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Transport, Environment & Design

Greenway Recycling Facility and Inert Landfill Environmental Risk Assessment

June 2022



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Contents

Document Control Sheet
Revision Schedule

i

1. Introduction	1
1.1 Commission	1
1.2 Report Context	1
1.3 Aims and Objectives	1
1.4 Data Sources	1
1.5 Methodology	2
2. Site Setting	3
2.2 Site Description	3
2.3 Historical Placement of Material	4
3. Geology	5
3.2 Soils	5
3.3 Geology	5
3.4 Naturally Occurring Contaminants	5
4. Hydrogeology	6
5. Hydrology	7
5.2 Local Water Features	7
5.3 Conservation Interests	7
5.4 Flooding	7
6. Ecology & Landscape	9
7. Sensitive Receptors	10
8. Proposed Development	11
8.1 Imported Material	11
8.2 Site Management	11
8.3 Engineering Design Principles	11
8.4 Water Management	12
9. Risk Assessment	13
9.1 Rationale	13
9.2 Sensitive Receptors (Landfill)	13
9.3 Sensitive Receptors (Recycling Facility)	14
9.4 Site Specific Risk Assessment	15
10. Conclusions and Recommendations	16

Figures

Figure 2-1: Site Location Plan	3
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Tables

Table 4-1: Depth to Water in Monitoring Well Network	6
Table 7-1: Sensitive Receptors	10

Appendices

Appendix A Drawings from Planning Application

Appendix B Horizon Permit Drawings

Appendix C UKSO Maps

Appendix D Nature & Heritage Conservation Screening Report

Appendix E Site Specific Risk Assessment

Revision Schedule

Revision	Author	Description	Date
1	Jamie Howourth	Report issued as final.	10-Jun-22

1. Introduction

1.1 Commission

1.1.1 Horizon Consulting Engineers Limited (Horizon) was commissioned by Decharge Ltd (“Decharge” or “the Operator”) to prepare an Environmental Risk Assessment (ERA) in support of an Environmental Permit submission to operate a recycling facility and inert landfill at the land at Greenway, Halberton, Devon (the Site).

1.1.2 “The Site” refers to the entire boundary of the inert landfill which encompasses the recycling facility.

1.2 Report Context

1.2.1 The proposed recycling facility and inert landfill does not currently have planning permission. Decharge has applied for planning permission in unison with the permit application.

1.2.2 Although the development of the recycling facility and inert landfill at the Site is considered one project, the potential risks associated with the recycling facility (located in one location towards the north of the Site) and the inert landfill are somewhat different. On that basis, this ERA incorporates two separate risk assessments as follows:

- **Recycling Facility Risk Assessment.** This is based on the risk assessment for a Standard Rules SR2010 No. 12 Environmental Permit; and
- **Inert Landfill Risk Assessment.** This risk assessment builds on the risk assessment prepared by the Environment Agency for a Standard Rules SR2015 No. 39 Environmental Permit, taking into account the Site setting, the fill areas plus the volume of material to be deposited.

1.2.3 A separate hydrogeological risk assessment (HRA)¹ has been prepared to evaluate risks to controlled waters in more detail.

1.3 Aims and Objectives

1.3.1 In view of the above, the purpose of this risk assessment is as follows:

- Identify the location and nature of environmental receptors associated with the Site;
- Identify and assess potential risks to human health and the environment associated with the proposed permitted activities; and
- Identify appropriate mitigation measures to manage potentially unacceptable risks.

1.4 Data Sources

1.4.1 Horizon has obtained / prepared information for use in the preparation of this report including:

- Documents and plans sourced from Planning Application (plans included in **Appendix A**, Drawings 0577.100 series);

¹ Horizon (June 2022) Greenway Recycling Facility & Inert Landfill. Hydrogeological Risk Assessment. Ref: HCE0577.HRA

- Documents and plans prepared as part of the Permit Application (plans included in **Appendix B**, Drawings 0577.000 series) such as the Environmental Setting and Site Design Report (Horizon, June 2022)²; and Environmental Management System (Horizon, June 2022)³.

1.5 Methodology

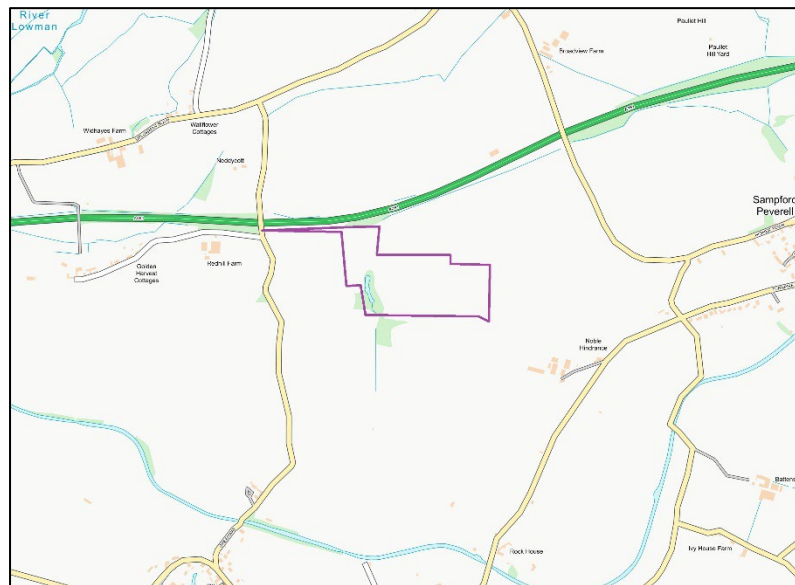
- 1.5.1 The approach, scope and methodology of this risk assessment have been developed and conducted in general accordance with Client requirements and Environment Agency guidance.

² Horizon (June 2022) Greenway Recycling Facility & Inert Landfill. Environmental Site Setting and Design Report. Ref: HCE0577.ESSD

³ Horizon (March 2022) Greenway Recycling Facility & Inert Landfill. Environmental Management System. Ref: HCE0577.EMS

2. Site Setting

- 2.1.1 Data on the conditions at the Site prior to operation was collated based on inspection of reports relating to the Site and publicly available information. Full details of the site setting are presented in the Environmental Setting and Site Design Report (ESSD)²; a summary of salient points is presented below.
- 2.1.2 The proposed inert landfill is situated within arable farmland approximately 1.2 km north-east of the village of Halberton in mid-Devon. The proposal is to infill void space across the Site and return the land to agricultural use once the waste operation is completed.
- 2.1.3 The approximate centre of the Site is located at Ordnance Survey grid reference: 301324E, 114113N.
- 2.1.1 A Site location map is provided as **Figure 2-1** with the approximate boundary of the Site including the access route shown in purple (note the inert permit area boundary excludes the pond and access road).



Contains Ordnance Survey data © Crown Copyright and database right 2022

Figure 2-1: Site Location Plan

2.2 Site Description

- 2.2.1 The Site comprises a relatively large field used for agriculture as part of the Bycott Farm holding, and is bounded by mature hedgerows interspersed with trees. A copse and pond is located on the south-western boundary.
- 2.2.2 The field is accessed via an agricultural access track from Greenway. The access track runs west to east immediately to the south of A361 Tiverton Expressway. Greenway is a public highway that runs north to south between Uplowman Road to the north and High Street within Halberton to the south. Uplowman Road provides vehicular access between the Site and Tiverton to the west and A361 and Junction 27 of the M5 motorway to the east.
- 2.2.3 The A361 lies approximately 150 m to the north of the main areas of retrospective and proposed fill. The nearest farm buildings are approximately 400 m east-south-east and 150 m west of the Site.

2.2.4 The Site is concave to convex from west to east, cresting just before the Site's eastern boundary. Within the concave section of the Site's topography, there is a central spur of raised ground that protrudes in a westerly direction before dropping steeply towards the copse referred to above. This effectively creates two modest combes.

2.3 Historical Placement of Material

2.3.1 In 2019, Horizon carried out a material suitability review of waste material imported to the Site in 2016⁴. The review was undertaken following a meeting on-Site with representatives from Devon County Council (DCC) and the Environment Agency (EA) on 19 July 2019.

2.3.2 In June 2019 Mr Stephen Dibble (the landowner) and CB Plant Hire Limited were prosecuted for exceeding U1 exemption limits⁵ at the Site, with approximately 23,500 tonnes of soil imported and placed on the land by CB Plant Hire.

2.3.3 It is estimated that approximately 721 loads of material, from nine different sites, were deposited at the Site between 11 July 2016 and 11 September 2016.

2.3.4 A summary of the assessment of the material suitability is discussed in Section 4 of the ESSD. The report concluded that overall, no action was warranted in relation to the material deposits and it was deemed suitable to remain in-Situ subject to agreement with DCC regarding planning aspects.

⁴ Horizon (2019). Former Tiverton Motocross. Material Suitability Review. Ref: HCE0577.MSR

⁵ <https://www.gov.uk/guidance/u1-waste-exemption-use-of-waste-in-construction> [Accessed 11 January 2022]

3. Geology

3.1.1 Sections 3, 4 and 5 set out the geological, hydrogeological and hydrological setting of the Site based on review of previous reports developed for the Site, in particular the ESSD², the findings of Horizon's ground investigations (included in the HRA¹) plus publicly available information. For further details reference should be made to previous reports where applicable.

3.2 Soils

3.2.1 The Site is mapped as being underlain by soils classified on Soilscape⁶ as comprising “*freely draining slightly acid loamy soils*.” These soils typically drain to local groundwater and rivers.

3.3 Geology

3.3.1 Based on information from the British Geological Survey⁷ the Site is underlain by bedrock of the Halberton Breccia Formation.

3.3.2 Superficial colluvium deposits are mapped overlying the bedrock in the south-west of the Site associated with soil creep / hillwash towards the pond and copse at the lowest elevation at the Site.

3.3.3 No mass movement or artificial deposits are mapped in the vicinity of the Site.

3.3.4 Borehole records on the BGS website, predominantly associated with the North Devon Link Road (A361) to the north of the Site, typically record brown sandy clay with cobbles, interpreted as breccia.

3.3.5 A series of ground investigations and monitoring events have been undertaken at the Site. These include excavation of trial pits, infiltration testing, borehole drilling, monitoring well installation plus soil, soil gas, surface water and groundwater sampling. The findings of the investigations including exploratory hole records and laboratory certificates are presented in the HRA¹.

3.3.1 In summary, a thin horizon of topsoil was encountered across the Site although often the topsoil was absent either due to erosional processes or from physical stripping (prior to imported fill placement). This was underlain by firm cohesive, albeit very sandy, natural soils in the majority of locations with the exception of where imported fill had been placed in the east of the Site. The Made Ground was more variable in composition, often more granular with large cobbles encountered in some instances however generally appeared to be of similar lithology to the in-situ natural soils of the Halberton Breccia Formation.

3.3.2 Further details of the site condition in the area of the proposed recycling facility are presented in the Site Condition Report⁸ (SCR).

3.4 Naturally Occurring Contaminants

3.4.1 The BGS's UK Soil Observatory data indicates that naturally occurring contaminants (e.g. lead, arsenic, chromium and nickel) are not anticipated to be elevated in the soils underlying the Site or in close proximity with the exception of arsenic which has the potential to be elevated (**Appendix C**),

⁶ <http://www.landis.org.uk/soilscapes/index.cfm> [Accessed 22 February 2022]

⁷ <http://mapapps.bgs.ac.uk/geologyofbritain/home.html> [Accessed 22 February 2022]

⁸ Horizon (June 2022) Greenway Recycling Facility. Site Condition Report. Ref: HCE0577.SCR

4. Hydrogeology

- 4.1.1 According to Environment Agency mapping (reproduced in the Envirocheck reports included in the ESSD) the Halberton Breccia Formation and the superficial head deposits are classified as Secondary A aquifers. A Secondary A aquifer is defined as “*permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.*”
- 4.1.2 The Site is not located within a Groundwater Source Protection Zone (SPZ) as classified by the Environment Agency however an outer SPZ, associated with an abstraction in Halberton, is approximately 600 m to the south-west
- 4.1.3 A series of groundwater abstractions have been identified in the vicinity of the Site, as summarised in the HRA¹. The closest abstraction is located 220 m west of the Site at Redhill Farm for agricultural purposes.
- 4.1.4 Groundwater monitoring wells have been installed at the Site; details of the monitoring network are described in the HRA¹ along with the results of monitoring conducted to date. The range in water depths recorded to date in monitoring wells is presented in **Table 4-1** below.

Monitoring Well	Minimum Depth to Water Recorded		Maximum Depth to Water Recorded	
	Depth to Water (m TOC)	Groundwater Elevation (m AOD)	Depth to Water (m TOC)	Groundwater Elevation (m AOD)
BH01	7.77	100.43	10.51	103.17
BH02	18.69	100.19	21.89	103.39
BH03	21.66	75.60	24.65	78.59
BH04	6.64	97.02	7.61	97.99
BH05	1.41	113.89	2.76	115.24
Notes: Bgl – below ground level AOD – Above Ordnance Datum				

Table 4-1: Depth to Water in Monitoring Well Network

- 4.1.5 Background monitoring obtained to date, presented in the HRA¹, indicates that the risk of contaminated groundwater beneath the Site is low.

5. Hydrology

5.1.1 A summary of the hydrology in the vicinity of the Site is presented here; for more context and detail reference should be made to the HRA¹.

5.2 Local Water Features

5.2.1 The nearest identified surface water feature is the pond located adjacent to the south-west of the Site (outwith the boundary of the permitted area). The pond drains via a stream south of the Site before the land plateaus and the stream runs dry (as recorded during a Horizon walkover in February 2022 and shown on the water network map included in the Envirocheck report). Drainage from the A361 is shown to enter the Site from the north however running water has not been observed during any of Horizon's walkover at the Site at this feature.

5.2.1 The majority of the other surface water features within the vicinity of the Site are minor watercourses associated with the River Lowman located 1 km to the north. In addition, a watercourse 1 km south of the Site within the village of Halberton flows in a southerly direction towards the River Culm.

5.2.2 The Great Western Canal is located approximately 850 m south of the Site at an approximate elevation of 95 m AOD. The canal is not considered to be a receptor.

5.2.3 There are no licensed surface water abstractions within the vicinity of the Site.

5.3 Conservation Interests

5.3.1 There are no known statutory conservation sites within a 1 km radius of the Site which are considered to be water dependent. The Great Western Canal is designated as a local nature reserve 800 m south of the Site however this nature reserve is not considered to be affected by the proposed development.

5.4 Flooding

5.4.1 Horizon has prepared a standalone flood risk assessment⁹ for the proposed recycling facility and inert landfill. According to the Environment Agency flood maps the Site is located in Zone 1 and therefore the probability of flooding is low; i.e. less than 1 in 1,000 annual probability of river and sea flooding.

5.4.2 On Environment Agency surface water maps overland flow is shown within the low point of the Site which corresponds with the approximate location of the existing pond and watercourse. The overland flow route is then shown to leave the Site to the south following the approximate route of the existing watercourse. The natural topography of the fill area currently directs overland flow into three steep-sided natural valley features which channel the flow into the wooded area where the existing pond and watercourse are located.

⁹ Horizon (June 2022) Greenway Recycling Facility & Inert Landfill. Flood Risk Assessment. Ref: HCE0577.FRA

-
- 5.4.3 The valley features of the central section of the catchment combined with the current scrub vegetation cover, caused by historic importation of material, result in relatively high overland flow velocities which as a consequence reduces the time available for infiltration to occur. The valley feature of the western and eastern portion of the catchment and current use for as arable farmland may allow for a lower volume of water to leave the catchment during lower intensity events, however the Site is mostly underlain with the relatively impermeable cohesive soils, which leads to high overland flows directed by the natural topography to the existing pond and watercourse located in the south-western corner of the Site.
- 5.4.4 The proposed use of the Site does not include the construction of impermeable surfaces other than the temporary recycling area and haul roads which will be dressed with recycled granular material. During filling operations surface water runoff is not expected to increase and therefore there is not a need for the strategy to include attenuation of flows, however suspended solids contained within the runoff as a result of the exposed fill surface will need to be managed.

6. Ecology & Landscape

- 6.1.1 The Site is surrounded by predominantly agricultural land. Although the undulating nature of the Site and the surrounding area is obvious when viewing the Site within its boundaries, there are no significant nearby vantage points in which the fill area can be viewed with much of the Site screened by vegetation or nearby hills.
- 6.1.2 A Nature and Heritage Conservation Screening Report from the Environment Agency (included in **Appendix D**) indicates the presence of ancient woodland within 200 m of the Site. The location of the ancient woodland is shown on the Sensitive Receptors Proximity Plan included in **Appendix B** (Note that the pre-application report is in reference to a single point rather than the Site boundary).
- 6.1.3 There are no National Nature Reserves, Local Nature Reserves or Local Wildlife Sites within a 1 km radius of the Site other than the canal located 800 m south.
- 6.1.4 A UK Habitat Survey has been carried out at the Site as part of the Planning Application. The Site was surveyed to contain a wide range of habitats including arable crops, neutral grassland and isolated patches of gorse shrub.

7. Sensitive Receptors

7.1.1 Sensitive land uses / potential receptors identified within a 2 km radius of the Site that are not discussed in earlier sections of this report that may be affected by the works at the Site are shown in **Table 7-1** below and shown on the Sensitive Receptors Proximity Plan in **Appendix B**.

Receptor	Receptor Type	Distance from Site
Agricultural Fields	Agricultural	Adjacent
A361 Road	Infrastructure	Adjacent (north)
Pond	Ecology	Adjacent (west)
Deciduous Woodland	Nature & heritage	Adjacent (south-west)
Agricultural buildings and dwelling	Agricultural and residential	150 m west
Dwelling	Residential	200 m north-west (beyond A361 road)
Agricultural Buildings	Agricultural	400 m south-east
Canal - Local Nature Reserve	Nature and recreational	800 m south
Residential Properties - Halberton	Residential	1.0 km south
Residential Properties - Uplowman	Residential	1.0 km north (beyond A361 road)
School (Halberton)	Educational	1.25 km south-west
Golf Club	Recreational	1.3 km west
School (Sampford Peverell)	Educational	1.3 km east
School (Uplowman)	Educational	1.4 km west
Notes: Distances are approximate.		

Table 7-1: Sensitive Receptors

8. Proposed Development

8.1 Imported Material

8.1.1 It is proposed to import approximately 350,000 m³ inert soil and stones to the Site. For the purposes of this risk assessment, it is assumed that all imported waste (whether for recycling or disposal purposes) would be not hazardous and classified with reference to current technical guidance on the classification of wastes (WM3¹⁰). In addition, imported waste for disposal is to meet the inert WAC limits.

8.1.2 Strict acceptance procedures have been prepared (set out in the EMS³) to safeguard against taking material that does not meet Site's acceptance limits. These procedures, prepared with reference to UK Government guidance will identify the actions and procedure to be taken including:

- All waste deliveries will be pre-arranged and will come from known or verified sources on licensed hauliers;
- Initial source checking of the waste characterisation data provided by the waste producer will be undertaken by a responsible person. Data to be reviewed to include details of source site history, locations of any samples, description of material and results of any laboratory testing;
- During waste delivery confirming that the waste is as described, within agreed quantities and are permitted within the Environmental Permit; and
- If waste not permitted by the Environmental Permit is delivered to the Site it will be turned away from the Site immediately or retained in the defined quarantine area awaiting collection.

8.2 Site Management

8.2.1 Relatively small volumes of oil and fuel for fuelling working plant will be used on-Site with oils to be stored in an appropriate, designated, secure area within appropriate containers. Fuel will be brought to Site when required and stored in a dedicated fuel tank. Fuel will be transferred directly to plant fuel tanks in accordance with good practice and Environment Agency Guidelines. Only Site-based plant to be refuelled on-Site.

8.2.2 On the basis of the above, plus adopting good housekeeping at all times as per the requirements of the EMS³, the potential for contamination from site-based fuels and oils is considered to be low.

8.3 Engineering Design Principles

8.3.1 Details of the proposed engineering design for the inert landfill are set out in the ESSD² and SRA¹¹. In summary, the proposed works do not fall into a category where significant engineering works are considered to be required in order to carry out the waste recovery activity. The Construction Phasing Plan is included in **Appendix A**.

¹⁰ <https://www.gov.uk/guidance/dispose-of-waste-to-landfill> [Accessed 03 June 2022]

¹¹ GCE (June 2022) Greenway Facility & Inert Landfill. Stability Risk Assessment.

8.4 Water Management

- 8.4.1 As with all large-scale earthwork operations the primary concern is the interception of surface water runoff containing large quantities of suspended solids. To address, this the scheme will incorporate a settlement lagoon at the low point of each fill area which will retain overland flow for sufficient time to enable the suspended solids to settle out. To slow flows and promote early settlement of suspended solids the lagoon will comprise of two to three settlement bays divided by earthwork weirs, the overall lagoon formed either as an excavated lagoon or a partial embankment lagoon dependant on the topography at its location.

9. Risk Assessment

9.1 Rationale

9.1.1 The risk assessment looks to identify possible relationships between contaminants, pathways and receptors and is used to identify relevant contaminant linkages that may warrant further assessment and/or remedial actions.

9.1.2 Consistent with Environment Agency guidance, for each risk that applies, actual or possible hazards are identified and an assessment made of:

- *the nature of the hazard (e.g. dust, litter, type of visible emission);*
- *sensitive receptors (e.g. people, animals, property and anything else that could be affected by the hazard);*
- *pathways (i.e. how the hazard can get to a receptor)*
- *proposed measures to be adopted reduce risks;*
- *the probability of exposure (e.g. whether a risk is unlikely or highly likely);*
- *potential consequences (i.e. what harm could be caused) and*
- *an assessment of the overall risk following implementation of any identified mitigation measures.*

9.2 Sensitive Receptors (Landfill)

9.2.1 The Environment Agency has produced a generic risk assessment for a Standard Rules SR2015 No39 permit. With reference to the restrictions included on a Standard Rules SR2015 No39 risk assessment:

- *The activities shall not be carried out within 500m of a European Site (candidate or Special Area of Conservation, proposed or Special Protection Area or Ramsar site) or a Site of Special Scientific Interest (SSSI); 50 metres of a site that has species or habitats protected under the Biodiversity Action Plan that the Environment Agency considers at risk to this activity, 250m of the presence of the great crested newts where it is linked to the breeding ponds of the newts by good habitat or 50 metres of a National Nature Reserve (NNR), Local Nature Reserves(LNR), Local Wildlife Site (LWS), Ancient woodland or Scheduled Ancient Monument;*
- *The activities must not be carried out within groundwater Source Protection Zones 1 and 2 or if a source protection zone has not been defined then not within 250 metres of any well, spring or borehole used for the supply of water for human consumption. This includes private water supplies;*
- *The activities must not be carried out within 10 metres of any watercourse; and*
- *Activities must not be carried out in an air quality management area for PM10.*

9.2.2 In addition to the above, other requirements for a Standard Rules SR2015 No39 permit include:

- *Maximum quantity of waste shall be limited to 60,000 cubic metres or less*
- *No point source discharges to controlled waters or groundwater;*
- *No waste may be deposited into a water body or sub-water table; and*
- *The activities shall not be carried out on historic, closed or operational landfills.*

9.2.3 Sensitive receptors which have not been identified as being located within the minimum compliance distance and therefore not covered under the generic risk assessment:

- European Site (Special Area of Conservation, Special Protection Area or Ramsar site);
- Site of Special Scientific Interest (SSSI);
- National Nature Reserve (NNR);
- Local Nature Reserves (LNR);
- Local Wildlife Site (LWS);
- Scheduled ancient monument;
- Watercourse, spring or well; and
- Air quality management area (PM10)

9.2.4 The limit of the deposition area is at least 10 m from the pond located to the south-west of the Site (approximately 20 m at closest point of deposition).

9.3 Sensitive Receptors (Recycling Facility)

9.3.1 The recycling facility is located in the north-west of the Site and is bound by hedgerows to the north and west and agricultural land to the east and south. The facility is approximately 150 m north of the nearest surface water feature (pond).

9.3.2 The Environment Agency has produced a generic risk assessment for a Standard Rules SR2010 No12 permit. With reference to the restrictions included on a Standard Rules SR2010 No12 risk assessment:

- *The activities shall not be carried out within 500m of a European Site (candidate or Special Area of Conservation, proposed or Special Protection Area or Ramsar site) or a Site of Special Scientific Interest (SSSI); 50 metres of a site that has species or habitats protected under the Biodiversity Action Plan that the Environment Agency considers at risk to this activity, 250m of the presence of the great crested newts where it is linked to the breeding ponds of the newts by good habitat or 50 metres of a National Nature Reserve (NNR), Local Nature Reserves(LNR), Local Wildlife Site (LWS), Ancient woodland or Scheduled Ancient Monument;*
- *The activities must not be carried out within 10 metres of any watercourse and 50 m from any spring or well; and*
- *Activities must not be carried out in an air quality management area for PM10.*

9.3.3 No sensitive receptors have been identified within the restrictions associated with a Standard Rules SR2010 No. 12 Environmental Permit.

9.3.4 Environment Agency Nature and Heritage Conservation mapping (reproduced in **Appendix E**) identifies the presence of the following nature and heritage conservation sites and protected species within the vicinity of the Site:

- Deciduous Woodland (located 300 m south).

-
- 9.3.5 No other historic environmental or built heritage assets have been identified within the immediate vicinity of the Site. There are no National Nature Reserves, Local Nature Reserves or Local Wildlife Sites within a 1 km radius of the Site other than the canal located 800 m south.
- 9.3.6 The Site is not located in a nitrate vulnerable zone. No other sensitive land uses (e.g. SSSI, Special Areas of Conservation, RAMSAR sites) are located within a 2 km radius of the Site. The nearest school is located 1.2 km south-west.

9.4 Site Specific Risk Assessment

- 9.4.1 The Site-specific risk assessment evaluating risk to critical receptors are presented in **Appendix F**. The risk assessment is based on the Environment Agency's generic risk assessments for Standard Rules SR2010 No12 and SR2015 No39 Environmental Permits, with site-specific context and detail added where relevant plus recommendations for additional mitigation measures where appropriate
- 9.4.2 As noted above, for details of risks to controlled waters, reference should be made to the HRA¹.

10. Conclusions and Recommendations

- 10.1.1 The risk assessment in **Appendix F** summarises the output of the Site-specific assessment including the mitigation measures proposed to reduce risks to identified receptors to acceptable levels.
- 10.1.2 In summary, residual risks associated with the proposed activities at the Site are considered to be low following implementation of the mitigation measures. Should Site conditions change, the findings of this risk assessment, including the mitigation measures, may need to be reviewed.

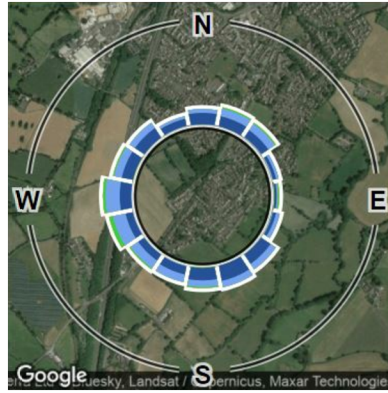
Appendix A Drawings from Planning Application

Appendix B Horizon Permit Drawings

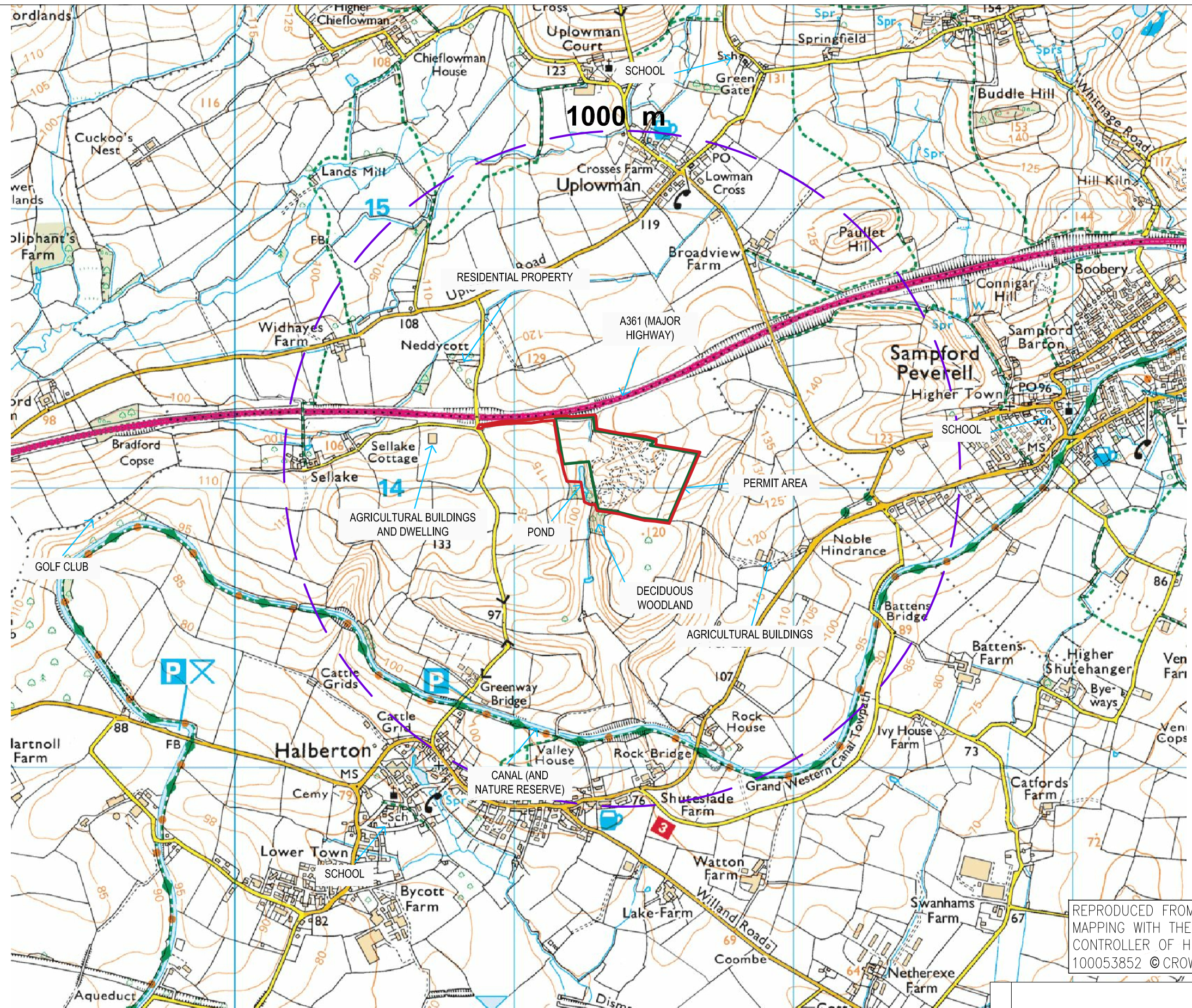
NOTES: GENERAL

- DO NOT SCALE FROM THIS DRAWING.
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Wind Direction



Data sourced from:
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- KEY:
- SITE BOUNDARY FOR PLANNING
 - PERMIT AREA BOUNDARY

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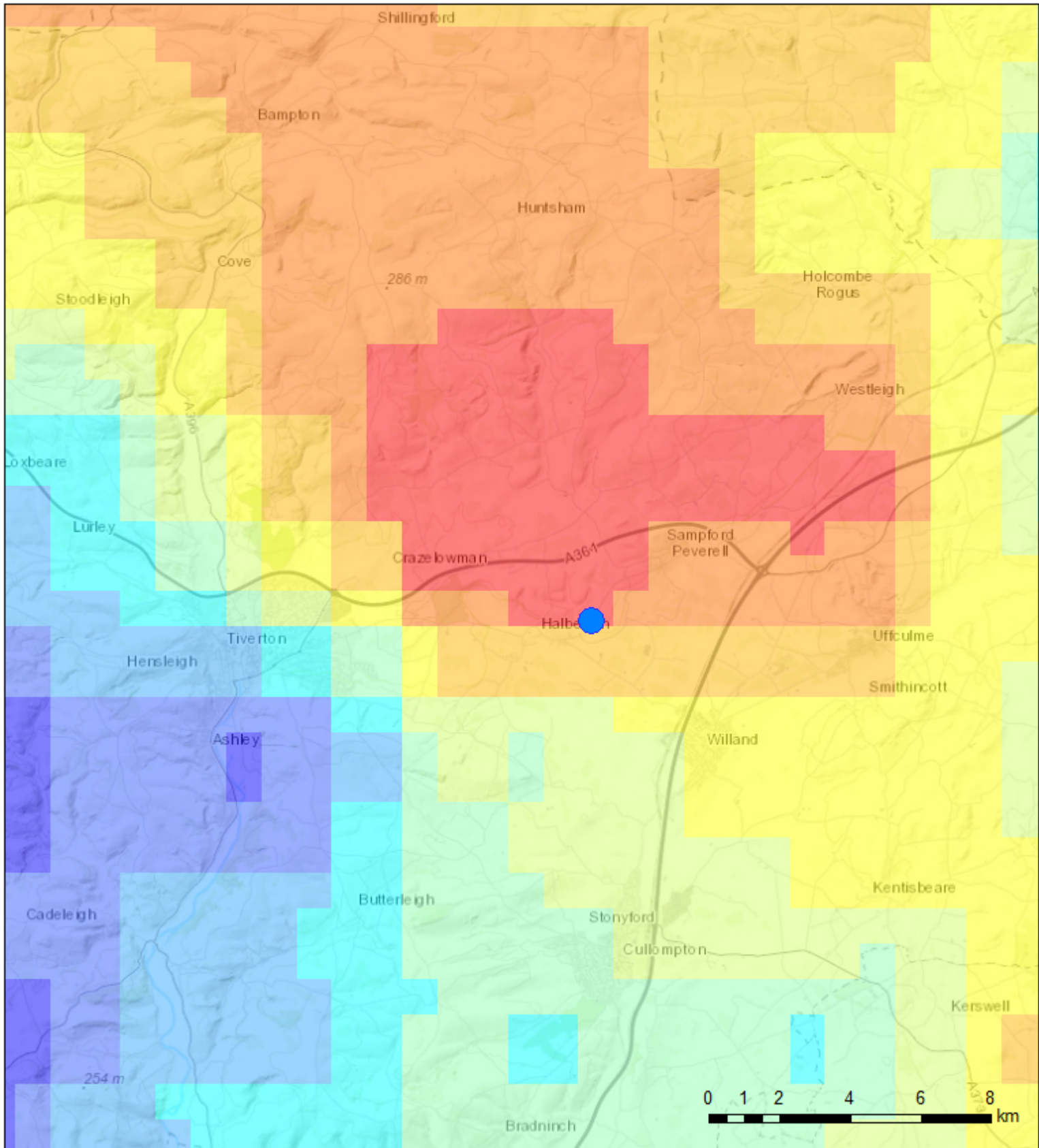
JOB TITLE
GREENWAY RECYCLING FACILITY & INERT LANDFILL TIVERTON

DRAWING TITLE
PROXIMITY PLAN FOR SENSITIVE RECEPTORS

Rev	Description	Drn	Chk	Date
REVISIONS				
Preliminary	Approval	Tender	Const.	
DRAWING STATUS				
DATE	DRAWN	CHECKED		
JAN '22	JH	AL		
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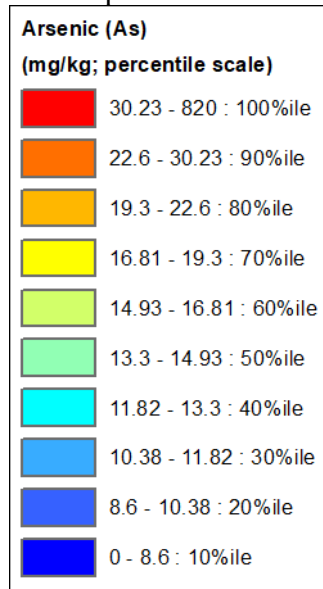
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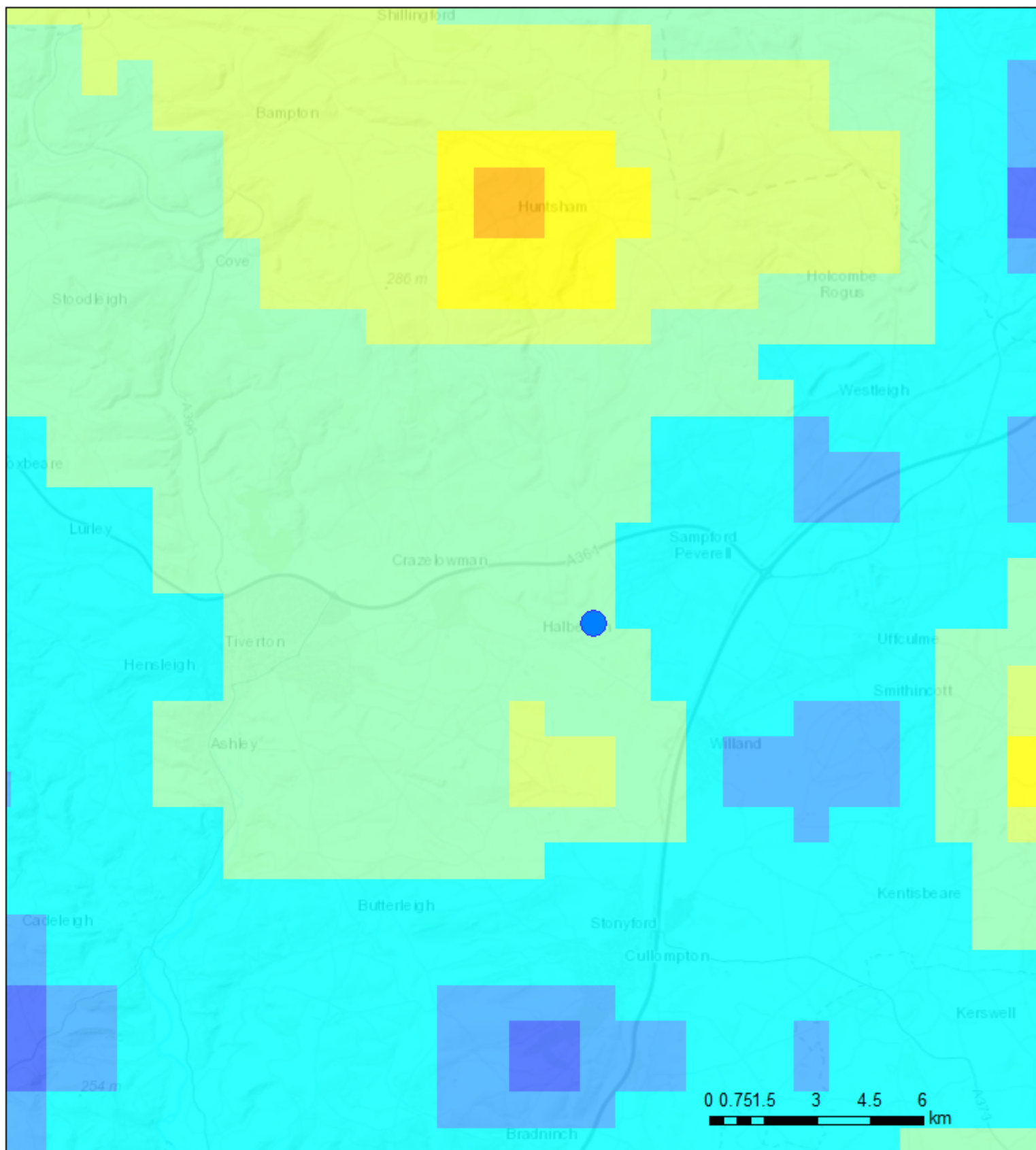
Appendix C UKSO Maps



Map Key

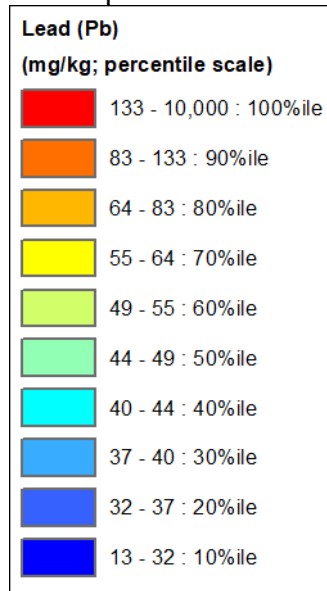
NSI Topsoil Arsenic





Map Key

NSI Topsoil Lead



Appendix D Nature & Heritage Conservation Screening Report

Nature and Heritage Conservation

Screening Report: SR2010 No 12

Reference	EPR/LB3002GJ/A001
NGR	ST 01457 14040
Buffer (m)	335
Date report produced	10/01/2022
Number of maps enclosed	1

The nature conservation sites and/or protected species and habitats identified in the table below must be considered in your application.

As you have not met the criteria for a standard rules permit, you will need to contact us for further advice on the type of permit you should apply for. Please submit a request through this link: <https://www.gov.uk/government/publications/environmental-permit-pre-application-advice-form>

Protected Habitats Screening distance (m) Further Information


Deciduous Woodland within 50 [Natural England](#)

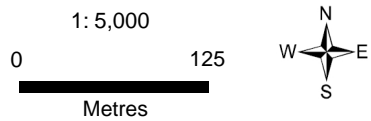
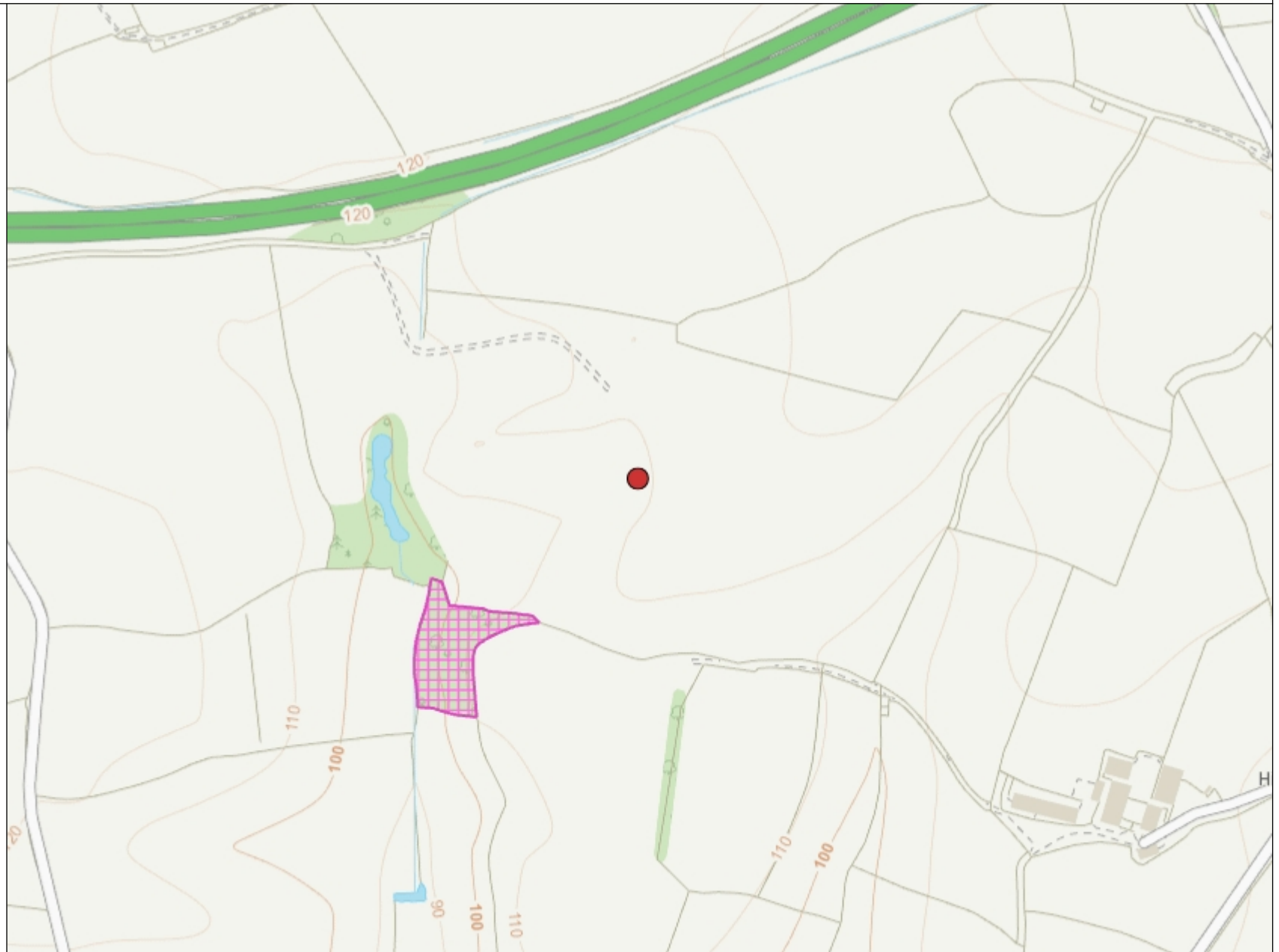
You are advised to obtain the necessary licences, or agree mitigation with the relevant bodies, for example Natural England or wildlife trusts before submitting your application.

Please note the nature and heritage screening we have conducted as part of this report is subject to change as it is based on data we hold at the time it is generated. We cannot guarantee there will be no changes to our screening data between the date of this report and the submission of the permit application, which could result in the return of an application or requesting further information.

Protected Habitats

Legend

-  Protected Habitats screened for En Permits



Appendix E Site Specific Risk Assessment

Table 1
Site Specific Risk Assessment
Greenway Recycling Facility & Inert Landfill



DATA AND INFORMATION							ACTION (BY PERMITTING)		
Receptor	Source	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management Measures	Residual Risk
Local human population	Releases of particulate matter (dusts) and micro-organisms (bioaerosols)	Harm to human health - respiratory irritation and illness.	Air transport then inhalation.	Medium	Medium	Medium	Permitted waste types are non-hazardous and do not include dusts, powders or loose fibres and have a low potential to produce bioaerosols. Only inert waste is to be deposited, however the treatment activities at the Site may produce particulate matter. Dust may also be produced from movement of vehicles and tipping operations especially in dry and also windy weather. The permitted level of throughput and potential size of the deposition area means there is the potential for exposure if anyone is living or working close to the Site (risks to the operator and employees are addressed separately). There is potential for increased dust generation from permitted activities during prolonged dry periods (e.g. summer months).	The Site is not located within a specified air quality management area (AQMA) for particulate matter of 10 microns or less (PM10). Activities shall be managed and operated in accordance with the Site-specific Emissions Management Plan (EMP) that includes measures to prevent and reduce risk of dust being produced and where it is produced from leaving the Site boundaries. The treatment area within the Site has been located away from nearby residential receptors.	Low
Local human population	Releases of particulate matter (dusts).	Nuisance - dust on cars, clothing etc.	Air transport then deposition	Low	Low	Low	Local residents are often sensitive to dust and the activities may produce dust (e.g. movement of vehicles, tipping operations, treatment operations) especially in dry and also windy weather. Notwithstanding this, the permitted waste types are not hazardous and whilst there are residential receptors within a 500m radius, the waste operations have been designed to screen the Site from residential receptors.	As above	Low
Local human population, livestock and wildlife.	Litter	Nuisance, loss of amenity and harm to animal health	Air transport then deposition	Low	Low	Very Low	Local residents often sensitive to litter, however permitted waste types have low litter potential.	The Environmental Management System (EMS) includes procedures to remove and contain any litter (irrespective of source) to prevent it being deposited at the Site or leaving the Site boundaries. The primary control will be inspection of loads of material prior to deposition - should loads with unacceptable material including litter be noted, these would be returned to the originating site. Should litter be noted on-Site, this would be cleared by Decharge Ltd staff.	Very low
Local human population	Waste, litter and mud on local roads	Nuisance, loss of amenity, road traffic accidents.	Tracked on tyres of vehicles entering and leaving the site and from loads which are not properly contained.	Medium	Medium	Medium	Waste types are typically ones that will produce mud especially during wet weather.	Soil is only imported to Site using covered lorries. Within the Site, lorries to track along the dedicated haul route and not over waste soils. All lorries to pass over rumble strip prior to exiting Site. Decharge Ltd Site staff to inspect the entrance on a daily basis for litter and mud. A sweeper is to be used on an as required basis to clean the entrance to the Site should excess mud be noted by Decharge Ltd staff or members of the public and require cleaning. Should mud on road be a persistent issue, the need for additional measures to be located at the site entrance to remove excess mud arising before vehicles exit the Site would be agreed with the EA.	Low
Local human population	Odour	Nuisance, loss of amenity	Air transport then inhalation.	Very low	Very low	Very Low	Local residents often sensitive to odour, however permitted waste types are not hazardous (only inert for purposes of waste deposition) and should not be odorous.	Permitted waste types are mainly inert and should have very low odour potential. Rogue loads with potentially non-permitted wastes to be dealt with in accordance with procedures in EMS - primary action being to return to originating site.	Very low
Local human population	Noise and vibration	Nuisance, loss of amenity, loss of sleep.	Noise through the air and vibration through the ground.	Medium	Medium	Medium	Local residents often sensitive to noise and vibration however low potential for exposure given distance to nearby residential receptors from treatment area in Site plus proposed landscape bunds acting as a screen during deposition of inert waste in Site.	Activities considered to have limited potential to generate excessive noise and vibration given proposed layout of Site. Site is only to be operated during normal working hours. Boundary noise surveys undertaken on an as required basis by Decharge Ltd site staff. A noise and vibration management plan may be developed if required.	Low
Local human population	Scavenging animals and scavenging birds	Harm to human health from waste carried off site and faeces. Nuisance and loss of amenity.	Air transport and over land.	Low	Low	Very Low	Permitted wastes unlikely to attract scavenging animals and birds but may become nesting / breeding sites.	Wastes are limited to mainly inert wastes that are not normally attractive to animals and birds. Risk limited by permitted waste types and good onsite management practices detailed in management system of non-conforming wastes.	Very low
Local human population and local environment.	Pests (e.g.) flies.	Harm to human health. Nuisance, loss of amenity.	Air transport and overland.	Low	Low	Low	Permitted waste types unlikely to attract pests.	As above	Very low
Local human population and local environment	Flooding of site	If waste is washed off site it may contaminate buildings / gardens / natural habitats downstream.	Flood waters	Medium	Medium	Medium	Permitted waste types are inert (for deposition purposes) and non hazardous (in treatment area only) so any waste washed off-Site will add to the volume of the local post-flood clean up workload, rather than the hazard. However this may cause increased siltation and need for dredging in water courses. Increased suspended solids.	The Site is located in Flood Zone 1 and the risk of flooding is low. The scheme will incorporate settlement lagoons at the low points of the different phases. To slow flows and promote early settlement of suspended solids the lagoons will comprise of two to three settlement bays divided by earthwork weirs, the overall lagoon formed either as an excavated lagoon or a partial embankment lagoon dependant on the topography at its location. Long term post restoration the change in topography will minimise the velocities of run off and therefore the likelihood of erosion of the deposited waste material.	Low
Local human population and /or livestock gaining unauthorised access to the waste operation.	All on-site hazards, wastes, machinery and vehicles.	Bodily injury.	Direct physical contact.	Low	Medium	Low	Permitted waste types to comprise inert materials only (for deposition) and not hazardous waste (for treatment purposes) so very low-risk of combustion. Site machinery and fuels and oils are more of a risk but quantities would typically be low. However there could be stockpiles that people could climb or void spaces that people could fall into and wastes have a higher risk in wet conditions where deep mud could form.	The EMS sets out how any polluting liquids or materials will be stored safely. The deposition area will be secured (using a combination of existing hedgerows plus post and wire fences) to minimise the potential for access from livestock. Signage and a lockable gate will be in-place at the entrance to the compound area.	Low
Local human population and the environment.	Arson and/ or vandalism causing the release of polluting materials to air (smoke or fumes) and firewater or spillage of polluting liquids to water or land.	Respiratory irritation, illness and nuisance to local population. Injury to staff, fire fighters or arsonists/ vandals. Pollution of water or land.	Air transport of smoke. Spillages and contaminated firewater by direct run-off from and via surface water drains and ditches.	Low	Medium	Low	Permitted waste types do not include any flammable materials so a low magnitude risk is estimated. Site machinery and fuels and oils are more of a risk but quantities would typically be low.	The EMS describes Site security measures to minimise potential for unauthorised access and sets out how any polluting liquids or materials will be stored safely.	Very low
Local human population and local environment.	Accidental fire causing release of polluting materials to air (smoke or fumes), water or land.	Respiratory irritation, illness and nuisance to local population. Injury to staff, fire fighters. Pollution of water or land.	Air transport of smoke. Spillages and contaminated firewater by direct run-off from and via surface water drains and ditches.	Low	Medium	Low	Permitted waste types do not include any flammable materials so very low-risk of combustion. Site machinery and fuels and oils are more of a risk but quantities would typically be low.	As above. Burning of waste or rubbish on-Site not permitted.	Very low
Local human population and local environment.	Build up and emissions of gas from Made Ground on the permitted site	Respiratory irritation, illness and nuisance to local population. Risk of explosion and injury to staff and local population.	Gas migrating laterally through waste deposit and building up in certain areas.	Low	High	Medium	Permitted waste types do not include sludges or liquids so only a medium magnitude risk is estimated. No point source emissions to water are permitted, however there is potential for contaminated rainwater run-off especially during heavy rain.	The previously imported fill on-Site is to be stripped off as part of the proposed landfill construction. Where the fill material is suitable and meets the requirements of the Construction Quality Assurance (CQA) plan, it may be placed and compacted to form the required artificial geological barrier or used to construct a drainage blanket beneath the artificial geological barrier. Where the fill material is not suitable for the geological barrier, this will be incorporated into the waste mass following suitable testing.	Low
All surface waters close to and downstream of site.	Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste e.g. containing suspended solids.	Acute effects: oxygen depletion, fish kill and algal blooms	Direct run-off from site across ground surface, via surface water drains, ditches etc.	Low	Medium	Medium	Wastes are solid and comprise not hazardous and inert material only. Potential for spillage from any fuel and oil storage for machinery or directly from machinery operating on the site. Recycling area is approximately 150 m north of the nearest surface water receptor (pond)	All liquids (e.g. fuels) shall be provided with secondary containment. Only small quantities of fuel kept on-Site. Run-off from deposition areas is contained by topography with settlement and storage basins to be installed hydraulically downgradient of the Site. Wastes from potentially contaminated sites analysed prior to import.	Low

Table 1
Site Specific Risk Assessment
Greenway Recycling Facility & Inert Landfill



DATA AND INFORMATION							ACTION (BY PERMITTING)		
Receptor	Source	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management Measures	Residual Risk
All surface waters close to and downstream of site.	As above	Chronic effects: deterioration of water quality	As above. Indirect run-off via the soil layer	Medium	Medium	Medium	Permitted waste types for deposition comprise inert materials only so any waste washed off site will not be chemically hazardous however they may cause increased siltation and need for dredging in water courses. It will also reduce water quality and may smother fish breeding grounds and invertebrate populations. The waste will not produce liquid in itself but rainwater percolating through the waste will produce a waste leachate which should still be very low in contamination. Recycling area is approximately 150 m north of the nearest surface water receptor (pond)	As above. Burning of waste or rubbish on-Site not permitted.	Low
Groundwater	Leachate from waste and contaminated rainwater run-off from waste e.g. Suspended solids.	Chronic effects: contamination of groundwater, requiring treatment of water or closure of borehole.	Transport through soil/groundwater then extraction at borehole.	Medium	Medium	Medium	Permitted waste types for deposition are to comprise inert materials only with not hazardous waste treatment only in a small area of Site. Waste should not contain hazardous substances or non-hazardous pollutants in quantities that pose a risk to groundwater.	The Site is not located in a Groundwater Source Protection Zone Mandatory waste acceptance procedures have been developed as part of the EMS to ensure only permitted waste is deposited on site. The EMS also sets out how to deal with rogue or non-conforming loads. The risks associated with this potential contaminant linkage are considered to be low to medium. Residual risk is considered to be very low as established in Hydrogeological Risk Assessment (HRA) with risks reduced by mitigation measures (artificially enhanced geological barrier) set out in the engineering design. Furthermore: - The permitted waste types for deposition are to comprise inert materials only. Waste should not contain hazardous substances or non-hazardous pollutants in quantities that pose a risk to groundwater. - Groundwater flow is anticipated to follow the local topography, discharging to the pond to the south-west of the Site.	Very low
Protected nature conservation sites - European sites and SSSIs.	Dust, noise, contaminated run-off leachate etc.	Harm to protected sites through contamination, smothering, disturbance etc.	Any	Low	Medium	Medium	Emissions to air may cause harm to and deterioration of nature conservation sites. Vehicles moving on and around site causing disturbance through noise. Potential for run-off and siltation of habitats etc.	No protected sites (e.g. Great Crested Newts, National Nature Reserve (NNR), Local Nature Reserves(LNR), Local Wildlife Site (LWS), Ancient woodland or Scheduled Ancient Monument are located within the limits set out in a Standard Rules SR2015 No39 permit or SR2010 No 12 permit (with respect to the location of the treatment area in the Site).	Low

APPROACH TO RISK EVALUATION

Probability of exposure is the likelihood of the receptors being exposed to the hazard. Example definitions:

High – exposure is probable: direct exposure likely with no / few barriers between hazard source and receptor;

Medium – exposure is fairly probable: feasible exposure possible - barriers to exposure less controllable;

Low – exposure is unlikely: several barriers exist between hazards source and receptors to mitigate against exposure:

Very Low – exposure is very unlikely: effective, multiple barriers in place to mitigate against exposure.

The consequences of a hazard being realised may be actual or potential harm.

This will include be on a high/medium/low/very low score using attributes and scaling to consider 'harm'.

Magnitude of the risk is determined by combining the probability with the magnitude of the potential consequences

High risks require additional assessment and active management

Medium risks require additional assessment and may require active management/monitoring

Low and very low risks require periodic review.

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