



# Climate Change Risk Assessment

**ASSESSMENT REF:** ENV003\_Climate Change\_Landfill Sites\_RA

**TASK DESCRIPTION**

Landfill - Climate Change Risk Assessment

**SITE:** Hafod Quarry Landfill

|                                     |                   |                     |                  |                                       |     |                        |   |    |    |    |
|-------------------------------------|-------------------|---------------------|------------------|---------------------------------------|-----|------------------------|---|----|----|----|
| <b>Assessed By:</b><br>(Print Name) | <b>Ian Craven</b> | <b>Signature:</b>   | I J Craven       | <b>Risk Calculator</b><br>(S x L = R) |     | <b>Hazard Severity</b> |   |    |    |    |
|                                     |                   |                     |                  | V Unlikely                            | (1) | 1                      | 2 | 3  | 4  | 5  |
| <b>Assessment Date:</b>             | <b>01/08/2025</b> | <b>Review Date:</b> | As Per Inventory | Likely                                | (2) | 2                      | 4 | 6  | 8  | 10 |
|                                     |                   |                     |                  | Possible                              | (3) | 3                      | 6 | 9  | 12 | 15 |
|                                     |                   |                     |                  | Unlikely                              | (4) | 4                      | 8 | 12 | 16 | 20 |

| Significant Hazards & Effects *   | Population at Risk<br>(Employees, Contractors, MOPs etc.)         | Initial Risk Rating   |   |   | Control Measures  | Residual Risk Rating                       |   |   | Additional Information/Documents<br>(related to this assessment)   |
|---|---|---|---|---|---|--|---|---|--|
|   |   | S   | L | R |   | S  | L | R |  |
| Describe hazards identified and their effects e.g. 'Contact with' underground services as a result of excavation works. | Who/what might be harmed?<br>Include others affected by the work. | S - Severity<br>L - Likelihood<br>R - Risk<br><br>Based on <b>No controls</b> in place! |   |   | Describe all control measures required to eliminate hazard completely or minimise risk to an acceptable level.<br><br>All controls must be valid in that they reduce severity, likelihood or both.  | S - Severity<br>L - Likelihood<br>R - Risk |   |   | Cross Reference documents e.g. associated assessments (Statutory Provisions) e.g. PPE, CoSHH etc. &/or SOPs, IMS Procedures etc.   |
| High temperatures / Drier Summers - increase in dust and odour.   | Environment - Offsite receptors. Site personnel and visitors.     | 3   | 3 | 9 | <ul style="list-style-type: none"> <li>Operations have suitable buffer distance to site boundary.</li> <li>Daily site inspections and reporting procedures.</li> <li>Complaint Logs reviewed by management and corrective action implemented accordingly.</li> <li>Strict waste acceptance procedures in place to minimise the risk of non-compliant or very dusty wastes being accepted.</li> <li>Minimise material handling.</li> <li>Site specific material stockpile locations, i.e. Information Area.</li> <li>Any incoming dusty waste loads are covered as soon as possible.</li> <li>Daily cover applied progressively to the active tipping face before end of operational day.</li> </ul> | 3  | 1 | 3 | <ul style="list-style-type: none"> <li>Site specific Odour Management Plan</li> <li>Environment Management System</li> <li>Site specific Dust Management Plan</li> <li>SHE-OP-200 Waste Acceptance and Control</li> <li>SHE-OP-04 Nuisance and Amenity</li> <li>SHE-OP-05 Complaints</li> <li>Site specific Complaints Logs</li> <li>SHE-OP-06 - Landfill Site Diary</li> <li>SHE-TBT-15 Nuisances - Odour</li> <li>SHE-OP-13 The Use of Daily Cover Material</li> </ul> |

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| Describe hazards identified and their effects e.g. 'Contact with' underground services as a result of excavation works. | Who/what might be harmed?<br>Include others affected by the work. | S - Severity<br>L - Likelihood<br>R - Risk<br><br>Based on <b>No controls</b> in place! |   |   | Describe all control measures required to eliminate hazard completely or minimise risk to an acceptable level.<br><br>All controls must be valid in that they reduce severity, likelihood or both.   | S - Severity<br>L - Likelihood<br>R - Risk |   |   | Cross Reference documents e.g. associated assessments (Statutory Provisions) e.g. PPE, CoSHH etc. &/or SOPs, IMS Procedures etc. |
|   |   |   |   |   | <ul style="list-style-type: none"> <li>• Temporary capping applied on identified areas and proposed capping areas regularly reviewed.</li> <li>• Site Supervisor undertakes a daily visual assessment of dust levels, and all Site Operatives will be vigilant and report any problems to the Site Manager.</li> <li>• Good operational and housekeeping practices.</li> <li>• No screening of inert material in Information Area, if too windy or wind in wrong direction.</li> <li>• Unsealed roads, exposed areas, stockpiles will be dampened down during prolonged hot/dry conditions with tractor and water bowser.</li> <li>• Designated roads for all site traffic.</li> <li>• All equipment and vehicles when not in regular use shall be switched off to minimise the risk of dust emissions that may arise from idling.</li> <li>• Waste tipping face kept as small as practicable and daily cover placed progressively.</li> <li>• Immediate burial of odorous material on receipt.</li> <li>• Odour monitoring undertaken as per site OMP.</li> </ul> |  |   |   |  |

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| Describe hazards identified and their effects e.g. 'Contact with' underground services as a result of excavation works. | Who/what might be harmed?<br>Include others affected by the work. | S - Severity<br>L - Likelihood<br>R - Risk<br><br>Based on <b>No controls</b> in place! | Describe all control measures required to eliminate hazard completely or minimise risk to an acceptable level.<br>All controls must be valid in that they reduce severity, likelihood or both. |   |  | S - Severity<br>L - Likelihood<br>R - Risk | Cross Reference documents e.g. associated assessments (Statutory Provisions) e.g. PPE, CoSHH etc. &/or SOPs, IMS Procedures etc. |   |   |
|   |   |   |  |   | <ul style="list-style-type: none"> <li>Amenity management and odour management plans reviewed.</li> <li>Greater public and regulatory engagement.</li> <li>On site weather station to monitor adverse weather, prompting appropriate actions.</li> </ul>   |  |  |   |   |
| High temperatures / Drier Summers - increased pest infestations   | Environment – Offsite receptors. Site personnel and visitors.     | 3   | 2  | 6 | <ul style="list-style-type: none"> <li>Daily site inspections and reporting procedures.</li> <li>Strict waste acceptance procedures in place to minimise the risk of non-compliant wastes being accepted.</li> <li>Incoming waste loads are covered as soon as possible.</li> <li>Good operational and housekeeping practices.</li> <li>Waste tipping face kept as small as practicable and daily cover placed progressively.</li> <li>Immediate burial of odorous or organic material on receipt.</li> <li>Pest control contractor available to treat tipping face with insecticide if considered necessary.</li> <li>Site monitored by external Pest control contractor for rodent control.</li> <li>Amenity management and pest management plans regularly reviewed.</li> </ul> | 3  | 1  | 3 | <ul style="list-style-type: none"> <li>SHE-OP-200 Waste Acceptance and Control</li> <li>SHE-OP-04 Nuisance and Amenity</li> <li>SHE-OP-05 Complaints</li> <li>SHE-OP-06 – Landfill Site Diary</li> <li>SHE-OP-13 The Use of Daily Cover Material</li> </ul> |

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| Describe hazards identified and their effects e.g. 'Contact with' underground services as a result of excavation works.                     | Who/what might be harmed?<br>Include others affected by the work. | S - Severity<br>L - Likelihood<br>R - Risk<br><br>Based on <b>No controls</b> in place! | Describe all control measures required to eliminate hazard completely or minimise risk to an acceptable level.<br><br>All controls must be valid in that they reduce severity, likelihood or both. |    |   | S - Severity<br>L - Likelihood<br>R - Risk | Cross Reference documents e.g. associated assessments (Statutory Provisions) e.g. PPE, CoSHH etc. &/or SOPs, IMS Procedures etc. |   |   |
| High temperatures - failure of critical landfill gas pumps, engines and infrastructure. Reduced gas collection and lower engine efficiency. | Environment – Both On-site and Off-site receptors.                | 3   | 3  | 9  | <ul style="list-style-type: none"> <li>Regularly review Procedures, Maintenance, and Contingency / Action plans.</li> <li>Adequate flaring capacity is available.</li> <li>Gas management system controlled by Enovert's Gas Team who are in daily contact with site staff.</li> </ul>  | 3  | 1  | 3 | <ul style="list-style-type: none"> <li>Site specific Landfill Gas Management Plans</li> <li>SHE-OP-07 Landfill Gas Management</li> <li>SHE-OP-12 Landfill Structures</li> <li>SHE-OP-11 Surface Emissions Monitoring</li> <li>SHE-OP-18 Perimeter Gas Inspection Procedure</li> <li>EMG-WI-003 Gas Leaks</li> <li>EMG-WI-009 Failure of Landfill Gas Flare</li> </ul>   |
| High temperatures / Drier Summers - increase in "hot" waste leading to waste fires  | Environment – Offsite receptors. Site personnel and visitors.     | 5   | 4  | 20 | <ul style="list-style-type: none"> <li>Site Daily Inspections – including end of operational day inspection.</li> <li>Fire RA and Management Plans in place.</li> <li>Daily site inspections and reporting procedures.</li> <li>Strict waste acceptance procedures in place to minimise the risk of non-compliant wastes being accepted.</li> <li>Site operatives trained in waste acceptance.</li> <li>Site specific material stockpile locations – inert waste for smothering burning waste.</li> <li>Incoming waste loads are compacted and covered progressively, and the active tipping</li> </ul> | 5  | 1  | 5 | <ul style="list-style-type: none"> <li>Site specific Landfill Gas Management Plans</li> <li>SHE-OP-200 Waste Acceptance and Control</li> <li>Site specific Fire RA / Emergency plans</li> <li>Site specific SOP for Fire Fighting</li> <li>Site Daily Inspection Records</li> <li>Incident Logs</li> <li>SHE-TBT-38 Waste Acceptance – Fire Risk</li> <li>EMG-WI-001 – Landfill Fire Response</li> <li>SHE-OP-13 The Use of Daily Cover Material</li> </ul> |

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| Describe hazards identified and their effects e.g. 'Contact with' underground services as a result of excavation works.                            | Who/what might be harmed?<br>Include others affected by the work. | S - Severity<br>L - Likelihood<br>R - Risk<br><br>Based on <b>No controls</b> in place! | Describe all control measures required to eliminate hazard completely or minimise risk to an acceptable level.<br><br>All controls must be valid in that they reduce severity, likelihood or both. |   | S - Severity<br>L - Likelihood<br>R - Risk   | Cross Reference documents e.g. associated assessments (Statutory Provisions) e.g. PPE, CoSHH etc. &/or SOPs, IMS Procedures etc. |   |   |   |
|  |   |   |  |   | <p>face fully covered by the end of the operational day.</p> <ul style="list-style-type: none"> <li>• Good operational and housekeeping practices.</li> <li>• Incident Reports reviewed by management and corrective action implemented accordingly.</li> <li>• Emergency Site Plans – including 'out of hours contacts'.</li> <li>• Surface water management to ensure adequate supply of water for firefighting.</li> <li>• Pumping system in place to direct fire hoses and water cannons towards tipping area. Locations and pipework moved with operations.</li> <li>• Fire drills and training in use of equipment undertaken.</li> <li>• Safe Operating Procedure for Fire Fighting.</li> </ul> |  |   |   |   |
| High temperatures / Drier Summers - cracking of landfill cover soils and damage to caps<br>Increased infiltration, leachate generation and leakage | Environment – Offsite receptors.                                  | 2   | 2  | 4 | <ul style="list-style-type: none"> <li>• Site engineered containment and capping designs are appropriate, as per approved CQA Plans.</li> <li>• All non-active phases/cells are covered with suitable materials and within appropriate timescales, as per the EPR and site-specific Restoration Plans.</li> <li>• All permanent capping works undertaken under CQA supervision.</li> </ul>   | 2  | 1 | 2 | <ul style="list-style-type: none"> <li>• Site specific CQA Plans</li> <li>• Site specific Leachate Management Plans</li> <li>• Site specific Leachate Action Plans.</li> <li>• Site Specific Capping and Restoration Plans.</li> <li>• SHE-OP-06 – Landfill Site Diary</li> </ul> |

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| Describe hazards identified and their effects e.g. 'Contact with' underground services as a result of excavation works.                                | Who/what might be harmed?<br>Include others affected by the work. | S - Severity<br>L - Likelihood<br>R - Risk<br><br>Based on <b>No controls</b> in place! | Describe all control measures required to eliminate hazard completely or minimise risk to an acceptable level.<br>All controls must be valid in that they reduce severity, likelihood or both. |   |  | S - Severity<br>L - Likelihood<br>R - Risk | Cross Reference documents e.g. associated assessments (Statutory Provisions) e.g. PPE, CoSHH etc. &/or SOPs, IMS Procedures etc. |   |  |
|  |   |   |  |   | <ul style="list-style-type: none"> <li>All leachate infrastructure inspected regularly and maintained accordingly.</li> </ul>  |  |  |   |  |
| High temperatures / Drier Summers - damage to cover vegetation and restoration areas<br>Increased risk of erosion or impact on restoration obligations | Environment – Offsite receptors.<br>Site personnel and visitors.  | 2   | 2  | 4 | <ul style="list-style-type: none"> <li>Surface water and Groundwater available to spray on any areas of tree planting or newly seeded grass to prevent losses or dieback occurring.</li> <li>Annual Restoration and Aftercare Plan produced which looks specifically at success of restoration scheme.</li> </ul>  | 2  | 1  | 2 | <ul style="list-style-type: none"> <li>Annual Restoration and Aftercare Report.</li> <li>Stability Plan / Risk Assessment</li> </ul> |
| High temperatures / Drier Summers - Reduced water availability and increased water abstraction.  | Environment – Offsite receptors.                                  | 2   | 2  | 4 | <ul style="list-style-type: none"> <li>Two large Surface water attenuation ponds on sites.</li> <li>Groundwater pumping from beneath engineered landfill lining systems, provides constant flow of water.</li> <li>Discharges of both SW and GW are recorded on flow meters.</li> </ul>                            | 2  | 1  | 2 | <ul style="list-style-type: none"> <li>Surface Water Management plans.</li> <li>SHE-OP-06 – Landfill Site Diary</li> </ul>           |
| High temperatures - Failure of IT systems and control of critical equipment.   | Environment – Site personnel and visitors.                        | 2   | 2  | 4 | <ul style="list-style-type: none"> <li>Business IT server rooms fitted with Air conditioning units, which are suitably sized for location.</li> <li>Weighbridge control rooms fitted with Air conditioning units.</li> <li>Weighbridge procedure in place to undertake manual tickets during shutdowns.</li> </ul> | 2  | 1  | 2 | <ul style="list-style-type: none"> <li>SHE-OP-200a – Weighbridge Manual</li> </ul>   |

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| High temperatures - failure of Leachate associated infrastructure and operation.  | Environment – Offsite receptors. Site personnel and visitors.     | 3   | 2  | 6 | <ul style="list-style-type: none"> <li>Daily site inspection.</li> <li>Critical spares kept on site.</li> <li>Contingency Off-site disposal as part of Leachate Action Plans.</li> <li>Primary valves able to run manually and fitted with emergency shut offs.</li> <li>Alarm systems in place to provide safety critical warnings.</li> <li>Pipework and valves adequately insulated.</li> </ul>  | 3  | 1  | 3 | <ul style="list-style-type: none"> <li>Site Daily Inspection Records</li> <li>SHE-OP-09 Leachate Treatment Plants.</li> <li>SHE-OP-06 – Landfill Site Diary.</li> <li>Site Specific Leachate Action Plans</li> </ul> |
| Low temperatures - failure of Leachate associated infrastructure and operation.   | Environment – Offsite receptors. Site personnel and visitors.     | 3   | 2  | 6 | <ul style="list-style-type: none"> <li>As above</li> </ul>  | 3  | 1  | 3 | <ul style="list-style-type: none"> <li>As above</li> </ul>   |
| Low temperatures in winter - freezing of leachate or condensation in landfill gas pipework. Blockages or reduced flow.  | Environment – Offsite receptors. Site personnel and visitors.     | 3   | 2  | 6 | <ul style="list-style-type: none"> <li>Site infrastructure inspected regularly with any issues noted within site daily inspections.</li> <li>Gas infrastructure managed by Enovert's Gas Team, with daily interaction with site staff.</li> <li>Procedures and management plans in place for LFG control and reviewed as appropriate.</li> <li>Critical spares kept locally and maintenance and contingency plans in place.</li> <li>Adequate flaring capacity is available.</li> </ul> | 3  | 1  | 3 | <ul style="list-style-type: none"> <li>Site specific Landfill Gas Management Plans</li> <li>SHE-OP-07 Landfill Gas Management</li> <li>SHE-OP-06 – Landfill Site Diary</li> </ul>                                    |

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| Describe hazards identified and their effects e.g. 'Contact with' underground services as a result of excavation works.   | Who/what might be harmed?<br>Include others affected by the work. | S - Severity<br>L - Likelihood<br>R - Risk<br><br>Based on <b>No controls</b> in place! | Describe all control measures required to eliminate hazard completely or minimise risk to an acceptable level.<br>All controls must be valid in that they reduce severity, likelihood or both. |   |  | S - Severity<br>L - Likelihood<br>R - Risk | Cross Reference documents e.g. associated assessments (Statutory Provisions) e.g. PPE, CoSHH etc. &/or SOPs, IMS Procedures etc. |   |  |
|   |   |   |  |   | <ul style="list-style-type: none"> <li>Condensate transfer pipework either buried or lagged to prevent freezing.</li> </ul>  |  |  |   |  |
| Low temperatures - leading to diesel gelling  | Environment – Offsite receptors. Site personnel and visitors.     | 2   | 2  | 4 | <ul style="list-style-type: none"> <li>Fuel additives could be applied.</li> <li>Fuel Tanks double skinned.</li> <li>Routinely check fuel banded tanks for water.</li> </ul>   | 2  | 1  | 2 | <ul style="list-style-type: none"> <li>Plant Inspection &amp; Defect Record</li> <li>SHE-OP-06 – Landfill Site Diary</li> </ul>  |
|   |   |   |  |   | <ul style="list-style-type: none"> <li></li> </ul>   |  |  |   | <ul style="list-style-type: none"> <li></li> </ul>   |
| Extreme rainfall - increased landfill leachate leading to failure of pumping infrastructure, over topping of bunds, and leachate storage tanks unable to cope with increased volumes. | Environment – Offsite receptors. Site personnel and visitors.     | 3   | 3  | 9 | <ul style="list-style-type: none"> <li>All leachate infrastructure inspected regularly and maintained accordingly.</li> <li>Leachate Management Plans in place – including Leachate Action Plans.</li> <li>Contingency off-site disposal, as part of Leachate Action Plans.</li> <li>Review leachate management storage infrastructure.</li> <li>Surface water management plans to ensure rainwater is diverted away from landfill to reduce leachate generation.</li> </ul> | 3  | 2  | 6 | <ul style="list-style-type: none"> <li>SHE-OP-06 – Landfill Site Diary</li> <li>Site specific Leachate Management Plans</li> <li>Site Specific Leachate Action Plans</li> </ul>  |
| Extreme rainfall - overloading of surface water management system - Flooding  | Environment – Offsite receptors. Site personnel and visitors.     | 3   | 3  | 9 | <ul style="list-style-type: none"> <li>Surface Water Management Plans in place and regularly reviewed.</li> <li>Restoration Plans – improved buffering and attenuation planting around site perimeter.</li> <li>Flood Risk Management Plans in place for nationally identified flood risk areas.</li> </ul>  | 3  | 1  | 3 | <ul style="list-style-type: none"> <li>Site Specific Surface Water Management Plans</li> <li>SHE-OP-14 – Surface Water Management</li> <li>Site Restoration Plans</li> <li>SHE-OP-06 – Landfill Site Diary</li> <li>EMG-WI-008 Flooding</li> </ul> |

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|   |   |   |  |   |   |  |  |   | <ul style="list-style-type: none"> <li>SHE-TBT-28 Environmental Emergencies</li> </ul>  |
| Extreme rainfall - flooding of site entrance - access roads and restricted access to tipping face   | Site personnel, Contractors, Customers, Suppliers and Visitors.   | 3   | 2  | 6 | <ul style="list-style-type: none"> <li>Surface Water Management Plans in place and regularly reviewed.</li> <li>Site entrance and access roads are reviewed daily.</li> <li>Proactive communications with Public Highway Authorities.</li> <li>Generic haul road design for robust road construction.</li> <li>Regular maintenance and clearing of road grids, to direct water away from the road.</li> <li>Pumps and vacuum tanker on site to displace excessive pooling water.</li> </ul> | 3  | 1  | 3 | <ul style="list-style-type: none"> <li>Site specific Surface Water Management Plans</li> <li>SHE-OP-14 – Surface Water Management</li> <li>GEN001 – Design &amp; Maintenance of Haul Roads RA</li> <li>SHE-TBT-27 Workplace Transport Safety</li> <li>EMG-WI-008 Flooding</li> </ul>                              |
| Extreme rainfall - erosion or instability of cover soils - Increased infiltration, leachate generation and risk of contaminated surface water discharge | Environment – Offsite receptors. Site personnel and visitors.     | 3   | 2  | 6 | <ul style="list-style-type: none"> <li>Site engineered containment and capping designs are appropriate, as per CQA Plans.</li> <li>All non-active phases / Cells are covered with suitable materials and within appropriate timescales, as per the EPR and site-specific Restoration Plans</li> <li>All capping and temporary capping undertaken under CQA.</li> <li>Surface Water Management Plans in place and regularly reviewed.</li> </ul>   | 3  | 1  | 3 | <ul style="list-style-type: none"> <li>Site specific CQA Plans</li> <li>Site Specific Surface Water Management Plans</li> <li>Site specific Leachate Management Plans</li> <li>Site specific Leachate Action Plans.</li> <li>Site Specific Restoration Plans.</li> <li>SHE-OP-06 – Landfill Site Diary</li> </ul> |
| Extreme rainfall - instability of waste mass  | Environment – Offsite receptors.                                  | 3   | 3  | 9 | <ul style="list-style-type: none"> <li>Waste placed to an appropriate gradient.</li> </ul>  | 3  | 1  | 3 | <ul style="list-style-type: none"> <li>Site Specific Surface Water Management Plans</li> </ul>  |

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| Describe hazards identified and their effects e.g. 'Contact with' underground services as a result of excavation works. | Who/what might be harmed?<br>Include others affected by the work. | S - Severity<br>L - Likelihood<br>R - Risk<br><br>Based on <b>No controls</b> in place! | Describe all control measures required to eliminate hazard completely or minimise risk to an acceptable level.<br>All controls must be valid in that they reduce severity, likelihood or both. |   |  | S - Severity<br>L - Likelihood<br>R - Risk | Cross Reference documents e.g. associated assessments (Statutory Provisions) e.g. PPE, CoSHH etc. &/or SOPs, IMS Procedures etc. |   |  |
|   | Site personnel and visitors.                                      |   |  |   | <ul style="list-style-type: none"> <li>Plant Operators adequately trained and certified to operate plant.</li> <li>Enhance leachate management and storage infrastructure.</li> </ul>  |  |  |   | <ul style="list-style-type: none"> <li>Site specific Leachate Management Plans</li> <li>Stability Plan / Risk Assessment</li> <li>SHE-OP-06 – Landfill Site Diary</li> <li>Site Training Record.</li> </ul>  |
| Extreme rainfall - Increased wet waste in operational area generating landfill gas and hydrogen sulphide.               | Environment – Offsite receptors. Site personnel and visitors.     | 4   | 2  | 8 | <ul style="list-style-type: none"> <li>Operating procedures regularly reviewed to ensure waste is adequately covered at the end of the working day.</li> <li>Adequate temporary or sacrificial gas infrastructure is installed in operational areas, as appropriate.</li> <li>Additional LFG infrastructure as per contingencies in GMP.</li> <li>LFG procedures / plans in place which include maintenance and contingency planning.</li> </ul> | 4  | 1  | 4 | <ul style="list-style-type: none"> <li>SHE-OP-13 The Use of Daily Cover Material</li> <li>Site specific Landfill Gas Management Plans</li> <li>SHE-OP-07 Landfill Gas Management</li> <li>SHE-OP-06 – Landfill Site Diary</li> <li>EMG-WI-003 Gas Leaks</li> <li>EMG-WI-009 Failure of Landfill Gas Flare</li> <li>LFG-RA-004 Re-start plant after plant shutdown</li> <li>SHE-OP-04 Nuisance and Amenity</li> <li>SHE-TBT-15 Nuisances – Odour</li> </ul> |
| Sea level rise and coastal erosion (including Rivers) - increased risk of flooding.                                     | Environment – Offsite receptors. Site personnel and visitors.     | 2   | 1  | 2 | <ul style="list-style-type: none"> <li>Site perimeter engineered bunding inspected and maintained.</li> <li>Flood Risk Management Plans in place for nationally identified flood risk areas.</li> </ul>  | 4  | 1  | 4 | <ul style="list-style-type: none"> <li>SHE-OP-06 – Landfill Site Diary</li> <li>EMG-WI-008 Flooding</li> <li>SHE-TBT-28 Environmental Emergencies</li> </ul>   |

| Significant Hazards & Effects *  | Population at Risk<br>(Employees, Contractors, MOPs etc.)         | Initial Risk Rating   |  |   | Control Measures  | Residual Risk Rating                       |  |   | Additional Information/Documents<br>(related to this assessment)   |
|--|---|---|--|---|---|--|--|---|--|
|  |   | S   | L  | R |   | S  | L  | R |  |
| Describe hazards identified and their effects e.g. 'Contact with' underground services as a result of excavation works.  | Who/what might be harmed?<br>Include others affected by the work. | S - Severity<br>L - Likelihood<br>R - Risk<br><br>Based on <b>No controls</b> in place! | Describe all control measures required to eliminate hazard completely or minimise risk to an acceptable level.<br>All controls must be valid in that they reduce severity, likelihood or both. |   |   | S - Severity<br>L - Likelihood<br>R - Risk | Cross Reference documents e.g. associated assessments (Statutory Provisions) e.g. PPE, CoSHH etc. &/or SOPs, IMS Procedures etc. |   |  |
|  |   |   |  |   | •   |  |  |   | •  |
| Variance in water table and River flows - reduced flow in local watercourses. Potential impact of volumes permitted in discharge consents to local watercourses and sewage treatment works | Environment – Offsite receptors.                                  | 3   | 3  | 9 | <ul style="list-style-type: none"> <li>Review and vary permits and discharge consent limits to avoid environmental impact or flooding downstream.</li> <li>Contingency off-site disposal as part of Leachate Action Plans.</li> <li>Review leachate management treatment and storage infrastructure.</li> </ul> | 3  | 2  | 6 | <ul style="list-style-type: none"> <li>Site specific Environmental Permits</li> <li>Site specific TEDC</li> <li>Site specific Leachate Management Plans</li> </ul> |
|  |   |   |  |   |   |  |  |   | •  |
|  |   |   |  |   |   |  |  |   | •  |
|  |   |   |  |   |   |  |  |   | •  |
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|  |   |   |  |   |   |  |  |   | •  |
|  |   |   |  |   |   |  |  |   | •  |

| Significant Hazards & Effects *   | Population at Risk<br>(Employees, Contractors, MOPs etc.)         | Initial Risk Rating   |  |   | Control Measures                           | Residual Risk Rating   |   |   | Additional Information/Documents<br>(related to this assessment) |
|---|---|---|--|---|--|--|---|---|--|
|   |   | S   | L  | R |  | S  | L | R |  |
| Describe hazards identified and their effects e.g. 'Contact with' underground services as a result of excavation works. | Who/what might be harmed?<br>Include others affected by the work. | S - Severity<br>L - Likelihood<br>R - Risk<br><br>Based on <b>No controls</b> in place! | Describe all control measures required to eliminate hazard completely or minimise risk to an acceptable level.<br><br>All controls must be valid in that they reduce severity, likelihood or both. |   | S - Severity<br>L - Likelihood<br>R - Risk | Cross Reference documents e.g. associated assessments (Statutory Provisions) e.g. PPE, CoSHH etc. &/or SOPs, IMS Procedures etc. |   |   |  |
|   |   |   |  |   |  |  |   | • |  |
|   |   |   |  |   |  |  |   | • |  |

\*Reference: "UK Climate Projections 2018 (UKCP18)" for landfill climate change scenarios.

