued in modern condition format.

Status log of the permit		
Description	Date	Comments
Permit EPR/NP3538MF		
Application EPR/NP3538MF/V007 (variation and consolidation)	Duly made 03/04/2017	Application to vary the permit by changing the operational conditions and monitoring requirements relating to the operation of the Short Rotation Coppice.
Additional information received	13/07/2018	Response to Schedule 5 Notice.
Additional information received	18/09/2019	Assessment of interaction between surface water discharge and groundwater.
Variation determined EPR/NP3538MF	31/10/2019	Varied and consolidated permit issued.
Application EPR/NP3538MF/V010 (variation and consolidation)	Duly made 19/02/2020	Application to vary the permit to reduce the number of leachate monitoring locations and amend groundwater compliance monitoring requirements.
Additional information received	18/09/2020	Response to Schedule 5 Notice.
Additional information received	27/11/2020	Further justifications and revised chromium compliance limit received.
Additional information received	16/12/2020	Updated leachate Management Plan received.
Variation determined EPR/NP3538MF (Billing ref: SP3908BH)	10/02/2021	Varied and consolidated permit issued in modern condition format
Application EPR/NP3538MF/V010 (variation and consolidation)	Duly made 16/07/2021	Application to vary to add a soil treatment facility and update the permit to modern conditions.
Additional information received	01/10/2021	Response to Schedule 5 Notice.
Additional information received	04/10/2021	Further response to Schedule 5 Notice.
Additional information received	05/11/2021	Further clarification on information contained within the Schedule 5.
Additional information received	17/11/2021	Further clarification on the information contained within the Schedule 5.
Additional information received	23/11/2021	Details of other sites using CLO as a filter medium.
Additional information received	07/01/2022	Confirmation bio-remediation treatment is for recovery only.
Additional information received	20/01/2022	Waste code clarification
Additional information received	22/02/2022	Asbestos soil screening and storage information
Variation determined and consolidation issued EPR/NP3538MF (Billing ref: BP3604SD)	02/12/2022	Varied and consolidated permit issued in modern format
Variation determined and consolidation issued EPR/NP3538MF	29/09/2023	Environment Agency initiated variation. Varied and consolidated permit issued in modern format

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies

Permit number

EPR/NP3538MF

Issued to

FCC Recycling (UK) Limited ("the operator")

whose registered office is

**3 Sidings Court
White Rose Way
Doncaster
England
DN4 5NU**

company registration number 02674166

to operate a regulated facility at

**Daneshill Landfill
Daneshill Road
Lound
Nottinghamshire
DN22 8RB**

to the extent set out in the schedules.

The notice shall take effect from 29/09/2023.

Name	Date
Principal Permitting Team Leader	29/09/2023

Authorised on behalf of the Environment Agency

Schedule 1

The following conditions are amended as detailed, following an Environment Agency initiated variation:

2.7.2, 3.1.6, 3.5.1, Table S1.1, Table S1.2, Table S1.3, Table S1.4, Table S2.4, Table S3.2, Table S4.1, Table S4.4.

The following conditions are added following an Environment Agency initiated variation:

2.7.10, 2.7.11, 2.7.12, Table S2.8, Table S3.11A.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/NP3538MF

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/NP3538MF/V010 authorising,

FCC Recycling (UK) Limited (“the operator”),

whose registered office is

3 Sidings Court

White Rose Way

Doncaster

England

DN4 5NU

company registration number 02674166

to operate an installation at

Daneshill Landfill

Daneshill Road

Lound

Nottinghamshire

DN22 8RB

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

Name	Date
Principal Permitting Team Leader	29/09/2023

Authorised on behalf of the Environment Agency

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 shall be as set out in the Deed of Performance dated 17 October 2007 between the Waste Recycling Group Limited (now known as FCC Environment (UK) Limited) and the Environment Agency as varied by a Deed of Variation dated 15 October 2010 (as varied by further Deeds of Variation from time to time). The operator shall accordingly ensure that the Permit is and remains throughout its subsistence a Permit to which the Deed relates and the operator shall produce evidence of such provision whenever required by the Environment Agency.
- 1.2.1 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 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) take any further 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 blue on the site plan at schedule 7 to this permit.

2.3 Operating techniques

- 2.3.1 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 the Environment Agency.
- 2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency 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 the Environment Agency.
- 2.3.3 Hazardous waste shall not be mixed, either with a different category of hazardous waste or with other waste, substances or materials, unless it is authorised by schedule 1 table S1.1 and appropriate measures are taken.

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

2.5 Pre-operational conditions

- 2.5.1 The operations specified in schedule 1 table S1.4 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 the Environment Agency 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 the Environment Agency 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 the Environment Agency.
- 2.6.4 No disposal of waste shall take place in a new cell until the operator has submitted a CQA Validation Report and the Environment Agency 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 the Environment Agency 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 the Environment Agency.
- 2.6.7 The operator shall submit a CQA Validation Report within four weeks of the completion of the construction of the relevant landfill infrastructure, or other time period agreed in writing with the Environment Agency.
- 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 the Environment Agency 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, the Environment Agency 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 the Environment Agency has required further information under condition 2.6.9(b), the Environment Agency 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 For the following activities referenced in schedule 1, table S1.1 (AR1 and AR2) wastes shall only be accepted for disposal if:
- (a) they are listed in schedule 2, tables S2.1 and S2.2
 - (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 excluding liquid waste accepted at a permitted leachate treatment activity); 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, or liquid waste accepted for treatment at a permitted leachate treatment activity; and
 - (k) 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 Waste shall only be accepted for treatment if:
- (a) it is of a type and quantity listed in schedule 2, table S2.2, S2.4, S2.5, S2.6, S2.7 and S2.8.
 - (b) it conforms to the description in the documentation supplied by the producer and holder.
- 2.7.3 Wastes shall only be accepted for restoration where:
- (a) they are listed in schedule 2, table S2.3; and
 - (b) they are accepted in accordance with a restoration plan approved in writing by the Environment Agency.
- 2.7.4 For the following activities referenced in schedule 1, table S1.1 (AR1) the operator shall:
- (a) visually inspect without unloading it, waste that is not in an enclosed container or enclosed vehicle on arrival at the landfill and waste at the point of deposit; and
 - (b) be satisfied that the waste conforms to the requirements of condition 2.7.1.
- 2.7.5 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.
- 2.7.6 The operator on accepting each delivery of waste shall provide a receipt to the person delivering it.
- 2.7.7 The total quantity of waste that shall be deposited in the landfill shall be limited by the pre-settlement levels shown on drawing 348P043.
- 2.7.8 The quantity of waste that is deposited or recovered in the landfill in any year shall not exceed the limits in schedule 1, table S1.5.

- 2.7.9 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.
- 2.7.10 Hazardous waste shall not be mixed, either with a different category of hazardous waste or with other waste, substances or materials, unless it is authorised by schedule 1 table S1.1 and appropriate measures are taken.
- 2.7.11 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.
- 2.7.12 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.8 Leachate levels

- 2.8.1 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 For the following activities referenced in schedule 1, table S1.1 (AR1) 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 use appropriate measures to flare or treat the gas in accordance with an approved landfill gas management plan.
- 2.10.3 The operator shall:
- (a) if notified by the Environment Agency, submit to the Environment Agency 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 the Environment Agency.

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 The limits in schedule 3 shall not be exceeded.

- 3.1.2 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3, tables S3.2 and S3.3.
- 3.1.3 The limits given in schedule 3, table S3.2 shall not be exceeded, save that for activity AR8 compliance with an emission limit in that table shall include incorporation of the uncertainty allowance stated in Environment Agency guidance LFTGN 05 and LFTGN 08.
- 3.1.4 The operator shall prevent the input of any hazardous substances from the activities into groundwater.
- 3.1.5 The operator shall submit to the Environment Agency a review of the Hydrogeological Risk Assessment:
- (a) between nine and six months prior to the fourth anniversary of the granting of the permit; and
 - (b) between nine and six months prior to every subsequent six years after the fourth anniversary of the granting of the permit.
- 3.1.6 For the following activities referenced in schedule 1, table S1.1; (AR2, AR3, AR3A, AR4, AR5) periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on systematic appraisal of the risk of contamination.

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 the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency 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 the Environment Agency.
- 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

- 3.3.1 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 the Environment Agency, 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 the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency 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 the Environment Agency.

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 the Environment Agency, 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 the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency 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 the Environment Agency.

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) Leachate specified in tables S3.1 and S3.9;
 - (b) Point source emissions specified in tables S3.2 and S3.3;
 - (c) Groundwater specified in tables S3.4 and S3.7;
 - (d) Landfill gas specified in tables S3.5, S3.6 and S3.8;
 - (e) Surface water specified in table S3.10;
 - (f) Ambient air specified in table S3.11 and S3.11A;
 - (g) Soil quality specified in table S3.12A and
 - (h) Process monitoring as specified in tables S3.12B and 3.13.
- 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 For the following activities referenced in schedule 1, table S1.1 (AR1) a topographical survey of the site referenced to ordnance datum shall be carried out and shall be used to produce a plan of a scale adequate to show the surveyed features of the site:
- (a) annually; and
 - (b) prior to the disposal of waste in any new cell or new development area of the landfill; and
 - (c) following closure of the landfill or part of the landfill.

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 the Environment Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution from pests;
- (b) implement the pests management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.7 Fire prevention

3.7.1 The operator shall take all appropriate measures to prevent fires on site and minimise the risk of pollution from them including, but not limited to, those specified in any approved fire prevention plan.

3.7.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to a risk of fire, submit to the Environment Agency for approval within the period specified, a fire prevention plan which prevents fires and minimises the risk of pollution from fires;
- (b) implement the fire prevention plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

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 the Environment Agency, 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) sub-surface landfill gas monitoring;
 - (iii) leachate levels, quality and quantities;
 - (iv) landfill gas generation and collection;
 - (v) waste types and quantities;
 - (vi) 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 the Environment Agency.

4.2 Reporting

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

4.2.2 A report or reports on the performance of the activities over the previous year ('the annual report') shall be submitted to the Environment Agency by 31st January each year or such other date as may

be agreed in writing by the Agency, with the exception of 4.2.2(c) that must be provided by the end of February 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. The review will include written descriptions of the improvements made to operational performance during the year, action plans developed and planned improvements for the coming year;
- (b) the energy consumed at the site, reported in the format set out in schedule 4 table S4.3;
- (c) the annual production/treatment set out in schedule 4, table S4.2;
- (d) the topographical surveys required by condition 3.5.3 other than those submitted as part of a CQA validation report;
- (e) 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;
- (f) an assessment of the settlement behaviour 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;
- (g) a calculation of the remaining capacity (reported in cubic metres) derived from the pre-settlement contours and the most recent topographical survey;
- (h) a plan(s) ('the monitoring and extraction point plan – MEPP') showing the locations of existing and any new leachate and landfill gas extraction and monitoring points;
- (i) a review of the annual soil and leachate quality data obtained in accordance with conditions 3.5.1(g) and (h).

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, 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) using the forms specified in schedule 4, table S4.4 or other reporting format as agreed in writing with the Environment Agency; 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 the Environment Agency 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 the Environment Agency, 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.

4.2.6 The operator shall submit to the Environment Agency a Short Rotation Coppice review report every 3 years by the 31 January. The report shall include for each plot:

- (a) a summary of the following:
 - (i) all previous soil quality data;
 - (ii) leachate quality data for the 3 year period; and
 - (iii) total leachate volume applied during the 3 year period.

- (b) total quantity of substances listed in table S3.12B applied over the 3 year period calculated from 4.2.6 (a)(ii) and (iii).

4.2.7 Where notified by the Environment Agency that the data submitted in accordance with condition 4.2.6 identify that activity AR2 of Table S1.1 is giving rise to pollution in the soil, the operator shall:

- (a) submit for approval an action plan to reduce the concentration of those substances that are giving rise to pollution; and
- (b) implement the approved action plan in accordance, from the date of approval, unless otherwise agree in writing by the Environment Agency.

4.3 Notifications

4.3.1 In the event:

- (a) 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 the Environment Agency,
 - (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) of a breach of any permit condition the operator must immediately—
 - (i) inform the Environment Agency, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
- (c) 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 The Environment Agency 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:

- (c) any change in the operator's name or address; and
- (d) any steps taken with a view to the dissolution of the operator.

4.3.4 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) the Environment Agency 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.

4.4 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 reference	WFD Annex I and II operations (where applicable)	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
AR1	D5 –Specially engineered landfill; R5 - the recycling or reclamation of inorganic material and R10 – Land treatment resulting in benefit to agriculture or ecology	Section 5.2 Part A(1) (a), The disposal of waste in a landfill.	Landfill for non-hazardous waste and landfill restoration	Receipt, handling, storage and disposal of wastes, consisting of the types and quantities specified in conditions 2.7, as an integral part of landfilling.
AR2	D8 – Biological treatment of waste	Section 5.4, Part A(1)(a)(i), Biological treatment of non-hazardous waste	Treatment of leachate in a facility with a capacity of >50 tonnes/ day – Short rotation coppicing	Leachate arising from the installation and Carlton Forest Landfill (EPR/DP3836LS) and consisting of the types and quantities specified in condition 2.7.2, Table S2.2 and Tables 2, 3 and 4 of the 'Process Management Report No. 10247-R02' dated January 2017.
AR3	R5 - Recycling/reclamation of other inorganic compounds	Section 5.3 Part A1(a)(vi) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving biological treatment	Biological treatment of hazardous waste for recovery	<p>From receipt of waste through to storage of treated waste.</p> <p>Including addition of additives.</p> <p>All treatment and storage shall take place on an impermeable surface with a sealed drainage system</p> <p>Temporary storage of treated waste pending further treatment on-site or off-site recovery.</p> <p>Hazardous waste types and quantity as detailed in table S2.4</p>

Table S1.1 activities				
Activity reference	WFD Annex I and II operations (where applicable)	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
AR3A	R5 - Recycling/ reclamation of other inorganic materials.	Section 5.3 Part A(1)(a)(vi) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment.	Recovery of soils impacted with identifiable pieces of bonded asbestos by separation.	<p>From treatment of soils impacted with identifiable pieces of bonded asbestos, by handpicking of bonded asbestos only, or by 3-way screener into oversize, medium size and silt-sized fractions prior to handpicking of bonded asbestos from the medium fraction, to storage of recovered soils and separated bonded asbestos.</p> <p>Screening and handpicking shall take place in a building on an impermeable surface with a sealed drainage system.</p> <p>The screener shall be enclosed.</p> <p>Handpicking shall take place in a dedicated enclosed picking line.</p> <p>No more than 100 tonnes per day of soils impacted with identifiable pieces of bonded asbestos shall be treated (in aggregate).</p> <p>The screening and handpicking of asbestos impacted wastes shall not increase the asbestos fibre load in the waste.</p> <p>Storage of screened waste not impacted with asbestos shall be stored outside in bays or in a building.</p> <p>Screened soil impacted with asbestos shall be stored inside a building in a way that</p>

Table S1.1 activities				
Activity reference	WFD Annex I and II operations (where applicable)	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
				<p>minimises asbestos fibre emissions such as spraying and sheeting.</p> <p>Separated bonded asbestos fragments shall be bagged whilst handpicking is in progress. Once handpicked asbestos shall be stored double bagged in sealed, closed and locked containers.</p> <p>Treated waste shall be stored for no longer than 6 months prior to transfer off-site or to the landfill as cover.</p> <p>No more than 10 tonnes of picked asbestos shall be stored on site.</p> <p>No more than 1000 tonnes of treated soils shall be stored on site.</p> <p>Non-hazardous treated soils shall be kept separate from hazardous soils.</p> <p>Waste types (soil wastes only) and quantities as specified in schedule 2, table S2.8.</p>

Table S1.1 activities				
Activity reference	WFD Annex I and II operations (where applicable)	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
AR4	R13 - Storage of hazardous waste prior to on-site treatment for the purpose of recovery	Section 5.6 Part A(1)(a)	Temporary storage of hazardous waste in a facility with a total capacity exceeding 50 tonnes.	<p>From receipt of waste through to submission for treatment.</p> <p>All storage shall take place on an impermeable surface with a sealed drainage system.</p> <p>No more than 150 tonnes of hazardous waste shall be stored in aggregate.</p> <p>No more than 150 tonnes of hazardous asbestos impacted wastes for activity AR3A shall be stored at any time.</p> <p>Soil impacted with asbestos shall be stored inside a building in a way that minimises asbestos fibre emissions such as spraying and sheeting.</p> <p>Waste types and quantity as detailed in schedule 2, tables S2.4 and S2.8.</p>
AR5	R5 – Biological treatment of non-hazardous waste for recovery	Section 5.4 Part A(1)(b)(i)	Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day involving biological treatment.	<p>From receipt of waste through to storage of treated waste.</p> <p>All treatment and storage shall take place on an impermeable surface with a sealed drainage system</p> <p>Non-hazardous waste types and quantities as specified in Table S2.5</p>
Directly Associated Activities				

Table S1.1 activities				
Activity reference	WFD Annex I and II operations (where applicable)	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
AR6	R1 – use principally as a fuel to generate energy		Pre-treatment and utilisation of landfill gas for energy recovery in an appliance with a rated thermal input < 50MW	Treatment and utilisation of landfill gas arising from the landfill.
AR7	N/A		Temporary storage of waste (leachate)	Leachate arising from the landfill.
AR8	N/A		Flaring of landfill gas for disposal in an appliance.	Landfill gas arising from the landfill.
AR9	D6 – release to water body except seas/ oceans		Discharges of site drainage from the landfill.	From surface water management system to point of entry to controlled waters.
AR10	N/A		Storage of fuel for operation of plant and equipment.	Fuel storage tank.
AR11	R13 - Storage of waste pending the operations numbered R1 and R13 (excluding temporary storage, pending collection, on the site where it is produced)		Storage of non-hazardous waste.	All storage shall take place on an impermeable surface with sealed drainage system. The maximum volume of combustible waste wood used as a process additive shall not exceed 30m ³ Non-hazardous wastes types and quantities specified in table S2.5
AR12	N/A		Effluent treatment plant	Collection, storage and treatment of site surface water prior to reuse or tankering off site.
AR13	N/A		Abatement system	Operation of biofilter. Use of waste as specified in table S2.7

Table S1.1 activities				
Activity reference	WFD Annex I and II operations (where applicable)	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
AR14	R5: Recycling/reclamation of other inorganic compounds.		Screening of waste	Treatment operations shall be limited to: Physical treatment of non-hazardous wastes following biological treatment including screening for the purpose of recovery. Non-hazardous waste types as specified in Table 2.6.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	The response to questions 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10 and 2.11 of the Application excluding 2.2.49, 2.2.50, 2.2.51, 2.2.52, 2.2.53 and 2.2.57.	15/05/2007
Response to schedule 4 notice dated 24/01/2007	All sections	24/01/2008
Response to permit consultation 12/08/2009.	Internal memorandum, dated 12 August 2009, pertaining to active litter control measures operating on the site.	02/09/2009
Variation Application EPR/BW2986IW/V002	Technical assessment to support an application to vary the environmental permit, dated May 2011, version 1.0, sections 1, 2, 3, 4, 5, 6, 7 but excluding section 7.5	22/12/2011
Variation application EPR/BW2986IW/V002	H1 Risk assessment Part 1 and part 2	22/12/2011
Further information provided (letter reference AS0161 dated 13/02/2012)	All	13/02/2012
Establishment of Carbon Dioxide Background Concentrations and Revised Action Levels – Version 3	All	17/08/2016
Response to Schedule 5 Notice dated 19/06/2018	Surface water management technique as detailed in the response to question 3a of letter ref. 10247/L002/KW.	13/07/2018
Response to Schedule 5 Notice dated 30/07/20	Responses to: <ul style="list-style-type: none"> • Question 1 amending the removal of leachate level limits in line with the Environment Agency's recommendations in the CAR form (Report ID: NP3538MF/0356973). • Questions 2 providing updated monitoring frequency for leachate levels in cells which do not have the benefit of a fully engineered cap but 	18/09/2020

Table S1.2 Operating techniques		
Description	Parts	Date Received
	excluding request for Table S3.1 to refers to just Drawing Reference number <ul style="list-style-type: none"> • Question 3 retaining the existing compliance limit for xylene. • Question 5 providing revised groundwater ammoniacal nitrogen compliance limit at GW05 and GW15. 	
Additional information	Response to the follow up email in relation to Schedule 5 Notice Questions 2, 3, 5 & 6.	27/11/2020
Additional information	Updated Leachate Management Plan	16/12/2020
Application	Forms C2 and C3 submitted with the application	16/07/2021
Application	Waste pre-acceptance and acceptance confirmation as described in BAT Review document	
Response to Schedule 5 notice 06/08/2021	Response to questions 4, 6 – water collection 29, 30, 31 – water treatment. Associated appendices	01/10/2021
Response to email request for further information dated 07/01/2022	Email confirming EWC 19 02 05* will be soil from road sweepings contaminated with hydrocarbons	20/01/2022
Response to email request for further information dated 12/01/2022	Email confirming wheel wash waters are directed for treatment and recirculation. Surface water drawing 3982-CAU-XX-XX-DR-V-1813 Showing channelling and direction of follow of non-operational areas of the site.	22/02/2022

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC1	<p>The operator shall:</p> <ul style="list-style-type: none"> • undertake an assessment of groundwater contamination identified in the down-gradient boreholes. The main borehole currently impacted is GW06, but elevated concentrations are also observed in GW05, GW07 and GW08 down gradient of Phases 1 & 2, and GW11, which is down-gradient of Cells 1-4. The main parameters of concern are chloride, manganese, magnesium and sodium; • carry out a review of the effectiveness of groundwater monitoring boreholes and consider improvements to the groundwater monitoring network (having regard to the Agency's Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water, February 2003 to achieve the spacing of boreholes) to provide a better understanding of the impacts (e.g. additional up gradient monitoring). <p>A report detailing the findings shall be submitted to the Environment Agency for approval.</p> <p>The report shall:</p> <ul style="list-style-type: none"> • seek to identify the cause of the contamination and, propose appropriate further monitoring infrastructure if required, in order to verify the cause of the contamination; • include a drawing showing the proposed location/s for installation of new or replacement boreholes. <p>The Operator shall incorporate the additional monitoring locations into routine monitoring programme as specified in Tables S3.4 and S3.7.</p>	Complete

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC2	The boreholes agreed in compliance with improvement condition IC1 shall be installed having regard to the Agency's Guidance (LFTGN02) on Monitoring of Landfill Leachate, Groundwater and Surface Water.	Complete
IC3	<p>The Operator shall monitor the composition of the groundwater at additional boreholes at least once every month for 12 months and carry out analysis for List I and List II substances and submit for the approval of the Agency a report including:</p> <ul style="list-style-type: none"> • a review of the specified groundwater compliance locations, trigger substances and trigger levels for groundwater monitoring. All existing relevant compositional data from boreholes and the new additional boreholes shall be used to derive suitable triggers; and • an assessment of current on-going and additional monitoring to confirm the cause of the contamination and providing proposals for remedial measures, if Daneshill Landfill is confirmed to be the cause, to prevent further deterioration in groundwater quality and where possible, seek improvements in order to comply with the Groundwater Directive. 	Complete
IC4	<p>Following completion of the 2nd period of annual monitoring as specified in table S3.12A;</p> <p>a) the chemical characteristics of the soils used within the SRC plots will be analysed by the operator for the list of parameters given in table 1 of figure CE-DHL0346-RP04TA-FA of the application, using the method detailed in CE-DHL0345-RP04TA-leachate treatment facility and short rotation coppicing SRC Daneshill Landfill site-Technical Assessment December 2011 version 1.0 of the application.</p> <p>b) If the results of the monitoring required by (a) are above the limits specified in Table 9 of figure CE-DHL0346-RP04TA-F4 the operator shall submit details of an appropriate treatment activity to reduce limits obtained in (a) to below the limits set out in the table, or shall provide written details of further steps that are to be undertaken to reduce the limits to below the levels specified in table 9.</p> <p>c) the operator shall use the results obtained in a) and b) to develop a revised soil monitoring suite and monitoring frequency for inclusion in table S3.12A</p> <p>The requirements of c) above shall be implemented in accordance with Environment Agency written approval.</p>	Complete
IC5	The operator shall compare the results obtained in accordance with condition 3.5.1 (g) with the modelling submitted in support of the application and submit a report to the Environment Agency detailing, where appropriate, a revised monitoring suite and frequency for the individual process steps of the SRC treatment process. The results of the report shall only be implemented in Table S3.12B in accordance with Environment Agency written approval.	Complete
IC6	<p>The operator shall review the limits of detection for the substances being analysed within tables S3.12A and S3.12B.</p> <p>The operator shall only implement use of the revised limit of detection with Environment Agency written approval.</p>	Complete
IC7	The Operator shall submit to the Environment Agency for approval proposed action limits for carbon dioxide in external landfill gas monitoring boreholes BH12 and BHG32A. The proposed action limits shall be derived in accordance with the methodology in the Industry code of practice (ICoP) on Perimeter Soil Gas Emissions. Following approval of the proposed action limits the Operator shall update the site landfill gas management plan and landfill gas action plan as appropriate.	Complete

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC8	<p>The Operator shall:</p> <ol style="list-style-type: none"> a) Following the commencement of operations of the SRC and after 1 year of monitoring of the discharge from the containment channel of parameters as specified in Table S3.3, submit a report of the monitoring results to the Environment Agency for a written approval. The report shall include the results of discharge rate data obtained from the containment channel emission point specified in Table S3.3; b) Carry out a revised H1 risk assessment if there is a change in the discharge rate data used in the H1 assessment submitted with this application or if the results of the monitoring in a) are above the limits specified in Table S3.3 or show presence of substances where no limits are applied or substances that are currently not listed in Table S3.3; c) If the concentration of any of the assessed substances is found to be 'not insignificant' from the H1 assessment, submit a revised proposal of surface water discharge limits and a plan for ongoing monitoring to the Environment Agency for a written approval; and d) Implement any proposed changes in c) from the date and in accordance with written approval obtained from the Environment Agency. 	Within 14 months from commencement of discharges to the SRC plots
IC9	The operator shall submit to the Environment Agency in writing for approval an updated Gas Management Plan which incorporates the action limits for carbon dioxide agreed under the improvement condition IC7.	30/06/2021
IC10	<p>The operator shall carry out a review of the Off Specification Compost bio filter using emissions data obtained during the first year of operation in order to validate the description of the emissions provided in the application, and to demonstrate that the bio filter has been effective in preventing and where not possible minimising emissions released to air. Following this review the operator shall submit a written report to the Environment Agency for assessment and approval. The report shall include but not limited to the following aspects:</p> <ul style="list-style-type: none"> • Summary of the technical characteristics of the biofilter (as installed), including filter media • Full investigation and characterisation of the inlet waste gas stream, including inlet gas monitoring results. • Emissions monitoring results covering the full range of contaminants identified in the inlet gas • Biofilter process monitoring results corresponding to periods of inlet gas and emissions monitoring • An interpretive description of the monitoring results, conclusions on abatement efficacy, and review against description and expected performance as detailed in the application. • Confirmation and justification of site-specific "action levels" and responses for parameters outside of optimal range • Consideration of improvement options (as appropriate), including the replacement or upgrading of the biofilter and/or CLO media • Recommendations for any identified improvements and timescales for their implementation. • Clarification of the tonnage of CLO disposed of. <p>The operator shall implement the improvements in line with the timescales as approved by the Environment Agency.</p>	12 months following commencement of operations

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC11	<p>The operator shall submit a report to the Environment Agency for written approval reviewing the efficacy of the bioremediation process.</p> <p>The report shall include:</p> <ul style="list-style-type: none"> • Amount of waste treated via bioremediation • Amount of waste treated within target timescales • Results of validation testing for successfully treated waste • Amount of waste re-treated • Amount of waste disposed of after bioremediation treatment. <p>If the results of the report show significant retreatment of waste or unsuccessful treatment of waste via bioremediation after three rounds of treatment, the Operator shall submit proposals to improve the efficacy of the process along with the timescale for implementation to the Environment Agency for written approval.</p> <p>The Operator shall implement the proposals in line with the timescales agreed with the Environment Agency.</p>	12 months following commencement of operations
IC12	<p>The operator shall provide a report on the monitoring undertaken as part of the sampling of the incoming waste and the separated wastes streams, from the operation of the asbestos screening process over the first 4 months of operation, for approval by the Environment Agency.</p> <p>The sampling report shall:</p> <ul style="list-style-type: none"> • detail the method(s) used to sample and analyse the treated waste streams for asbestos fibres; • demonstrate a high percentile level of confidence in the treatment process taking account of the amount of waste treated per batch and the number of samples required to adequately sample each waste stream, both initially and on an ongoing basis; • demonstrate that additional asbestos fibre contamination is not being created by the screening process. • recommend any additional measures to be undertaken to ensure compliance with the permit conditions. <p>The notification requirements of condition 2.4.2 will be deemed to have been complied with on submission of the plan.</p> <p>The operator shall implement the additional measures as approved, and from the date stipulated by, the Environment Agency.</p>	Within 6 months of the completion of commissioning.

Table S1.4 Pre-operational measures for future development		
Reference	Operation	Pre-operational Measures
PO1	Installation of the leachate drainage system in future cells	The operator shall submit the final design of the leachate drainage system for all future cells to the Environment Agency for agreement in writing. The design shall include pipe spacing at a maximum of 30 metres or be calculated using Rowe Section 2.4 (Rowe et al 2004) in accordance with Environmental Permitting Guidance for landfill (EPR5.02) and spacing agreed in writing with the Environment Agency.
PO3	Discharge to the SRC plots	The operator shall confirm to the Agency that they have the following: A written Environmental Management System (EMS) and integrated Management Systems (IMS) which are concerned with the operation of the SRC treatment system. The EMS and IMS are to

Table S1.4 Pre-operational measures for future development		
Reference	Operation	Pre-operational Measures
		demonstrate that the operation of the SRC is consistent with the details of the application.
PO4	Discharge from the SRC containment channel	Prior to the discharge of surface water from the SRC containment channel, the Operator shall propose a sample point location that is representative of the emissions from the SRC. This sample point must be located prior to the introduction of site surface runoff water, or other diluting water (excluding runoff water from the SRC). The Operator shall submit a revised emission sample points layout plan to the Environment Agency for written approval.
PO5	Operation of the Soil Treatment Facility	Prior to the commencement of waste storage and treatment operations at the soil treatment facility, the operator shall install all impermeable surfacing and associated infrastructure including drainage systems and demonstrate to the Environment Agency for written agreement that it has been installed to an appropriate CQA standard and signed off by an appropriately qualified person.
PO6	Operation of the Soil Treatment Facility	Prior to the acceptance of waste, the operator shall provide a written report to the Environment Agency which demonstrates the wheel wash and associated equipment has been installed within the site boundary and is a full sealed system. The operations can commence once written approval has been issued from the Environment Agency.
PO7	Operation of the mechanical screener for treatment of asbestos impacted wastes	Prior to the use of the mechanical screener for the pre-screening of asbestos contaminated soils under activity reference AR3A a report shall be submitted for approval detailing the following aspects: <ul style="list-style-type: none"> • Evidence to demonstrate that the mechanical screener is fully enclosed and all dust emissions from the screening operation are directed to an active abatement system with a HEPA filter or other suitable design. • Details of the proposed commissioning, operational and maintenance procedures associated with the mechanical screener and active abatement system to be implemented on site. • Details of monitoring checks, audits and emergency procedures to be implemented on site to ensure both the mechanical screener and active abatement system are fully operational and working as designed. No mechanical pre-screening of asbestos contaminated soils under activity reference AR3A shall commence unless the Environment Agency has given prior approval under this condition.

Table S1.5 Annual waste input limits	
Category	Limit Tonnes/ Year
Non-hazardous waste	267,000
Waste for restoration	300,000
Leachate from offsite accepted at the onsite Leachate Treatment Plant	As agreed in writing with the Environment Agency prior to import of leachate from offsite.

Schedule 2 – Waste types

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste (activity AR1)	
Waste code	Description
01	Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals
01 01	wastes from mineral excavation
01 01 01	wastes from mineral metalliferous excavation
01 01 02	wastes from mineral non-metalliferous excavation
01 03	wastes from physical and chemical processing of metalliferous minerals
01 03 06	tailings other than those mentioned in 01 03 04 and 01 03 05
01 03 08	dusty and powdery wastes other than those mentioned in 01 03 07
01 03 09	red mud from alumina production other than the wastes mentioned in 01 03 10
01 04	wastes from physical and chemical processing of non-metalliferous minerals
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	waste sand and clays
01 04 10	dusty and powdery wastes other than those mentioned in 01 04 07
01 04 11	wastes from potash and rock salt processing other than those mentioned in 01 04 07
01 04 12	tailings and other wastes from washing and cleaning of minerals other than those mentioned in 01 04 07 and 01 04 11
01 04 13	wastes from stone cutting and sawing other than those mentioned in 01 04 07
01 05	drilling muds and other drilling wastes
01 05 04	freshwater drilling muds and wastes
01 05 07	barite-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
01 05 08	chloride-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
02	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 01	sludges from washing and cleaning
02 01 02	animal-tissue waste
02 01 03	plant-tissue waste
02 01 04	waste plastics (except packaging)
02 01 06	animal faeces, urine and manure (including spoiled straw), effluent, collected separately and treated off-site
02 01 07	wastes from forestry
02 01 09	agrochemical waste other than those mentioned in 02 01 08
02 01 10	waste metal
02 02	wastes from the preparation and processing of meat, fish and other foods of animal origin

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste (activity AR1)	
Waste code	Description
02 02 01	sludges from washing and cleaning
02 02 02	animal-tissue waste
02 02 03	materials unsuitable for consumption or processing
02 02 04	sludges from on-site effluent treatment
02 03	wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation
02 03 01	sludges from washing, cleaning, peeling, centrifuging and separation
02 03 02	wastes from preserving agents
02 03 03	wastes from solvent extraction
02 03 04	materials unsuitable for consumption or processing
02 03 05	sludges from on-site effluent treatment
02 04	wastes from sugar processing
02 04 01	soil from cleaning and washing beet
02 04 02	off-specification calcium carbonate
02 04 03	sludges from on-site effluent treatment
02 05	wastes from the dairy products industry
02 05 01	materials unsuitable for consumption or processing
02 05 02	sludges from on-site effluent treatment
02 06	wastes from the baking and confectionery industry
02 06 01	materials unsuitable for consumption or processing
02 06 02	wastes from preserving agents
02 06 03	sludges from on-site effluent treatment
02 07	wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)
02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials
02 07 02	wastes from spirits distillation
02 07 03	wastes from chemical treatment
02 07 04	materials unsuitable for consumption or processing
02 07 05	sludges from on-site effluent treatment
03	Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard
03 01	wastes from wood processing and the production of panels and furniture
03 01 01	waste bark and cork
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
03 03	wastes from pulp, paper and cardboard production and processing
03 03 01	waste bark and wood
03 03 02	green liquor sludge (from recovery of cooking liquor)
03 03 05	de-inking sludges from paper recycling

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste (activity AR1)	
Waste code	Description
03 03 07	mechanically separated rejects from pulping of waste paper and cardboard
03 03 08	wastes from sorting of paper and cardboard destined for recycling
03 03 09	lime mud waste
03 03 10	fibre rejects, fibre-, filler- and coating-sludges from mechanical separation
03 03 11	sludges from on-site effluent treatment other than those mentioned in 03 03 10
04	Wastes from the leather, fur and textile industries
04 01	wastes from the leather and fur industry
04 01 01	fleshings and lime split wastes
04 01 02	liming waste
04 01 06	sludges, in particular from on-site effluent treatment containing chromium
04 01 07	sludges, in particular from on-site effluent treatment free of chromium
04 01 08	waste tanned leather (blue sheetings, shavings, cuttings, buffing dust) containing chromium
04 01 09	wastes from dressing and finishing
04 02	wastes from the textile industry
04 02 09	wastes from composite materials (impregnated textile, elastomer, plastomer)
04 02 10	organic matter from natural products (for example grease, wax)
04 02 15	wastes from finishing other than those mentioned in 04 02 14
04 02 17	dyestuffs and pigments other than those mentioned in 04 02 16
04 02 20	sludges from on-site effluent treatment other than those mentioned in 04 02 19
04 02 21	wastes from unprocessed textile fibres
04 02 22	wastes from processed textile fibres
05	Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal
05 01	wastes from petroleum refining
05 01 10	sludges from on-site effluent treatment other than those mentioned in 05 01 09
05 01 13	boiler feedwater sludges
05 01 14	wastes from cooling columns
05 01 16	sulphur-containing wastes from petroleum desulphurisation
05 01 17	bitumen
05 06	wastes from the pyrolytic treatment of coal
05 06 04	waste from cooling columns
05 07	wastes from natural gas purification and transportation
05 07 02	wastes containing sulphur
06	Wastes from inorganic chemical processes
06 03	wastes from the MFSU of salts and their solutions and metallic oxides
06 03 14	solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13
06 03 16	metallic oxides other than those mentioned in 06 03 15
06 05	sludges from on-site effluent treatment

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste (activity AR1)	
Waste code	Description
06 05 03	sludges from on-site effluent treatment other than those mentioned in 06 05 02
06 06	wastes from the MFSU of sulphur chemicals, sulphur chemical processes and desulphurisation processes
06 06 03	wastes containing sulphides other than those mentioned in 06 06 02
06 09	wastes from the MSFU of phosphorous chemicals and phosphorous chemical processes
06 09 02	phosphorous slag
06 09 04	calcium-based reaction wastes other than those mentioned in 06 09 03
06 11	wastes from the manufacture of inorganic pigments and opacifiers
06 11 01	calcium-based reaction wastes from titanium dioxide production
06 13	wastes from inorganic chemical processes not otherwise specified
06 13 03	carbon black
07	Wastes from organic chemical processes
07 01	wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals
07 01 12	sludges from on-site effluent treatment other than those mentioned in 07 01 11
07 02	wastes from the MFSU of plastics, synthetic rubber and man-made fibres
07 02 12	sludges from on-site effluent treatment other than those mentioned in 07 02 11
07 02 13	waste plastic
07 02 15	wastes from additives other than those mentioned in 07 02 14
07 02 17	waste containing silicones other than those mentioned in 07 02 16
07 03	wastes from the MFSU of organic dyes and pigments (except 06 11)
07 03 12	sludges from on-site effluent treatment other than those mentioned in 07 03 11
07 04	wastes from the MFSU of organic plant protection products (except 02 01 08 and 02 01 09), wood preserving agents (except 03 02) and other biocides
07 04 12	sludges from on-site effluent treatment other than those mentioned in 07 04 11
07 05	wastes from the MFSU of pharmaceuticals
07 05 12	sludges from on-site effluent treatment other than those mentioned in 07 05 11
07 05 14	solid wastes other than those mentioned in 07 05 13
07 06	wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics
07 06 12	sludges from on-site effluent treatment other than those mentioned in 07 06 11
07 07	wastes from the MFSU of fine chemicals and chemical products not otherwise specified
07 07 12	sludges from on-site effluent treatment other than those mentioned in 07 07 11
08	Wastes from the manufacture, formulation, supply and use (MFSU) of coatings (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks
08 01	wastes from MFSU and removal of paint and varnish
08 01 12	waste paint and varnish other than those mentioned in 08 01 11
08 01 14	sludges from paint or varnish other than those mentioned in 08 01 13

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste (activity AR1)	
Waste code	Description
08 01 16	aqueous sludges containing paint or varnish other than those mentioned in 08 01 15
08 01 18	wastes from paint or varnish removal other than those mentioned in 08 01 17
08 02	wastes from MFSU of other coatings (including ceramic materials)
08 02 01	waste coating powders
08 02 02	aqueous sludges containing ceramic materials
08 03	wastes from MFSU of printing inks
08 03 07	aqueous sludges containing ink
08 03 13	waste ink other than those mentioned in 08 03 12
08 03 15	ink sludges other than those mentioned in 08 03 14
08 03 18	waste printing toner other than those mentioned in 08 03 17
08 04	wastes from MFSU of adhesives and sealants (including water proofing products)
08 04 10	waste adhesives and sealants other than those mentioned in 08 04 09
08 04 12	adhesive and sealant sludges other than those mentioned in 08 04 11
08 04 14	aqueous sludges containing adhesives or sealants other than those mentioned in 08 04 13
09	Wastes from the photographic industry
09 01	wastes from the photographic industry
09 01 07	photographic film and paper containing silver or silver compounds
09 01 08	photographic film and paper free of silver or silver compounds
09 01 10	single-use cameras without batteries
09 01 12	single-use cameras containing batteries other than those mentioned in 09 01 11
10	Wastes from thermal processes
10 01	wastes from power stations and other combustion plants (except 19)
10 01 01	bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)
10 01 02	coal fly ash
10 01 03	fly ash from peat and untreated wood
10 01 05	calcium-based reaction wastes from flue-gas desulphurisation in solid form
10 01 07	calcium-based reaction wastes from flue-gas desulphurisation in sludge form
10 01 15	bottom ash, slag and boiler dust from co-incineration other than those mentioned in 10 01 14
10 01 17	fly ash from co-incineration other than those mentioned in 10 01 16
10 01 19	wastes from gas cleaning other than those mentioned in 10 01 05, 10 01 07 and 10 01 18
10 01 21	sludges from on-site effluent treatment other than those mentioned in 10 01 20
10 01 23	aqueous sludges from boiler cleansing other than those mentioned in 10 01 22
10 01 24	sands from fluidised beds
10 01 25	wastes from fuel storage and preparation of coal-fired power plants
10 01 26	wastes from cooling-water treatment

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste (activity AR1)	
Waste code	Description
10 02	wastes from the iron and steel industry
10 02 01	wastes from the processing of slag
10 02 02	unprocessed slag
10 02 08	solid wastes from gas treatment other than those mentioned in 10 02 07
10 02 10	mill scales
10 02 12	wastes from cooling-water treatment other than those mentioned in 10 02 11
10 02 14	sludges and filter cakes from gas treatment other than those mentioned in 10 02 13
10 02 15	other sludges and filter cakes
10 03	wastes from aluminium thermal metallurgy
10 03 02	anode scraps
10 03 05	waste alumina
10 03 16	skimmings other than those mentioned in 10 03 15
10 03 18	carbon-containing wastes from anode manufacture other than those mentioned in 10 03 17
10 03 20	flue-gas dust other than those mentioned in 10 03 19
10 03 22	other particulates and dust (including ball-mill dust) other than those mentioned in 10 03 21
10 03 24	solid wastes from gas treatment other than those mentioned in 10 03 23
10 03 26	sludges and filter cakes from gas treatment other than those mentioned in 10 03 25
10 03 28	wastes from cooling-water treatment other than those mentioned in 10 03 27
10 03 30	wastes from treatment of salt slags and black drosses other than those mentioned in 10 03 29
10 04	wastes from lead thermal metallurgy
10 04 10	wastes from cooling-water treatment other than those mentioned in 10 04 09
10 05	wastes from zinc thermal metallurgy
10 05 01	slags from primary and secondary production
10 05 04	other particulates and dust
10 05 09	wastes from cooling-water treatment other than those mentioned in 10 05 08
10 05 11	dross and skimmings other than those mentioned in 10 05 10
10 06	wastes from copper thermal metallurgy
10 06 01	slags from primary and secondary production
10 06 02	dross and skimmings from primary and secondary production
10 06 04	other particulates and dust
10 06 10	wastes from cooling-water treatment other than those mentioned in 10 06 09
10 07	wastes from silver, gold and platinum thermal metallurgy
10 07 01	slags from primary and secondary production
10 07 02	dross and skimmings from primary and secondary production
10 07 03	solid wastes from gas treatment
10 07 04	other particulates and dust

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste (activity AR1)	
Waste code	Description
10 07 05	sludges and filter cakes from gas treatment
10 07 08	wastes from cooling-water treatment other than those mentioned in 10 07 07
10 08	wastes from other non-ferrous thermal metallurgy
10 08 04	particulates and dust
10 08 09	other slags
10 08 11	dross and skimmings other than those mentioned in 10 08 10
10 08 13	carbon-containing wastes from anode manufacture other than those mentioned in 10 08 12
10 08 14	anode scrap
10 08 16	flue-gas dust other than those mentioned in 10 08 15
10 08 18	sludges and filter cakes from flue-gas treatment other than those mentioned in 10 08 17
10 08 20	wastes from cooling-water treatment other than those mentioned in 10 08 19
10 09	wastes from casting of ferrous pieces
10 09 03	furnace slag
10 09 06	casting cores and moulds which have not undergone pouring other than those mentioned in 10 09 05
10 09 08	casting cores and moulds which have undergone pouring other than those mentioned in 10 09 07
10 09 10	flue-gas dust other than those mentioned in 10 09 09
10 09 12	other particulates other than those mentioned in 10 09 11
10 09 14	waste binders other than those mentioned in 10 09 13
10 09 16	waste crack-indicating agent other than those mentioned in 10 09 15
10 10	wastes from casting of non-ferrous pieces
10 10 03	furnace slag
10 10 06	casting cores and moulds which have not undergone pouring, other than those mentioned in 10 10 05
10 10 08	casting cores and moulds which have undergone pouring, other than those mentioned in 10 10 07
10 10 10	flue-gas dust other than those mentioned in 10 10 09
10 10 12	other particulates other than those mentioned in 10 10 11
10 10 14	waste binders other than those mentioned in 10 10 13
10 10 16	waste crack-indicating agent other than those mentioned in 10 10 15
10 11	wastes from manufacture of glass and glass products
10 11 03	waste glass-based fibrous materials
10 11 05	particulates and dust
10 11 10	waste preparation mixture before thermal processing, other than those mentioned in 10 11 09
10 11 12	waste glass other than those mentioned in 10 11 11
10 11 14	glass-polishing and -grinding sludge other than those mentioned in 10 11 13

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste (activity AR1)	
Waste code	Description
10 11 16	solid wastes from flue-gas treatment other than those mentioned in 10 11 15
10 11 18	sludges and filter cakes from flue-gas treatment other than those mentioned in 10 11 17
10 11 20	solid wastes from on-site effluent treatment other than those mentioned in 10 11 19
10 12	wastes from manufacture of ceramic goods, bricks, tiles and construction products
10 12 01	waste preparation mixture before thermal processing
10 12 03	particulates and dust
10 12 05	sludges and filter cakes from gas treatment
10 12 06	discarded moulds
10 12 08	waste ceramics, bricks, tiles and construction products (after thermal processing)
10 12 10	solid wastes from gas treatment other than those mentioned in 10 12 09
10 12 12	wastes from glazing other than those mentioned in 10 12 11
10 12 13	sludge from on-site effluent treatment
10 13	wastes from manufacture of cement, lime and plaster and articles and products made from them
10 13 01	waste preparation mixture before thermal processing
10 13 04	wastes from calcination and hydration of lime
10 13 06	particulates and dust (except 10 13 12 and 10 13 13)
10 13 07	sludges and filter cakes from gas treatment
10 13 10	wastes from asbestos-cement manufacture other than those mentioned in 10 13 09
10 13 11	wastes from cement-based composite materials other than those mentioned in 10 13 09 and 10 13 10
10 13 13	solid wastes from gas treatment other than those mentioned in 10 13 12
10 13 14	waste concrete and concrete sludge
11	Wastes from chemical surface treatment and coating of metals and other materials; non-ferrous hydro-metallurgy
11 01	wastes from chemical surface treatment and coating of metals and other materials (for example galvanic processes, zinc coating processes, pickling processes, etching, phosphating, alkaline degreasing, anodising)
11 01 10	sludges and filter cakes other than those mentioned in 11 01 09
11 01 14	degreasing wastes other than those mentioned in 11 01 13
11 02	wastes from non-ferrous hydrometallurgical processes
11 02 03	wastes from the production of anodes for aqueous electrolytical processes
11 02 06	wastes from copper hydrometallurgical processes other than those mentioned in 11 02 05
11 05	wastes from hot galvanising processes
11 05 01	hard zinc
11 05 02	zinc ash
12	Wastes from shaping and physical and mechanical surface treatment of metals and plastics

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste (activity AR1)	
Waste code	Description
12 01	wastes from shaping and physical and mechanical surface treatment of metals and plastics
12 01 01	ferrous metal filings and turnings
12 01 02	ferrous metal dust and particles
12 01 03	non-ferrous metal filings and turnings
12 01 04	non-ferrous metal dust and particles
12 01 05	plastics shavings and turnings
12 01 13	welding wastes
12 01 15	machining sludges other than those mentioned in 12 01 14
12 01 17	waste blasting material other than those mentioned in 12 01 16
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 packaging waste)
15 01 01	paper and cardboard packaging
15 01 02	plastic packaging
15 01 03	wooden packaging
15 01 04	metallic packaging
15 01 05	composite packaging
15 01 06	mixed packaging
15 01 07	glass packaging
15 01 09	textile 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 01	end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)
16 01 03	end-of-life tyres
16 01 12	brake pads other than those mentioned in 16 01 11
16 01 17	ferrous metal
16 01 18	non-ferrous metal
16 01 19	plastic
16 01 20	glass
16 02	wastes from electrical and electronic equipment
16 02 14	discarded equipment other than those mentioned in 16 02 09 to 16 02 13
16 02 16	components removed from discarded equipment other than those mentioned in 16 02 15

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste (activity AR1)	
Waste code	Description
16 03	off-specification batches and unused products
16 03 04	inorganic wastes other than those mentioned in 16 03 03
16 03 06	organic wastes other than those mentioned in 16 03 05
16 08	spent catalysts
16 08 01	spent catalysts containing gold, silver, rhenium, rhodium, palladium, iridium or platinum (except 16 08 07)
16 08 03	spent catalysts containing transition metals or transition metal compounds not otherwise specified
16 11	waste linings and refractories
16 11 02	carbon-based linings and refractories from metallurgical processes others than those mentioned in 16 11 01
16 11 04	other linings and refractories from metallurgical processes other than those mentioned in 16 11 03
16 11 06	linings and refractories from non-metallurgical processes others than those mentioned in 16 11 05
17	Construction and demolition wastes (including excavated soil from contaminated sites)
17 01	concrete, bricks, tiles and ceramics
17 01 01	concrete
17 01 02	bricks
17 01 03	tiles and ceramics
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 02	wood, glass and plastic
17 02 01	wood
17 02 02	glass
17 02 03	plastic
17 03	bituminous mixtures, coal tar and tarred products
17 03 02	bituminous mixtures other than those mentioned in 17 03 01
17 04	metals (including their alloys)
17 04 01	copper, bronze, brass
17 04 02	aluminium
17 04 03	lead
17 04 04	zinc
17 04 05	iron and steel
17 04 06	tin
17 04 07	mixed metals
17 04 11	cables other than those mentioned in 17 04 10
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 04	soil and stones other than those mentioned in 17 05 03

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste (activity AR1)	
Waste code	Description
17 05 06	dredging spoil other than those mentioned in 17 05 05
17 05 08	track ballast other than those mentioned in 17 05 07
17 06	insulation materials and 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 wastes
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
18	Wastes from human or animal health care and/or related research (except kitchen and restaurant wastes not arising from immediate health care)
18 01	wastes from natal care, diagnosis, treatment or prevention of disease in humans
18 01 04	wastes whose collection and disposal is not subject to special requirements in order to prevent infection (for example dressings, plaster casts, linen, disposable clothing, diapers)
18 02	wastes from research, diagnosis, treatment or prevention of disease involving animals
18 02 03	wastes whose collection and disposal is not subject to special requirements in order to prevent infection
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 01	wastes from incineration or pyrolysis of waste
19 01 02	ferrous materials removed from bottom ash
19 01 12	bottom ash and slag other than those mentioned in 19 01 11
19 01 14	fly ash other than those mentioned in 19 01 13
19 01 16	boiler dust other than those mentioned in 19 01 15
19 01 18	pyrolysis wastes other than those mentioned in 19 01 17
19 01 19	sands from fluidised beds
19 02	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 03	premixed wastes composed only of non-hazardous wastes
19 02 06	sludges from physico/chemical treatment other than those mentioned in 19 02 05
19 02 10	combustible wastes other than those mentioned in 19 02 08 and 19 02 09
19 03	stabilised/solidified wastes
19 03 05	stabilised wastes other than those mentioned in 19 03 04
19 03 07	solidified wastes other than those mentioned in 19 03 06
19 04	vitrified waste and wastes from vitrification
19 04 01	vitrified waste
19 05	wastes from aerobic treatment of solid wastes
19 05 01	non-composted fraction of municipal and similar wastes
19 05 02	non-composted fraction of animal and vegetable waste
19 05 03	off-specification compost

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste (activity AR1)	
Waste code	Description
19 06	wastes from anaerobic treatment of waste
19 06 04	digestate from anaerobic treatment of municipal waste
19 06 06	digestate from anaerobic treatment of animal and vegetable waste
19 08	wastes from waste water treatment plants not otherwise specified
19 08 01	screenings
19 08 02	waste from desanding
19 08 05	sludges from treatment of urban waste water
19 08 09	grease and oil mixture from oil/water separation containing only edible oil and fats
19 08 12	sludges from biological treatment of industrial waste water other than those mentioned in 19 08 11
19 08 14	sludges from other treatment of industrial waste water other than those mentioned in 19 08 13
19 09	wastes from the preparation of water intended for human consumption or water for industrial use
19 09 01	solid waste from primary filtration and screenings
19 09 02	sludges from water clarification
19 09 03	sludges from decarbonation
19 09 04	spent activated carbon
19 09 05	saturated or spent ion exchange resins
19 09 06	solutions and sludges from regeneration of ion exchangers
19 10	wastes from shredding of metal-containing wastes
19 10 01	iron and steel waste
19 10 02	non-ferrous waste
19 10 04	fluff-light fraction and dust other than those mentioned in 19 10 03
19 10 06	other fractions other than those mentioned in 19 10 05
19 11	wastes from oil regeneration
19 11 06	sludges from on-site effluent treatment other than those mentioned in 19 11 05
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) 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 07	wood other than that mentioned in 19 12 06
19 12 08	textiles
19 12 09	minerals (for example sand, stones)
19 12 10	combustible waste (refuse derived fuel)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste (activity AR1)	
Waste code	Description
19 13	wastes from soil and groundwater remediation
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03
19 13 06	sludges from groundwater remediation other than those mentioned in 19 13 05
20	Municipal wastes (household waste and similar commercial, industrial and institutional 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 10	clothes
20 01 11	textiles
20 01 25	edible oil and fat
20 01 28	paint, inks, adhesives and resins other than those mentioned in 20 01 27
20 01 30	detergents other than those mentioned in 20 01 29
20 01 36	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35
20 01 38	wood other than that mentioned in 20 01 37
20 01 39	plastics
20 01 40	metals
20 01 41	wastes from chimney sweeping
20 02	garden and park wastes (including cemetery waste)
20 02 01	biodegradable waste
20 02 02	soil and stones
20 02 03	other non-biodegradable wastes
20 03	other municipal wastes
20 03 01	mixed municipal waste
20 03 02	waste from markets
20 03 03	street-cleaning residues
20 03 04	septic tank sludge
20 03 06	waste from sewage cleaning
20 03 07	bulky waste

Table S2.2 Permitted waste types accepted for leachate treatment (activity AR2)	
Waste code	Description
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 07	landfill leachate
19 07 03	landfill leachate other than those mentioned in 19 07 02

Table S2.3 Permitted waste types for restoration (activity AR3)	
Waste code	Description
01	Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals
01 04	wastes from physical and chemical processing of non-metalliferous minerals
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	waste sand and clays
02	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing
02 04	wastes from sugar processing
02 04 01	soil from cleaning and washing beet
03	Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard
03 03	wastes from pulp, paper and cardboard production and processing
03 03 05	de-inking sludges from paper recycling
03 03 09	lime mud waste
10	WASTES FROM THERMAL PROCESSES
10 01	wastes from power stations and other combustion plants (except 19)
10 01 01	bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)
10 01 02	coal fly ash
10 12	wastes from manufacture of ceramic goods, bricks, tiles and construction products
10 12 08	waste ceramics, bricks, tiles and construction products (after thermal processing)
10 13	wastes from manufacture of cement, lime and plaster and articles and products made from them
10 13 14	waste concrete and concrete sludge
17	Construction and demolition wastes (including excavated soil from contaminated sites)
17 01	concrete, bricks, tiles and ceramics
17 01 02	bricks
17 01 03	tiles and ceramics
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 04	soil and stones other than those mentioned in 17 05 03

Table S2.3 Permitted waste types for restoration (activity AR3)	
Waste code	Description
17 05 06	dredging spoil other than those mentioned in 17 05 05
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 05	wastes from aerobic treatment of solid wastes
19 05 03	off-specification compost
19 05 99	compost
19 08	wastes from waste water treatment plants not otherwise specified
19 08 05	sludges from treatment of urban waste water
19 09	wastes from the preparation of water intended for human consumption or water for industrial use
19 09 02	sludges from water clarification
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 09	minerals (for example sand, stones)
19 13	wastes from soil and groundwater remediation
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03
20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
20 02	garden and park wastes (including cemetery waste)
20 02 02	soil and stones

Table S2.4 Permitted waste types and quantities for the storage and biological treatment for recovery of hazardous waste (activities AR3 and AR4)	
Maximum quantity	No more than 29,999 tonnes of hazardous waste shall be accepted per year (in aggregate with table S2.8)
Exclusions	<p>Wastes having any of the following characteristics shall not be accepted:</p> <p>Wastes consisting solely or mainly of dusts, powders or loose fibres;</p> <p>Waste liquids;</p> <p>Odorous wastes;</p> <p>Waste containing asbestos;</p> <p>Wastes with hazard codes HP1, HP2, HP3, HP9, HP12, HP15;</p> <p>Waste containing persistent organic pollutants (POPs).</p> <p>Wastes marked ADDITIVE ONLY are permitted only as a process additive in accordance with the operational techniques.</p>
Waste code	Description
01	Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals
01 05	wastes from physical and chemical processing of non-metalliferous minerals

Table S2.4 Permitted waste types and quantities for the storage and biological treatment for recovery of hazardous waste (activities AR3 and AR4)	
Maximum quantity	No more than 29,999 tonnes of hazardous waste shall be accepted per year (in aggregate with table S2.8)
Exclusions	Wastes having any of the following characteristics shall not be accepted: Wastes consisting solely or mainly of dusts, powders or loose fibres; Waste liquids; Odorous wastes; Waste containing asbestos; Wastes with hazard codes HP1, HP2, HP3, HP9, HP12, HP15; Waste containing persistent organic pollutants (POPs). Wastes marked ADDITIVE ONLY are permitted only as a process additive in accordance with the operational techniques.
Waste code	Description
01 05 05*	oil-containing drilling muds and wastes
01 05 06*	drilling muds and other drilling wastes containing hazardous substances
05	Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal
05 01	wastes from petroleum refining
05 01 05*	oil spills
13	Oil wastes and wastes of liquid fuels (except edible oils, and those in chapters 05, 12 and 19)
13 05	oil/water separator contents
13 05 01*	solids from grit chambers and oil/water separators
13 05 02*	sludges from oil/water separators
13 05 03*	interceptor sludges
13 05 08*	mixtures of wastes from grit chambers and oil/water separators
17	Construction and demolition wastes (including excavated soil from contaminated sites)
17 02	wood, glass and plastic
17 02 01	Wood (ADDITIVE ONLY)
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 03*	soil and stones containing hazardous substances
17 05 05*	dredging spoil containing hazardous substances
17 05 07*	track ballast containing hazardous substances
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 02	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 05*	sludges from physico/chemical treatment of road sweeping (soil wastes only) containing hazardous substances
19 08	wastes from waste water treatment plants not otherwise specified

Table S2.4 Permitted waste types and quantities for the storage and biological treatment for recovery of hazardous waste (activities AR3 and AR4)	
Maximum quantity	No more than 29,999 tonnes of hazardous waste shall be accepted per year (in aggregate with table S2.8)
Exclusions	Wastes having any of the following characteristics shall not be accepted: Wastes consisting solely or mainly of dusts, powders or loose fibres; Waste liquids; Odorous wastes; Waste containing asbestos; Wastes with hazard codes HP1, HP2, HP3, HP9, HP12, HP15; Waste containing persistent organic pollutants (POPs). Wastes marked ADDITIVE ONLY are permitted only as a process additive in accordance with the operational techniques.
Waste code	Description
19 08 13*	sludges containing hazardous substances from other treatment of industrial waste water
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 07	wood other than that mentioned in 19 12 06 (ADDITIVE ONLY)
19 13	wastes from soil and groundwater remediation
19 13 01*	solid wastes from soil remediation containing hazardous substances
19 13 03*	sludges from soil remediation containing hazardous substances

Table S2.5 Permitted waste types and quantities for biological treatment for recovery of non-hazardous waste (activities AR5 and AR11)	
Maximum quantity	No more than 20,001 tonnes of non-hazardous waste shall be accepted for treatment per year.
Exclusions	Wastes having any of the following characteristics shall not be accepted: Wastes consisting solely or mainly of dusts, powders or loose fibres; Waste liquids; Odorous wastes.
Waste code	Description
17	Construction and demolition wastes (including excavated soil from contaminated sites)
17 02	wood, glass and plastic
17 02 01	Wood (ADDITIVE ONLY)
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 06	dredging spoil other than those mentioned in 17 05 05
17 05 08	track ballast other than those mentioned in 17 05 07

Table S2.6 Permitted waste types and quantities for AR14 Screening of non-hazardous wastes	
Maximum quantity	No more than 50,000 tonnes of non-hazardous waste (post treatment) shall be accepted for treatment per year.
Waste code	Description
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 13	Wastes from soil and groundwater remediation
19 13 02	Solid wastes from soil remediation other than those mentioned in 19 13 01

Table S2.7 Permitted waste types and quantities for AR13 use as biofilter medium	
Maximum quantity	The total quantity of waste accepted at the site for the above activity shall be less than 1,000 tonnes a year.
Waste code	Description
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 05	Wastes from aerobic treatment of waste
19 05 03	Off specification compost

Table S2.8 Permitted waste types and quantities for screening and handpicking, and storage of soils impacted with bonded asbestos (Activities AR3A and AR4)	
Maximum quantity	No more than 29,999 tonnes of hazardous waste shall be accepted per year (in aggregate with table S2.4)
Exclusions	Wastes having any of the following characteristics shall not be accepted: Asbestos in unbound fibrous form (free chrysotile fibrous asbestos in the soil must be <0.1% w/w. Other forms or mixed forms of fibrous asbestos in the soil must be <0.01% w/w.)
Waste code	Description
17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 03* and 17 06 05*	soil and stones containing hazardous substances which are impacted with identifiable pieces of bonded asbestos (any particle of a size that can be identified as potentially being asbestos by a competent person, if examined by the naked eye)
17 05 04 and 17 06 05*	soil and stones other than those mentioned in 17 05 03 which are impacted with identifiable pieces of bonded asbestos (any particle of a size that can be identified as potentially being asbestos by a competent person, if examined by the naked eye)

Schedule 3 – Emissions and monitoring

Table S3.1 Leachate level limits and monitoring requirements			
Monitoring point reference/Description	Limit	Monitoring frequency	Monitoring standard and method
Operational Cells or Phases (Any cells or phases that do not have a final engineered cap agreed in accordance with the landfill engineering condition, 2.6)			
Leachate compliance and monitoring points Phase 3B: Cell 2 - LMH11C, LMP Cell 3 - LMH11A, LMPQ Phase 3: Cell 5 - LMPF, LMPBa, Cell 8B - LMP07B, LMP08B Cell 9B - LMP09, LMP10 Cell 10B - LMP17, LMP18 Cell 10D – LMP19, LMP20 on Drawing 348M419.	1.5 m above basal liner	Monthly ^{Note 1}	As specified in Environment Agency Guidance TGN02 (February 2003) or such other subsequent guidance as may be agreed in writing with the Environment Agency. Or as otherwise agreed with the Agency as part of a leachate monitoring plan.
Leachate in the primary and secondary pre-treatment lagoons on Plan MEPP.	1 metre below the lowest level of the rim of each lagoon		
Non Operational Cells or Phases (Any cells or phases that have a final engineered cap agreed in accordance with the landfill engineering condition, 2.6)			

Table S3.1 Leachate level limits and monitoring requirements			
Monitoring point reference/Description	Limit	Monitoring frequency	Monitoring standard and method
Phase 1 - LMH01, LMH02, LMH03 Phase 2 LMH04, LMH05, LMH06 Phase 3A: Cell 1 - LMH07, LMPK Cell 2 - LMH08, LMPL, LMPDa Cell 3 - LMH09, LMPM Phase 3B: Cell 1 - LMH10, LMPN Phase 3: Cell 6 – LMPR, LMPS Cell 7 – LMP03, LMP04A Cell 8A – LMP05, LMP06A Cell 9A1 – LMP11, LMP12 Cell 9A2 – LMP13, LMP14 Cell 10A – LMP15, LMP16 on Drawing 348M419.	1.5m above basal liner	Quarterly	As specified in Environment Agency Guidance TGN02 (February 2003) or such other subsequent guidance as may be agreed in writing with the Environment Agency. Or as otherwise agreed with the Agency as part of a leachate monitoring plan.
Note 1: Frequency to be reduced to quarterly on Environment Agency agreement of CQA validation report following completion of the final engineered cap in each cell.			

Table S3.2 Point source emissions to air – emission limits and monitoring requirements						
Emission point Ref. & Location	Parameter	Source	Limit (including unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
ENGINES A1 and A2 located in Gas Utilisation Compound shown on drawing 348G254 dated 14 th August 2009.	Oxides of Nitrogen	Gas utilisation plant	650 mg/m ³	Hourly mean	Annually	As per M2 or such other subsequent guidance as may be agreed in writing with the Environment Agency
	CO		1500 mg/m ³			
	Total VOCs		1750 mg/m ³			
Flare 1 shown on drawing 348G254 dated 14 th August 2009	Oxides of Nitrogen	Landfill Gas Flares	150 mg/m ³	Hourly mean	Annually	As per M2 or such other subsequent guidance as may be agreed in writing with the Environment Agency. Monitoring is unnecessary where the flare is active for <10% of the year.
	CO		50 mg/m ³			
	Total VOCs		10 mg/m ³			
Biofilter as shown on soil treatment activity layout plan	H ₂ S	Soil treatment facility biofilter	No limit set	Average value of 3 consecutive measurements of at least 30 minutes each	Every 6 months	CEN TS 13649 for sampling NIOSH 6013 for analysis *
	NH ₃		20 mg/m ³			EN ISO 21877 *
	Total volatile organic compounds (TVOC)		No limit set			BS EN 12619
	Particulate Matter (Dust)		No limit set			EN 13284-1
Asbestos screener emission point (to be confirmed by pre-operational condition PO7)	Asbestos fibres	Air extraction system stack	0.1 fibre/ml	Hourly average	Monthly (Note 1, Note 2)	ISO 10397: 1993

Table S3.2 Point source emissions to air – emission limits and monitoring requirements						
Emission point Ref. & Location	Parameter	Source	Limit (including unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
	Particulate matter (Dust)		5 mg/m ³	Average value of 3 consecutive measurements of at least 30 minutes each	Every 6 months (Note 2)	BS EN 13284-1
<p>Note 1: May be reduced to a quarterly frequency after 12 monthly monitoring events with the written agreement of the Environment Agency.</p> <p>Note 2: To the extent possible, the measurements shall be carried out at the highest expected emission state under normal operating conditions.</p>						

Table S3.3 Point source emissions to water (other than sewer) – emission limits and monitoring requirements						
Emission point Ref. & Location	Parameter	Source	Limit (including unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
SW04 sample point (National grid reference SK 67224 86644 Discharge No. 2) shown on ESID10B Receiving waters Ranskill Brook (NGR SK6707 8658)	Suspended Solids	Surface water settlement lagoon	30 mg/l	Spot Sample	Monthly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental permit (www.gov.uk) or such other subsequent guidance as may be agreed in writing with
	Oil and grease		None visible	Visual inspection	Daily when operational	
	pH		Not <5 or >9	Spot sample	Monthly	
	Ammoniacal Nitrogen		0.5 mg/l	Spot sample	Monthly	
	Chloride		50 mg/l	Spot sample	Monthly	
	Suspended Solids		30 mg/l	Spot Sample	Monthly	

Table S3.3 Point source emissions to water (other than sewer) – emission limits and monitoring requirements

Emission point Ref. & Location	Parameter	Source	Limit (including unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
SW11 as shown on plan 4, 348M419 dated 01/02/2016	Oil and grease	Surface water run-off via ditch	None visible	Visual inspection	Daily when operational	the Environment Agency
	pH		Not >5 or <9	Spot sample	Monthly	
	Ammoniacal Nitrogen		0.25 mg/l	Spot sample	Monthly	
	Chloride		180 mg/l	Spot sample	Monthly	
Emission point agreed in line with pre-operational condition PO4 Final receiving waters Ranskill Brook	Discharge flow rate	Surface water runoff from SRC area	110 m ³ /day	Instantaneous	Continuous when discharging	
	Visible oil and grease		None visible	Visual check	Prior to discharge, with a maximum frequency of once per week	
	pH		6 – 9	Spot sample		
	Suspended Solids		50 mg/l			
	Ammoniacal Nitrogen		3.5 mg/l			
	BOD		30 mg/l			
	Chloride		1,560 mg/l			
	Iron		6.3 mg/l			
	Manganese		760 µg/l			
	Chromium		21 µg/l			
	Copper		8 µg/l			
	Zinc		67 µg/l			
	Nickel		25 µg/l			
Arsenic	310 µg/l					

Monitoring point reference	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
GW08, GW09, GW12 and GW13.	Ammoniacal nitrogen	1.25 mg/l	Spot Sample	Quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit</u> (www.gov.uk) or such other subsequent guidance as may be agreed in writing with the Environment Agency
GW05		4.26 mg/l			
GW15		4.59 mg/l			
GW16		0.39 mg/l			
GW05, GW08, GW09, GW12 GW13, GW15 and GW16.	Chloride	250 mg/l			
GW05, GW08, GW09, GW12, GW15 and GW16.	Chromium	0.020 mg/l			
GW08, GW09, GW13, GW15 and GW16.	Mecoprop	0.0001 mg/l			
GW05, GW08, GW09, GW13 GW15 and GW16.	Xylene	0.003 mg/l			

Monitoring point Ref. /description	Parameter	Limit (including units)	Monitoring frequency	Monitoring standard or method
BHG01, BHG02, BHG03, BHG04, BHG05, BHG06, BHG07, BHG08, BHG10, BHG14, BHG17, BHG18, BHG19, BHG20, BHG21, BHG22, BHG23, BHG24, BHG25, BHG27, BHG28, BHG29, BHG30, BHG31, BHG32, BHG32A, BHG34, BHG35, BHG36, BHG37, BHG38, BHG39, BHG40, BHG41, BHG42, BHG43, BHG44, BHG45, BHG46, BHG47, BHG48 and BHG49.	Methane	1 %v/v	Monthly	As per LFTGN03 (September 2004) or such other subsequent guidance as may be agreed in writing with the Environment Agency. Record whether the ground is: <ul style="list-style-type: none"> • waterlogged
	Oxygen	No limit set		
	Atmospheric pressure	No limit set		
	Differential Pressure	No limit set		

Table S3.5 Landfill gas in external monitoring boreholes – limits and monitoring requirements				
Monitoring point Ref. /description	Parameter	Limit (including units)	Monitoring frequency	Monitoring standard or method
BHG09, BHG11, BHG13 and BHG16.	Methane	5.0 %v/v		<ul style="list-style-type: none"> • frozen • snow covered
BHG12A.	Methane	5.4%		
BHG15.	Methane	2.8 %v/v		
BHG09, BHG11, BHG12A, BHG13, BHG15, BHG16 and BHG33.	Oxygen	No limit set		
	Atmospheric pressure	No limit set		
	Differential pressure	No limit set		
BHG01, BHG02, BHG03, BHG04, BHG05, BHG06, BHG07, BHG08, BHG09, BHG10, BHG11, BHG12A, BHG13, BHG14, BHG15, BHG16, BHG17, BHG18, BHG19, BHG20, BHG21, BHG22, BHG23, BHG24, BHG25, BHG26A, BHG27, BHG28, BHG29, BHG30, BHG31, BHG32, BHG32A, BHG33, BHG34, BHG35, BHG36, BHG37, BHG38, BHG39, BHG40, BHG41, BHG42, BHG43, BHG44, BHG45, BHG46, BHG47, BHG48 and BHG49	Carbon Dioxide	No limit set		

Table S3.6 Landfill gas emissions from capped surfaces for cells that have accepted non-hazardous biodegradable waste – monitoring requirements			
Monitoring point Ref. /description	Parameter	Monitoring frequency	Monitoring Standard or method
Permanently capped zone	Methane concentration	Every 12 months	As per LFTGN 07 (v2 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
Temporarily capped zone	Methane concentration	Every 12 months	As per LFTGN 07 (v2 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.

Monitoring point Ref. /description	Parameter	Monitoring frequency	Monitoring Standard or method
Whole site	Total methane emission	As agreed with the Environment Agency	As per LFTGN 07 (v2 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
Uncapped areas	Methane concentration	Every 12 months	As agreed with the Environment Agency based on the wording of revised LFTGN 07 or landfill sector guidance or such other subsequent guidance as may be agreed in writing with the Environment Agency.

Monitoring Point Ref./Description	Parameter	Monitoring frequency	Monitoring standard or method
Up gradient MEPP	Water level, Ammoniacal Nitrogen, Chloride, Electrical Conductivity, pH	Quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit (www.gov.uk)</u> or such other subsequent guidance as may be agreed in writing with the Environment Agency
	Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Sodium, Total Alkalinity, Total Sulphates, Zinc	Annually	
	Hazardous substances.	Annually for first six years of operation	
Down or cross gradient MEPP	Water level, Ammoniacal Nitrogen, Chloride, Electrical Conductivity, pH	Quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit (www.gov.uk)</u> or such other subsequent guidance as may be agreed in writing with the Environment Agency
	Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Sodium, Total	Annually	

Table S3.7 Groundwater – other monitoring requirements			
Monitoring Point Ref./Description	Parameter	Monitoring frequency	Monitoring standard or method
	Alkalinity, Total Sulphates, Zinc		After the initial 6 year monitoring period for hazardous substances, if the results of quarterly or annual monitoring suggest an increase in contamination, the operator shall also undertake a full leachate hazardous substances screen.
	Hazardous substances detected in leachate.	Annually for first six years of operation then every two years	
MEPP	Base of monitoring point (mAoD).	Annually	

Table S3.8 Landfill gas – other monitoring requirements				
Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
In waste gas monitoring boreholes or sealed leachate wells or sacrificial gas extraction system	Methane Carbon Dioxide Oxygen Carbon Monoxide Differential pressure Atmospheric pressure	Monthly until gas extraction commences	Calibrated handheld monitoring instrument	For cells or phases which have no active gas extraction. Gas extraction system shall be installed and extraction commenced once monitoring shows onset of methane production in waste at a rate that can be sustainably extracted. Once gas extraction has commenced in a particular cell or phase, there is no longer a requirement to carry out this monitoring.

Table S3.8 Landfill gas – other monitoring requirements				
Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
	Hydrogen Sulphide	Quarterly	Calibrated handheld monitoring instrument or Tedlar Bag sample in accordance with LFTGN04 (v3, March 2010) or other such subsequent guidance as may be agreed in writing with the Environment Agency or a method agreed with the Environment Agency.	For cells or phases which have no active gas extraction. Once gas extraction has commenced in a particular cell or phase, there is no longer a requirement to carry out this monitoring. Concentrations of hydrogen sulphide shall be assessed in accordance with the gas and odour management plans
Gas collection system at well control valve, manifolds (if applicable) and strategic points on gas system	Methane Carbon Dioxide Oxygen Carbon Monoxide Atmospheric pressure Gas flow rate or suction % Balance Gas (calculated as the difference between the sum of measured gases and 100%)	Monthly or at such other frequency as may be agreed in writing with the Environment Agency.	Calibrated handheld monitoring instrument	Where the oxygen concentration exceeds 5% or the % balance gas is greater than 20% an assessment of air ingress into the system shall be undertaken. Where the concentration of carbon monoxide exceeds 100ppm then further investigation shall be undertake Record the ambient air temperature and whether the ground is: waterlogged frozen snow covered

Table S3.8 Landfill gas – other monitoring requirements				
Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Gas collection system at well control valve	Hydrogen sulphide	Six monthly	Calibrated handheld monitoring instrument or Tedlar Bag sample in accordance with LFTGN04 (v3, March 2010) or other such subsequent guidance as may be agreed in writing with the Environment Agency or a method agreed with the Environment Agency.	Concentrations of hydrogen sulphide shall be assessed in accordance with the gas and odour management plans
Output to flare or LFG Utilisation Compound	Trace gas	Annually	Trace gas analysis in accordance with LFTGN04 (v3, March 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency [or a trace gas characterisation method agreed with the Environment Agency].	The concentration of trace gas components shall be assessed against the assumptions made in the Landfill gas risk assessment and dispersion modelling.
Output to flare or LFG Utilisation Compound	Methane Carbon Dioxide Oxygen Gas flow rate Suction % Balance Gas (calculated as the difference between the sum of measured gases and 100%)	Weekly		Where the oxygen concentration exceeds 5% or the % balance gas is greater than 20% an assessment of air ingress into the system shall be undertaken.

Table S3.8 Landfill gas – other monitoring requirements				
Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Flares 1 shown on drawing 348G254 dated 14th August 2009	Temperature	As per LFTGN05 (v2, March 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.	As per M2 or such other subsequent guidance as may be agreed in writing with the Environment Agency.	
A1, A2 Gas engine, post turbo	NOx and CO	Quarterly	In accordance with Appendix C of LFTGN08, v2, 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.	Where monitoring using hand-held, electrochemical equipment indicates an exceedance of the emissions standards specified in Table S3.2, these shall be used as action levels and the operator shall investigate the cause and take appropriate measures to reduce emissions.

Table S3.9 Leachate – other monitoring requirements				
Monitoring point reference or description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Operational Cells or Phases (Any cell or phases that do not have a final engineered cap agreed in accordance with condition 2.6)			At leachate compliance point as listed in table S3.1. As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit (www.gov.uk)</u> or such other subsequent guidance as may be agreed in writing with the Environment Agency	
MEPP	Ammoniacal Nitrogen, Arsenic, BOD, Cadmium, Calcium, Chloride, Chromium, COD, Copper, Electrical Conductivity, Iron, Lead, Magnesium, Manganese, Nickel, pH, Potassium, Sodium, Total Alkalinity, Total Sulphates, Zinc	Quarterly		None
MEPP	Hazardous substances	Annually		None
MEPP	Depth to base (mAoD)	Annually		None
Non Operational Cells or Phases (Any cell or phases that have a final engineered cap agreed in accordance with condition 2.6)				
MEPP	Ammoniacal Nitrogen, Arsenic, BOD, Cadmium, Calcium, Chloride, Chromium, COD, Copper, Electrical Conductivity, Iron, Lead, Magnesium, Manganese, Nickel, pH, Potassium, Sodium, Total Alkalinity, Total Sulphates, Zinc	Annually		
MEPP	Hazardous substances	Once every four years		None
MEPP	Depth to base (mAoD)	Annually		

Table S3.10 Surface water – other monitoring requirements				
Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
MEPP	Ammoniacal Nitrogen Chloride Suspended Solids Visual Oil and Grease pH Electrical conductivity	Monthly	Spot sample	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit (www.gov.uk)</u> or such other subsequent guidance as may be agreed in writing with the Environment Agency

Table S3.11 Ambient air – other monitoring requirements				
Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Installation boundary	Hydrogen sulphide N02 in ambient air	Monthly	Spot sample	On olfactory detection ⁽¹⁾
1. Upon receipt of complaint(s) and investigation and monitoring programme is to be instigated and details submitted to the Agency for approval.				

Table S3.11A Ambient air - monitoring requirements for asbestos treatment					
Emission point reference or source or description of point of measurement	Parameter	Limit	Monitoring frequency	Monitoring standard or method	Other specifications
Outside air testing when asbestos contaminated soils are being received, handled and moved within the site (points to be confirmed by pre-operational condition PO7)	Asbestos fibres	0.01 fibres/ml. Where total fibre concentration exceeds 0.01 fibres/ml in any sample, that sample must be submitted for electron microscopy to confirm the concentration of asbestos fibres present.	During receipt, handling and movement of asbestos contaminated soil within the site. 1 hour at 8 l/min or other agreed period in writing.	In line with M17 monitoring guidance. While asbestos contaminated soils are being received, handled and moved within the site. • Pumped sampling	-

Table S3.11A Ambient air - monitoring requirements for asbestos treatment					
Emission point reference or source or description of point of measurement	Parameter	Limit	Monitoring frequency	Monitoring standard or method	Other specifications
				<ul style="list-style-type: none"> • 1 m above ground level • Flow rate = 8 litres/minute • Minimum sample volume = 480 litres • Filter pore size = 0.8-1.2 µm Asbestos fibre limit of detection = 0.001 fibres/ml.	

S3.12A Soil monitoring requirements			
Monitoring Point Reference / Description	Parameter	Monitoring Frequency	Monitoring Standard or Method
Soil SS1, SS2, SS3, SS4, SS5 as shown on drawing CE-DHL 0346-DW08 Final dated 19 December 2011 – Composite sample for each of the SRC plots derived from a minimum of 10 representative sub-samples per plot.	Rainfall, surface water run-off, evaporation, transpiration and soil moisture content	Immediately prior to each application of treated leachate	As per LFTGN02 issued February 2003 'Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water', risk assessments for your environmental permit (www.gov.uk) or such other subsequent guidance as may be agreed in writing with the Environment Agency
	pH	Bi-annually (March and November).	
	Arsenic		
	Cadmium		
	Chromium		
	Copper		
	Fluoride		
	Lead		
	Mercury		
	Molybdenum		
	Nickel		
	Selenium		
	Zinc		
	Phosphorous		
Potassium			

S3.12A Soil monitoring requirements			
Monitoring Point Reference / Description	Parameter	Monitoring Frequency	Monitoring Standard or Method
	Magnesium		
	Sodium		
	Chloride		
	Electrical conductivity		

Table S3.12B Process monitoring requirements			
Emission point reference or source of description of point of measurement	Parameter	Monitoring Frequency	Monitoring standard or Method
Raw Leachate Feed	Volume transferred to primary treatment	Monthly	As per LFTGN02 issued February 2003 'Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water', risk assessments for your environmental permit (www.gov.uk) or such other subsequent guidance as may be agreed in writing with the Environment Agency
Primary pre-treatment effluent	Volume transferred to secondary treatment		
Secondary pre-treatment effluent	Volume transferred to SRC		
Leachate prior to application to the SRC	pH		
	Electrical conductivity		
	Ammoniacal nitrogen		
	COD		
	BOD		
	TOC		
	Calcium		
	Magnesium		
	Sodium		
	Potassium		
	Chloride		
	Sulphate		
Alkalinity			
Iron			
Manganese			
Cadmium			
Mercury			
Lead			

Table S3.12B Process monitoring requirements			
Emission point reference or source of description of point of measurement	Parameter	Monitoring Frequency	Monitoring standard or Method
	Copper		
	Chromium		
	Nickel		
	Zinc		
	Arsenic		
	MCPP (Mecoprop)		
	MCPB		
	Chloroxun		
	Metoxuron		
	Dichlorprop		
	Chlorobenzene		
	Isoproturon		
	Linuron		
	Benazolin		
	Benzene		
	Ethyl Benzene		
	Toluene		
	m,p-xylene		
	o-xylene		
	p-isopropyltoluene		
	1,3,5-trimethylbenzene		
	Acenaphthene		
	Acenaphthylene		
	Anthracene		
	Fluoranthene		
	Fluorene		
	Naphthalene		
	Pyrene		
	Phenanthrene		
	MTBE		

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Biofilter as shown on Soil Treatment Activity Layout Plan in Schedule 7	Temperature	Monthly	As per monitoring standard agreed as part of Improvement condition IC7	Biofilter shall be checked and maintained to ensure appropriate temperature and moisture content on a daily basis. Monitoring equipment shall be available on-site and used as required to ensure compliance with this permit.
	Moisture content			
	Flow rate			
	Nutrient levels			
	Contaminant elimination			
	Grain size			
	Total Nitrogen (mg/kg)			
	Total Phosphorus (mg/kg)			
pH				
Soil biopiles	Total Petroleum Hydrocarbons (TPH) Polycyclic Aromatic Hydrocarbons (PAHs) Total Volatile Organic Compounds (VOCs) Phenols pH	Each completed batch of treated soil shall be sampled	-	Laboratory must be accredited to EN ISO/IEC ISO17025:2000 for the analysis specified Samples to be obtained using standard sampling procedures as per BS 812

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	Reporting period	Period ends
Leachate and/ or groundwater level As specified by Schedule 3, table S3.1	Every 3 months	31 March, 30 June, 30 September, 31 December
Point source emission to air As specified by Schedule 3, table S3.2	Every 12 months	31 December
Point source emission to water (other than sewer) As specified by Schedule 3, table S3.3	Every 3 months	31 March, 30 June, 30 September, 31 December
Emission to groundwater As specified by Schedule 3, table S3.4	Every 3 months	31 March, 30 June, 30 September, 31 December
Landfill gas in external monitoring boreholes As specified by Schedule 3, table S3.5	Every 3 months	31 March, 30 June, 30 September, 31 December
Emission of landfill gas from capped surfaces As specified by Schedule 3, table S3.6	Every 12 months	31 December
Other groundwater monitoring As specified by Schedule 3, table S3.7	Every 3 months	31 March, 30 June, 30 September, 31 December
Other Landfill gas monitoring As specified by Schedule 3, table S3.8	Every 3 months	31 March, 30 June, 30 September, 31 December
Trace gas monitoring	Every 12 months	31 December
Other surface water monitoring As specified by Schedule 3, table S3.10	Every 12 months	31 December
Other leachate monitoring As specified by Schedule 3, table S3.9	Every 12 months	31 December
Meteorological data Landfill Directive, Annex III, Section 2	Every 12 months	31 December
Other ambient air monitoring As specified by Schedule 3, table S3.11, S3.11A	Every 12 months	31 December
Soil quality As specified by Schedule 3, table S3.12A	Every 12 months	31 December
Process monitoring As specified by Schedule 3, table S3.12B	Every 12 months	31 December
Biofilter efficiency parameters as required by condition 3.5.1	Every 12 months	31 December

* - where the reporting period is 12 months, you may submit this information as part of the 'annual report' required by condition 4.2.2.

Table S4.2: Annual production/treatment	
Leachate: Disposed of offsite; Disposed of to any onsite effluent treatment plant; Recirculated into the waste mass. Accepted from offsite for treatment at any onsite effluent treatment plant.	Cubic metres/year
Landfill gas: combustion in flares; combustion in gas engines; Other methods of gas utilisation. Average methane content entering the landfill gas utilisation or treatment compound (based on the annual average of Table S3.8 monitoring) Methane generation rate (50%ile from a representative model)	Normalised cubic metres/year % methane v/v m ³ /hr

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

Table S4.4 Reporting Forms		
Media/parameter	Reporting Format	Date of Form
Leachate	Form leachate 1 or other reporting format to be agreed in writing with the Environment Agency	13/11/09
Air	Form Air 1 or other reporting format to be agreed in writing with the Environment Agency	08/03/2021
Controlled water	Form Water 1 or other reporting format to be agreed in writing with the Environment Agency	31/10/19
Groundwater	Form Groundwater 1 or other reporting format to be agreed in writing with the Environment Agency	13/11/09
Landfill gas	Form LFG 1 or other reporting format to be agreed in writing with the Environment Agency	13/11/09
Waste Return	Waste Return Form RATS2E	13/11/09
Landfill topographical surveys and interpretation	Reporting format to be agreed in writing with the Environment Agency	13/11/09
Other performance indicators (soil)	Form performance 1 or other form as agreed in writing by the Environment Agency	13/11/09
Ambient Air	Form Ambient Air Monitoring Form 1 or other form as agreed in writing by the Environment Agency	08/03/2021

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 incident or accident which significantly affects or may significantly affect the environment	
To be notified within 24 hours of detection	
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 limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
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) Notification requirements 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 within 24 hours of detection	
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 the Environment Agency 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 2016, SI 2016 No.1154 and words and expressions used in this permit which are also used in those 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 and for the purposes of the Short Rotation Coppice plots emission includes the application of treated leachate.

“exceeded” means that a value is above a permitted limit, or where a range of values or a minimum value is set as a permitted limit it means a value outside that range or below the minimum value, whichever is applicable.

“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 III of the Waste Framework Directive.

“hazardous substances” as defined by the Environmental Permitting (England and Wales) Regulations 2016, SI 2016 No.1154, schedule 22 and listed in our Hydrogeological risk assessment guidance.

“hazardous waste” has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005 (as amended).

“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.

“inert waste” means waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.

“liquids” means any liquid other than leachate within the engineered landfill containment system.

“List of Wastes” means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on

waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste, as amended from time to time.

“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.

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

“MCERTS” means the Environment Agency’s Monitoring Certification Scheme.

“medicinal product” means any medicine licensed by the Medicines and Healthcare products Regulatory Agency (MHRA) or their predecessors under the Medicines Act 1968, section 130.

“MEPP” Monitoring and extraction point plan, required by condition 4.2.2(h) to specify extraction points and routine monitoring locations.

“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.

“previous year” means the 12 month period preceding the month the annual report is submitted in.

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

“Relevant waste acceptance procedures” means the procedure for the acceptance of waste at landfills and the associated sampling and test methods specified in the Council Decision Annex (2003/33/EC, European Council of 19 December 2002).

“relevant waste acceptance criteria” means the waste acceptance criteria and the associated sampling and test methods specified in the Council Decision Annex (2003/33/EC, European Council of 19 December 2002).

“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.

'sustainably extracted' means where suction can be applied to the extraction wells such that a flow rate of landfill gas, with a methane content capable of either being combusted, or treated by bio-oxidation, can be extracted without increasing the risk of air ingress to the waste or inducing aerobic degradation within the waste.

"waste code" - See 'List of Wastes'.

"WFD" means Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste [and repealing certain Directives] – the Waste Framework Directive.

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.

Where the following terms appear in the waste code list in Tables S2.1, S2.2 or S2.3 they have the meaning given below:

'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;

'heavy metal' means any compound of antimony, arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, selenium, tellurium, thallium and tin, as well as these materials in metallic form, as far as these are classified as hazardous substances;

'polychlorinated biphenyls and polychlorinated terphenyls' ('PCBs') means PCBs as defined in Article 2(a) of Council Directive 96/59/EC'.

Article 2(a) says that 'PCBs' means:

polychlorinated biphenyls

polychlorinated terphenyls

monomethyl-tetrachlorodiphenyl methane, Monomethyl-dichloro-diphenyl methane, Monomethyldibromo-diphenyl methane

any mixture containing any of the above mentioned substances in a total of more than 0.005% by weight;

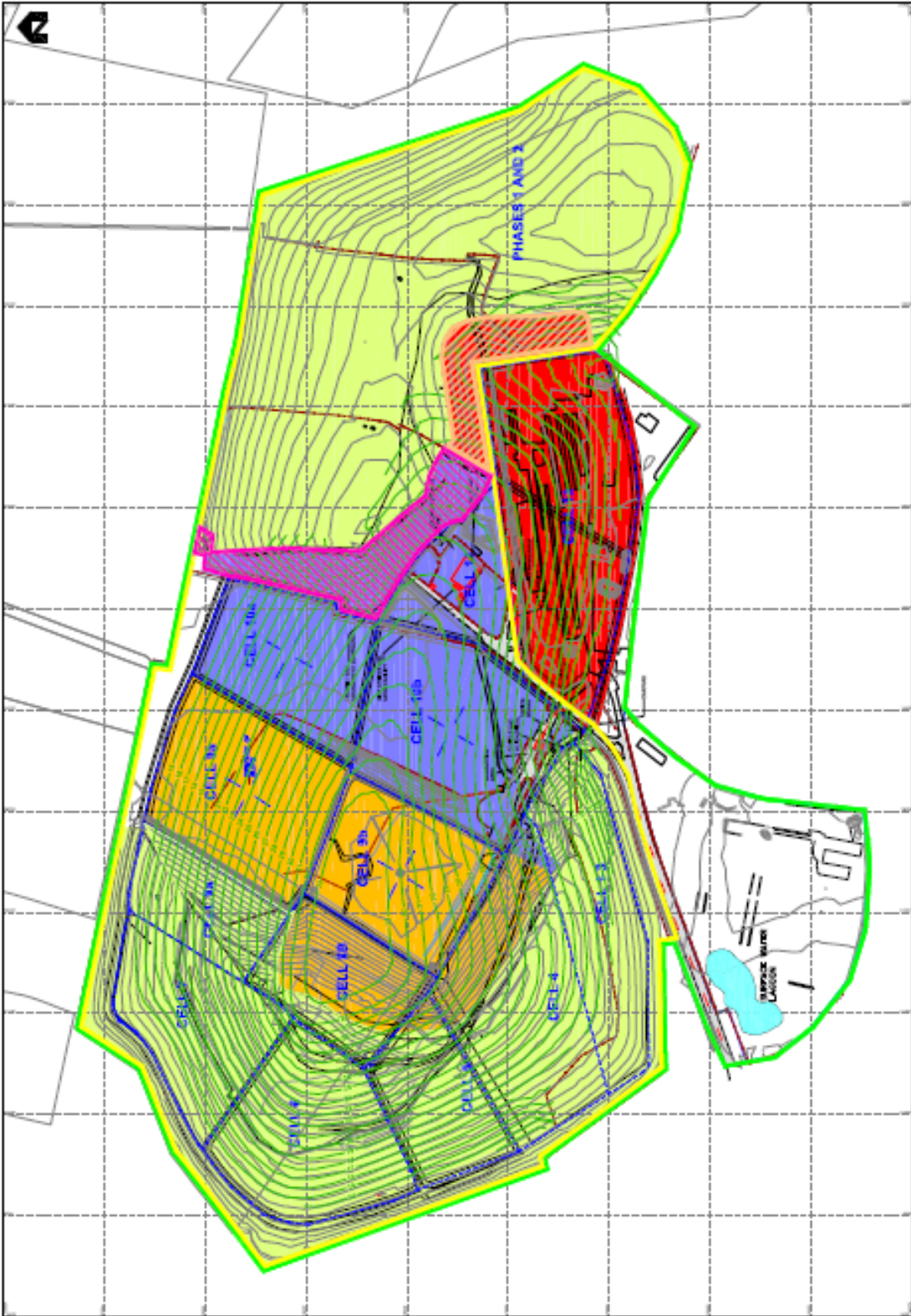
'transition metals' means any of the following metals: any compound of scandium, vanadium, manganese, cobalt, copper, yttrium, niobium, hafnium, tungsten, titanium, chromium, iron, nickel, zinc, zirconium, molybdenum and tantalum, as well as these materials in metallic form, as far as these are classified as hazardous substances;

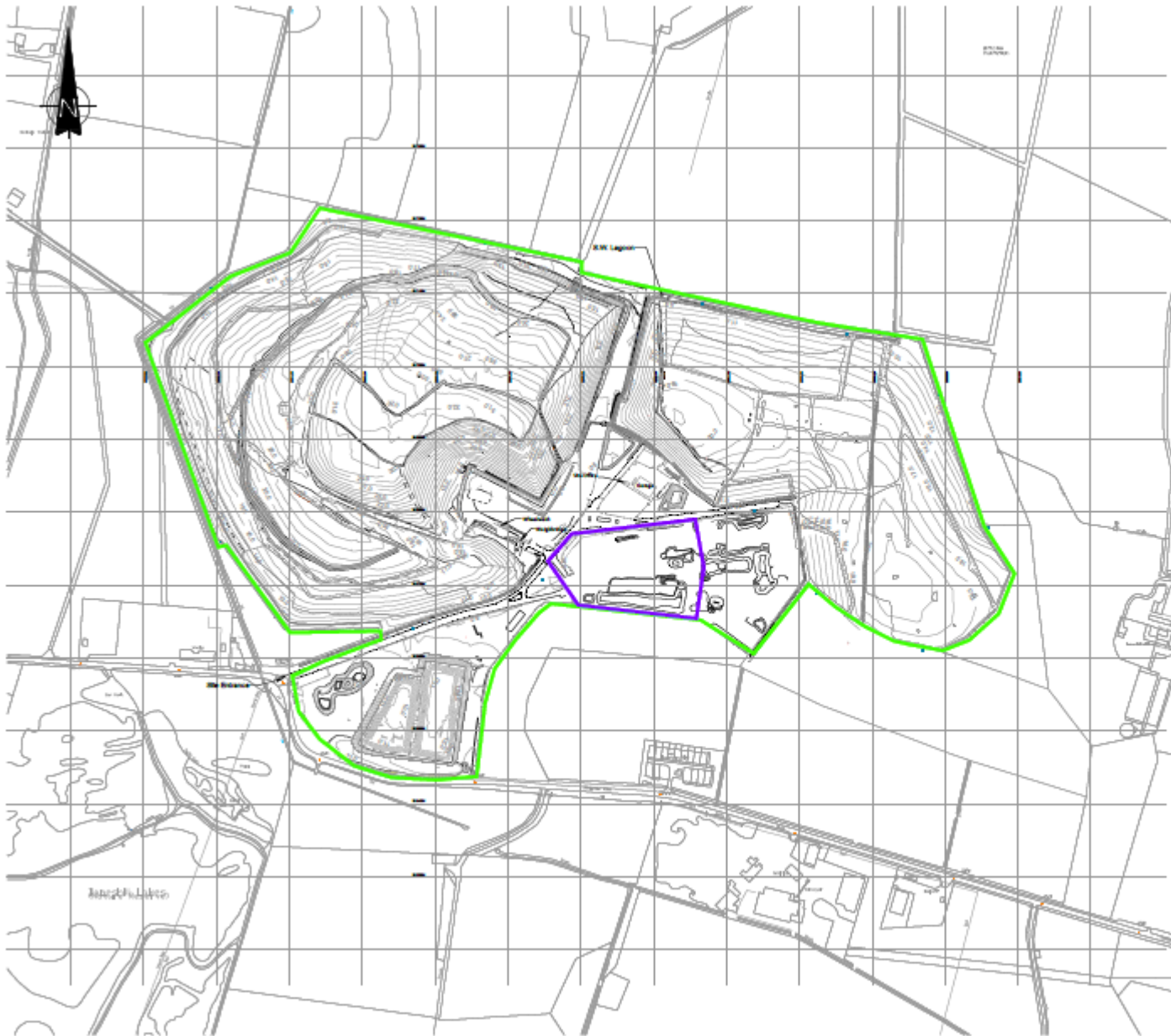
'stabilisation' means processes which change the hazardousness of the constituents in the waste and transform hazardous waste into non-hazardous waste;

'solidification' means processes which only change the physical state of the waste by using additives without changing the chemical properties of the waste;

'partly stabilised wastes' means wastes containing, after the stabilisation process, hazardous constituents which have not been changed completely into non-hazardous constituents and could be released into the environment in the short, middle or long term.

Schedule 7 – Site plan







NOTE

1. DO NOT SCALE FROM THIS DRAWING, WORK FROM FIGURED DIMENSIONS ONLY. ALL DIMENSIONS ARE IN METRES AND ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM UNLESS NOTED OTHERWISE.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALIST DRAWINGS AND SPECIFICATIONS.

LEGEND

- PERMIT BOUNDARY
- AREA OF PROPOSED ACTIVITY

REV	ISSUED FOR INFORMATION	BY	KB	AS	AP	DATE	17.12.2019
REV	MODIFICATIONS	BY	AS	AP	DATE		
PURPOSE OF ISSUE						STATUS	
FOR INFORMATION						S2	
CLIENT:							
							
PROJECT:							
DANESHILL SOILS TREATMENT FACILITY							
TITLE:							
SITE BOUNDARY PLAN							
DESIGNED BY	DRAWN BY	REVIEWED BY	AUTHORISED BY				
KB	EJD	KB	KB				
DATE	SCALE @ A1	A1W REF:	REVISION				
17.12.2019	1:3000	3982	P1				
DRAWING NUMBER							
3982-CAU-XX-XX-DR-V-1804							
							

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