



**ENVIRONMENT  
AGENCY**

## **Permit with introductory note**

Pollution Prevention and Control (England and Wales) Regulations 2000  
Landfill (England and Wales) Regulations 2002

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Copley Lane Landfill

St. John's Lane  
Sherburn in Elmet  
Leeds  
LS25 6BJ

Permit number

TP3830BD

# Copley Lane Landfill

## Permit Number TP3830BD

### Introductory note

#### ***This introductory note does not form a part of the Permit***

The main features of the installation are as follows. The application for Copley Lane Landfill is for a non-hazardous landfill. There are no other Schedule 1 listed activities being undertaken at this installation.

Copley Lane Landfill is located at National Grid Reference (NGR) SE483350, approximately 1.5km north-west of Sherburn in Elmet in West Yorkshire. The installation covers an area of 7 hectares and is located on an area formerly occupied by a limestone quarry and is surrounded by farmland. The installation is constructed in Limestone (Brotherton Formation) which is underlain by Permian Marl (Edlington and Hayton Formation) and beneath that is the Lower Magnesian Limestone.

The installation previously held a waste management licence (EAWML60210, issued 7 May 1991) for the disposal of non-hazardous waste and has been operational since 1991. The landfill is made up of five phases. Landfilling in phases 1 and 2 are substantially complete and restored. Phase 3 and 4 are operational and Phase 5 is yet to be used. The basal engineering for Phases 1 to 3 consists 1 metre of clay barrier with a leachate drainage blanket of compacted tyres, whilst the cap is/will consist of a clay barrier with a bentomat liner. The basal engineering for Phases 4 and 5 will consist of a 1 metre clay barrier, a bentomat liner and a leachate drainage layer. Side slope engineering for Phases 4 and 5 will consist of a 1 metre clay barrier with a bentomat liner. Currently leachate is recirculated through the waste mass as required. Any excess leachate is and will in future be tankered off site. Landfill gas vents from the surface of the installation, there may however be a need for a landfill gas flare to control gas from the installation as further landfilling occurs.

Annual waste inputs to the installation are limited to 99,000 tonnes per year. The maximum capacity of the installation, including waste already deposited, is 1,633,500 tonnes.

#### **Status Log of the Permit**

| Detail                              | Date                   | Response Date   |
|-------------------------------------|------------------------|---|
| Application TP3830BD                | Received 01/11/04      |   |
| Response to request for information | Request dated 18/05/05 | Responses dated 06/06/05, 14/06/05, 17/06/05 and 22/07/05 |
| Request to extend determination     | Request dated 23/05/05 | Response dated 17/06/05                                   |
| Response to Schedule 4              | Request dated 31/08/05 | Response dated 20/09/05                                   |
| Response to Schedule 4              | Request dated 25/10/05 | Response dated 7/11/05                                    |
| Request to extend determination     | Request dated 06/01/06 | Response dated 12/01/06                                   |
| Permit determined                   | 22/05/06               |   |

#### **Superseded or Partially Superseded Licences/Authorisations/Consents relating to this installation**

| Holder              | Reference Number         | Date of Issue | Fully or Partially Superseded |
|---------------------|--------------------------|---------------|-------------------------------|
| C.F. Harris Limited | NYCC/201<br>(EAWML60210) | 07/05/1991    | Fully superseded              |

End of Introductory Note

Permit

Pollution Prevention and Control (England and Wales) Regulations 2000  
Landfill (England and Wales) Regulations 2002

## Permit

Permit number

**TP3830BD**

The Environment Agency (the Agency) in exercise of its powers under Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations 2000 (SI 2000 No 1973) and Regulation 6 of the Landfill (England and Wales) Regulations 2002 (SI 2002 No.1559) hereby authorises

**C.F. Harris Ltd** ("the Operator"),

of/ whose Registered Office (or principal place of business) is

**170 Cardigan Road**

**Leeds**

**LS6 1LL**

**Company registration number 290568**

to operate an installation at

**Copley Lane Landfill**


**St. John's Lane**

**Sherburn in Elmet**

**Leeds**

**LS25 6BJ**

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

| Signed  | Date                      |
|---|---------------------------|
|  | 22 <sup>nd</sup> May 2006 |

**Martin Jenkins, SPG Permitting Team Leader**

Authorised to sign on behalf of the Agency

Environment Agency, Richard Fairclough House, Knutsford Road, Warrington, Cheshire, WA4 1HX.

# Conditions

## 1. Management

### 1.1 General management

- 1.1.1 The Activities shall be managed and operated:
- (a) in accordance with a management system, which identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents and non-conformances and those drawn to the attention of the Operator as a result of complaints; and
  - (b) by sufficient persons who are competent in respect of the responsibilities to be undertaken by them in connection with the operation of the Activities.
- 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.

### 1.2 Accidents that may cause pollution

- 1.2.1 The Operator shall:
- (a) maintain and implement an accident management plan;
  - (b) review and record at least every 4 years or as soon as practicable after an accident, (whichever is the earlier) whether changes to the plan should be made;
  - (c) make any appropriate changes to the plan identified by a review.

### 1.3 Finance

- 1.3.1 The financial provision for meeting the obligations under this Permit set out in the Agreement made between the Operator and the Agency dated 22/05/06 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 Agency.
- 1.3.2 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 1.3.1; and
  - (c) the estimated costs for the closure and aftercare of the landfill.

### 1.4 Energy efficiency

- 1.4.1 The Operator shall:
- (a) Review and record at least every 4 years whether there are suitable opportunities to improve the energy efficiency of the Activities; and
  - (b) Implement any appropriate measures identified by a review.

## **1.5 Site security**

1.5.1 Site security measures shall prevent unauthorised access to the Site, as far as practicable.

## **2. Operations**

### **2.1 Permitted activities**

2.1.1 The Operator is 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 2 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 Agency.

### **2.4 Off-site conditions**

There are no conditions in this Permit to which Regulation 12(12) of the PPC Regulations apply.

### **2.5 Improvement programme**

2.5.1 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 Agency.

2.5.2 Except in the case of an improvement which consists only of a submission to the Agency, the Operator shall notify the Agency within 14 days of completion of each improvement.

### **2.6 Pre-operational conditions**

2.6.1 The Activities shall not be brought into operation until the measures specified in Schedule 1 Table S1.4A have been completed.

### **2.7 Engineering**

2.7.1 No construction of any New Cell shall commence until the Operator has submitted Construction Proposals and the Agency has confirmed that it is satisfied with the Construction Proposals.

2.7.2 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 Agency.
- 2.7.3 No disposal of waste shall take place in a New Cell until the Operator has submitted a CQA Validation Report and the Agency has confirmed that it is satisfied with the CQA Validation Report.
- 2.7.4 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 Agency has confirmed that it is satisfied with the Construction Proposals.
- 2.7.5 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 Agency.
- 2.7.6 The Operator shall submit a CQA Validation Report as soon as practicable following the construction of the relevant Landfill Infrastructure.
- 2.7.7 Where pollution controls are immediately necessary to prevent an incident or accident, then conditions 2.7.4 and 2.7.5 do not apply and the relevant Landfill Infrastructure may be constructed, provided that the Construction Proposals are submitted to the Agency as soon as practicable.
- 2.7.8 For the purposes of conditions 2.7.1, 2.7.3 and 2.7.4, the Agency shall be deemed to be satisfied where it has not, within the period of 4 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.

## **2.8 Waste acceptance**

- 2.8.1 Wastes shall only be accepted for disposal if:
  - (a) they are listed in Schedule 3, and
  - (b) they are non-hazardous waste, and
  - (c) from 16<sup>th</sup> July 2006 they are not whole used tyres (other than bicycle tyres and tyres with an outside diameter of more than 1400mm), and
  - (d) from 16<sup>th</sup> July 2006 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 set out in Schedule 1 of the Landfill Regulations 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) from 30<sup>th</sup> October 2007 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.

2.8.2 The Operator shall visually inspect:

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

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

2.8.3 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.

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

2.8.5 The total quantity of waste that shall be deposited in the landfill shall be limited by the pre-settlement levels shown on drawing CL-IPPC-9.

2.8.6 The quantity of waste that is deposited in the landfill in any year shall not exceed the limits in Schedule 1 Table S1.5.

2.8.7 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.

## **2.9 Leachate levels**

2.9.1 The limits for the level of leachate listed in Table S4.1 of Schedule 4 shall not be exceeded.

## **2.10 Closure, aftercare and decommissioning**

2.10.1 The Operator shall maintain and operate the Activities so as to prevent or where that is not practicable, to minimise, any pollution risk on closure and decommissioning.

2.10.2 The Operator shall maintain a Site Closure Plan which demonstrates how the Activities can be decommissioned to avoid any pollution risk and return the site of operation to a satisfactory state.

2.10.3 The Operator shall carry out and record a review of the Site Closure Plan at least every 4 years.

2.10.4 The Site Closure Plan (or relevant part thereof) shall be implemented on final cessation or decommissioning of the Activities or part thereof.

## **2.11 Site protection and monitoring programme**

- 2.11.1 The Operator shall, within a minimum of 3 months prior to undertaking the relevant Activity, submit a Site Protection and Monitoring Programme.
- 2.11.2 The Operator shall implement and maintain the Site Protection and Monitoring Programme in relation to all areas which will not comprise permanent deposits of waste and shall carry out and record a review of it at least every 4 years commencing from the date the Site Protection and Monitoring Programme was received.

## **3. Emissions and monitoring**

### **3.1 Emissions to water, air or land**

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in Table S4.2 of Schedule 4.
- 3.1.2 The limits given in that Schedule shall not be exceeded, save that compliance with an emission limit shall include incorporation of the uncertainty allowance stated in Agency guidance LFTGN 05 and LFTGN 08.

### **3.2 Emissions to groundwater**

- 3.2.1 There shall be no emission from the Activities into groundwater of any substance in List I (as defined by the Groundwater Regulations) contrary to those Regulations.
- 3.2.2 There shall be no emission from the Activities into groundwater of any substance in List II (as defined in the Groundwater Regulations) so as to cause pollution (as defined in those Regulations).
- 3.2.3 The trigger levels for emissions into groundwater for the parameter(s) and monitoring point(s) set out in Table S4.3 of Schedule 4 shall not be exceeded.
- 3.2.4 The Operator shall submit to the Agency a review of the Hydrogeological Risk Assessment:
- (a) between 9 and 6 months prior to the fourth anniversary of the granting of the Permit, and
  - (b) between 9 and 6 months prior to every subsequent 4 years after the fourth anniversary of the granting of the Permit.

### **3.3 Fugitive emissions of substances**

- 3.3.1 Fugitive emissions of substances (excluding odour, noise and vibration) shall not cause pollution. The Operator shall not be taken to have breached this condition if appropriate measures have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.3.2 Litter or mud arising from the Activities shall not cause pollution. The Operator shall not be taken to have breached this condition if appropriate measures have been used to prevent or where that is not practicable to minimise, the litter and mud.



- 3.3.3 Litter or mud arising from the Activities shall be cleared from affected areas outside the Site as soon as practicable.
- 3.3.4 All liquids, 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.
- 3.3.5 The measured values from the monitoring specified in Tables S4.4, S4.5 and S4.10 of Schedule 4 shall not exceed the limits for the parameter(s) at the monitoring point(s) listed in that schedule.

### **3.4 Odour**

- 3.4.1 Emissions from the Activities shall be free from odour at levels likely to cause annoyance outside the Site, as perceived by an Authorised Officer of the Agency, unless the Operator has used appropriate measures to prevent or where that is not practicable to minimise the odour.

### **3.5 Noise and vibration**

- 3.5.1 Emissions from the Activities shall be free from noise and vibration at levels likely to cause annoyance outside the Site, as perceived by an Authorised Officer of the Agency, unless the Operator has used appropriate measures to prevent or where that is not practicable to minimise the noise and vibration.

### **3.6 Monitoring**

- 3.6.1 The Operator shall, unless otherwise agreed in writing by the Agency, undertake monitoring for the parameters, at the locations and at not less than the frequencies specified in the following tables in Schedule 4 to this Permit:
  - (a) Leachate specified in Tables S4.1 and S4.7;
  - (b) Point source emissions specified in Tables S4.2;
  - (c) Groundwater specified in Tables S4.3 and S4.9;
  - (d) Landfill gas specified in Tables S4.4, S4.5 and S4.6;
  - (e) Surface water specified in Table S4.8; and
  - (f) Particulate matter specified in Table S4.10.
- 3.6.2 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.
- 3.6.3 A topographical survey of the Site referenced to Ordnance Datum shall be carried out:
  - (a) annually, and
  - (b) prior to the disposal of waste in any new cell or new development area of the landfill, and
  - (c) following closure of the landfill or part of the landfill.

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

- 3.6.4 Within 6 months of the issue of this Permit (unless otherwise agreed in writing by the Agency) the site reference data identified in the Site Protection and Monitoring Programme shall be collected and submitted to the 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 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) the Site Protection and Monitoring Programme;
  - (iii) sub-surface landfill gas monitoring;
  - (iv) leachate levels, quality and quantities;
  - (v) landfill gas generation and collection;
  - (vi) waste types and quantities;
  - (vii) topographical surveys; and
  - (viii) the specification and as built drawings of the basal, sidewall and capping engineering systems

### **4.2 Reporting**

4.2.1 A report or reports on the performance of the Activities over the previous year shall be submitted to the Agency by 31 January (or other date agreed in writing by the Agency) 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 with the Application;
- (b) where the Operator's management system encompasses annual improvement targets, a summary report of the previous year's progress against such targets;
- (c) the energy consumed at the Site, reported in the format set out in Schedule 5 Table S5.3
- (d) the water consumed at the Site, reported in the format set out in Schedule 5 Table S5.3;

- (e) the annual production/treatment set out in Schedule 5 Table S5.2.
- (f) details of any contamination or decontamination of the Site which has occurred;
- (g) the topographical surveys required by condition 3.6.3 other than those submitted as part of a CQA validation report;
- (h) 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;
- (i) an assessment of the settlement behavior of the landfill body based on the difference between the most recent topographical survey and previous annual topographical survey for the areas of the landfill which did not receive waste between the surveys;
- (j) a calculation of the remaining capacity (reported in cubic metres) derived from the pre-settlement contours and the most recent topographical survey;
- (k) the compliance testing undertaken in the period;

4.2.2 Within 28 days of the end of the reporting period the Operator shall, unless otherwise agreed in writing by the 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 Table S5.1 of Schedule 5;
- (b) for the reporting periods specified in Table S5.1 of Schedule 5 and using the forms specified in Table S5.4 of Schedule 5; and
- (c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.3 A summary report of the waste types and quantities accepted and removed from the site shall be made for each quarter. It shall be submitted to the Agency within one month of the end of the quarter and shall be in the format required by the Agency.

4.2.4 The Operator shall, unless notice under this condition has been served within the preceding 4 years, submit to the Agency, within 6 months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.2.5 The results of reviews and any changes made to the Site Protection and Monitoring Programme shall be reported to the Agency, within 1 month of the review or change.

## 4.3 Notifications

4.3.1 The Agency shall be notified without delay following the detection of:

- (a) any malfunction, breakdown or failure of equipment or techniques, accident, or fugitive emission which has caused, is causing or may cause significant pollution;
- (b) the breach of a limit specified in the Permit;
- (c) any significant adverse environmental effects.

4.3.2 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in Schedule 6 to this Permit within the time period specified in that schedule.

- 4.3.3. Prior written notification shall be given to the Agency of the following events and in the specified timescales:
- (a) as soon as practicable prior to the permanent cessation of any of the permitted activities;
  - (b) as soon as practicable prior to the cessation of the landfill disposal activities, for a period likely to exceed 1 month; and
  - (c) at least 7 days prior to the resumption of the landfill disposal activities after a cessation notified under (b) above.
- 4.3.4 The Agency shall be given at least 14 days notice before implementing any part of the Site Closure Plan in respect of any activities other than the disposal of waste in the landfill.
- 4.3.5 Where the Agency has requested in writing that it shall be notified when the Operator is to undertake monitoring and/or spot sampling, the Operator shall inform the Agency when the relevant monitoring is to take place. The Operator shall provide this information to the Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.6 The Agency shall be notified within 7 days of any changes in technically competent management and the name of any incoming person together with evidence that such person has the required technical competence.
- 4.3.7 The Agency shall be provided, within 14 days of the Operator or any relevant person being convicted of a relevant offence, (unless such information has already been notified to the Agency), with details of the nature of the offence, the place and date of conviction, and the sentence imposed.
- 4.3.8 The Agency shall be notified within 14 days of the Operator and/or any relevant person lodging an appeal against a conviction for any relevant offence and of the outcome when the appeal is decided.
- 4.3.9 The Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- (a) any change in the Operator's trading name, registered name or registered office address;
  - (b) any change to particulars of the Operator's ultimate holding company (including details of an ultimate holding company where an Operator has become a subsidiary); and
  - (c) any steps taken with a view to the Operator going into administration, entering into a company voluntary arrangement or being wound up.

## **4.4 Interpretation**

- 4.4.1 In this Permit the expressions listed in Schedule 7 shall have the meaning given in that schedule.

# Schedule 1 - Operations

**Table S1.1 Activities**

| Activity listed in Schedule 1 of the PPC Regulations          | Description of specified activity   | Limits of specified activity   |
|---|---|--|
| Section 5.2 Part A(1)(a) The disposal of waste in a landfill. | Landfill for non-hazardous waste (landfill classification under the Landfill Regulations 2002). | Receipt, handling, storage and disposal of non-hazardous wastes, consisting of the types and quantities specified in Table S1.5, as an integral part of landfilling. |
| <b>Directly Associated Activity</b>                           |   |  |
| Leachate storage and recirculation.                           | Storage of leachate prior to tankering off site.  | From waste mass to leachate storage tank to point of discharge into disposal tanker, prior to removal off site.  |
|   | Recirculation of leachate within the waste mass.  | From leachate collection system to re-circulation within the same cell as it was produced.   |
| Fuel Storage.   | Storage of fuel for operation of plant and equipment.   | From fuel storage tank/ bowser to point of discharge into plant and equipment.   |
| Water discharges to land or controlled waters.                | Discharge of site drainage from the landfill.   | From surface water management system to point of disposal by soakaway or by tanker.  |
| Landfill gas management.                                      | Collection and flaring.   | Landfill gas arising from the landfill.  |

**Table S1.2 Operating Techniques**

| Description   | Parts  | Date Received |
|---|--|---------------|
| Application   | The response to questions, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10 and 2.11 in part B of the Application Form.<br>Excluding the responses to the following questions:<br>2.1.8, 2.2.9, 2.2.17, 2.2.42, 2.2.65, 2.2.67, 2.2.68 and 2.2.79.  | 01/11/04      |
| Regulatory Specification document Version 1.1 received from Silkstone Environmental Ltd in response to Agency request for information dated 18/05/05. | The response to issues 12, 13, 23, 27, 36, 37, 41 and 60.<br>Excluding the responses to issues 5, 6, 7 (regarding odour and dust management), 31, 34, 39, 40, 57- location of proposed groundwater monitoring points BH10, BH11 and BH12 as shown on drawing CL-IPPC-14 and 59 - capping specification shown on drawing REGSPEC 3. | 22/07/05      |
| Letter received from Silkstone Environmental Ltd in response to Agency Schedule 4 dated 31/08/05.   | The response to issues 1 to 6, 8 to 15 and 17 to 24.<br>Excluding the responses to issue 7 (regarding the groundwater management system) and 16 (regarding stability analyses).  | 20/09/05      |
| Document received from Silkstone Environmental Ltd in response to Agency Schedule 4 dated 25/10/05.   | The response to issues 1, 3 and 4<br>Excluding the responses to issue 2 (leachate storage arrangements).   | 07/11/05      |

**Table S1.3 Improvement Programme Requirements**

| Reference | Requirement   | Date      |
|-----------|---|-----------|
| 1         | The Operator shall provide the Agency with a revised meteorological monitoring plan. The plan shall take account of the requirements listed in Sections 2.2.79 to 2.2.81 of Part B of the application form. The monitoring plan should specify as a minimum: <ul style="list-style-type: none"> <li>▪ The location, construction and timescale for installation of the meteorological monitoring station; and</li> <li>▪ Monitoring techniques.</li> </ul> Following submission of the report required by this condition the Operator shall undertake any measures notified in writing by the Agency to the timescales indicated in the notification. | 22/06/06. |

**Table S1.3 Improvement Programme Requirements**

| Reference | Requirement   | Date                               |
|-----------|---|------------------------------------|
| 2         | <p>The Operator shall provide the Agency for approval, with proposals for carrying out monitoring and assessment of particulate emissions, in accordance with Agency Technical Guidance Document M17, Monitoring of Particulate Matter in Ambient Air Around Waste Facilities for the parameters required by S4.10. The proposals shall include but not be limited to operating procedures for the implementation of monitoring measures, schedules, techniques, compliance action plans, data management and reporting procedures.</p> <p>The Operator shall undertake any measures or recommendations approved in writing by the Agency to the timescales indicated in the approval.</p>  | 22/07/06.                          |
| 3         | <p>The Operator shall complete and submit a revised leachate management plan to the Agency for approval, that:</p> <ul style="list-style-type: none"> <li>• Provide full details of the design, capacity, location and bunding of all leachate storage tanks. For any proposed additional leachate storage tanks the design, capacity, location, bunding and timescales of their installation should be provided;</li> <li>• Considers predicted leachate generation volumes;</li> <li>• Sets out the water balance calculations;</li> <li>• Details of the location and design of additional leachate monitoring boreholes, timescales of their installation and monitoring programme; and</li> <li>• Details of appropriate leachate recirculation methods, including justification and supporting calculations for each cell to be utilised. Details of how leachate will only be re-circulated within the cell where it is collected.</li> </ul> <p>The Operator shall undertake any measures or recommendations approved in writing by the Agency to the timescales indicated in the approval.</p> | 22/11/06.                          |
| 4         | <p>The Operator shall undertake landfill gas pumping trials over the landfill site (which will include assessing concentrations of bulk gases and trace gas analysis during the trial) and shall submit the results and interpretation to the Agency.</p> <p>Where flows indicate that the site will support a gas flare, in accordance with the Environment Agency document LFTGN03 "Guidance on the Management of Landfill Gas", the Operator will be required to submit to the Agency a report detailing:</p> <ul style="list-style-type: none"> <li>• The location, design, construction and timescale for installation of a gas flare;</li> <li>• Air dispersion modelling of emissions from the proposed facility; and</li> <li>• Details of management and monitoring proposals for the gas flare.</li> </ul> <p>The Operator shall undertake any measures or recommendations approved in writing by the Agency to the timescales indicated in the approval.</p>   | Completion of capping for Phase 1. |
| 5         | <p>The Operator, having regard to the Environment Agency document "Guidance on the Management of Landfill Gas" dated September 2004 and "Guidance on Monitoring Landfill Gas Surface Emissions" dated September 2004, shall submit a revised landfill gas management plan to the Agency, that specifies as a minimum:</p> <ul style="list-style-type: none"> <li>• The location, design, construction and timescale for installation of additional sub-surface gas monitoring points within the waste and perimeter points outside of the waste;</li> <li>• Control and trigger levels for additional perimeter gas monitoring points (based on a minimum of 6 sets of monthly monitoring results) which are to be provided within 6 months of borehole installation; and</li> <li>• Detailed proposals for monitoring of surface emissions of landfill gas.</li> </ul> <p>The Operator shall undertake any measures or recommendations approved in writing by the Agency to the timescales indicated in the approval.</p>  | 22/02/07.                          |
| 6         | <p>The Operator shall complete and submit an odour management plan to the Agency for approval, that:</p> <ul style="list-style-type: none"> <li>• Details odour monitoring locations and monitoring programme;</li> <li>• Includes measures to mitigate odours; and</li> <li>• Submit a timetable, for approval, for the instigation of these measures.</li> </ul> <p>The Operator shall undertake any measures or recommendations approved in writing by the Agency to the timescales indicated in the approval.</p>   | 22/07/06.                          |

**Table S1.3 Improvement Programme Requirements**

| Reference | Requirement   | Date   |
|-----------|---|--|
| 7         | <p>The Operator shall submit to the Agency ( detailed proposals for the location, design, construction and timescale for installation of two (BH11 and BH12) downgradient groundwater monitoring boreholes and one (BH10) upgradient borehole to monitor the groundwater quality in the Lower Magnesian Limestone aquifer) in accordance with the Environment Agency LFTGN02 document "Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water".</p> <p>The Operator shall undertake any measures or recommendations notified in writing by the Agency by the date indicated in the approval.</p> <p>Details of the installation and final location including drilling logs and as-built construction details shall be forwarded to the Agency upon completion. The groundwater monitoring programme for the boreholes shall commence as soon as possible after the installation of the boreholes.</p>   | 22/09/06.  |
| 8         | <p>The operator shall carry out a survey of all existing external groundwater monitoring boreholes to ensure that they are fit for purpose. Boreholes found not to be fit for purpose shall be replaced adjacent to existing the borehole in accordance with the Environment Agency LFTGN02 document "Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water".</p>  | 22/11/06.  |
| 9         | <p>The Operator shall submit to the Agency a review of the groundwater data that shall include:</p> <ul style="list-style-type: none"> <li>• A review of data from the additional and replacement groundwater monitoring boreholes (from references 7 and 8 above) based upon a minimum of four sets of quarterly monitoring results;</li> <li>• Control and Trigger Levels for the additional groundwater monitoring boreholes in accordance with the Environment Agency Guidance document, 'Hydrogeological Risk Assessments for Landfills' dated March 2003, unless other methodology is agreed in writing with the Agency;</li> <li>• A review of the Control and Trigger levels for ammoniacal nitrogen, chloride and pH for soakaway SW1; and</li> <li>• A review of the Control and Trigger levels for ammoniacal nitrogen, chloride, nickel, benzene, mercury, cadmium and dichloromethane for boreholes BH1, BH2 and BH3.</li> </ul> <p>The Operator shall undertake any measures or recommendations approved in writing by the Agency to the timescales indicated in the approval.</p>  | <p>Within 14 months of the date of installation of boreholes replaced by compliance with condition 2.5.1 references 7 and 8.</p> |
| 10        | <p>The Operator shall provide to the Agency for approval proposals to mitigate against the potential for surface runoff and other sources of contamination from entering;</p> <ul style="list-style-type: none"> <li>• the exposed passive groundwater dewatering trench; and</li> <li>• basal sump and subsequent disposal to soakaway.</li> </ul> <p>The Operator shall undertake any measures or recommendations approved in writing by the Agency to the timescales indicated in the approval.</p>  | 22/07/06.  |
| 11        | <p>The Operator shall provide to the Agency for approval a revised surface water management plan that shall include but not be limited to:</p> <ul style="list-style-type: none"> <li>• A detailed design, including appropriate supporting calculations and detailed drawings, of the surface water management system;</li> <li>• Soakaway inspection and maintenance details;</li> <li>• A surface water contingency action plan;</li> <li>• Assessment of the risk of leachate outbreaks to the surface water soakaway;</li> <li>• Assessment of the risk of leachate outbreaks to the surface water course at Stream Dyke;</li> <li>• Assessment of the potential that the surface water regime may be affected by the location of the soakaway;</li> <li>• Assessment of the need for a new ditch, new attenuation pond(s) and new SW emissions monitoring point adjacent to Stream Dyke at or immediately downstream of existing downstream monitoring point, SWM3; and</li> <li>• Assessment that groundwater monitoring will not be affected by the location of the soakaway and/or surface water ingress of the boreholes.</li> </ul> <p>The Operator shall undertake any measures or recommendations approved in writing by the Agency to the timescales indicated in the approval. Completion of the measures shall be reported to the Agency following their full implementation.</p> | 22/09/06.  |

**Table S1.3 Improvement Programme Requirements**

| Reference | Requirement  | Date      |
|-----------|--|-----------|
| 12        | <p>The Operator shall submit a report to the Agency for approval containing:</p> <ul style="list-style-type: none"> <li>• Details of the design, location and construction quality assurance (COA) for a quarantine storage facility;</li> <li>• An assessment detailing the management of the surface water run-off, interceptors and emissions from the quarantine area; and</li> <li>• A timetable for the installation of this quarantine area.</li> </ul> <p>The Operator shall undertake any measures or recommendations notified in writing by the Agency to the timescale indicated in the notification.</p> | 22/08/06. |
| 13        | <p>The Operator shall submit to the Agency a plan detailing the Waste Acceptance Criteria methodology to be applied at the installation, in accordance with the requirements of Schedule 1 of the Landfill (England and Wales) Regulations 2002 (as amended). The Operator shall undertake any measures or recommendations approved in writing by the Agency to the timescales indicated in the approval.</p>  | 22/06/06. |
| 14        | <p>The Operator shall submit a report to the Agency for approval containing:</p> <ul style="list-style-type: none"> <li>• Details of methodology for installation of the side slope lining system; and</li> <li>• Reanalysis of the stability of the capping system (including supporting calculations).</li> </ul> <p>The Operator shall undertake any measures or recommendations approved in writing by the Agency to the timescales indicated in the approval.</p>   | 22/08/06. |

**Table S1.4A Pre-operational Measures**

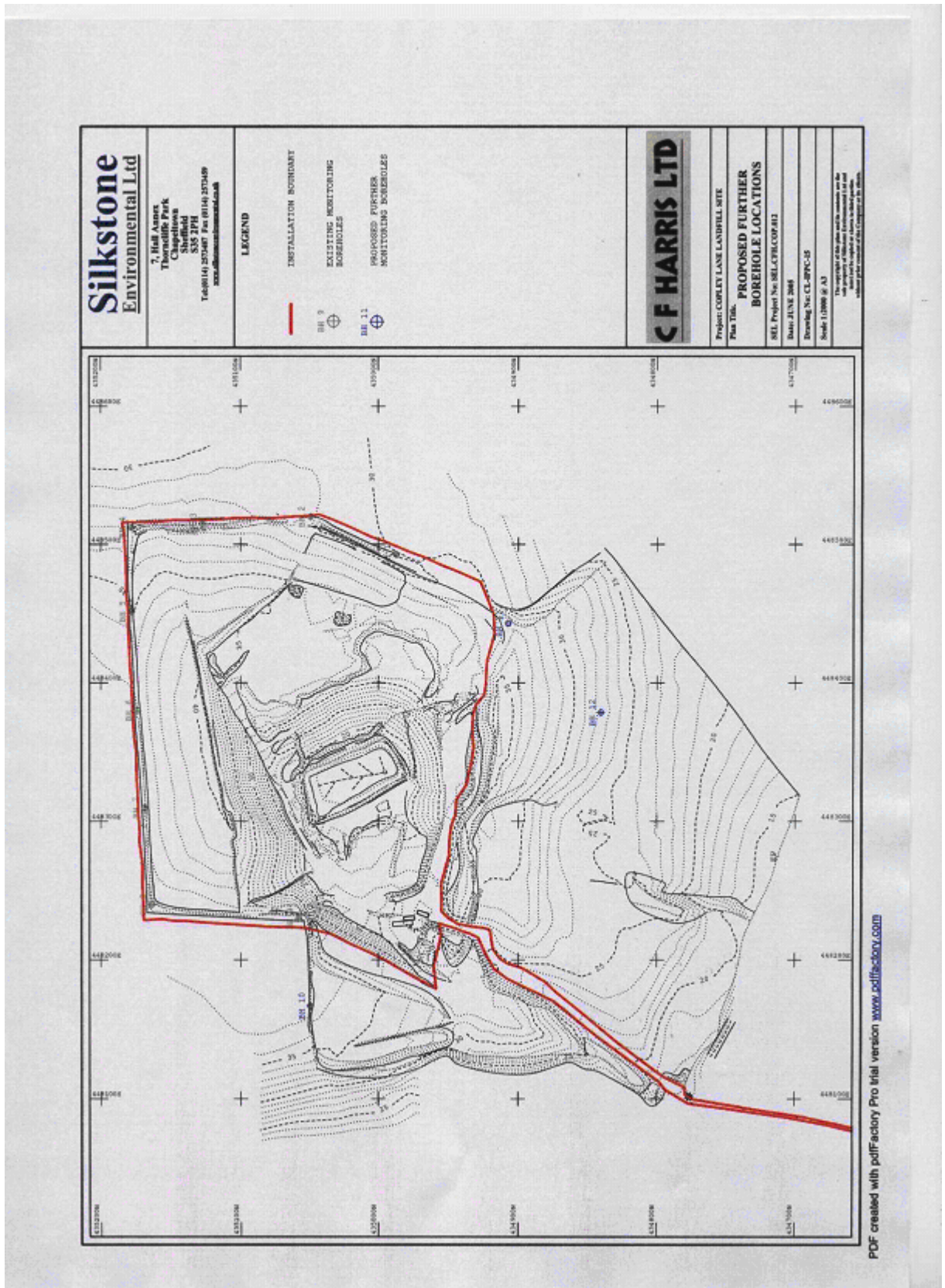
| Reference | Pre-operational Measures  |
|-----------|---|
| 1         | <p>No activity authorised by this permit shall in undertaken within the land designated as Cell 5 unless the Operator has provided the Environment Agency with proof of an agreement between them and the Owners of land beneath the cell as to the Operators right to dispose of waste and carry out their obligations under the permit.</p> |

**Table S1.5 Annual Waste Input Limits**

| Category                                    | Limit Tonnes/ Year |
|---|--------------------|
| Non-hazardous Waste                         | 74,200             |
| Inert Waste for engineering including cover | 24,800             |
| Total                                       | 99,000             |



# Schedule 2 - Site plan



# Schedule 3 - List of permitted wastes

## Non-hazardous wastes for disposal

| EWC code | Description  |
|----------|--|
| 01       | <b>WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING, AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS</b>   |
| 01 04    | wastes from physical and chemical processing of non-metalliferous minerals   |
| 01 04 08 | waste gravel and crushed rocks other than those mentioned in 01 04 07  |
| 01 04 09 | waste sand and clays   |
| 03       | <b>WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE, PULP, PAPER AND CARDBOARD</b>   |
| 03 01    | wastes from wood processing and the production of panels and furniture   |
| 03 01 01 | waste bark and cork  |
| 03 01 05 | sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04  |
| 03 03    | wastes from pulp, paper and cardboard production and processing  |
| 03 03 01 | waste bark and wood  |
| 03 03 08 | wastes from sorting of paper and cardboard destined for recycling  |
| 07       | <b>WASTES FROM ORGANIC CHEMICAL PROCESSES</b>  |
| 07 02    | wastes from the MFSU of plastics, synthetic rubber and man-made fibres   |
| 07 02 13 | waste plastic  |
| 10       | <b>WASTES FROM THERMAL PROCESSES</b>   |
| 10 11    | wastes from manufacture of glass and glass products  |
| 10 11 12 | waste glass other than those mentioned in 10 11 11   |
| 10 12    | wastes from manufacture of ceramic goods, bricks, tiles and construction products  |
| 10 12 06 | discarded moulds   |
| 10 12 08 | waste ceramics, bricks, tiles and construction products (after thermal processing)   |
| 10 12 12 | wastes from glazing other than those mentioned in 10 12 11   |
| 10 13    | wastes from manufacture of cement, lime and plaster and articles and products made from them   |
| 10 13 14 | waste concrete and concrete sludge   |
| 15       | <b>WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED</b>  |
| 15 01    | packaging (including separately collected municipal packaging waste)   |
| 15 01 02 | plastic packaging  |
| 15 01 03 | wooden packaging   |
| 15 01 05 | composite packaging  |
| 15 01 06 | mixed packaging  |
| 16       | <b>WASTES NOT OTHERWISE SPECIFIED IN THE LIST</b>  |
| 16 01    | end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08) |
| 16 01 19 | plastic  |
| 16 01 20 | glass  |
| 17       | <b>CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)</b>   |
| 17 01    | concrete, bricks, tiles and ceramics   |
| 17 01 01 | concrete   |
| 17 01 02 | bricks   |
| 17 01 03 | tiles and ceramics   |
| 17 01 07 | mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06  |
| 17 02    | wood, glass and plastic  |
| 17 02 01 | wood   |
| 17 02 03 | plastic  |
| 17 05    | soil (including excavated soil from contaminated sites), stones and dredging spoil   |
| 17 05 04 | soil and stones other than those mentioned in 17 05 03   |

|          |  |
|----------|--|
| 17 06    | <b>insulation materials and asbestos-containing construction materials</b>   |
| 17 06 04 | insulation materials other than those mentioned in 17 06 01 and 17 06 03   |
| 17 09    | <b>other construction and demolition wastes</b>  |
| 17 09 04 | mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03   |
| 19       | <b>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</b> |
| 19 12    | <b>wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified</b>  |
| 19 12 01 | paper and cardboard  |
| 19 12 04 | plastic and rubber   |
| 19 12 05 | glass  |
| 19 12 07 | wood other than that mentioned in 19 12 06   |
| 19 12 08 | textiles   |
| 19 12 09 | minerals (for example sand, stones)  |
| 19 12 12 | other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11  |
| 20       | <b>MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS</b>                                 |
| 20 01    | <b>separately collected fractions (except 15 01)</b>   |
| 20 01 01 | paper and cardboard  |
| 20 01 10 | clothes  |
| 20 01 11 | textiles   |
| 20 01 38 | wood other than that mentioned in 20 01 37   |
| 20 01 39 | plastics   |
| 20 03    | <b>other municipal wastes</b>  |
| 20 03 01 | mixed municipal waste  |

## Restoration wastes

| EWC code | Description  |
|----------|--|
| 01       | <b>WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING, AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS</b>   |
| 01 04    | <b>wastes from physical and chemical processing of non-metalliferous minerals</b>  |
| 01 04 08 | waste gravel and crushed rocks other than those mentioned in 01 04 07  |
| 01 04 09 | waste sand and clays   |
| 17       | <b>CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)</b>   |
| 17 05    | <b>soil (including excavated soil from contaminated sites), stones and dredging spoil</b>  |
| 17 05 04 | soil and stones other than those mentioned in 17 05 03   |
| 19       | <b>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</b> |
| 19 12    | <b>wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified</b>  |
| 19 12 09 | minerals (for example sand, stones)  |

## Schedule 4 – Emissions and monitoring

**Table S4.1 Leachate level limits and monitoring requirements**

| Monitoring point reference/<br>Description            | Limit                           | Monitoring frequency | Monitoring method  |
|---|---------------------------------|----------------------|--|
| LE 1, LE 2 and LE 3 (as shown on Drawing REGSPEC 12). | 1 m above the base of the cell. | Daily                | In accordance with the Application unless otherwise agreed in writing with the Agency. |

**Table S4.2 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 Landfill gas flare.         | Oxides of Nitrogen | Landfill gas collection system. | 150 mg/m <sup>3</sup>  | Hourly mean      | Annually             | ISO 10849                     |
|                                | CO                 |                                 | 50 mg/m <sup>3</sup>   |                  |                      | ISO 12039                     |
|                                | Total VOCs         |                                 | 10 mg/m <sup>3</sup>   |                  |                      | BS EN 12619 or BS EN 13526    |
|                                | NMVOCs             |                                 | 5 mg/m <sup>3</sup>    |                  |                      | BS EN 13649                   |

**Table S4.3 Trigger levels for emissions into groundwater and monitoring requirements**

| Monitoring point reference                       | Parameter           | Limit (including unit)                             | Reference Period | Monitoring frequency | Monitoring standard or method  |
|--|---------------------|--|------------------|----------------------|--|
| BH1, BH2 and BH3 as shown on Drawing REGSPEC12). | Chloride            | 250 mg/l   | Spot Sample      | Quarterly            | In accordance with the Application unless otherwise agreed in writing with the Agency. |
|  | Nickel              | 116 µg/l   |                  |                      |  |
|  | Ammoniacal Nitrogen | 4 mg/l   |                  |                      |  |
|  | Benzene             | 1 µg/l   |                  |                      |  |
|  | Mercury             | 0.167 µg/l   |                  |                      |  |
|  | Cadmium             | 0.293 µg/l   |                  |                      |  |
| Soakaway SW1 (as shown on Drawing REGSPEC12).    | Chloride            | 250 mg/l   | Spot sample      | Quarterly            |  |
|  | Ammoniacal Nitrogen | 12 mg/l  |                  |                      |  |
|  | Oil & Grease        | Visible trace                                      |                  |                      |  |
|  | pH                  | pH <sub>min</sub> = 6.5<br>pH <sub>max</sub> = 8.1 |                  |                      |  |

**Table S4.4 Landfill gas in external monitoring boreholes – limits and monitoring requirements**

| Monitoring point Ref. /description   | Parameter             | Limit (including units) | Monitoring frequency | Monitoring standard or method  |
|--|-----------------------|-------------------------|----------------------|--|
| Boreholes BH1, BH2, BH3, BH4, BH5, BH6, BH7, BH8 and BH9 (as shown on Drawing CL-IPPC-15). | Methane               | 1 %v/v                  | Monthly              | In accordance with the Application unless otherwise agreed in writing with the Agency. |
|  | Carbon Dioxide        | 2.5 %v/v                |                      |  |
|  | Oxygen                | no limit                |                      |  |
|  | Atmospheric pressure  | no limit                |                      |  |
|  | Differential Pressure | no limit                |                      |  |
|  | Temperature           | no limit                |                      |  |
|  | Meteorological data   | no limit                |                      |  |

**Table S4.5 Landfill gas from capped surfaces - limits and monitoring requirements**

| Monitoring point Ref. /description | Parameter            | Limit (Including unit)          | Monitoring frequency | Monitoring Standard or method |
|------------------------------------|----------------------|---------------------------------|----------------------|-------------------------------|
| Permanently capped zone.           | Average Methane flux | 0.001 mg/m <sup>2</sup> /second | Annually             | Flux Box                      |
| Temporarily capped zone.           | Average Methane flux | 0.1 mg/m <sup>2</sup> /second   | Annually             | Flux Box                      |

**Table S4.6 Landfill gas – other monitoring requirements**

| Emission point reference   | Parameter   | Monitoring frequency   | Monitoring standard or method  | Other specifications  |
|--|---|--|--|---|
| In waste boreholes VP1, VP2, VP3, VP4, VP5, VP6, VP7, VP8, VP9, VP10, VP11, VP12, VP13, VP14, VP15, VP16 (as shown on Drawing REGSPEC 12). | Methane<br>Carbon Dioxide<br>Oxygen<br>Hydrogen Sulphide<br>Carbon Monoxide<br>Atmospheric pressure<br>Carbon Monoxide<br>Temperature | Monthly<br>Monthly<br>Monthly<br>Six Monthly<br>Six Monthly<br>Monthly<br>Monthly<br>Monthly | In accordance with the Application unless otherwise agreed in writing with the Agency. | Where field monitoring for carbon monoxide exceeds 100ppm the operator shall within 3 days undertake a laboratory analysis of landfill gas. Where the laboratory analysis exceeds 25ppm of carbon monoxide, the operator shall investigate the landfill for the presence of fires and where necessary submit a report to the Agency detailing their proposals for extinguishing the fire and reinstating the affected area. |

**Table S4.7 Leachate– other monitoring requirements**

| Emission point reference or source or description of point of measurement | Parameter                         | Monitoring frequency | Monitoring standard or method  | Other specifications – Limits of detection |
|---|-----------------------------------|----------------------|--|--|
| LE 1, LE 2 and LE 3 (as shown on Drawing REGSPEC 12).                     | Leachate Level                    | Daily                | In accordance with the Application unless otherwise agreed in writing with the Agency. | 0.01 m                                     |
|   | Electrical conductivity (at 20°C) | Quarterly            |  | 50 µS/cm                                   |
|   | pH                                | Quarterly            |  | To 0.5 pH                                  |
|   | COD                               | Quarterly            |  | 20 mg/l O                                  |
|   | BOD                               | Quarterly            |  | 10 mg/l                                    |
|   | TOC                               | Quarterly            |  | 1 mg/l                                     |
|   | TON                               | Quarterly            |  | 0.2 mg/l N                                 |
|   | Ammoniacal – N                    | Quarterly            |  | 1 mg/l                                     |
|   | Nickel                            | Quarterly            |  | 10 µg/l                                    |
|   | Nitrate                           | Quarterly            |  | 0.2 mg/l                                   |
|   | Nitrite                           | Quarterly            |  | 0.2 mg/l                                   |
|   | Phosphorous                       | Quarterly            |  | 0.1 mg/l                                   |
|   | Selenium                          | Quarterly            |  | 0.75 µg/l                                  |
|   | Silver                            | Quarterly            |  | 0.01 mg/l                                  |
|   | Tellurium                         | Quarterly            |  | 0.1 mg/l                                   |
|   | Thallium                          | Quarterly            |  | 0.5 mg/l                                   |
|   | Tin                               | Quarterly            |  | 0.1 mg/l                                   |
|   | Titanium                          | Quarterly            |  | 0.1 mg/l                                   |
|   | Uranium                           | Quarterly            |  | 0.1 mg/l                                   |
|   | Chromium                          | Quarterly            |  | 10 µg/l                                    |
|   | Chloride                          | Quarterly            |  | 10 mg/l                                    |
|   | Copper                            | Quarterly            |  | 10 µg/l                                    |
|   | Cobalt                            | Quarterly            |  | 0.01 mg/l                                  |
|   | Cyanide                           | Quarterly            |  | 10 µg/l                                    |
|   | Lead                              | Quarterly            |  | 10 µg/l                                    |
|   | Zinc                              | Quarterly            |  | 10 µg/l                                    |
|   | Fluoride                          | Quarterly            |  | 0.05 mg/l                                  |
|   | Beryllium                         | Quarterly            |  | 0.1 mg/l                                   |
|   | Boron                             | Quarterly            |  | 0.1 mg/l                                   |
|   | Barium                            | Quarterly            |  | 10 µg/l                                    |
|   | Arsenic                           | Quarterly            |  | 10 µg/l                                    |
|   | Cadmium                           | Quarterly            |  | 1 µg/l                                     |
|   | Mercury                           | Quarterly            |  | 1 µg/l                                     |
| Benzene   | Quarterly                         | 10 µg/l              |  |  |
| Dichloromethane   | Quarterly                         | 1 µg/l               |  |  |
| List I Substances as detailed in Schedule 8.                              | Annually                          | To MRV               |  |  |
| Depth to base of monitoring well  | Annually                          | 0.01 m               |  |  |

**Table S4.8 Surface water – other monitoring requirements**

| Emission point reference or source or description of point of measurement      | Parameter               | Monitoring frequency | Monitoring standard or method  | Other Specification - limits of detection |
|--|-------------------------|----------------------|--|---|
| Surface water Monitoring Points SWM2 and SWM3 (as shown on Drawing REGSPEC12). | Electrical conductivity | Quarterly            | In accordance with the Application unless otherwise agreed in writing with the Agency. | 10 µS/cm                                  |
|  | pH                      |                      |  | To 0.1 pH                                 |
|  | Suspended solids        |                      |  | 5 mg/l                                    |
|  | BOD                     |                      |  | 1 mg/l                                    |
|  | Ammoniacal nitrogen     |                      |  | 0.05 mg/l                                 |
|  | Oil and grease          |                      |  | None visible                              |
|  | Chloride                |                      |  | 1 mg/l                                    |

**Table S4.9 Groundwater – other monitoring requirements**

| Emission point reference or source or description of point of measurement     | Parameter               | Monitoring frequency | Monitoring standard or method  | Other Specification - Limits of detection |
|---|-------------------------|----------------------|--|---|
| SW1 as shown on Drawing REGSPEC12.  | Electrical conductivity | Quarterly            | In accordance with the Application unless otherwise agreed in writing with the Agency. | 10 µS/cm                                  |
|   | Ammoniacal nitrogen     |                      |  | 0.05 mg/l                                 |
|   | pH                      |                      |  | To 0.1 pH                                 |
|   | Chloride                |                      |  | 1 mg/l                                    |
|   | Oil & Grease            |                      |  | None visible                              |
|   | BOD                     |                      |  | 1 mg/l                                    |
| BH1, BH2, BH3, BH4, BH5, BH6, BH7, BH8 and BH9 as shown on Drawing REGSPEC12. | Groundwater Level       | Quarterly            | In accordance with the Application unless otherwise agreed in writing with the Agency. | 0.01 m                                    |
|   | Electrical conductivity | Quarterly            |  | 10 µS/cm                                  |
| BH 10, BH11 and BH12 location agreed in accordance with condition 2.5.1.      | pH                      | Quarterly            |  | To 0.1 pH                                 |
|   | COD                     | Quarterly            |  | 5 mg/l O                                  |
|   | BOD                     | Quarterly            |  | 1 mg/l                                    |
|   | TOC                     | Quarterly            |  | 0.2 mg/l                                  |
|   | TON                     | Quarterly            |  | 0.2 mg/l N                                |
|   | Ammoniacal nitrogen     | Quarterly            |  | 0.05 mg/l                                 |
|   | Nickel                  | Quarterly            |  | 10 µg/l                                   |
|   | Nitrate                 | Quarterly            |  | 0.1 mg/l                                  |
|   | Nitrite                 | Quarterly            |  | 0.1 mg/l                                  |
|   | Phosphorous             | Quarterly            |  | 0.1 mg/l                                  |
|   | Selenium                | Quarterly            |  | 0.75 µg/l                                 |
|   | Silver                  | Quarterly            |  | 0.01 mg/l                                 |
|   | Tellurium               | Quarterly            |  | 0.1 mg/l                                  |
|   | Thallium                | Quarterly            |  | 0.5 mg/l                                  |
|   | Tin                     | Quarterly            |  | 0.1 mg/l                                  |
|   | Titanium                | Quarterly            |  | 0.1 mg/l                                  |
|   | Uranium                 | Quarterly            |  | 0.1 mg/l                                  |
|   | Chromium                | Quarterly            |  | 0.01 mg/l                                 |
|   | Chloride                | Quarterly            |  | 1 mg/l                                    |
|   | Copper                  | Quarterly            |  | 0.01 mg/l                                 |
| Cobalt  | Quarterly               |                      | 0.01 mg/l  |   |
| Cyanide   | Quarterly               |                      | 0.01 mg/l  |   |
| Lead  | Quarterly               |                      | 0.01 mg/l  |   |
| Zinc  | Quarterly               |                      | 0.01 mg/l  |   |
| Fluoride  | Quarterly               |                      | 0.05 mg/l  |   |
| Beryllium   | Quarterly               |                      | 0.1 mg/l   |   |
| Boron   | Quarterly               |                      | 0.1 mg/l   |   |
| Barium  | Quarterly               |                      | 10 mg/l  |   |
| Arsenic   | Quarterly               |                      | 10 µg/l  |   |

**Table S4.9 Groundwater – other monitoring requirements**

| Emission point reference or source or description of point of measurement   | Parameter                                    | Monitoring frequency | Monitoring standard or method  | Other Specification - Limits of detection |
|---|--|----------------------|--|---|
| All groundwater monitoring boreholes as shown on Drawing REGSPEC12 (Cont.). | Cadmium                                      | Quarterly            | In accordance with the Application unless otherwise agreed in writing with the Agency. | 0.1 µg/l                                  |
|   | Mercury                                      | Quarterly            |  | 0.01 µg/l                                 |
|   | Benzene                                      | Quarterly            |  | 1 µg/l                                    |
|   | Dichloromethane                              | Quarterly            |  | 0.1 µg/l                                  |
|   | List I Substances as detailed in Schedule 8. | Annually             |  | To MRV                                    |

**Table S4.10 Particulate matter in ambient air - limits and monitoring requirements**

| Monitoring Point Description | Parameter                              | Limit (Including Unit)  | Reference Period | Monitoring Frequency    | Monitoring Standard or Method  |
|------------------------------|--|---|------------------|-------------------------|--|
| Dust monitoring locations.   | Deposited dust                         | 200 mg/m <sup>2</sup> day <sup>-1</sup>   | Monthly          | Continuous <sup>1</sup> | In accordance with the Application unless otherwise agreed in writing with the Agency. |
|                              | Suspended particulate PM <sub>10</sub> | 50 µg/m <sup>3</sup> measured as a 24 hour mean concentration or 40 µg/m <sup>3</sup> when measured as an annual mean . | 24 hours         | Quarterly <sup>1</sup>  |  |

1. Unless agreed otherwise with the Agency



## Schedule 5 - Reporting

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

| Table S5.1 Reporting of monitoring data  |  |                                   |               |
|--|--|-----------------------------------|---------------|
| Parameter  | Emission or monitoring point/reference   | Reporting period                  | Period begins |
| Leachate levels<br>Parameter as required by condition 3.6.1.                             | LE 1, LE 2 and LE 3 (as shown on Drawing REGSPEC 12).  | Every 3 months                    | 22/05/06.     |
| Emissions to air<br>Parameters as required by condition 3.6.1.                           | Monitoring locations specified in Table S4.2.  | Every 12 months                   | 22/05/06.     |
| Groundwater<br>Parameters as required by condition 3.6.1.<br>List 1 Screen               | SW1, BH1, BH2, BH3, BH4, BH5, BH6, BH7, BH8 and BH9 (as shown on Drawing REGSPEC12).   | Every 3 Months<br>Every 12 months | 22/05/06.     |
| Landfill gas surface emissions<br>Parameters as required by condition 3.6.1.             | As specified in Table S4.5.  | Every 12 months                   | DD/MM/YY      |
| Particulate matter<br>Parameters as required by condition 3.6.1.                         | As specified in Table S4.10.   | Every 12 months                   | DD/MM/YY      |
| Landfill gas lateral migration<br>Parameters as required by condition 3.6.1.             | BH1, BH2, BH3, BH4, BH5, BH6, BH7, BH8 and BH9 (as shown on Drawing CL-IPPC-15).   | Every 3 months                    | DD/MM/YY      |
| Other Landfill gas monitoring<br>Parameters as required by condition 3.6.1.              | In waste boreholes VP1, VP2, VP3, VP4, VP5, VP6, VP7, VP8, VP9, VP10, VP11, VP12, VP13, VP14, VP15, VP16 (as shown on Drawing REGSPEC 12). | Every 3 months                    | DD/MM/YY      |
| Other leachate monitoring<br>Parameters as required by condition 3.6.1.<br>List 1 Screen | LE 1, LE 2 and LE 3 (as shown on Drawing REGSPEC 12).  | Every 3 months<br>Every 12 months | DD/MM/YY      |
| Other surface water monitoring<br>Parameters as required by condition 3.6.1.             | Surface water Monitoring Points SWM2 and SWM3 (as shown on Drawing REGSPEC12).   | Every 3 months                    | DD/MM/YY      |

| Table S5.2: Annual Production/Treatment                                     |                              |
|---|------------------------------|
| Leachate:<br>Disposed of off site;<br>Recirculated into the waste mass.     | Cubic metres/year            |
| Surface water and/ or groundwater:<br>Disposed of off site;                 | Cubic metres/year            |
| Landfill gas:<br>combustion in flares;<br>Other methods of gas utilisation. | Normalised cubic metres/year |

| Table S5.3 Performance Parameters |                         |              |                   |
|-----------------------------------|-------------------------|--------------|-------------------|
| Parameter                         | Frequency of assessment | Annual total | Unit              |
| Potable water use                 | Annually                |              | Cubic metres      |
| Energy used                       | Annually                |              | MW of electricity |
| Non potable water use             | Annually                |              | Cubic metres      |

**Table S5.4 Reporting Forms**

| Media/parameter                                   | Reporting Format  | Date of Form |
|---|---|--------------|
| Controlled water                                  | Reporting format to be agreed in writing with the Agency. |              |
| Surface water                                     | Reporting format to be agreed in writing with the Agency. |              |
| Groundwater                                       | Reporting format to be agreed in writing with the Agency. |              |
| Landfill gas                                      | Reporting format to be agreed in writing with the Agency. |              |
| Waste summary                                     | Reporting format to be agreed in writing with the Agency. |              |
| Landfill topographical surveys and interpretation | Reporting format to be agreed in writing with the Agency. |              |

## Schedule 6 - 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 PPC Regulations.

### Part A

|                                |  |
|--------------------------------|--|
| Permit Number                  |  |
| Name of Operator               |  |
| Location of Installation       |  |
|                                |  |
| Time and date of the detection |  |

#### **(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or fugitive emission which has caused, is causing or may cause significant pollution**

| <b>To be notified within 24 hours of detection</b>               |  |
|--|--|
| 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**

| <b>To be notified within 24 hours of detection unless otherwise specified below</b> |  |
|---|--|
| Emission point reference/ source  |  |
| Parameter(s)  |  |
| Limit   |  |
| Measured value and uncertainty  |  |
| Date and time of monitoring   |  |
| Measures taken, or intended to be taken, to stop the emission                       |  |

| <b>Time periods for notification following detection of a breach of a limit</b> |                            |
|---|----------------------------|
| <b>Parameter</b>  | <b>Notification period</b> |
|   |                            |
|   |                            |

| <b>(c) Notification requirements for the detection of any significant adverse environmental effect</b> |  |
|--|--|
| <b>To be notified within 24 hours of detection</b>   |  |
| 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**

|   |  |
|---|--|
| <b>Any more accurate information on the matters for notification under Part A.</b>  |  |
| <b>Measures taken, or intended to be taken, to prevent a recurrence of the incident</b>   |  |
| <b>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</b> |  |
| <b>The dates of any unauthorised emissions from the installation in the preceding 24 months.</b>  |  |

|                  |  |
|------------------|--|
| <b>Name*</b>     |  |
| <b>Post</b>      |  |
| <b>Signature</b> |  |
| <b>Date</b>      |  |

\* authorised to sign on behalf of C. F. Harris Ltd.

## Schedule 7 - 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 4 to the PPC Regulations

“*Authorised Officer*” means any person authorised by the 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.

“*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.

“*Fugitive emission*” means an emission to air, water or land from the Activities which is not controlled by an emission or background concentration limit.

“*Groundwater Regulations*” means the Groundwater Regulations SI 1998 No. 2746, and words and expressions used in this Permit which are also used in the Regulations shall have the same meanings as in those Regulations.

“*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;

within the Site.

“*Landfill Regulations*” means the Landfill (England and Wales) Regulations SI 2002 No. 1559, and words and expressions used in this Permit which are also used in the Regulations shall have the same meanings as in those Regulations.

“*Land Protection Guidance*” means Agency guidance “H7 - Guidance on the protection of land under the PPC Regime: Application site report and site protection monitoring programme”.

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

“*LFTGN 05*” means Environment Agency Guidance for monitoring enclosed landfill gas flares, September 2004.

“*LFTGN 08*” means Environment Agency Guidance for monitoring landfill gas engines, September 2004.

“*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 alter the agreed design criteria, specification or performance.

“*PPC Regulations*” means the Pollution, Prevention and Control (England and Wales) Regulations SI 2000 No.1973 and words and expressions used in this Permit which are also used in the Regulations have the same meanings as in those Regulations.

“*Quarter*” means a calendar year quarter commencing on 1 January.

“*Relevant person*” and “*relevant conviction*” shall have the meanings given to them in the Environmental Protection Act 1990

“*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 Groundwater 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 Groundwater Regulations

“*Site Protection and Monitoring Programme*” means a document which meets the requirements for Site Protection and Monitoring Programmes described in the Land Protection Guidance.

“*Technically competent management*” and “*technical competence*” shall have the meanings given to them in the Environmental Protection Act 1990.

“*Year*” means calendar year ending 31 December.

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

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

## Schedule 8 - Additional List I Substances for monitoring Groundwater, Leachate and Surface Water

| Additional List I Substances for monitoring Groundwater, Leachate and Surface Water |   |                      |                 |   |
|---|---|----------------------|-----------------|---|
| Substance or parameter  |   | Monitoring frequency | Detection Limit | Monitoring method   |
| 1,1,1,2-Tetrachloroethane   | Bromobenzene                              | Annually             | To MRV          | In accordance with the Application unless otherwise agreed in writing with the Agency |
| 1,1,1-Trichloroethane   | Bromochloromethane                        |                      |                 |   |
| 1,1,2,2-Tetraqchloroethane  | Bromodichloromethane                      |                      |                 |   |
| 1,1,2-Trichloroethane   | Chlorobenzene                             |                      |                 |   |
| 1,1-Dichloroethane  | cis-1,2-Dichloroethene                    |                      |                 |   |
| 1,1-Dichloroethene  | cis-1,3-Dichloropropene                   |                      |                 |   |
| 1,1-Dichloropropene   | Dibromochloromethane                      |                      |                 |   |
| 1,1-Dimethylethylbenzene  | Dibromomethane                            |                      |                 |   |
| 1,2,3-Trichlorobenzene  | Ethylbenzene                              |                      |                 |   |
| 1,2,3-Trichloropropane  | Hexachloro-1,3-Butadiene                  |                      |                 |   |
| 1,2,4-Trichlorobenzene  | Hexachlorobenzene                         |                      |                 |   |
| 1,2,4-Trimethylbenzene  | Naphthalene                               |                      |                 |   |
| 1,2-Dibromo-3-Chloropropane   | n-Butylbenzene                            |                      |                 |   |
| 1,2-Dibromothane  | n-Propylbenzene                           |                      |                 |   |
| 1,2-Dichlorobenzene   | Pesticides                                |                      |                 |   |
| 1,2-Dichloroethane  | Phenols                                   |                      |                 |   |
| 1,2-Dichloropropane   | Styrene                                   |                      |                 |   |
| 1,2-Dimethylbenzene (o-Xylene)  | Tetrachloroethene                         |                      |                 |   |
| 1,3 & 1,4 Dimethylbenzene (m & p-Xylene)  | Tetrachloromethane (carbon tetrachloride) |                      |                 |   |
| 1,3,5-Trichlorobenzene  | Toluene                                   |                      |                 |   |
| 1,3,5-Trimethylbenzene  | trans-1,2-Dichloroethene                  |                      |                 |   |
| 1,3-Dichlorobenzene   | trans-1,3-Dichloropropene                 |                      |                 |   |
| 1,3-Dichloropropane   | Tribromomethane (bromoform)               |                      |                 |   |
| 1,4-Dichlorobenzene   | Tributyltin                               |                      |                 |   |
| 1-Methylethylbenzene  | Trichloroethene                           |                      |                 |   |
| 1-Methylpropylbenzene   | Trichloromethane (chloroform)             |                      |                 |   |
| 1-Methylpropylbenzene   | Triphenyltin                              |                      |                 |   |
| 2,2-Dichloropropane   | SVOC BNA                                  |                      |                 |   |
| 2-Chlorotoluene   | SVOC DERIV                                |                      |                 |   |
| 4-Chlorotoluene   | VOC/HS1 Liq Scan                          |                      |                 |   |
| 4-Isopropyltoluene  |   |                      |                 |   |

END OF PERMIT