

Table S1.4 Pre-operational measures

Reference	Pre-operational Measures
1	<p>Prior to the construction of any cells within areas B,C,D,E as detailed in drawing ESID 6A of the application (BP3131SG) and drawing WHV 4 the operator shall undertake a site investigation as specified within the response to Question 1 of the schedule 4 notice dated 31 January 2006. The investigation shall include, but not be limited to the following issues:</p> <ul style="list-style-type: none"> • Groundwater elevation and seasonal fluctuations • Groundwater flow direction • Interaction between ground and surface water • Review of data obtained and update the conceptual model <p>Following the investigation the operator shall submit a written report detailing the revised site conceptual model and provide evidence there is one m thick unsaturated zone as per the proposed landfill design. In the event that the unsaturated zone is less than 1 m the operator shall provide a revised hydrogeological risk assessment and, if required, a revised landfill design. The operator shall implement any improvements or measures as agreed in writing with the Environment Agency.</p>
2	<p>Prior to the construction of any cells within Areas B, C, D, E, E as detailed in drawing ESID 6A of the application (BP3131SG) and drawing WHV/4 the operator shall provide in writing details of the site specific control measures that will be undertaken to ensure that the required minimum un saturated zone assessed as part of the pre operational condition1 will be maintained. The operator shall implement any improvements or measures as agreed in writing with the Environment Agency</p>
3	<p>Prior to the construction of any cells within areas B,C,D,E as detailed in drawing ESID 6A of the application (BP3131SG) and drawing WHV/4 the operator shall provide a report detailing site specific design for the spring diversion. The report shall include details of the construction quality assurance procedures and any other control measures that will be required as part of these works. The report shall take into account the available results of the site investigation undertaken as part of the pre – operational measure reference 1 of table S1.4A. The operator shall implement any improvements or measures as agreed in writing with the Environment Agency.</p>
4	<p>Prior to any recirculation of leachate within the boundary of the landfill, the operator shall submit to the Environment Agency (for approval) an updated leachate management plan which shall include:</p> <ul style="list-style-type: none"> • The volume of leachate to be recirculated including as assessment of the potential impact of such activity to groundwaters, surface waters and generation of odours; • Evidence that may proposed recirculation system is designed to minimise air ingress into the landfill; • A review of the pre treatment requirements of leachate, prior to disposal and / or recirculation (unless already undertaken and approved as part of the Improvement Programme) and: • The Landfill gas extraction system has been installed to collect and treat any gas generated as a result of recirculation

Table S1.4A Pre-operational measures for Future Development

Reference	Pre-operational Measures
1a	<p>Twelve months before the start of waste placement within area B, as detailed in drawing ESID6A of the application and drawing WHV/4</p>

Table S1.4A Pre-operational measures for Future Development

Reference	Pre-operational Measures
	<p>1. The operator shall install the following groundwater monitoring boreholes BH4 and BH5 (as detailed in drawing reference ESID 8 of the application)</p> <p>2. Once installed Boreholes 4 and 5 shall be incorporated into the site monitoring plan and monitored on a monthly basis for the complete suite of determinands listed in table S4R4 of the response to question 14 of the Schedule 4 notice, dated 31st January 2006 for a minimum of twelve months.</p> <p>3. On completion of twelve months monitoring the operator shall undertake a review of all relevant monitoring data with the purpose of deriving trigger and control levels for boreholes BH4 and BH5. Trigger and control levels shall be derived in accordance with Agency guidance document 'Hydrogeological Risk Assessment for Landfills' (LFTGN01).</p> <p>4. Within fifteen months of the installation of boreholes BH4 and BH5, the operator shall submit to the Agency (for approval) a written report detailing the proposed trigger and control levels for these monitoring points.</p> <p>The operator shall implement any improvements or measures as agreed in writing with the Environment Agency</p>
1b	<p>Twelve months before the start of waste placement within area C, as detailed in drawing ESID6A of the application and drawing WHV/4</p> <p>1. The operator shall install the following groundwater monitoring boreholes BH7, BH 8, BH10, BH11 and BH12(as detailed in drawing reference ESID 8 of the application)</p> <p>2. Once boreholes BH7, BH8, BH10, BH11and BH12 have been installed, they shall be incorporated (along with boreholes BH6 & BH9) into the site monitoring plan and monitored on a monthly basis for the complete suite of determinands listed in table S4R4 of the response to question 14 of the Schedule 4 notice dated 31 January 2006 for a minimum of twelve months.</p> <p>3. On completion of twelve months monitoring the operator shall undertake a review of all relevant monitoring data with the purpose of deriving trigger and control levels for boreholes BH6, BH7, BH8, BH9, BH10, BH11 and BH12. Trigger and control levels shall be derived in accordance with Agency guidance document 'Hydrogeological Risk Assessment for Landfills' (LFTGN01).</p> <p>4. Within fifteen months of the installation of boreholes BH7, BH 8, BH10, BH11 and BH12, the operator shall submit to the Agency (for approval) a written report detailing the proposed trigger and control levels for the following monitoring points: BH6, BH7, BH8, BH9, BH10, BH11 and BH12.</p> <p>The operator shall implement any improvements or measures as agreed in writing with the Environment Agency</p>
1c	<p>Twelve months before the start of waste placement within area D, as detailed in drawing ESID6A of the application</p> <p>1. The operator shall install the following groundwater monitoring boreholes BH13 and BH14 (as detailed in drawing reference ESID 8 of the application)</p> <p>2. Once installed, boreholes BH13 and BH14 shall be incorporated into the site monitoring plan and monitored on a monthly basis for the complete suite of determinands listed in table S4R4 of the response to question 14 of the Schedule 4 notice dated 31 January 2006 for a minimum of twelve months.</p> <p>3. On completion of twelve months monitoring the operator shall undertake a review of all relevant monitoring data with the purpose of deriving trigger and control levels for boreholes BH13 and BH14. Trigger and control levels shall be</p>

Table S1.4A Pre-operational measures for Future Development

Reference	Pre-operational Measures
	<p>derived in accordance with Agency guidance document 'Hydrogeological Risk Assessment for Landfills' (LFTGN01).</p> <p>4. Within fifteen months of the installation of boreholes BH13 and BH14, the operator shall submit to the Agency (for approval) a written report detailing the proposed trigger and control levels for these monitoring points</p> <p>The operator shall implement any improvements or measures as agreed in writing with the Environment Agency.</p>
1d	<p>Twelve months before the start of waste placement within area E, as detailed in drawing ESID6A of the application</p> <p>1. The operator shall install the following groundwater monitoring boreholes BH16, BH17, BH18 and BH19 (as detailed in drawing reference ESID 8 of the application)</p> <p>2. Once boreholes BH16, BH17, BH18 and BH19 have been installed, they shall be incorporated (along with borehole BH15) into the site monitoring plan and monitored on a monthly basis for the complete suite of determinands listed in table S4R4 of the response to question 14 of the Schedule 4 notice dated 31 January 2006 for a minimum of twelve months.</p> <p>3. On completion of twelve months monitoring the operator shall undertake a review of all relevant monitoring data with the purpose of deriving trigger and control levels for boreholes BH 15, BH16, BH17, and BH18 and BH19. Trigger and control levels shall be derived in accordance with Agency guidance document 'Hydrogeological Risk Assessment for Landfills' (LFTGN01).</p> <p>4. Within fifteen months of the installation of boreholes BH16, BH17, BH18 and BH19 the operator shall submit to the Agency (for approval) a written report detailing the proposed trigger and control levels for the following monitoring points: BH15, BH16, BH17, BH18 and BH19.</p> <p>The operator shall implement any improvements or measures as agreed in writing with the Environment Agency.</p>
2	<p>Prior to the construction of any cells within areas B, C, D or E as detailed in drawing ESID6A of the application.</p> <p>The operator shall construct a surface water management system in accordance with the Surface Water Management Plan (Version A.0, dated 8 June 2005) to ensure that contaminated surface waters are intercepted and channelled away from construction and operational areas.</p>
3	<p>Prior to the engineering and deposit of wastes in the valley area between phase 1 and 2 as identified on plan reference: WHV12.</p> <p>The operator shall review the existing leachate management system and leachate levels within cells 1 and 2 North and provide written confirmation, with justifications, to demonstrate to the Agency that there is sufficient capacity within the existing cell to receive potential additional leachate (overflow) from the northern valley cell as proposed, without causing any risk to surface or groundwater receptors or breach of permit limits</p>
4	<p>Prior to the temporary disturbance of wastes in cell 13 to enable an additional target pad to be installed.</p> <p>The operator shall submit for approval, a method statement including timescales for storage and recapping of cell 13 and an odour risk assessment and appropriate</p>

Table S1.4A Pre-operational measures for Future Development

Reference	Pre-operational Measures
	task specific odour management plan that demonstrates how odours will be minimised.
5	<p>Prior to the deposit of wastes in cell E of the installation as shown on plan reference WHV12.</p> <p>The operator shall submit for approval the detailed design of the preferential drainage pathway to separate Area E from cell 13.</p> <p>This should be accompanied by supporting risk assessments that demonstrate how the resulting feature of the southern valley will be managed to avoid any potential risks including those to surface water and from fugitive emissions.</p> <p>No wastes shall be deposited until the CQA validation report has been approved in writing by the Agency.</p>
7	<p>Prior to the engineering and deposit of wastes in the valley area between phase 1 and 2 as identified on plan reference: WHV12.</p> <p>The operator shall submit a CQA plan, for approval, for proposed decommissioning and eventual replacement of Boreholes BH21, B22 and BH23.</p>
8	<p>Prior to the engineering and deposit of wastes in the valley area between phase 1 and 2 as identified on plan reference: WHV12</p> <p>The operator shall submit the consolidated HRA required by Improvement condition 7.a of Table 1.3 and receive written approval from the Agency that the HRA satisfactorily demonstrates no risk to groundwater from the change in waste types within the valley area when presented as a consolidated model.</p>