



Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Yorkshire Water Services Limited

Holmes Farm Landfill
Blackburn Meadows WWTW
Alsing Road
Tinsley
Sheffield
S9 1HL

Variation application number

EPR/BP3635SB/V003

Permit number

EPR/BP3635SB

Holmes Farm Landfill

Permit number EPR/BP3635SB

Introductory note

This introductory note does not form a part of the notice.

The following gives notice of the variation and consolidation of this environmental permit. We have issued this variation to consolidate the original permit and subsequent variations and to update some of the conditions following a statutory review of permits in the landfill sector. We have also converted the permit into the current EPR permit format using modern conditions.

The Environment Agency has a duty, under the Environmental Permitting (England and Wales) Regulations 2016, regulation 34(1), to periodically review permits. As a result of that review we have identified a number of necessary changes we must make to the permit to reflect current legislation and best practice. These changes principally relate to:

- The addition of a standard condition for landfill gas management at landfills that accept biodegradable waste;
- A change to the hydrogeological risk assessment condition so that reviews are undertaken every 6 years rather than every 4 years;
- Standard leachate and groundwater quality monitoring tables (schedule 3); and
- A standard reporting table (schedule 4).

Schedule 1 to this notice summarises the changes we have made to this permit.

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

Status log of the permit		
Description	Date	Comments
Application BP3635SB	Duly made 09/11/2004	
Additional Information received	Requested 30/06/2005	08/07/2005 and 28/07/2005
Permit determined	09/12/2005	
Variation notice LP3030MG issued	03/08/2007	Varied and consolidated permit issued in modern condition format
Environment Agency Landfill Sector Review Permit reviewed Variation determined EPR/BP3635SB/V003 Permit EPR/BP3635SB (Billing ref: DP3331JM)	06/03/2020	Varied and consolidated permit issued in modern condition 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 and consolidates

Permit number

EPR/BP3635SB

Issued to

Yorkshire Water Services Limited (“the operator”)

whose registered office is

**Western House
Halifax Road
Bradford
West Yorkshire
BD6 2SZ**

company registration number **02366682**

to operate a regulated facility at

**Holmes Farm Landfill
Blackburn Meadows WWTW
Alsing Road
Tinsley
Sheffield
S9 1HL**

to the extent set out in the schedules.

The notice shall take effect from 06/03/2020

Name	Date
Anne Lloyd	6 th March 2020

Authorised on behalf of the Environment Agency

Schedule 1

All conditions have been varied by the consolidated permit as a result of an Environment Agency initiated variation. The following table summarises the latest changes to the landfill permit template, however the permit may contain more changes than this where the permit has not been varied to recent template conditions.

Condition	Description of change
1.5	Generic condition to reflect the requirements of the Waste Framework Directive.
2.5.1(a)	Added reference to a specific table to clarify what wastes are permitted by which permitted activity.
2.5.2	Added to separately identify the waste types and quantities that can be accepted for restoration.
2.8	Revised gas management condition imposed for all landfills.
3.1.1	Generic condition imposed on all activities to simplify sub-conditions
3.1.3 to 3.1.4	Revised conditions to reflect the terminology used by the Groundwater Directive for 'hazardous substances' and to require hydrogeological risk assessment reviews are submitted every 6 years rather than every 4 years.
	Sub-condition that referred to emission of 'non-hazardous pollutants' deleted. Such emissions are regulated by condition 3.2.
	Two sub-conditions that referred to limits in specific tables in schedule 3 deleted as they are now covered by 3.1.1.
3.6	Revised generic pests condition imposed on all activities.
4.2.2	Amended to ensure that information on 'annual production/ treatment' (Schedule 4, Table S4.2) is provided in February each year where annual reports may be submitted at other times of the year.
4.2.2(a)	Text expanded to clarify the details we require in an annual report.
4.2.2(h)	New condition requiring annual submission of a plan of monitoring and extraction locations with reference to monitoring tables in schedule 3
4.3.1	Generic notifications condition added.
Schedules	
Table S1.1	Amended description of the landfill activity to clarify that this includes restoration. Activity references amended to reflect changes introduced by Industrial Emissions Directive (2010/75/EU).
Table S1.5	Amended to clarify that restoration is a separate part of the activity unrelated to landfill cover.
Schedule 2	Standard list of wastes added.
Schedule 3	Monitoring and compliance tables have been re-ordered so that those with compliance limits appear first. Standard monitoring frequency and parameters have been included for certain routine monitoring requirements
Table S4.1	Amended to only require regular reports of information that relate to compliance limits.
Table S4.2	Additional details of landfill gas extracted required to improve climate change data quality.
Table S4.3	Amended to include natural gas as an energy source for consistency with other sectors.
Schedule 6	Definitions added to clarify meaning of:

Condition	Description of change
	Inert waste Exceeded Hazardous substance Medicinal product Previous year Waste acceptance criteria Waste acceptance procedure

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/BP3635SB

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BP3635SB/V003 authorising,

Yorkshire Water Services Limited (“the operator”),

whose registered office is

Western House

Halifax Road

Bradford

West Yorkshire

BD6 2SZ

company registration number **02366682**

to operate an installation at

Holmes Farm Landfill

Blackburn Meadows WWTW

Alsing Road

Tinsley

Sheffield

S9 1HL

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

Name	Date
Anne Lloyd	6 th March 2020

Authorised on behalf of the Environment Agency

1 Management

1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
 - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme.

1.2 Finance

- 1.2.1 The financial provision for meeting the obligations under this permit set out in the agreement made between the operator and the Environment Agency 09/12/2005 shall be maintained by the operator throughout the subsistence of this permit and the operator shall produce evidence of such provision whenever required by the Environment Agency.
- 1.2.2 The operator shall ensure that the charges it makes for the disposal of waste in the landfill cover all of the following:
- (a) the costs of setting up and operating the landfill;
 - (b) the costs of the financial provision required by condition 1.2.1; and
 - (c) the estimated costs for the closure and aftercare of the landfill.

1.3 Energy efficiency

- 1.3.1 The operator shall:
- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
 - (b) Review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
 - (c) Implement any appropriate measures identified by a review.

1.4 Efficient use of raw materials

- 1.4.1 The operator shall:
- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
 - (b) maintain records of raw materials and water used in the activities;
 - (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
 - (d) take any further appropriate measures identified by a review.

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

1.5.1 The operator shall:

- (a) take appropriate measures to ensure that waste produced by the activities is avoided or reduced, or where waste is produced it is recovered wherever practicable or otherwise disposed of in a manner which minimises its impact on the environment;
- (b) review and record at least every four years whether changes to those measures should be made; and
- (c) take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

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

2.2 The site

2.2.1 The activities shall not extend beyond the site, being the land shown edged in red 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.

2.4 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 Landfill Engineering

2.5.1 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.

- 2.5.2 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.
- 2.5.3 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.
- 2.5.4 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.
- 2.5.5 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.
- 2.5.6 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.
- 2.5.7 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.
- 2.5.8 Where pollution controls are immediately necessary to prevent an incident or accident, then conditions 2.4.5 and 2.4.6 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.
- 2.5.9 For the purposes of conditions 2.4.1, 2.4.2, 2.4.4 and 2.4.5, 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.
- 2.5.10 Where the Environment Agency has required further information under condition 2.4.9(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.

2.6 Waste acceptance

- 2.6.1 Wastes shall only be accepted for disposal if:
- (a) they are listed in schedule 2, table S2.1 and
 - (b) they are non- hazardous waste; and
 - (c) they are not whole used tyres (other than bicycle tyres and tyres with an outside diameter of more than 1400mm); and
 - (d) they are not shredded used tyres; and

- (e) they are not liquid waste (including waste waters but excluding sludge); and
- (f) they are not chemical substances from research and development or teaching activities, for example laboratory residues, which are unidentified and/or which are new and whose effects on man and/or the environment are unknown; and
- (g) all the relevant waste acceptance procedures have been completed; and
- (h) they fulfil the relevant waste acceptance criteria; and
- (i) they have not been diluted or mixed solely to meet the relevant waste acceptance criteria; and
- (j) they are wastes which have been treated, except for: inert wastes for which treatment is not technically feasible; or it is waste other than inert waste and treatment would not reduce its quantity or the hazards which it poses to human health or the environment; and
- (k) 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.

2.6.2 Wastes shall only be accepted for restoration where:

- (a) they are listed in schedule 2, table S2.2; and
- (b) they are accepted in accordance with a restoration plan approved in writing by the Environment Agency.

2.6.3 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 2.5.1.

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

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

2.6.6 The total quantity of waste that shall be deposited in the landfill shall be limited by the pre-settlement levels shown on drawing ESID5.

2.6.7 The quantity of waste that is deposited in the landfill in any year shall not exceed the limits in schedule 1, table S1.4.

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

2.7 Leachate levels

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

2.8 Closure and aftercare

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

2.9 Landfill gas management

2.9.1 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.

2.9.2 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.

2.9.3 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, table S3.2.

3.1.3 The operator shall prevent the input of any hazardous substances from the activities into groundwater.

3.1.4 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.

3.2 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.

3.3 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 and any other actions specified in the following tables in schedule 3 to this permit:

- (a) Leachate specified in tables S3.1 and S3.8;
- (b) Point source emissions specified in table S3.2;
- (c) Groundwater specified in tables S3.3 and S3.6;
- (d) Landfill gas specified in tables S3.4, S3.5 and S3.7;
- (e) Surface water specified in table S3.9.

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

3.5.3 A topographical survey of the site referenced to ordnance datum shall be carried out 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 hazard or annoyance from pests;
- (b) implement the pests management 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; and,
 - (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 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.

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.

4.3 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:

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

In any other case:

- (c) the death of any of the named operators (where the operator consists of more than one named individual);
- (d) any change in the operator's name(s) or address(es); and
- (e) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.4 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
A1	D5 –Specially engineered landfill	Section 5.2 Part A(1)(a), The disposal of waste in a landfill.	Landfill for non-hazardous waste	Receipt, handling, storage and disposal of wastes, consisting of the types and quantities specified in conditions 2.6, as an integral part of landfilling.
Directly Associated Activities				
A2	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.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	The response to questions 1.4, 2.3 and 2.5 given in section B of the Application {excluding sections on basal heave in Appendix SRA3 and the response to question B2.1.5}	09/11/2005
Drawing 5027917/ESID13	All parts	28/07/2005
Drawing 5027917/004	All parts	28/07/2005
Letter from Atkins dated 7 April 2006 (ref 102/75/5027917/22-51/pfmt) and Drawing ref 5027917.DES.001 Further letter from Atkins dated 14 June 2006 (ref 102/75/5027917/52-22/pfmt) in response to Environment Agency email dated 2 June 2006 Letter from Atkins dated 31 August 2006 (ref 101/75/5027917/26-32/pfmt) in response to Environment Agency letter dated 11 August 2006	Design for proposed Surface Water Management Scheme	14/06/2007
Letter from Atkins dated 8 March 2006 (ref 102/5027917/22-50/pfmt) Letter from Atkins dated 14 June 2006 (ref 102/75/5027917/52-22/pfmt) providing further information as requested by the Environment Agency by email dated 1 June 2006	Proposals for upstream and downstream surface water monitoring excluding monitoring locations	08/03/2006
Letter from Atkins dated 31 August 2006 (ref 101/5027917/26-33/pfmt)	Agreed monitoring locations	31/08/2006
Letter to Atkins from Environment Agency dated 10 January 2007 (ref 011.cc.100107)	Agreed monitoring method	10/01/2007

Table S1.2 Operating techniques		
Description	Parts	Date Received
Letter from Atkins dated 8 March 2006 (ref 102/5027917/22-50/pfmt) Drawing ref 5027917/007a	Proposal for installation of additional groundwater monitoring boreholes	09/03/2006
Letter from Atkins dated 14 June 2006 (ref 102/75/5027917/52-22/pfmt)	Confirmation of installation of additional groundwater monitoring boreholes	14/06/2006
	Progress report for removal of waste	14/06/2006
Letter from Atkins dated 8 March 2006 (ref: 102/75/5027917/22-50/pfmt)	Proposal for installation of additional landfill gas monitoring boreholes	08/03/2006
Letter from Atkins dated 14 June 2006 (ref 102/75/5027917/52-22/pfmt)	Confirmation of installation of additional landfill gas monitoring boreholes	14/06/2006
Landfill Restoration Plan Proposal	All	30/04/2013

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
1a	The Operator shall submit proposals for agreement and approval by the Environment Agency of control and emission limits and flow rates based on discharge monitoring data collected over a 12 month period from the point of discharge from surface water storage ponds 1, 2, and 3 shown on drawing reference 5027917.DES.001.	Within 3 months of issue of this Permit variation
1b (previously referenced 2b)	The Operator shall implement the Surface Water Monitoring proposed in accordance with the measures agreed by the Environment Agency.	
2a (previously referenced 5a)	The Operator shall submit proposals for agreement and approval by the Environment Agency for control and trigger levels for the new groundwater monitoring boreholes BH27-BH32 and BH34-BH41 (and BH33 when installed) shown on drawing reference 5027917/007a following the collection of monitoring data for 12 months. The control and trigger levels shall be proposed for the determinands indicated in Table S4.3 of the permit. Derivation of control and trigger levels shall be undertaken in accordance with the guidance on statistical analysis provided in Agency R&D document 'Techniques for the Interpretation of Landfill Monitoring Data Guidance notes' Final R&D Technical Report P1-471 and the Environment Agency's guidance on Hydrogeological Risk Assessments for Landfills and the Derivation of Groundwater Control and Trigger levels.	Within 3 months of issue of this Permit variation
2b (previously referenced 5b)	An annual review shall be conducted of control and trigger levels for all existing boreholes with a view to decreasing levels in line with ongoing environmental improvements (e.g. waste containment). From the review, proposals shall be submitted to the Environment Agency for approval the modification of existing control and trigger levels. Proposals arising from the first review shall include control and trigger levels for the determinand electrical conductivity for all groundwater monitoring boreholes, where appropriate. When coincident, this review may be incorporated into reviews of the Hydrogeological Risk Assessment required under condition 3.2.4.	Within 3 months of issue of this Permit variation and annually thereafter
3 (previously referenced 9)	The Operator shall submit to the Environment Agency a revised gas management strategy for the installation for agreement and approval as required by Environment Agency Guidance on the Management of Landfill Gas (LFTGN03). The strategy shall include an ongoing annual review of all gas monitoring data with the purpose of establishing whether active gas control should be adopted as the most appropriate and sustainable option. If the gas management strategy is to include non-active management, it shall be designed to maximise the biological conversion of methane to carbon dioxide. The direct release of methane from the waste mass via leachate extraction and monitoring or gas monitoring wells shall be minimised by appropriate design of leachate monitoring well screens and sealed well caps.	Within 3 months of issue of this Permit variation
4	Revise as necessary compliance limit concentrations of CO ₂ in landfill gas monitoring boreholes BH27 and BH28 taking into account background concentrations. The proposed limits shall be submitted for approval to the Environment Agency. Once approved, the compliance limits set at these boreholes shall supersede those prescribed in Table S4.4 of this Permit.	Within 3 months of issue of this Permit variation

Table S1.4 Annual waste input limits	
Category	Limit Tonnes/ Year
Non-hazardous waste	80,000

Schedule 2 – List of permitted wastes

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste	
Waste code	Description
17	Construction and demolition wastes (including excavated soil from contaminated sites)
17 01	concrete, bricks, 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
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 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 19	sands from fluidised beds
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 09	wastes from the preparation of water intended for human consumption or water for industrial use
19 09 02	sludges from water clarification

Table S2.2 Permitted waste types for restoration	
Waste code	Description
To be agreed in accordance with condition 2.5.2.	

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, 2.5)			
None	None	Monthly	As specified in Environment Agency Guidance LFTGN02 (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.
Non Operational Cells or Phases (Any cells or phases that have a final engineered cap agreed in accordance with the landfill engineering condition, 2.5)			
Leachate compliance and monitoring points LC1.1, LC1.2 as shown on Plan BMED/BHS/OUTFALL/JAN14	0.5m above cell base	Quarterly	As specified in Environment Agency Guidance LFTGN02 (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.
LC1.3, LC1.4, LC2.1, LC2.2 and LC2.3 as shown on Plan BMED/BHS/OUTFALL/JAN14	1m above cell base		

Emission point Ref. & Location	Parameter	Source	Limit (incl unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
Point of discharge from surface water storage ponds SW1, SW2 and SW3	Suspended Solids	Surface Water Management System	Limits to be agreed in writing with the Environment Agency in accordance with IC1 in Table S1.3	Spot Sample	Quarterly	In accordance with Environment Agency guidance (LFTGN02)
	pH					
	Ammoniacal nitrogen					
	Volume					
	Flow rate					
	Oil and grease					
	BOD					

Monitoring point reference	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
BH11	Cadmium	0.3 µg/l	Spot Sample	Quarterly	As specified in Environment Agency Guidance LFTGN02 '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
	Mercury	0.08 µg/l		Quarterly	
	Ammoniacal Nitrogen	8 mg/l		Monthly	
	Chloride	40 mg/l		Monthly	
	Electrical Conductivity	1179 µs/cm		Monthly	
BH14	Cadmium	1.2 µg/l	Spot sample	Quarterly	
	Mercury	0 µg/l		Quarterly	
	Ammoniacal Nitrogen	22.2 mg/l		Monthly	

Table S3.3 Groundwater – emission limits and monitoring requirements

Monitoring point reference	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
	Chloride	104.0 mg/l		Monthly	As specified in Environment Agency Guidance LFTGN02 '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
	Electrical Conductivity	3132 µs/cm		Monthly	
BH15	Cadmium	0.82 µg/l	Spot sample	Quarterly	
	Mercury	0.08 µg/l		Quarterly	
	Ammoniacal Nitrogen	42.4 mg/l		Monthly	
	Chloride	97.1 mg/l		Monthly	
	Electrical Conductivity	3459 µs/cm		Monthly	
BH16	Cadmium	0.56 µg/l	Spot sample	Quarterly	
	Mercury	0.08 µg/l		Quarterly	
	Ammoniacal Nitrogen	82.7 mg/l		Monthly	
	Chloride	124.0 mg/l		Monthly	
	Electrical Conductivity	2571 µs/cm		Monthly	
BH17	Cadmium	0.55 µg/l	Spot sample	Quarterly	
	Mercury	0.08 µg/l		Quarterly	
	Ammoniacal Nitrogen	158.5 mg/l		Monthly	
	Chloride	128.0 mg/l		Monthly	
	Electrical Conductivity	2704 µs/cm		Monthly	
BH18	Cadmium	0.55 µg/l	Spot sample	Quarterly	

Table S3.3 Groundwater – emission limits and monitoring requirements

Monitoring point reference	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
	Mercury	0.08 µg/l		Quarterly	As specified in Environment Agency Guidance LFTGN02 '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
	Ammoniacal Nitrogen	4.3 mg/l		Monthly	
	Chloride	99.0 mg/l		Monthly	
	Electrical Conductivity	852 µs/cm		Monthly	
BH19A	Cadmium	0.55 µg/l	Spot sample	Quarterly	
	Mercury	0.08 µg/l		Quarterly	
	Ammoniacal Nitrogen	62.4 mg/l		Monthly	
	Chloride	452.0 mg/l		Monthly	
	Electrical Conductivity	1984 µs/cm		Monthly	
BH20	Cadmium	3.96 µg/l	Spot sample	Quarterly	
	Mercury	0.271 µg/l		Quarterly	
	Ammoniacal Nitrogen	2.17 mg/l		Monthly	
	Chloride	74.2 mg/l		Monthly	
	Electrical Conductivity	2126 µs/cm		Monthly	
BH21	Cadmium	0.73 µg/l	Spot sample	Quarterly	
	Mercury	0.08 µg/l		Quarterly	
	Ammoniacal Nitrogen	65.7 mg/l		Monthly	
	Chloride	95.1 mg/l		Monthly	

Table S3.3 Groundwater – emission limits and monitoring requirements

Monitoring point reference	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
	Electrical Conductivity	3465 µs/cm		Monthly	As specified in Environment Agency Guidance LFTGN02 '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
BH22	Cadmium	0.87 µg/l	Spot sample	Quarterly	
	Mercury	0.08 µg/l		Quarterly	
	Ammoniacal Nitrogen	1.16 mg/l		Monthly	
	Chloride	62.9 mg/l		Monthly	
	Electrical Conductivity	1346 µs/cm		Monthly	
BH26	Cadmium	0.75 µg/l	Spot sample	Quarterly	
	Mercury	0.08 µg/l		Quarterly	
	Ammoniacal Nitrogen	67.8 mg/l		Monthly	
	Chloride	151.0 mg/l		Monthly	
	Electrical Conductivity	2784 µs/cm		Monthly	
BH28	Cadmium	1.24 µg/l	Spot sample	Quarterly	
	Mercury	0.08 µg/l		Quarterly	
	Ammoniacal Nitrogen	0.8 mg/l		Monthly	
	Chloride	91.0 mg/l		Monthly	
	Electrical Conductivity	3057 µs/cm		Monthly	
BH29	Cadmium	0.61 µg/l	Spot sample	Quarterly	
	Mercury	0.08 µg/l		Quarterly	

Table S3.3 Groundwater – emission limits and monitoring requirements

Monitoring point reference	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
	Ammoniacal Nitrogen	52 mg/l		Monthly	As specified in Environment Agency Guidance LFTGN02 '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
	Chloride	106.0 mg/l		Monthly	
	Electrical Conductivity	2613 µs/cm		Monthly	
BH30	Cadmium	0.57 µg/l	Spot sample	Quarterly	
	Mercury	0.08 µg/l		Quarterly	
	Ammoniacal Nitrogen	37.7 mg/l		Monthly	
	Chloride	118.0 mg/l		Monthly	
	Electrical Conductivity	2526 µs/cm		Monthly	
BH31	Cadmium	0.9 µg/l	Spot sample	Quarterly	
	Mercury	0.108 µg/l		Quarterly	
	Ammoniacal Nitrogen	168 mg/l		Monthly	
	Chloride	79.8 mg/l		Monthly	
	Electrical Conductivity	3366 µs/cm		Monthly	
BH32	Cadmium	7.24 µg/l	Spot sample	Quarterly	
	Mercury	0.08 µg/l		Quarterly	
	Ammoniacal Nitrogen	165 mg/l		Monthly	
	Chloride	172.0 mg/l		Monthly	
	Electrical Conductivity	3826 µs/cm		Monthly	

Table S3.3 Groundwater – emission limits and monitoring requirements

Monitoring point reference	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
BH34	Cadmium	2.62 µg/l	Spot sample	Quarterly	As specified in Environment Agency Guidance LFTGN02 '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
	Mercury	0.246 µg/l		Quarterly	
	Ammoniacal Nitrogen	66.8 mg/l		Monthly	
	Chloride	160.0 mg/l		Monthly	
	Electrical Conductivity	2733 µs/cm		Monthly	
BH35	Cadmium	0.55 µg/l	Spot sample	Quarterly	
	Mercury	0.08 µg/l		Quarterly	
	Ammoniacal Nitrogen	119.2 mg/l		Monthly	
	Chloride	278.0 mg/l		Monthly	
	Electrical Conductivity	4438 µs/cm		Monthly	
BH36	Cadmium	0.88 µg/l	Spot sample	Quarterly	
	Mercury	0.08 µg/l		Quarterly	
	Ammoniacal Nitrogen	33.5 mg/l		Monthly	
	Chloride	156.0 mg/l		Monthly	
	Electrical Conductivity	2141 µs/cm		Monthly	
BH37	Cadmium	0.55 µg/l	Spot sample	Quarterly	
	Mercury	0.08 µg/l		Quarterly	
	Ammoniacal Nitrogen	41.4 mg/l		Monthly	

Table S3.3 Groundwater – emission limits and monitoring requirements					
Monitoring point reference	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
	Chloride	259.0 mg/l		Monthly	As specified in Environment Agency Guidance LFTGN02 '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
	Electrical Conductivity	2680 µs/cm		Monthly	
BH38	Cadmium	0.55 µg/l	Spot sample	Quarterly	
	Mercury	0.08 µg/l		Quarterly	
	Ammoniacal Nitrogen	19.4 mg/l		Monthly	
	Chloride	98.0 mg/l		Monthly	
	Electrical Conductivity	1516 µs/cm		Monthly	
BH39	Cadmium	0.55 µg/l	Spot sample	Quarterly	
	Mercury	0.08 µg/l		Quarterly	
	Ammoniacal Nitrogen	25.9 mg/l		Monthly	
	Chloride	126.0 mg/l		Monthly	
	Electrical Conductivity	831 µs/cm		Monthly	
BH40	Cadmium	0.55 µg/l	Spot sample	Quarterly	
	Mercury	0.08 µg/l		Quarterly	
	Ammoniacal Nitrogen	23.8 mg/l		Monthly	
	Chloride	96.0 mg/l		Monthly	
	Electrical Conductivity	1496 µs/cm		Monthly	

Table S3.4 Landfill gas in external monitoring boreholes – limits and monitoring requirements

Monitoring point Ref. /description	Parameter	Limit (including units) *	Monitoring frequency	Monitoring standard or method
BH2-15, BH18, BH19A, BH22, BH27 and BH28	Methane	1 %v/v	Monthly	As per LFTGN03 (September 2014) or such other subsequent guidance as may be agreed in writing with the Environment Agency. Record whether the ground is: waterlogged frozen snow covered
	Oxygen	no limit		
	Atmospheric pressure	no limit		
	Differential pressure	no limit		
BH2	Carbon Dioxide	2.5 %v/v		
BH3	Carbon Dioxide	2.9 %v/v		
BH4	Carbon Dioxide	2.9 %v/v		
BH5	Carbon Dioxide	2.7 %v/v		
BH6	Carbon Dioxide	2.3 %v/v		
BH7	Carbon Dioxide	3.3 %v/v		
BH8	Carbon Dioxide	3.5 %v/v		
BH9	Carbon Dioxide	3.9 %v/v		
BH10	Carbon Dioxide	2.3 %v/v		
BH11	Carbon Dioxide	2.7 %v/v		
BH12	Carbon Dioxide	2.9 %v/v		
BH13	Carbon Dioxide	3.0 %v/v		
BH14	Carbon Dioxide	2.1 %v/v		
BH15	Carbon Dioxide	3.7 %v/v		
BH18, BH19A and BH22	Carbon Dioxide	2.9 %v/v**		
BH27 and BH28	Carbon Dioxide	1.5 %v/v**		

* - The limits specified take account of the agreed background concentrations as detailed in WSA5027917/LFGRA
** - This limit may need to be amended to take account of the background concentrations agreed in writing with the Environment Agency as a result of discharge of improvement condition Table S1.3(4)

Table S3.5 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.
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.

Table S3.6 Groundwater – other monitoring requirements

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 LFTGN02 '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 LFTGN02 '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 then every two years	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.
MEPP	Base of monitoring point (mAoD)	Annually	

Table S3.7 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	<p>For cells or phases which have no active gas extraction.</p> <p>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.</p> <p>Once gas extraction has commenced in a particular cell or phase, there is no longer a requirement to carry out this monitoring.</p>
	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.	<p>For cells or phases which have no active gas extraction.</p> <p>Once gas extraction has commenced in a particular cell or phase, there is no longer a requirement to carry out this monitoring.</p> <p>Concentrations of hydrogen sulphide shall be assessed in accordance with the gas and odour management plans</p>

Table S3.7 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, 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 undertaken. Record the ambient air temperature and whether the ground is: waterlogged frozen snow covered
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

Table S3.8 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 2.5)				
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	At leachate compliance points as listed in table S3.1.	None
MEPP	Hazardous substances	Annually	As specified in Environment Agency Guidance LFTGN02 '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	Depth to base (mAOD)	Annually		
Non Operational Cells or Phases (Any cell or phases that have a final engineered cap agreed in accordance with condition 2.5)				
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	At leachate compliance points as listed in table S3.1.	None
MEPP	Hazardous substances	Once every four years	As specified in Environment Agency Guidance LFTGN02 '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	Depth to base (mAOD)	Annually		

Table S3.9 Surface water – other monitoring requirements				
Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
MEPP	Ammoniacal Nitrogen Chloride Electrical conductivity pH Suspended solids Visual Oil and Grease	Monthly	Spot sample	As specified in Environment Agency Guidance LFTGN02 '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.

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 level As specified by schedule 3, table S3.1	Every 3 months	31 March, 30 June, 30 September, 31 December
Point source emission to water (other than sewer) As specified by schedule 3, table S3.2	Every 3 months	31 March, 30 June, 30 September, 31 December
Emission to groundwater As specified by schedule 3, table S3.3	Every 3 months	31 March, 30 June, 30 September, 31 December
Landfill gas in external monitoring boreholes As specified by schedule 3, table S3.4	Every 3 months	31 March, 30 June, 30 September, 31 December
Emission of landfill gas from capped surfaces As specified by schedule 3, table S3.5	Every 12 months	31 December
Other groundwater monitoring As specified by schedule 3, table S3.6	Every 3 months	31 March, 30 June, 30 September, 31 December
Other Landfill gas monitoring As specified by schedule 3, table S3.7	Every 3 months	31 March, 30 June, 30 September, 31 December
Trace gas monitoring	Every 12 months	31 December
Other leachate monitoring As specified by schedule 3, table S3.8	Every 12 months	31 December
Other surface water 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

* - 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 off site;	Cubic metres/year
Landfill gas: Other methods of gas utilisation. Average methane content entering the landfill gas utilisation or treatment compound (based on the annual average of Table S3.7 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	23/03/2018
Controlled water	Form Water 1 or other reporting format to be agreed in writing with the Environment Agency	23/03/2018
Groundwater	Form Groundwater 1 or other reporting format to be agreed in writing with the Environment Agency	23/03/2018
Landfill gas	Form LFG 1 or other reporting format to be agreed in writing with the Environment Agency	23/03/2018
Waste Return	E-waste Return Form	-
Landfill topographical surveys and interpretation	Reporting format to be agreed in writing with the Environment Agency	23/03/2018

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.

“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 limit.

“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 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.

"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

“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.

“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.

“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.

“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 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;

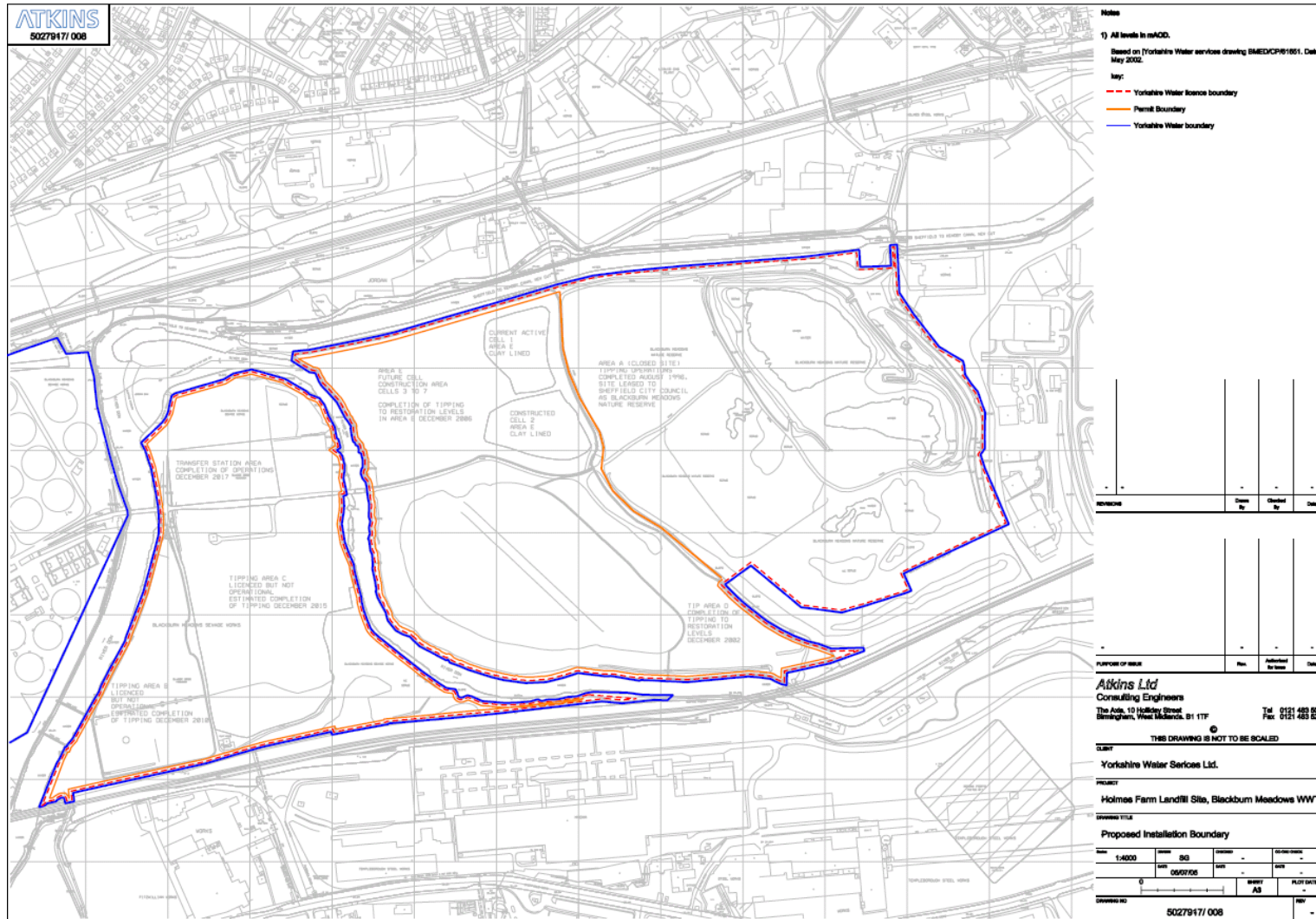
'transition metals' means any of the following metals: any compound of scandium, vanadium, manganese, cobalt, copper, yttrium, niobium, hafnium, tungsten, titanium, chromium, iron, nickel, zinc, zirconium, molybdenum and tantalum, as well as these materials in metallic form, as far as these are classified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



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END OF PERMIT

Permit number
EPR/BP3635SB