



Plate 25 View south along the current farm/access track



Plate 26 View south west across the southern field



Plate 27 View wester across the southern field



Plate 28 View east along the tree line located to the south of the northern field

APPENDIX C

Environmental Permit

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

SUEZ Recycling and Recovery Southern Ltd

Fair Oak Landfill Site
Off Mortimers Lane
Fair Oak
Eastleigh
Hampshire
SO50 7EA

Variation application number

EPR/BK1244IA/V010

Permit number

EPR/BK1244IA

Fair Oak Landfill Site

Permit number EPR/BK1244IA

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. All the conditions of the permit have been varied and are subject to the right of appeal.

This variation makes the following changes:

- Addition of a new methane stripping plant to remove dissolved methane from leachate arising from the landfill so that it can meet the limits required by the Trade Effluent Consent for discharge to sewer.
- Addition of a new emission point to sewer for discharge of treated leachate from the site.
- Extension of the installation boundary to facilitate the above changes.
- Amendment to the CO₂ limits for perimeter gas boreholes.
- Replacement of existing gas engine and flare.
- Inclusion of MCPD Regulations for the gas engine.

The new methane stripping plant (MSP) will have a capacity of <50 tonnes per day and is therefore added to the permit as a Directly Associated Activity. The plant will be built adjacent to an existing leachate storage tank on site where leachate will be collected, stored and then pumped into the methane stripping plant. No leachate from sources other than Fair Oak Landfill Site will be treated in the MSP.

The MSP will remove methane gas from leachate via a process which passes air bubbles through the leachate. The aeration system comprises of two double-skinned tanks, with associated control systems, housed within an insulated steel container. All pipework will sit inside the bund with the exception of the air vent from the process.

New pipework infrastructure will provide a connection from the MSP to the foul sewer.

A drum containing activated carbon will be installed to strip potentially odorous compounds including methane from the vent gas.

Discharges from the plant will be <50m³ per day.

An additional area of land is required to be added to the current installation permit boundary to include the proposed area of the pipeline route to sewer. Drawing Number: 4239-CAU-XX-XX-DV-V-1806.

Removal of carbon dioxide trigger levels and replaced with action levels in accordance with the Industry Code of Practice (ICoP), 'Perimeter soil gas emissions criteria and associated management, January 2011'.

Replacement of current gas engine and flare. Engine reduced from 1150Kw to 625KW and the flare from 1500m³/h to 750m³/h.

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 BK1244IA (EPR/BK1244IA/A001)	Received 21/12/2000	Application for landfill.
Schedule 4 Notice response to request for information (1)	Request dated 08/02/2001	Response received 04/04/2001.
Schedule 4 Notice response to request for information (2)	Request dated 21/06/2001	Response received 26/07/2001.
Request for information to meet the requirements of the Landfill Directive	Request dated 03/04/2002	Response received June 2002.
Permit BK1244IA issued	15/07/2002	Permit Issued.
Application EPR/BK1244IA/V002 (variation)	30/08/2005	Application to vary the permit to bring the permit into line with the PPC Regulations.
Additional information	Request dated 22/11/2005	Response received 01/12/2005.
Request to extend the determination period	23/12/2005	Response received 04/01/2006.
Variation determined EPR/BK1244IA/V002	30/01/2006	Varied permit issued.
Agency variation determined EPR/BK1244IA/V003	01/04/2008	Varied and consolidated permit issued with reviewed template condition format.
Agency variation determined EPR/BK1244IA/V004	24/05/2013	Agency variation to implement the changes introduced by IED.
Application EPR/BK1244IA/V005 (variation)	Duly made 27/01/2014	Variation to implement previously agreed changes to various control and compliance limits and to the monitoring regime.
Variation determined EPR/BK1244IA/V005	23/04/2014	Varied permit issued.
Application EPR/BK1244IA/V006 (variation)	Duly made 30/03/2015	Application to vary the permit to include the final closure report detailing management and monitoring plans in the aftercare phase.
Environment Agency Landfill Sector Review 2014/2015 Permit reviewed Variation determined EPR/BK1244IA/V006 Permit EPR/BK1244IA (Billing Ref: FP3435AG)	28/05/2015	Varied and consolidated permit issued in modern condition format.
Application EPR/BK1244IA/V007 (variation and consolidation)	Duly made 14/07/2015	Application to correct error in the previous variation application and issued permit
Variation determined EPR/BK1244IA (Billing Ref: YP3037AJ)	30/07/2015	Varied permit issued.

Status log of the permit		
Description	Date	Comments
Notified change of company name and address	07/04/2016	Request from operator to update the company name from SITA Southern Limited to SHUKCO 348 Ltd and the first line of their registered office address from SITA House to SUEZ House.
Variation issued EPR/BK1244IA/V008	30/06/2016	Varied permit issued to SHUKCO 348 Ltd.
Notified of change of Company Name	25/01/2018	Name changed to SUEZ Recycling and Recovery Southern Ltd
Variation issued EPR/BK1244IA/V009	02/02/2018	Varied permit issued to SUEZ Recycling and Recovery Southern Ltd
Application EPR/BK1244IA/V010 (variation and consolidation)	Duly made 22/09/2020	Application to add a methane stripping plant with associated emission point to sewer and to extend the site boundary, replacement of existing gas engine and flare, amendment to the CO ₂ action limits for perimeter gas boreholes
Variation issued EPR/BK1244IA/V010 (Billing Ref: MP3104BM)	26/05/2021	Varied permit issued.

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/BK1244IA

Issued to

SUEZ Recycling and Recovery Southern Ltd (“the operator”)

whose registered office is:

**SUEZ House
Grenfell Road
Maidenhead
Berkshire
SL6 1ES**

company registration number **01020153**

to operate a regulated facility at

**Fair Oak Landfill Site
Off Mortimers Lane
Fair Oak
Eastleigh
Hampshire
SO50 7EA**

to the extent set out in the schedules.

The notice shall take effect from 26/05/2021

Name	Date
Samantha Haddock	26/05/2021

Authorised on behalf of the Environment Agency

Schedule 1

All Conditions have been varied by the consolidated permit as a result of the application made by the Operator.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/BK1244IA

This is the consolidated permit referred to in the variation and consolidation notice for application **EPR/BK1244IA/V010** authorising,

SUEZ Recycling and Recovery Southern Ltd ("the operator"),

whose registered office is

**SUEZ House
Grenfell Road
Maidenhead
Berkshire
SL6 1ES**

company registration number **01020153**

to operate an installation at

**Fair Oak Landfill Site
Off Mortimers Lane
Fair Oak
Eastleigh
Hampshire
SO50 7EA**

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

Name	Date
Samantha Haddock	26/05/2021

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 and those drawn to the attention of the operator as a result of complaints; and
 - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme.

1.2 Finance

- 1.2.1 The financial provision for meeting the obligations under this permit set out in the operator's letter dated 15th July 2002 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.

1.3 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 green 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 Pre-operational conditions

2.4.1 The operations specified in Schedule 1 Table S1.3 shall not commence until the measures specified in that table have been completed.

2.5 Landfill Engineering

2.5.1 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.

2.5.2 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.

- 2.5.3 The operator shall submit a CQA Validation Report as soon as practicable following the construction of the relevant landfill infrastructure.
- 2.5.4 Where pollution controls are immediately necessary to prevent an incident or accident, then conditions 2.5.1 and 2.5.2 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.
- 2.5.5 For the purposes of condition 2.5.1, 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.
- 2.5.6 Where the Environment Agency has required further information under condition 2.5.5(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 No waste shall be accepted for disposal within the installation.
- 2.6.2 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 restoration and of the identity of the producer. 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.

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, S3.3 and S3.3a.
- 3.1.3 The limits given in schedule 3, table S3.2 shall not be exceeded, save that compliance with the emission limits in that table shall include incorporation of the uncertainty allowance stated in guidance;
- (a) for engine 1, monitoring stack emissions: maximum uncertainty for periodic monitoring; and
 - (b) for all flares, LFTGN05.
- 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.

3.2 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 and any other actions 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, S3.3 and S3.3a
 - (c) Groundwater specified in tables S3.4 and S3.7;
 - (d) Landfill gas specified in tables S3.5, S3.6 and S3.8; and
 - (e) Surface water specified in table S3.10
- 3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.5.3 A topographical survey of the site referenced to ordnance datum shall be carried out 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.
- 3.5.4 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme specified in Condition 3.2.1 shall have either MCERTS Certification or MCERTS Accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.

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 leachate and landfill gas extraction and all 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 (a) In the event that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
- (i) inform 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) in the event 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) in the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.
- 4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in Schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 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:

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

4.3.4 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; R5 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 2.6, as an integral part of landfilling.
Directly Associated Activities				
A2	N/A	-	Pre-treatment of landfill gas.	Treatment of landfill gas arising from the landfill.
A3	N/A	-	Temporary storage of waste (leachate)	Leachate arising from the landfill.
A4	N/A	-	Flaring of landfill gas for disposal in an appliance.	Landfill gas arising from the landfill.
A5	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.
A6	N/A	-	Storage of fuel for operation of plant and equipment.	Fuel storage tank.
A7	Leachate management including discharge to sewer	-	Leachate collection, recirculation, storage and treatment prior to off-site disposal or discharge to foul sewer.	Excess leachate arising from the permitted landfill. From point of abstraction to removal from site or discharge to sewer, including temporary storage and treatment by methane stripping and dosing if necessary. Leachate treatment capacity shall not exceed 50 tonnes per day.

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
A8	R1 – use principally as a fuel to generate energy	-	Schedule 25A – MCP as detailed in Schedule 7- Utilisation of landfill gas for energy recovery in an appliance with a rated thermal input < 50MW	Utilisation of the landfill gas arising from the landfill 1 x medium combustion plant comprising a 1.6 MWth net rated input landfill gas engine.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application BK1244IA	The response in the consolidated application (in response to Schedule 4 Notices), to the following questions • 2.1 given in section AJB/FOK/B2.1 • 2.2 given in section AJB/FOK/B2.2 • 2.3 given in section AJB/FOK/B2.3 • 2.4 given in section AJB/FOK/B2.4 • 2.5 given in section AJB/FOK/B2.5 • 2.6 given in section AJB/FOK/B2.6 • 2.7 given in section AJB/FOK/B2.7 • 2.8 given in section AJB/FOK/B2.8 • 2.10 given in section AJB/FOK/B2.10 • 2.11 given in section AJB/FOK/B2.11 The Hydrogeological Risk Assessment given in Appendix 1 of section AJB/FOK/B1.3 of the consolidated application.	04/04/2001 June 2002 04/04/2001 04/04/2001 04/04/2001 04/04/2001 04/04/2001 04/04/2001 04/04/2001 04/04/2001

Table S1.2 Operating techniques		
Description	Parts	Date Received
Schedule 4 Notice	Response within the consolidated application	04/04/2001
Schedule 4 Notice	Response within the consolidated application	26/07/2001
Variation Application Version 1 dated August 2005	The response to questions 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7 and 2.8 in Part C of the application form.	30/08/2005
Letter dated 1 st December 2005, providing a response to letter dated 22 nd November 2005	Letter and attachments.	01/12/2005
Response to Improvement Condition 9.2	Report on the establishment of an Environmental Management System	2004
Response to Improvement Condition 9.3	Gas Generation Report	July 2003
Response to Improvement Condition 9.4	Landfill Gas Report	July 2004
Response to Improvement Condition 9.5	Annual Report on Leachate Levels	July 2003
Response to Improvement Condition 9.7	Noise Management Plan	April 2006
Variation application EPR/BK1244IA/V005	Application Forms Part C2 and C3 and relevant supporting information	27/01/2014
Variation Application EPR/BK1244IA/V006	Response to question 3, 5 and 6 of Application forms C3 (including the Closure Report (reference: FO/CR dated November 2013)).	30/03/2015
Variation Application EPR/BK1244IA/V010	Fair Oak Landfill Site Carbon Dioxide Compliance Limit Review February 2020 Methane Stripping Process Description and S5.03 Review May 2020 Drawing Number: 4239-CAU-XX-XX-DV-V-1806 detailing amended site boundary and additional emission points S1 and A3	05/06/2020

Table S1.3 Pre-operational measures for future development

Reference	Operation	Pre-operational Measures
IP1	Prior to undertaking any retro-drilling of, or work that penetrates the clay cap.	At least one month prior (or other time period agreed with the Environment Agency) to any drilling or work on the cap being undertaken at the site, the operator shall submit a specific Odour Management and Monitoring Plan (OMMP) to the Environment Agency for written approval. The OMMP shall include, but not be limited to:- a) Details of the extent of the drilling or work required; b) Details of the time necessary for the drilling or work to be undertaken; c) An estimate of time for the shut down or partial shutdown of the gas extraction; d) A demonstration that a thorough odour risk assessment has been undertaken; e) An estimate of the time for the installation of the infrastructure deemed necessary to be installed and sealed; f) An odour monitoring plan that includes, but is not limited to:- • how meteorological conditions will be measured and recorded; • appropriate compliance levels; and • details of monitoring by site and off site personnel. g) A plan to minimise the time any drilled wastes or other wastes will remain on site; h) A contingency plan that includes, but is not limited to actions to be taken:- • if compliance level is breached; • if a complaint is received; and • if an incident occurs. The operator shall implement the plans above as approved, and from the date stipulated by the Environment Agency.

Schedule 2 – List of permitted wastes

None

Schedule 3 – Emissions and monitoring

Table S3.1 Leachate level limits and monitoring requirements			
Monitoring point reference/Description ⁽¹⁾	Limit	Monitoring frequency	Monitoring standard and method
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)			
LM1A	35.05 m AOD	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (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.
LM1B	35.15 m AOD		
LM2AR2	35.33 m AOD		
LM2BR1	35.46 m AOD		
LM3AR3	36.01 m AOD		
LM3BR2	36.38 m AOD		
LM4AR1	36.26 m AOD		
LM4B	37.75 m AOD		
LM5E	38.42 m AOD		
LM5N	40.09 m AOD		
LM6AR1	38.06 m AOD		
LM6B	40.66 m AOD		
(1) - Monitoring Borehole and Leachate Well Location on Figure 2 of Fair Oak Landfill Site Closure Report dated November 2013			

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
A1 - Enclosed flare as shown on plan FAO/ PLN/0805/01 (December 2005)	Oxides of Nitrogen	Landfill Gas Flares	150 mg/m ³	Hourly mean	Annually	Monitoring method shall be as per <u>monitoring-stack-emissions-techniques-and-standards-for-periodic-monitoring</u> 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. Limits shall be based on normal operating conditions. Temperature: 0°C (273K); pressure: 101.3 kPa and oxygen: 3 percent (dry gas). Uncertainty in limits shall be calculated in accordance with LFTGN05.
	CO		50 mg/m ³			
	Total VOCs		10 mg/m ³			
A2 – LFGE 1, Landfill Gas Engine located at: NGR SU 50595 18451 as shown on Drawing Number 4239-CAU-XX-XX-DV-V-1806	Oxides of Nitrogen	Gas utilisation plant	500 mg/m ³	Hourly mean	Annually	Monitoring method shall be as per <u>monitoring-stack-emissions-techniques-and-standards-for-periodic-monitoring</u> or such other subsequent guidance as may be agreed in writing with the Environment Agency Limits apply to each emission point (stack), including where 2 or more engines use a common emission point. Limits shall be based on normal operating conditions and load. Temperature 0°C (273 K); pressure: 101.3 kPa; and oxygen: 5 per cent (dry gas). Uncertainty in limits shall be calculated in accordance with <u>monitoring stack emissions: maximum uncertainty for periodic monitoring</u>
	CO		1400 mg/m ³			
	Total VOCs		1000 mg/m ³			

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
	SO ₂	Gas utilisation plant	40mg/m ³	Hourly mean	Annually	Monitoring method shall be as per <u>monitoring-stack-emissions-techniques-and-standards-for-periodic-monitoring</u> or such other subsequent guidance as may be agreed in writing with the Environment Agency Limits apply to each emission point (stack), including where 2 or more engines use a common emission point. Limits shall be based on normal operating conditions and load. Temperature of 0°C (273 K), a pressure of 101.3 kPa and oxygen: 15 per cent (dry gas). Uncertainty in limits shall be calculated in accordance with <u>monitoring stack emissions: maximum uncertainty for periodic monitoring</u>.
A3 – Methane Stripping plant located on Drawing Number 4239-CAU-XX-XX-DV-V-1806	Off gases from methane stripping plant	Methane Stripping Plant	No Limit			-

Note 1 – Monitoring to be undertaken in the event the emergency flare has been operational for more than 10 per cent of a year (876 hours).

Table S3.3 Point source emissions to water (other than sewer) – emission limits and monitoring requirements						
Emission point Ref. & Location	Parameter	Source	Limit (incl unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
W1 (Outflow pipe discharge to controlled waters, as shown on Drawing (AJB/FOK/ENG/06))	Suspended Solids	Surface water	50 mg/l	Spot Sample	Monthly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Ammoniacal Nitrogen		1 mg/l			
	Chloride		150mg/l			
	Oil and Grease		No visible traces			

Table S3.3a Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
S1 on 'Environmental Monitoring Location Plan' referenced 4239-CAU-XX-XX-DR-V-1806 emission to Chickenhall Lane Sewage Treatment Works	Site effluent treatment plant treating leachate generated on-site	No parameters set	No limits set	-	-	-

Table S3.4 Groundwater – emission limits and monitoring requirements

Monitoring point reference ⁽¹⁾	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
BH4R Down hydraulic gradient groundwater monitoring borehole	Ammoniacal nitrogen	0.78 mg/l	Spot sample	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J3 (version 2.1, December 2011) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Chloride	250 mg/l		Quarterly	
	Manganese	588 mg/l		Annually	
	Nickel	15.3 mg/l		Annually	
	Potassium	3.59 mg/l		Annually	
	Monohydric phenols	0.15 mg/l		Annually	
	Phenol	0.5 µg/l		Annually	
BHN Down hydraulic gradient groundwater monitoring borehole	Ammoniacal nitrogen	1.53 mg/l	Spot sample	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J3 (version 2.1, December 2011) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Chloride	250 mg/l		Quarterly	
	Manganese	177 mg/l		Annually	
	Nickel	10.6 mg/l		Annually	
	Potassium	11.52 mg/l		Annually	
	Monohydric phenols	0.15 mg/l		Annually	
	Phenol	19.3 µg/l		Annually	
BHO Down hydraulic gradient groundwater monitoring borehole	Ammoniacal nitrogen	1.65 mg/l	Spot sample	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J3 (version 2.1, December 2011) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Chloride	250 mg/l		Quarterly	
	Manganese	220 mg/l		Annually	
	Nickel	11.5 mg/l		Annually	
	Potassium	2.5 mg/l		Annually	

Table S3.4 Groundwater – emission limits and monitoring requirements					
Monitoring point reference ⁽¹⁾	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
	Monohydric phenols	1.48 mg/l		Annually	
	Phenol	5.5 µg/l		Annually	
BHP Down hydraulic gradient groundwater monitoring borehole	Ammoniacal nitrogen	1.21 mg/l	Spot sample	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J3 (version 2.1, December 2011) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Chloride	250 mg/l		Quarterly	
	Manganese	149 mg/l		Annually	
	Nickel	8.5 mg/l		Annually	
	Potassium	11.84 mg/l		Annually	
	Monohydric phenols	0.15 mg/l		Annually	
	Phenol	0.5 µg/l		Annually	
BHQ Down hydraulic gradient groundwater monitoring borehole	Ammoniacal nitrogen	0.63 mg/l	Spot sample	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J3 (version 2.1, December 2011) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Chloride	250 mg/l		Quarterly	
	Manganese	720 mg/l		Annually	
	Nickel	41.4 mg/l		Annually	
	Potassium	113.0 mg/l		Annually	
	Monohydric phenols	0.15 mg/l		Annually	
	Phenol	1.2 µg/l		Annually	
BHTR Down hydraulic gradient groundwater	Ammoniacal nitrogen	0.97 mg/l	Spot sample	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J3 (version 2.1, December 2011) or such other subsequent guidance as
	Chloride	250 mg/l		Quarterly	
	Manganese	116 mg/l		Annually	

Table S3.4 Groundwater – emission limits and monitoring requirements					
Monitoring point reference ⁽¹⁾	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
monitoring borehole	Nickel	30.8 mg/l		Annually	may be agreed in writing with the Environment Agency.
	Potassium	7.1 mg/l		Annually	
	Monohydric phenols	0.15 mg/l		Annually	
	Phenol	4.9 µg/l		Annually	
⁽¹⁾ - Monitoring Borehole and Leachate Well Location on Figure 2 of Fair Oak Landfill Site Closure Report dated November 2013					

Table S3.5 Landfill gas in external monitoring boreholes – limits and monitoring requirements

Monitoring point Ref. /Description ⁽¹⁾	Parameter	Limit (including units)	Monitoring frequency	Monitoring standard or method
BHE, BHI, BHJ, BHK, BHL, BHM, BHN, BHO, BHP, BHQ, BHTR, BH4R, BH5, BH6, BH7 and BH8	Methane	1 %v/v	Quarterly	As per LFTGN03 'Guidance on the management of landfill gas' (September 2004) or such other subsequent guidance as may be agreed in writing with the Environment Agency. Record whether the ground is: • waterlogged; • frozen; and • snow covered.
	Carbon Dioxide	No limit. Replaced with action limits in associated landfill gas documents		
	Oxygen	no limit		
	Atmospheric pressure	no limit		
	Differential Pressure	no limit		

⁽¹⁾ - Monitoring Borehole and Leachate Well Location on Figure 2 of Fair Oak Landfill Site Closure Report dated November 2013

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 LFTGN07 (version 2, 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 LFTGN07 (version 2, 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 LFTGN07 (version 2, 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 LFTGN07 (version 2, 2010) or landfill sector guidance or such other subsequent guidance as may be agreed in writing with the Environment Agency.

Table S3.7 Groundwater – other monitoring requirements			
Monitoring Point Ref./Description	Parameter	Monitoring frequency	Monitoring standard or method
Up gradient MEPP	Water level, electrical conductivity, chloride, ammoniacal nitrogen, pH,	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J3 (version 2.1, December 2011), or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	total alkalinity, magnesium, potassium, total sulphates, calcium, sodium, chromium, copper, iron, lead, nickel, zinc, manganese	Annually	
	Hazardous substances	Annually for first six years of operation	

Table S3.7 Groundwater – other monitoring requirements			
Monitoring Point Ref./Description	Parameter	Monitoring frequency	Monitoring standard or method
Down or cross gradient MEPP	Water level, electrical conductivity, chloride, ammoniacal nitrogen, pH,	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J3 (version 2.1, December 2011), or such other subsequent guidance as may be agreed in writing with the Environment Agency. 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.
	total alkalinity, magnesium, potassium, total sulphates, calcium, sodium, chromium, copper, iron, lead, nickel, zinc, manganese	Annually	
	Hazardous substances detected in leachate	Annually for first six years of operation then every two years	
MEPP	Base of monitoring point (m AoD)	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.
	Hydrogen sulphide	Quarterly	Calibrated handheld monitoring instrument or Tedlar Bag sample in accordance with LFTGN04 'Guidance for monitoring trace components in landfill gas' (version 3: 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.

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, 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; and • 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 'Guidance for monitoring trace components in landfill gas' (version 3: 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 Landfill gas – other monitoring requirements				
Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Input to flare or LFG Utilisation Compound	Trace gas	Annually	Trace gas analysis in accordance with LFTGN04 'Guidance for monitoring trace components in landfill gas' (version 3: 2010) or such other subsequent guidance as may be agreed in writing 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.
Input 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.
Flares A1 shown as shown on plan FAO/ PLN/0805/01 (December 2005)	Temperature	As per LFTGN05 'Guidance for monitoring enclosed landfill gas flares' (version 2: 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.	Monitoring method shall be as per <u>monitoring-stack-emissions-techniques-and-standards-for-periodic-monitoring</u> or such other subsequent guidance as may be agreed in writing with the Environment Agency.	-

Table S3.8 Landfill gas – other monitoring requirements				
Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
A2: LFGE 1 as shown on plan FAO/PLN/0805/01 (December 2005), Gas engines, post turbo	NOx and CO	Quarterly	In accordance with Appendix C of LFTGN08 'Guidance for monitoring landfill gas engines' (version 2: 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
Non Operational Cells or Phases (Any cell or phases that have a final engineered cap agreed in accordance with condition 2.5)			At leachate compliance point as listed in Table S3.1.	-
MEPP	pH, EC, total alkalinity, ammoniacal nitrogen, Chloride, COD, BOD, cadmium, chromium, copper, lead, nickel, iron, arsenic, magnesium, potassium, total sulphates, calcium, sodium, zinc, manganese	Annually	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003) and Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J3 (version 2.1, December 2011) with one sampling point per cell / phase or such other subsequent guidance as may be agreed in writing with the Environment Agency.	
MEPP	Hazardous substances	Once every four years		-
MEPP	Depth to base (m AoD)	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 LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003) and Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J3 (version 2.1, December 2011) 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 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 leachate monitoring As specified by Schedule 3, Table S3.9	Every 12 months	31 December
Other surface water monitoring As specified by Schedule 3, Table S3.10	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 offsite; Disposed of to any onsite effluent treatment plant	Cubic metres/year
Landfill gas: combustion in flares; combustion in gas engines; Other methods of gas utilisation. 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	28/05/2015
Air	Form Air 1 or other reporting format to be agreed in writing with the Environment Agency	28/05/2015
Controlled water	Form Water 1 or other reporting format to be agreed in writing with the Environment Agency	28/05/2015
Groundwater	Form Groundwater 1 or other reporting format to be agreed in writing with the Environment Agency	28/05/2015
Landfill gas	Form LFG 1 or other reporting format to be agreed in writing with the Environment Agency	28/05/2015
Waste Return	Waste Return Form RATS2E	-
Landfill topographical surveys and interpretation	Reporting format to be agreed in writing with the Environment Agency	-

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 malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution	
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	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

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

(c) Notification requirements for the detection of any significant adverse environmental effect	
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.
- (a) “Cell layout drawing” means: 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 SI 2016 No.1154 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in Schedule 3 or from other localised or diffuse sources, which are not controlled by an emission 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.

“Hazardous substances” as defined by the Environmental Permitting (England and Wales) Regulations 2010, SI 2010 No.675, Schedule 22 and listed in our Hydrogeological risk assessment guidance, annex J to our H1 risk assessment guidance.

“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.

“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.

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

“LFTGN03” means Environment Agency Guidance on the management of landfill gas.

“LFTGN04” means Environment Agency Guidance for monitoring trace components in landfill gas.

“LFTGN05” means Environment Agency Guidance for monitoring enclosed landfill gas flares.

“LFTGN07” means Environment Agency Guidance on monitoring landfill gas surface emissions.

“LFTGN08” means Environment Agency Guidance for monitoring landfill gas engines.

“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” means the six digit code referable to a type of waste in accordance with the List of Wastes (England) Regulations 2005, or List of Wastes (Wales) Regulations 2005, as appropriate, and in relation to hazardous waste, includes the asterisk.

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 LFTGN05 or Guidance for Monitoring Landfill Gas Engine Emissions LFTGN08

“Waste Framework Directive” or “WFD” means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste, as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

Schedule 7 – Site plan



“© Crown Copyright. All rights reserved. Environment Agency, 100024198, 2021.”

END OF PERMIT