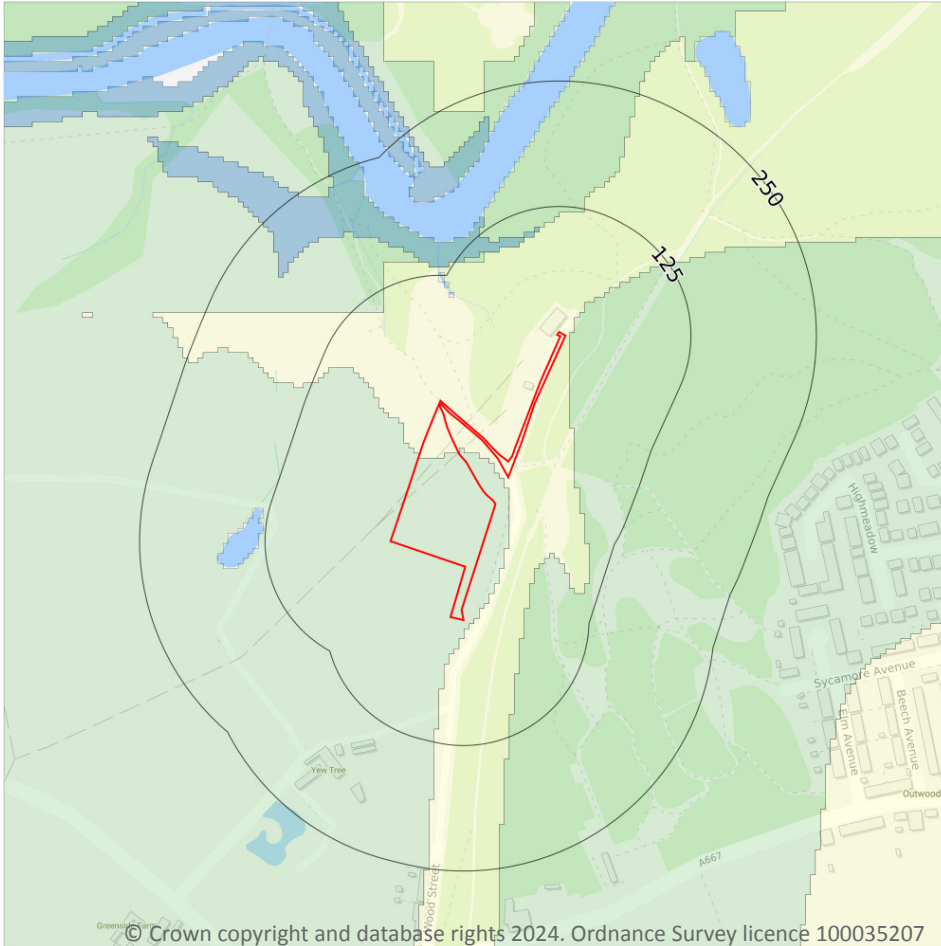


9 Groundwater flooding



— Site Outline
Search buffers in metres (m)

- High
- Moderate - High
- Moderate
- Low
- Negligible

9.1 Groundwater flooding

Highest risk on site

Moderate

Highest risk within 50m

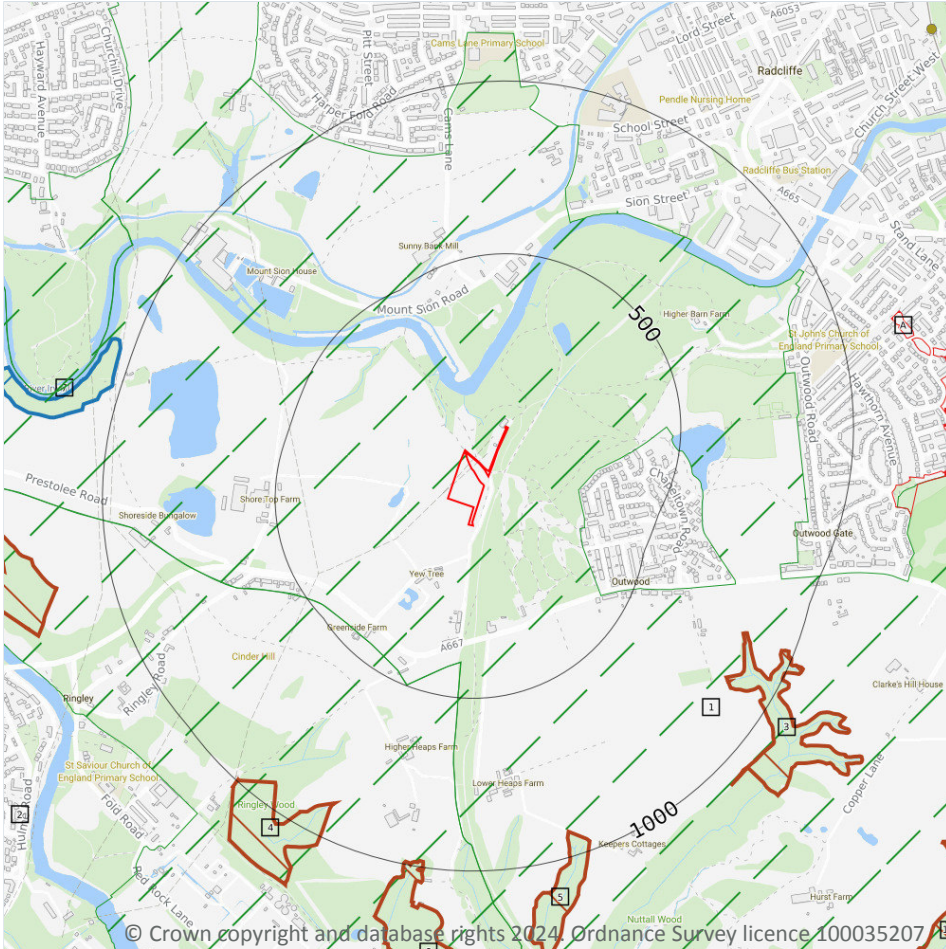
Moderate

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on [page 77 >](#)

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Sites of Special Scientific Interest (SSSI)
- + Local Nature Reserves (LNR)
- Designated Ancient Woodland
- Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

2

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

Features are displayed on the Environmental designations map on [page 78](#) >

ID	Location	Name	Data source
7	1025m W	Ashclough	Natural England



ID	Location	Name	Data source
-	1491m W	Ashclough	Natural England

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0
-----------------------------	----------

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0
-----------------------------	----------

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.4 Special Protection Areas (SPA)

Records within 2000m	0
-----------------------------	----------

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.5 National Nature Reserves (NNR)

Records within 2000m	0
-----------------------------	----------

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.



10.6 Local Nature Reserves (LNR)

Records within 2000m

4

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

Features are displayed on the Environmental designations map on [page 78 >](#)

ID	Location	Name	Data source
8	1128m E	Chapelfield	Natural England
A	1153m E	Chapelfield	Natural England
A	1196m E	Chapelfield	Natural England
-	1384m S	Clifton Country Park	Natural England

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.7 Designated Ancient Woodland

Records within 2000m

6

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

Features are displayed on the Environmental designations map on [page 78 >](#)

ID	Location	Name	Woodland Type
3	842m SE	Nuttall Wood	Ancient & Semi-Natural Woodland
4	895m SW	Ringley Wood	Ancient & Semi-Natural Woodland
5	929m S	Lower Heaps Wood	Ancient & Semi-Natural Woodland
6	982m S	Unknown	Ancient & Semi-Natural Woodland
9	1162m W	Prestolee Wood	Ancient & Semi-Natural Woodland
11	1640m SE	Carters Hill Wood	Ancient & Semi-Natural Woodland

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.



10.8 Biosphere Reserves

Records within 2000m

0

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.9 Forest Parks

Records within 2000m

0

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.11 Green Belt

Records within 2000m

6

Areas designated to prevent urban sprawl by keeping land permanently open.

Features are displayed on the Environmental designations map on [page 78 >](#)

ID	Location	Name	Local Authority name
1	On site	Merseyside and Greater Manchester	Bury
2	398m S	Merseyside and Greater Manchester	Bolton
-	1372m S	Merseyside and Greater Manchester	Salford
-	1760m NE	Merseyside and Greater Manchester	Bury
-	1820m NE	Merseyside and Greater Manchester	Bury
-	1844m NW	Merseyside and Greater Manchester	Bolton



This data is sourced from the Ministry of Housing, Communities and Local Government.

10.12 Proposed Ramsar sites

Records within 2000m

0

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

This data is sourced from Natural England and Natural Resources Wales.

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

Special Protection Areas (SPAs) are areas designated (or 'classified') under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m

0

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.



10.16 Nitrate Vulnerable Zones

Records within 2000m**2**

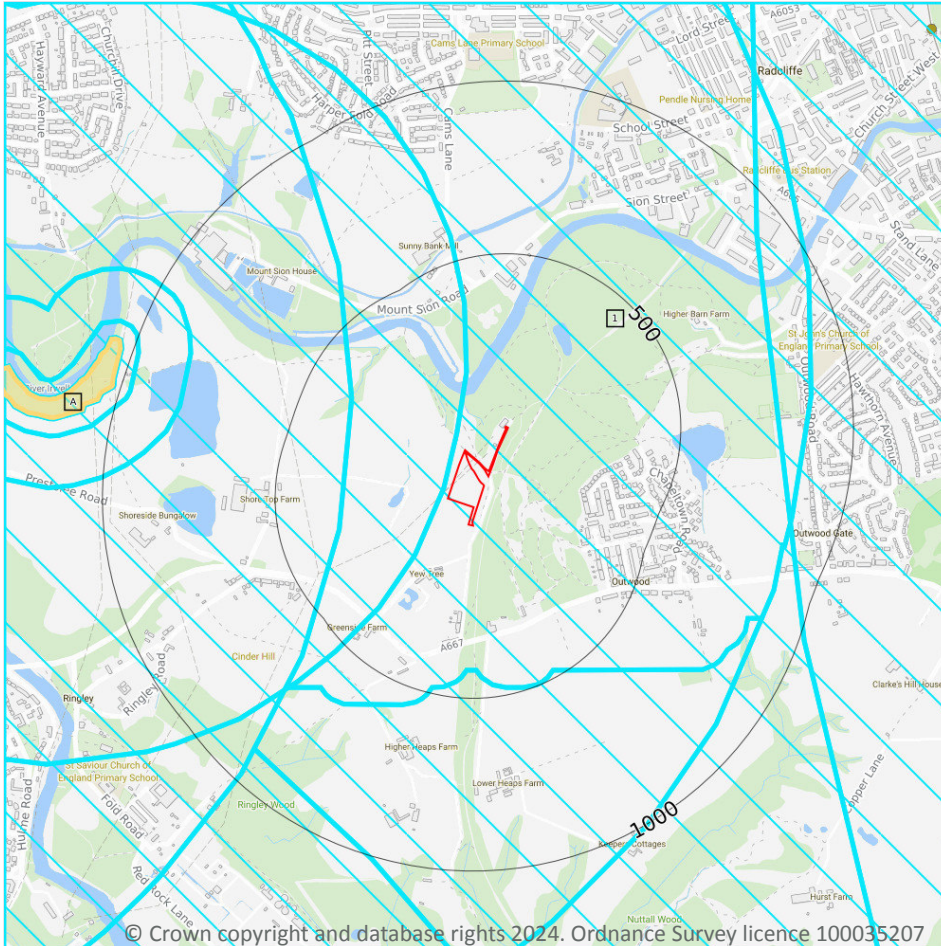
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
327m S	Irwell / Man. Ship Canal (Kearsley to Irlam Locks) NVZ	Surface Water	643	Existing
997m W	Irwell / Man. Ship Canal (Kearsley to Irlam Locks) NVZ	Surface Water	643	Existing

This data is sourced from Natural England and Natural Resources Wales.



SSSI Impact Zones and Units



- Site Outline
- Search buffers in metres (m)
- ▨ SSSI Impact Risk Zones
- SSSI Units
- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site

1

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on [page 84](#) >



ID	Location	Type of developments requiring consultation
1	On site	Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals. Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction. Rural residential - Any residential development of 100 or more houses outside existing settlements/urban areas. Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t. Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	2
-----------------------------	----------

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

Features are displayed on the SSSI Impact Zones and Units map on [page 84 >](#)

ID: A
 Location: 1025m W
 SSSI name: Ashclough
 Unit name: Westphalian Gcr
 Broad habitat: Earth Heritage
 Condition: Unfavourable - No change
 Reportable features:

Feature name	Feature condition	Date of assessment
EW - Westphalian	Unfavourable - No change	19/07/2011

ID: -
 Location: 1491m W
 SSSI name: Ashclough
 Unit name: Westphalian Gcr
 Broad habitat: Earth Heritage
 Condition: Unfavourable - No change
 Reportable features:



Feature name	Feature condition	Date of assessment
EW - Westphalian	Unfavourable - No change	19/07/2011

This data is sourced from Natural England and Natural Resources Wales.



11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m

0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

11.3 National Parks

Records within 250m

0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.

11.4 Listed Buildings

Records within 250m

0

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.



This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.5 Conservation Areas

Records within 250m

0

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.6 Scheduled Ancient Monuments

Records within 250m

0

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.7 Registered Parks and Gardens

Records within 250m

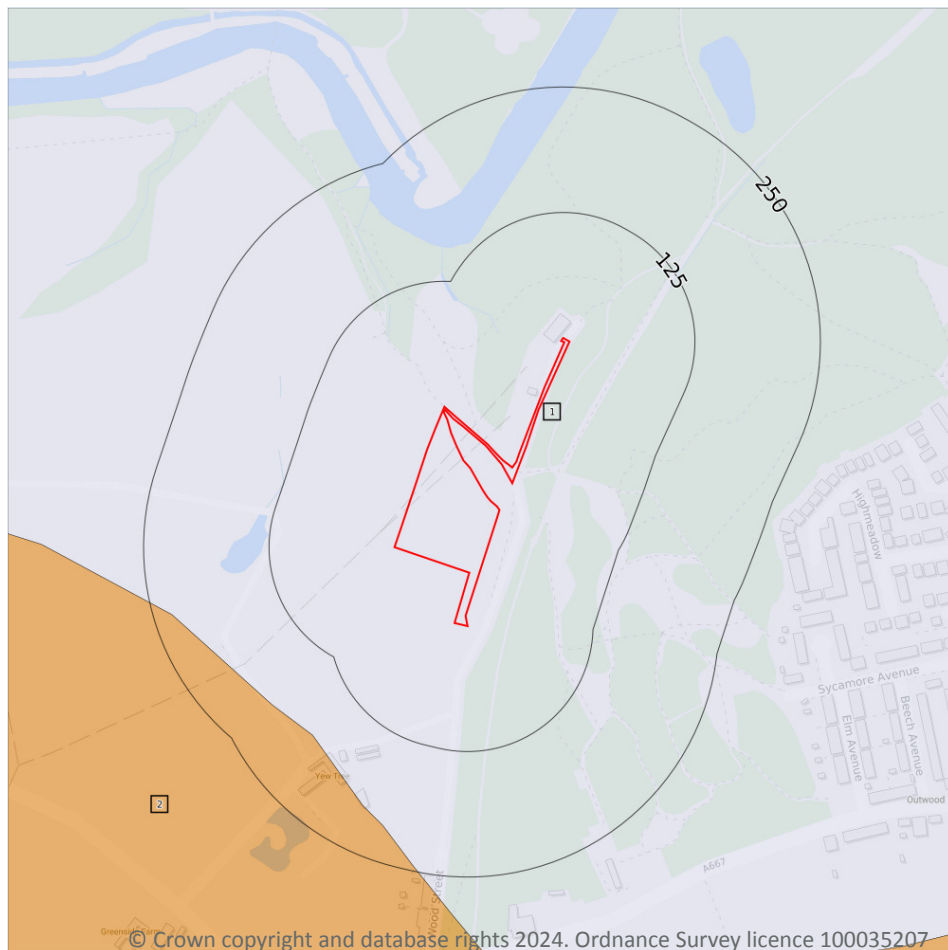
0

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.



12 Agricultural designations



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m

2

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on [page 89](#) >

ID	Location	Classification	Description
1	On site	Grade 4	Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.



ID	Location	Classification	Description
2	180m SW	Grade 3	Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m

0

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

This data is sourced from Natural England and Natural Resources Wales.

12.3 Tree Felling Licences

Records within 250m

0

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

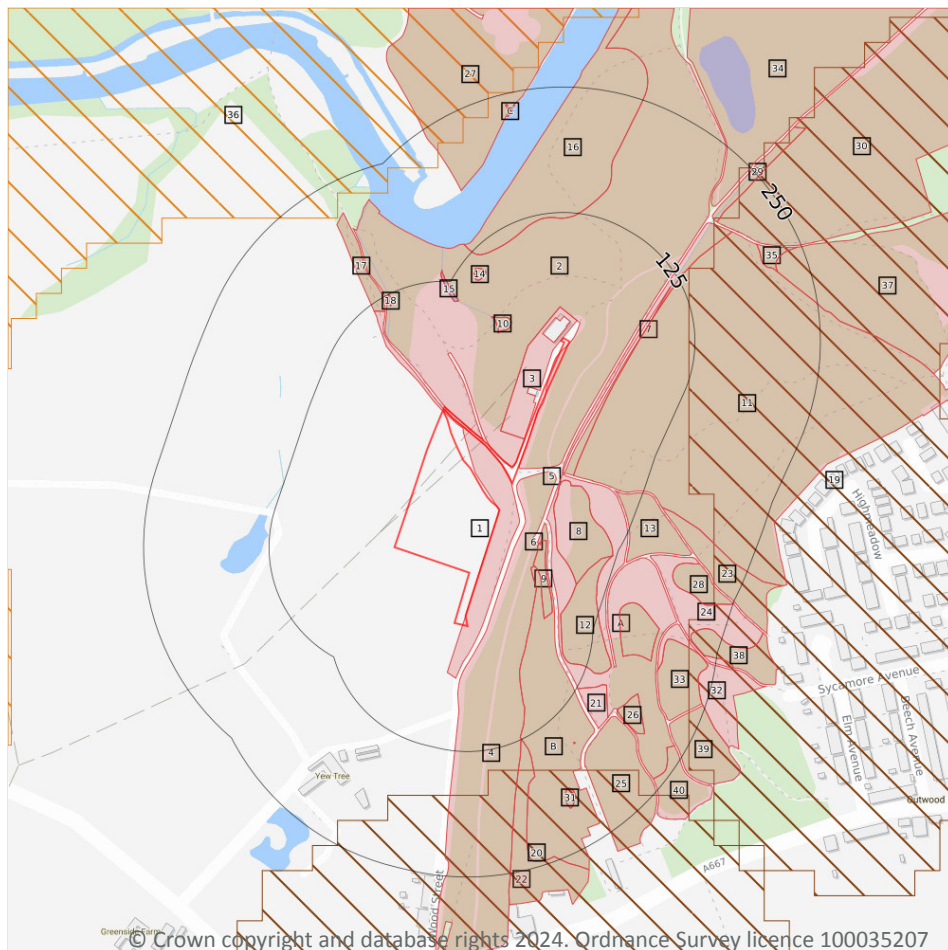
0

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

This data is sourced from Natural England.



13 Habitat designations



- Site Outline
- Search buffers in metres (m)
- Priority Habitat Inventory
- Open Mosaic Habitat
- Limestone Pavement Orders
- Habitat Networks
- Primary Habitat
- Restorable Habitat
- Associated Habitats
- Habitat Restoration-Creation
- Network Enhancement Zone 1
- Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m

43

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

Features are displayed on the Habitat designations map on [page 91](#) >

ID	Location	Main Habitat	Other habitats
1	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	0m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	5m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)



ID	Location	Main Habitat	Other habitats
5	33m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	41m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
7	41m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	44m E	Good quality semi-improved grassland	Main habitat: GQSIG (INV > 50%)
8	44m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%); GQSIG (INV > 50%)
9	47m SE	Good quality semi-improved grassland	Main habitat: GQSIG (INV > 50%)
B	48m SE	Good quality semi-improved grassland	Main habitat: GQSIG (INV > 50%)
10	53m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
11	54m E	No main habitat but additional habitats present	Additional: DWOOD (INV 50%)
12	90m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%); GQSIG (INV > 50%)
13	98m E	Good quality semi-improved grassland	Main habitat: GQSIG (INV > 50%)
14	100m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
15	105m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
16	110m N	No main habitat but additional habitats present	Additional: DWOOD (INV 50%)
17	112m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
18	114m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
20	125m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%); GQSIG (INV > 50%)
21	127m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%); GQSIG (INV > 50%)
A	145m SE	Good quality semi-improved grassland	Main habitat: GQSIG (INV > 50%)
23	148m E	Good quality semi-improved grassland	Main habitat: GQSIG (INV > 50%)
24	155m E	Good quality semi-improved grassland	Main habitat: GQSIG (INV > 50%)
B	157m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%); GQSIG (INV > 50%)
25	168m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%); GQSIG (INV > 50%)
26	171m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%); GQSIG (INV > 50%)
27	179m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
28	183m E	Good quality semi-improved grassland	Main habitat: GQSIG (INV > 50%)
29	188m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
30	189m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)



ID	Location	Main Habitat	Other habitats
31	190m S	Good quality semi-improved grassland	Main habitat: GQSIG (INV > 50%)
32	192m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%); GQSIG (INV > 50%)
33	194m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%); GQSIG (INV > 50%)
34	197m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
35	208m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
37	219m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
38	220m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%); GQSIG (INV > 50%)
39	224m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%); GQSIG (INV > 50%)
C	227m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
40	233m SE	Good quality semi-improved grassland	Main habitat: GQSIG (INV > 50%)
C	237m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

3

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

Features are displayed on the Habitat designations map on [page 91 >](#)

ID	Location	Type	Habitat
19	119m NE	Network Enhancement Zone 2	Not specified
22	145m S	Network Enhancement Zone 2	Not specified
36	210m N	Network Enhancement Zone 1	Not specified

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

0

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.



This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m

0

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



— Site Outline
Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m

1

An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

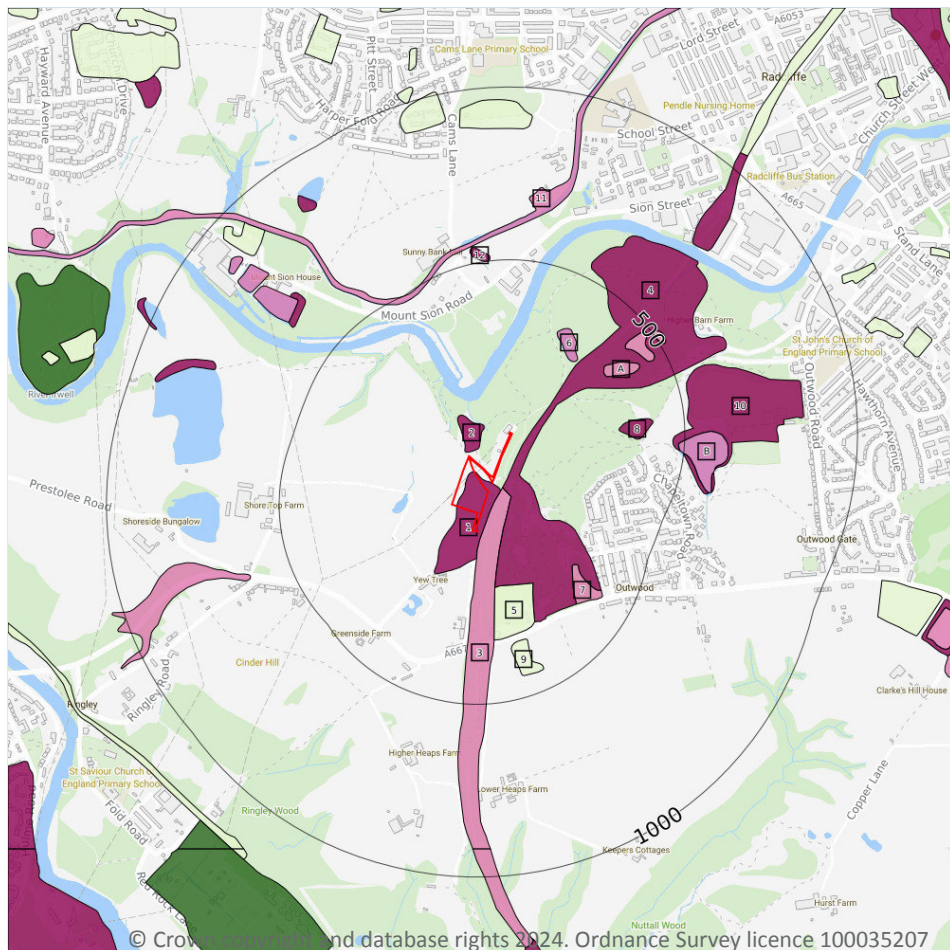
Features are displayed on the Geology 1:10,000 scale - Availability map on [page 95](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	SD70NE

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Artificial and made ground



- Site Outline**
- Search buffers in metres (m)**
- Reclaimed ground
 - Made ground
 - Worked ground
 - Infilled ground
 - Disturbed ground
 - Landscaped ground

14.2 Artificial and made ground (10k)

Records within 500m

17

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on [page 96](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	12m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	16m S	WGR-VOID	Worked Ground (Undivided)	Void
4	33m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

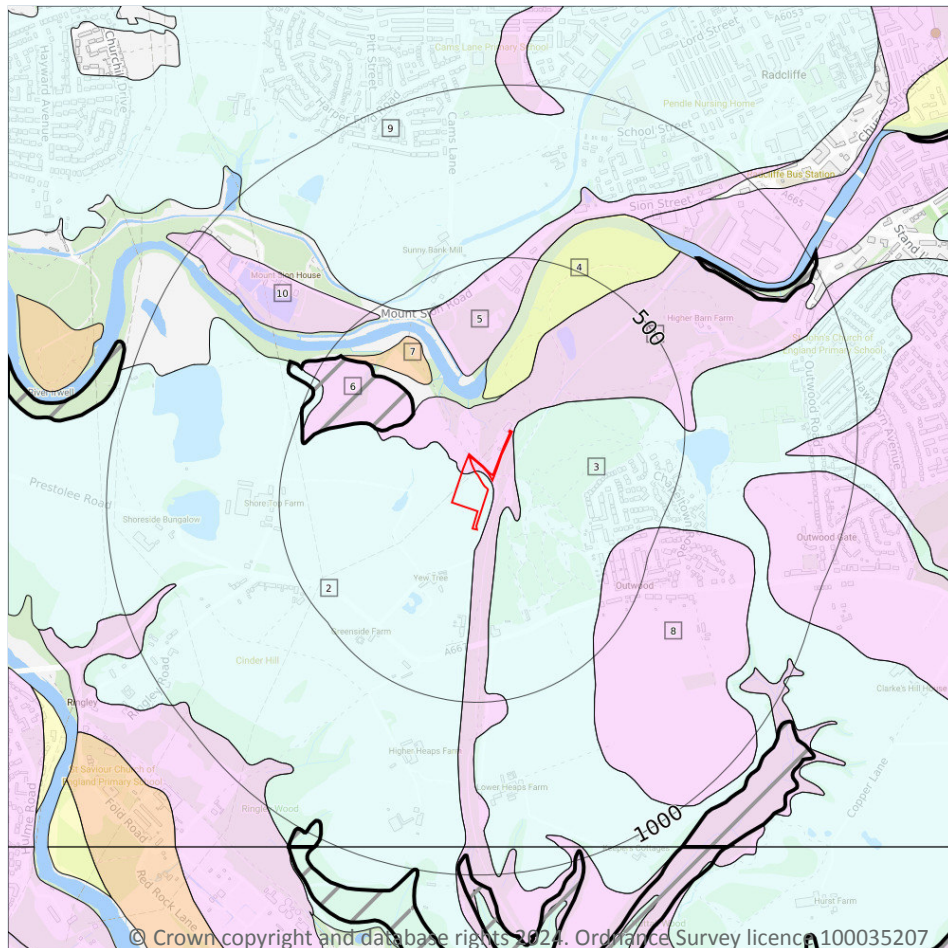


ID	Location	LEX Code	Description	Rock description
5	170m S	WMGR-ARTDP	Infilled Ground	Artificial Deposit
6	271m NE	WGR-VOID	Worked Ground (Undivided)	Void
7	293m SE	WGR-VOID	Worked Ground (Undivided)	Void
8	310m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	318m NE	WGR-VOID	Worked Ground (Undivided)	Void
9	339m S	WMGR-ARTDP	Infilled Ground	Artificial Deposit
A	411m NE	WGR-VOID	Worked Ground (Undivided)	Void
10	466m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
11	481m N	WGR-VOID	Worked Ground (Undivided)	Void
B	483m E	WGR-VOID	Worked Ground (Undivided)	Void
A	500m NE	WGR-VOID	Worked Ground (Undivided)	Void
12	500m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
B	500m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

Superficial geology (10k)
Please see table for more details.

14.3 Superficial geology (10k)

Records within 500m

9

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:10,000 scale - Superficial map on [page 98](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
2	On site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
3	6m NE	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton



ID	Location	LEX Code	Description	Rock description
4	103m N	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
5	197m N	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
7	234m NW	RTD1-XSV	River Terrace Deposits, 1 - Sand And Gravel	Sand And Gravel
8	386m SE	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
9	415m N	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
10	472m NW	GFSDD-XSV	Glaciofluvial Sheet Deposits, Devensian - Sand And Gravel	Sand And Gravel

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

1

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

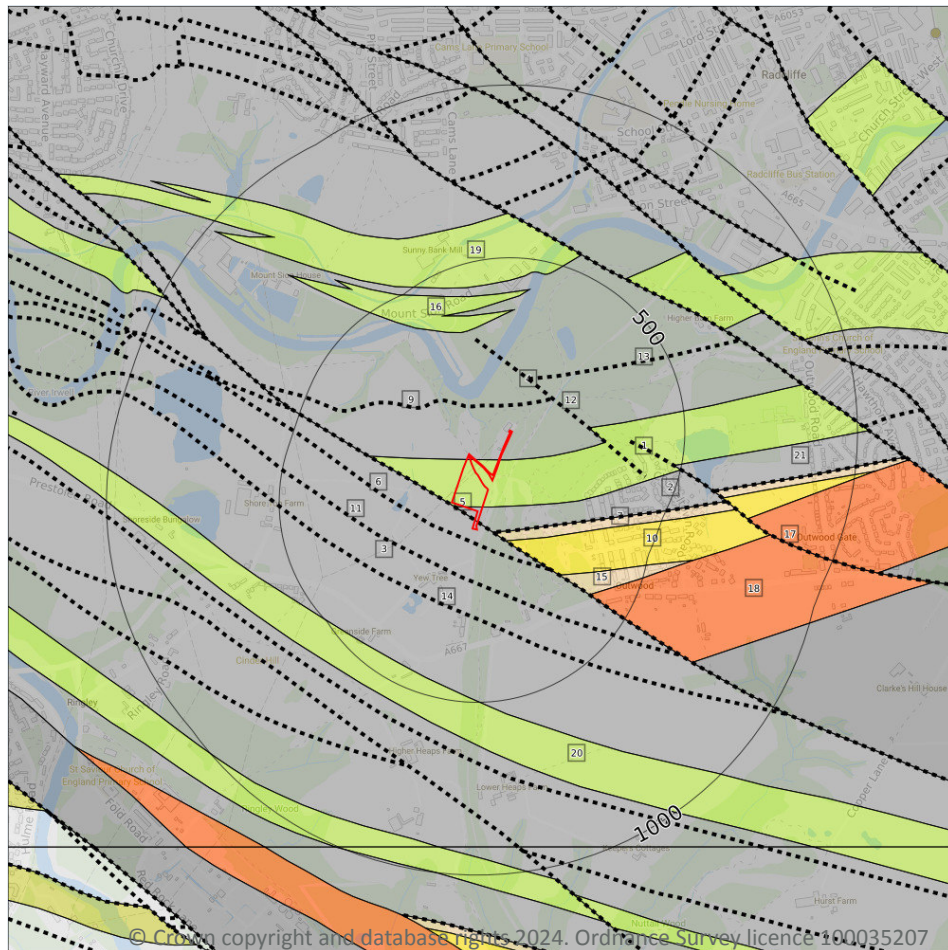
Features are displayed on the Geology 1:10,000 scale - Superficial map on [page 98 >](#)

ID	Location	LEX Code	Description	Rock description
6	199m NW	SLIP-UNKNOWN	Landslide Deposits	Unknown/unclassified Entry

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

..... Bedrock faults and other linear features (10k)

Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m

12

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 100](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	NHSS-SDST	Newton Heath Sandstone - Sandstone	Bolsovia Sub-age
2	On site	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovia Sub-age - Duckmantian Sub-age
3	On site	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovia Sub-age - Duckmantian Sub-age



ID	Location	LEX Code	Description	Rock age
4	On site	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovia Sub-age - Duckmantian Sub-age
7	46m SE	PUCM-MDSS	Pennine Upper Coal Measures Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age - Bolsovia Sub-age
10	89m SE	WDR-SDST	Worsley Delf Rock - Sandstone	Bolsovia Sub-age
15	273m SE	PUCM-MDSS	Pennine Upper Coal Measures Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age - Bolsovia Sub-age
16	313m N	NR-SDST	Nob End Rock - Sandstone	Bolsovia Sub-age
18	376m SE	MM-MDST	Manchester Marls Formation - Mudstone	Late Permian Epoch [Obsolete name]
19	427m N	NR-SDST	Nob End Rock - Sandstone	Bolsovia Sub-age
20	444m SW	NR-SDST	Nob End Rock - Sandstone	Bolsovia Sub-age
21	479m E	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovia Sub-age - Duckmantian Sub-age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

9

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 100](#) >

ID	Location	Category	Description
5	On site	FAULT	Normal fault, inferred; crossmarks on downthrow side
6	37m S	ROCK	Coal seam, inferred
8	46m SE	FOSSIL_HORIZON	Fossil horizon, marine band coincident with bedrock geology boundary
9	73m NE	ROCK	Coal seam, inferred
11	140m S	ROCK	Coal seam, inferred
12	148m NE	FAULT	Normal fault, inferred; crossmarks on downthrow side
13	158m NE	ROCK	Coal seam, inferred
14	235m S	ROCK	Coal seam, inferred



ID	Location	Category	Description
17	343m E	FAULT	Normal fault, inferred; crossmarks on downthrow side

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline

Search buffers in metres (m)

□ Geological map tile

15.1 50k Availability

Records within 500m

1

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on [page 103](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	No coverage	EW085_manchester_v4

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Artificial and made ground

15.2 Artificial and made ground (50k)

Records within 500m

0

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

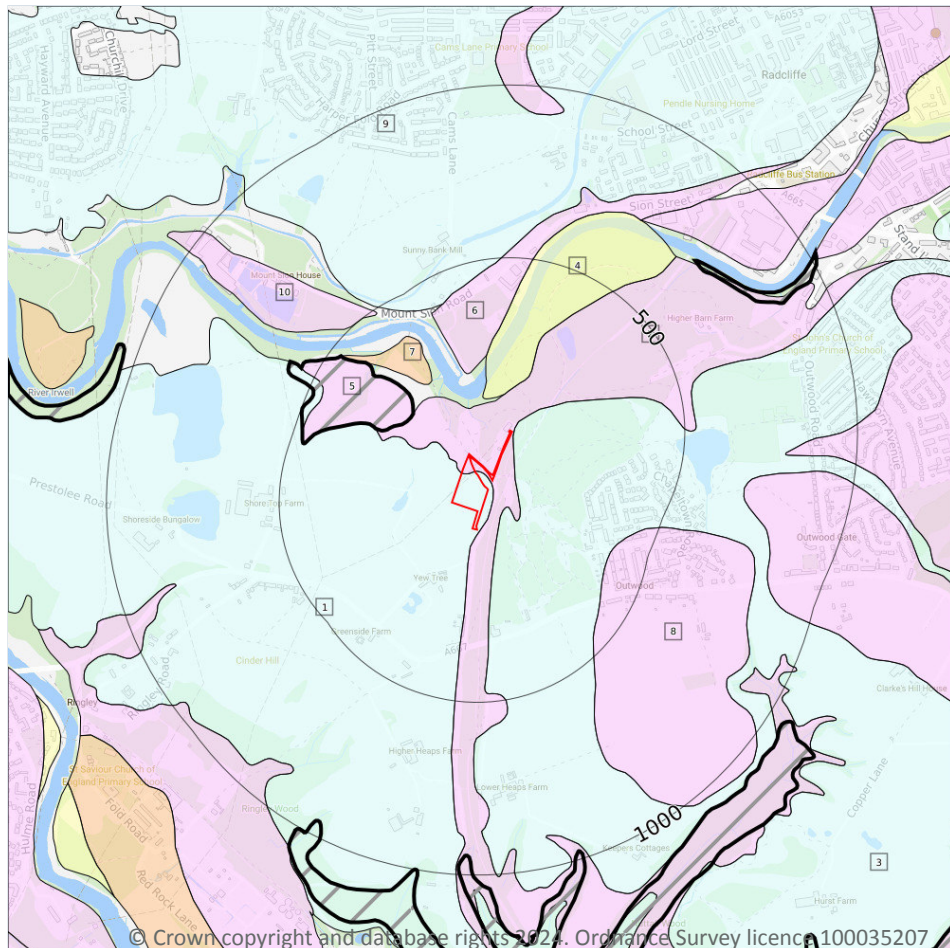
0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m

9

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on [page 105](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	TILL, DEVANSIAN	DIAMICTON
2	On site	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVANSIAN	SAND AND GRAVEL
3	6m NE	TILLD-DMTN	TILL, DEVANSIAN	DIAMICTON



ID	Location	LEX Code	Description	Rock description
4	103m N	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
6	202m N	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
7	234m NW	RTD1-XSV	RIVER TERRACE DEPOSITS, 1	SAND AND GRAVEL
8	386m SE	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
9	415m N	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
10	485m NW	GFSDD-XSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m

3

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	High	Low
On site	Intergranular	Very High	High
6m NE	Mixed	High	Low

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m

1

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

Features are displayed on the Geology 1:50,000 scale - Superficial map on [page 105 >](#)

ID	Location	LEX Code	Description	Rock description
5	199m NW	SLIP-UNKNOWN	LANDSLIDE DEPOSITS	UNKNOWN/UNCLASSIFIED ENTRY

This data is sourced from the British Geological Survey.



15.7 Landslip permeability (50k)

Records within 50m

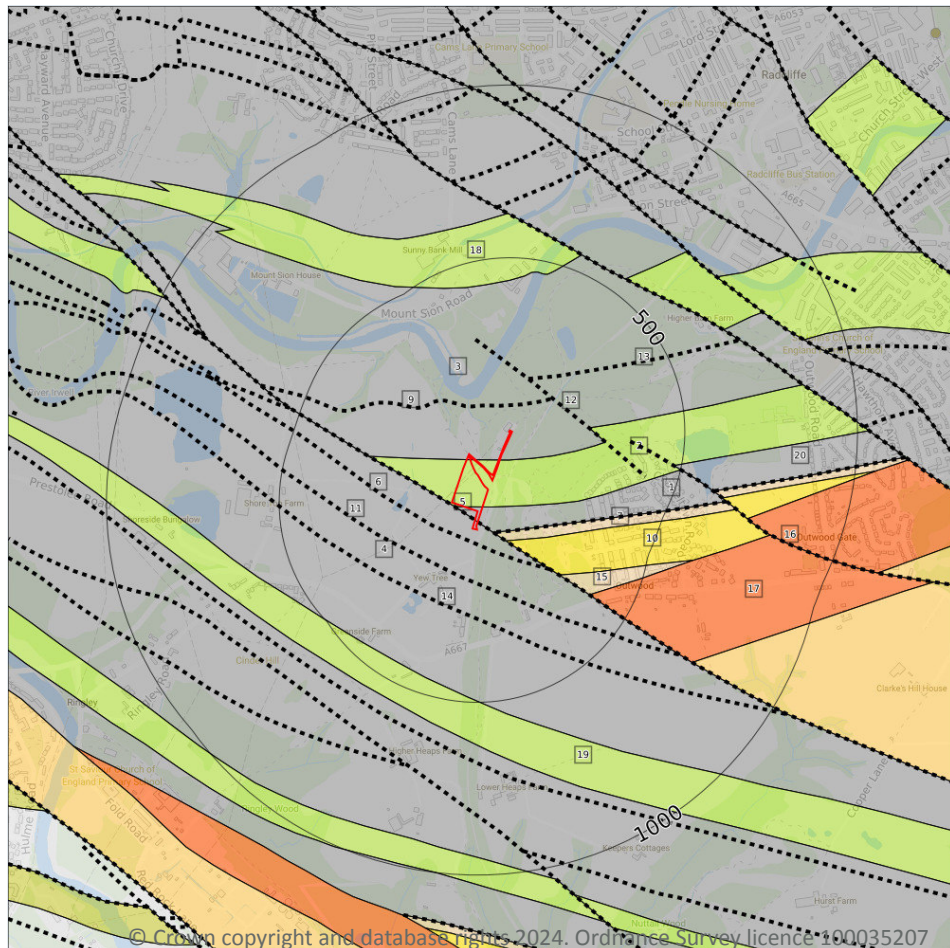
0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Bedrock



— Site Outline

Search buffers in metres (m)

.... Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m

11

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 108 >](#)

ID	Location	LEX Code	Description	Rock age
1	On site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
2	On site	NHSS-SDST	NEWTON HEATH SANDSTONE - SANDSTONE	WESTPHALIAN
3	On site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN



ID	Location	LEX Code	Description	Rock age
4	On site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
7	46m SE	PUCM-MDSS	PENNINE UPPER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
10	90m SE	WDR-SDST	WORSLEY DELF ROCK - SANDSTONE	WESTPHALIAN
15	272m SE	PUCM-MDSS	PENNINE UPPER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
17	376m SE	MM-MDST	MANCHESTER MARLS FORMATION - MUDSTONE	-
18	428m N	NR-SDST	NOB END ROCK - SANDSTONE	WESTPHALIAN
19	444m SW	NR-SDST	NOB END ROCK - SANDSTONE	WESTPHALIAN
20	479m E	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	3
---------------------------	----------

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Fracture	Moderate	Low
On site	Fracture	High	Moderate
46m SE	Fracture	Moderate	Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	9
----------------------------	----------

Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 108 >](#)

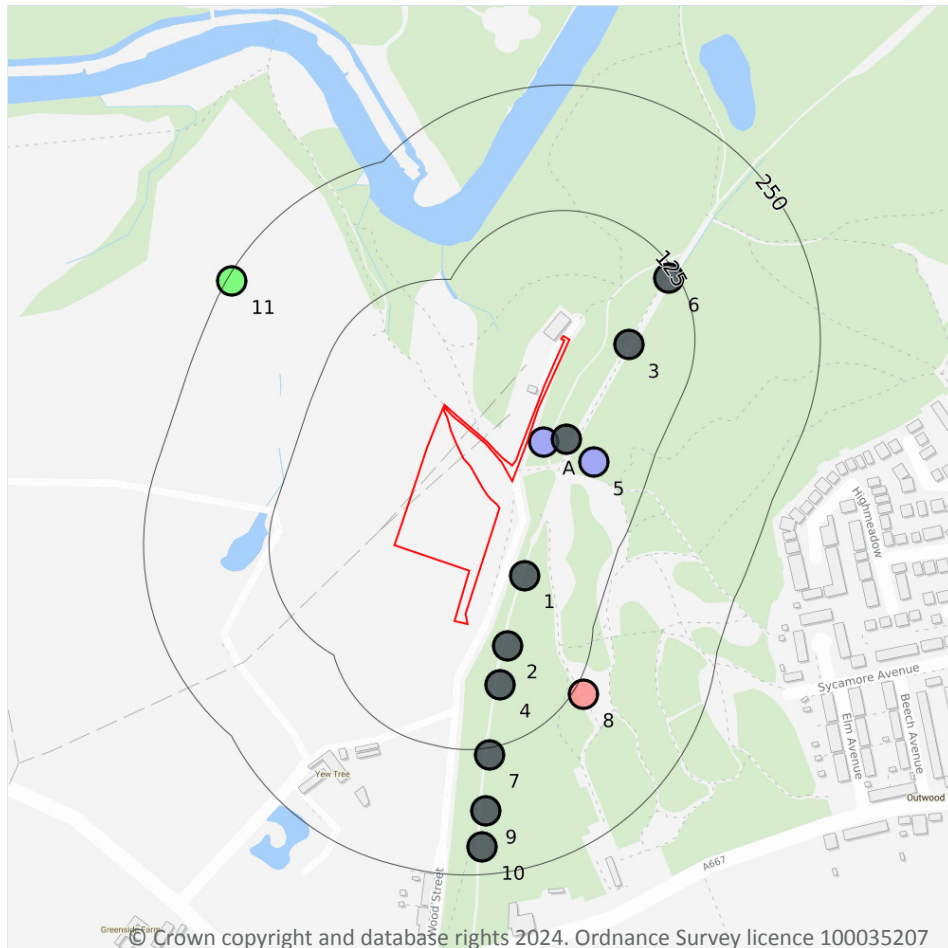


ID	Location	Category	Description
5	On site	FAULT	Fault, inferred
6	37m S	ROCK	Coal seam, inferred
8	46m SE	FOSSIL_HORIZON	Marine band
9	73m NE	ROCK	Coal seam, inferred
11	140m S	ROCK	Coal seam, inferred
12	149m NE	FAULT	Fault, inferred
13	159m NE	ROCK	Coal seam, inferred
14	235m S	ROCK	Coal seam, inferred
16	343m E	FAULT	Fault, inferred

This data is sourced from the British Geological Survey.



16 Boreholes



— Site Outline
Search buffers in metres (m)

- Confidential
- 0 - 10m
- 10 - 30m
- 30m+
- Unknown

16.1 BGS Boreholes

Records within 250m

13

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

Features are displayed on the Boreholes map on [page 111](#) >

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	15m NE	377580 406100	RADCLIFFE-BOLTON SEWER 19	6.1	N	18613 ↗
A	36m NE	377603 406103	Bury to Bolton Sludge Pipeline TP21	-	Y	N/A
1	44m SE	377561 405967	Bury to Bolton Sludge Pipeline TP22	-	Y	N/A

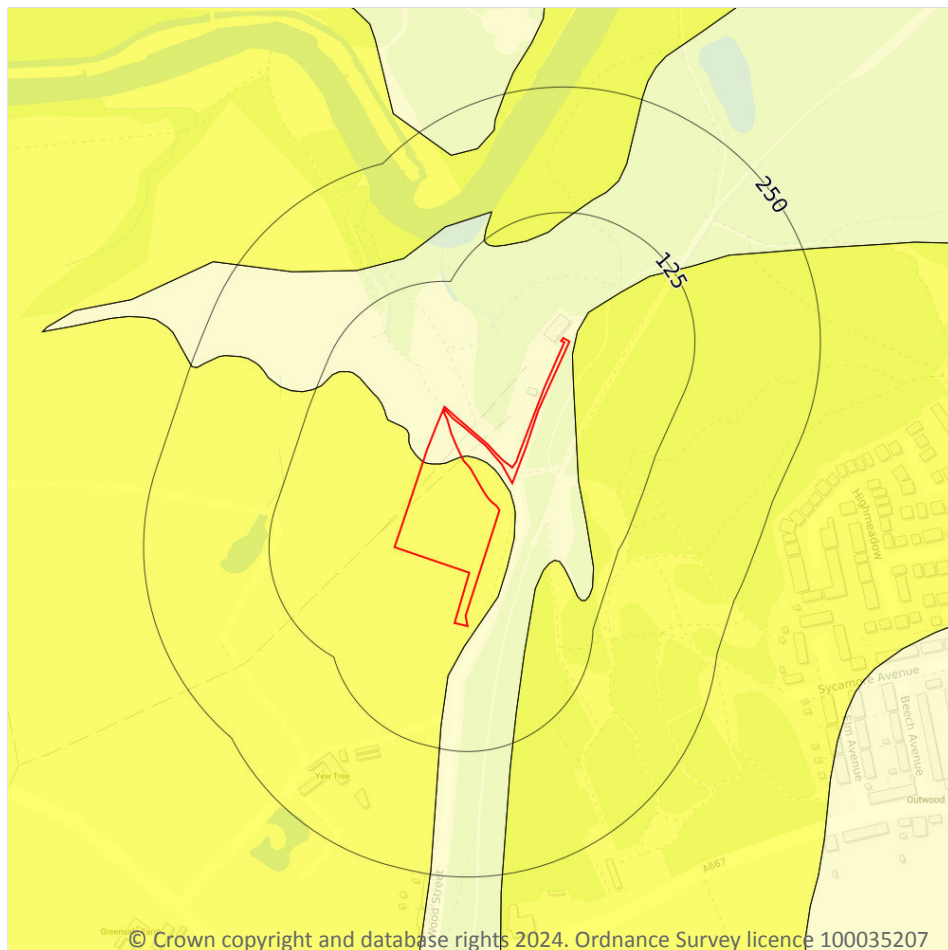


ID	Location	Grid reference	Name	Length	Confidential	Web link
2	45m S	377544 405897	Bury to Bolton Sludge Pipeline TP23	-	Y	N/A
3	59m NE	377665 406197	Bury to Bolton Sludge Pipeline TP20	-	Y	N/A
4	69m S	377537 405858	Bury to Bolton Sludge Pipeline TP24	-	Y	N/A
5	69m E	377630 406080	RADCLIFFE-BOLTON SEWER 20	9.14	N	18614 ↗
6	116m NE	377705 406263	Bury to Bolton Sludge Pipeline TP19	-	Y	N/A
7	132m S	377526 405788	Bury to Bolton Sludge Pipeline BH12	-	Y	N/A
8	135m SE	377620 405849	OUTWOOD COLLIERY 2	287.43	N	18437 ↗
9	187m S	377523 405733	Bury to Bolton Sludge Pipeline TP25	-	Y	N/A
10	222m S	377519 405697	Bury to Bolton Sludge Pipeline BH13	-	Y	N/A
11	245m NW	377270 406260	RADCLIFFE-BOLTON SEWER 14	18.29	N	18608 ↗

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.1 Shrink swell clays

Records within 50m

2

The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

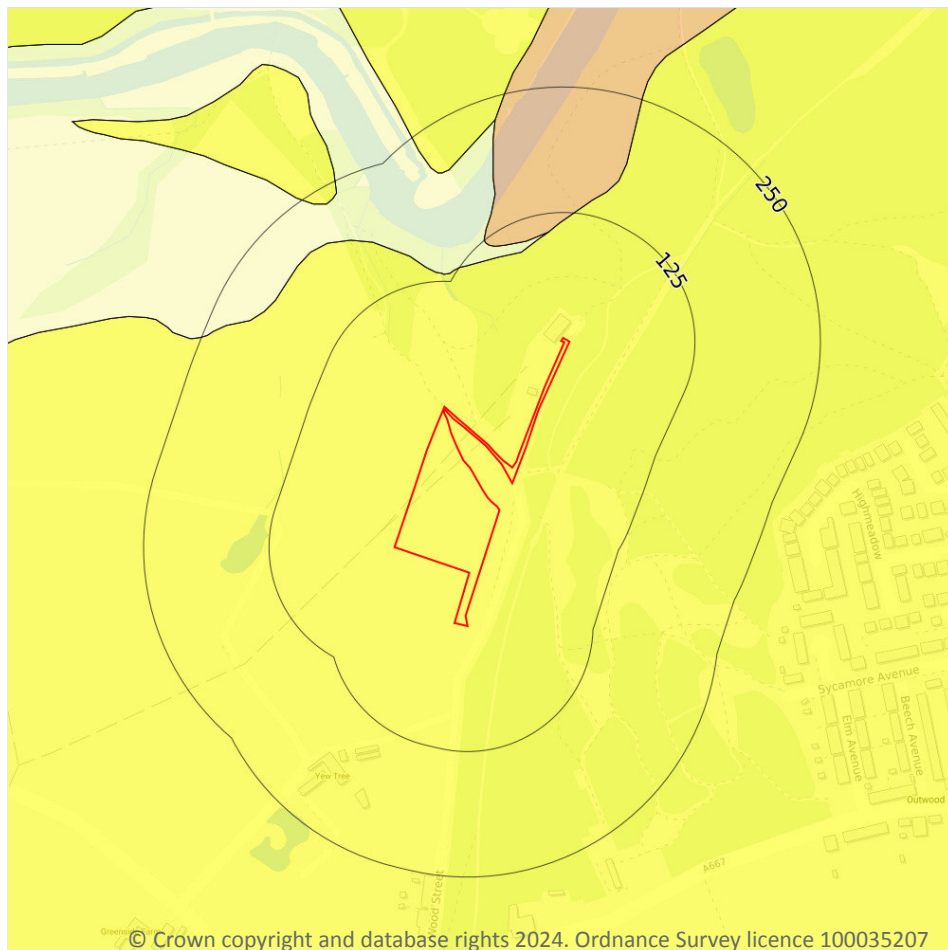
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 113](#) >

Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
On site	Very low	Ground conditions predominantly low plasticity.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.2 Running sands

Records within 50m

1

The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

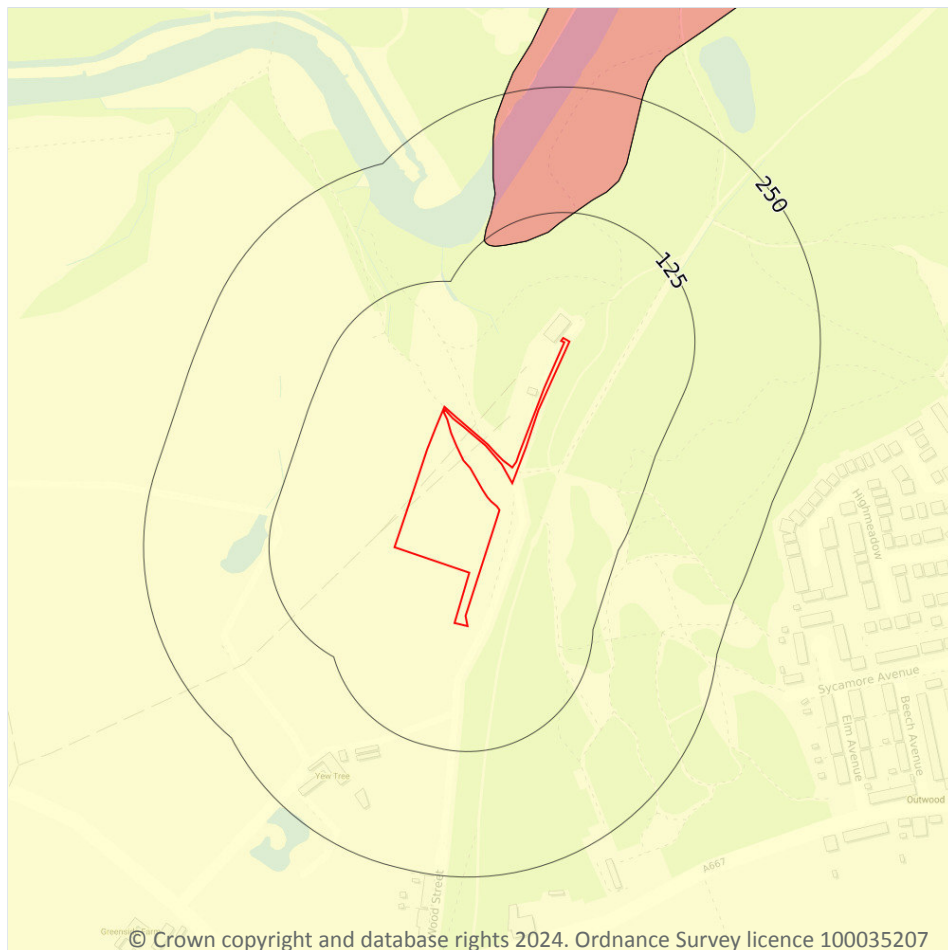
Features are displayed on the Natural ground subsidence - Running sands map on [page 114](#) >

Location	Hazard rating	Details
On site	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.3 Compressible deposits

Records within 50m

1

The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

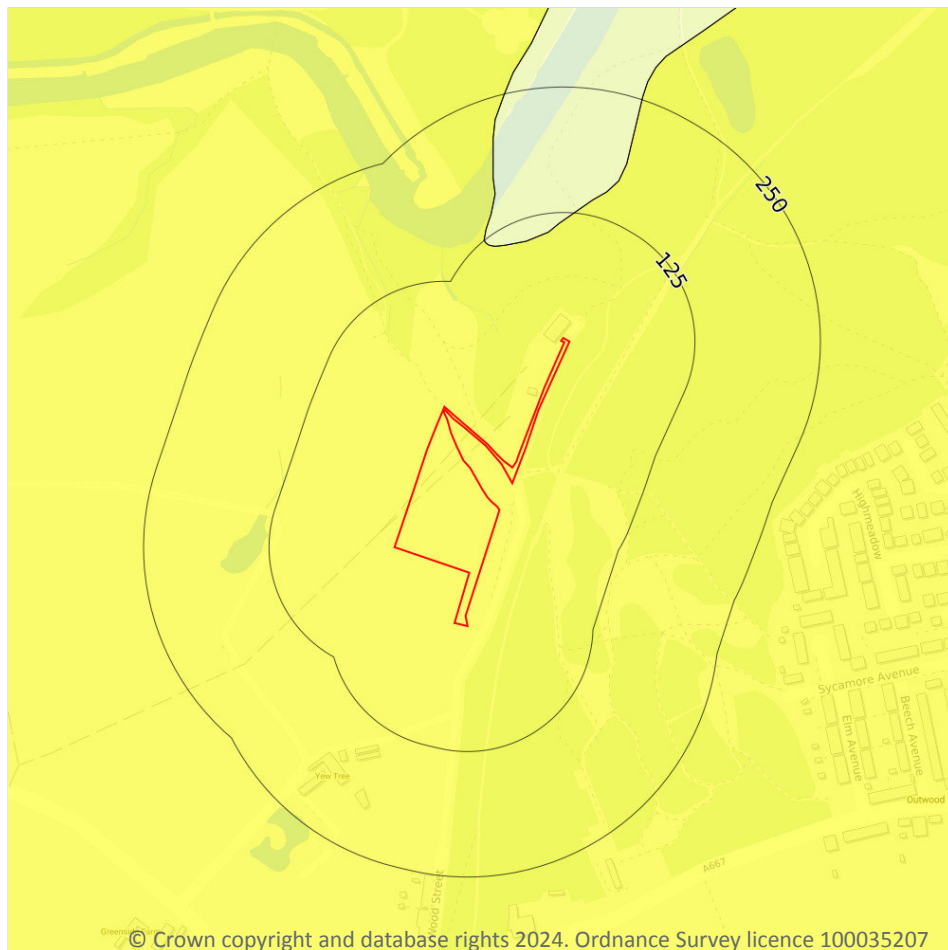
Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 115 >](#)

Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.4 Collapsible deposits

Records within 50m

1

The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

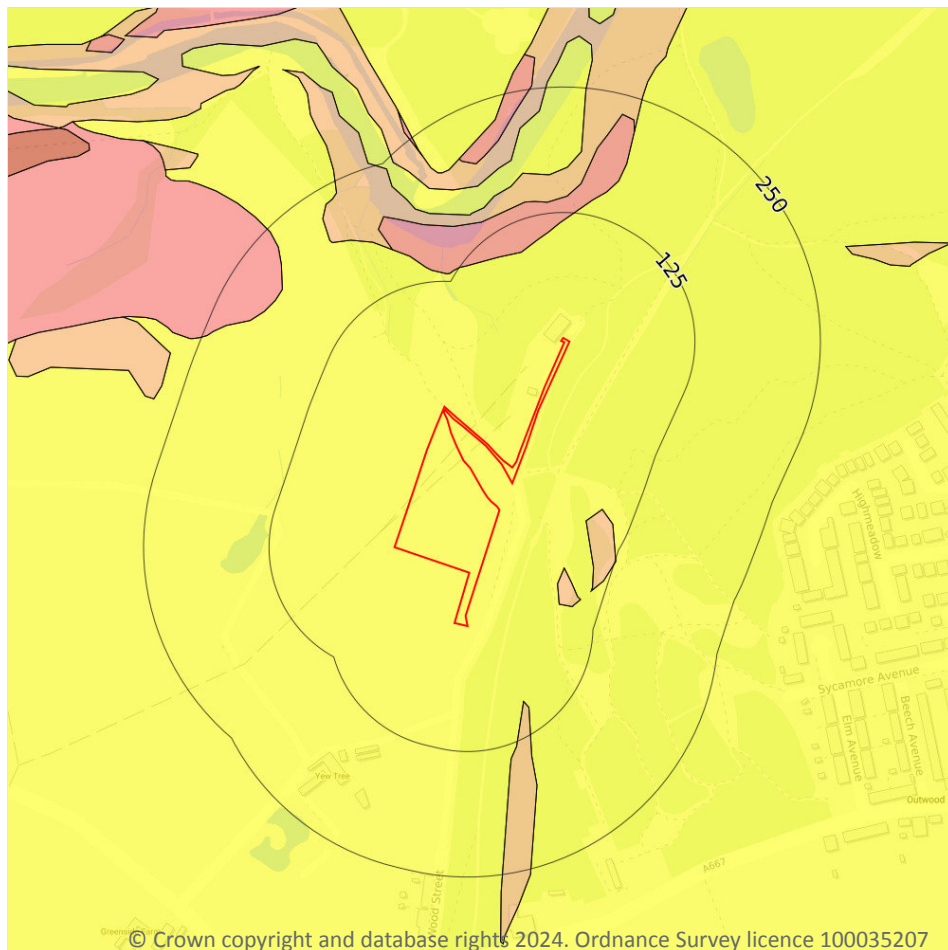
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 116 >](#)

Location	Hazard rating	Details
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.5 Landslides

Records within 50m

1

The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

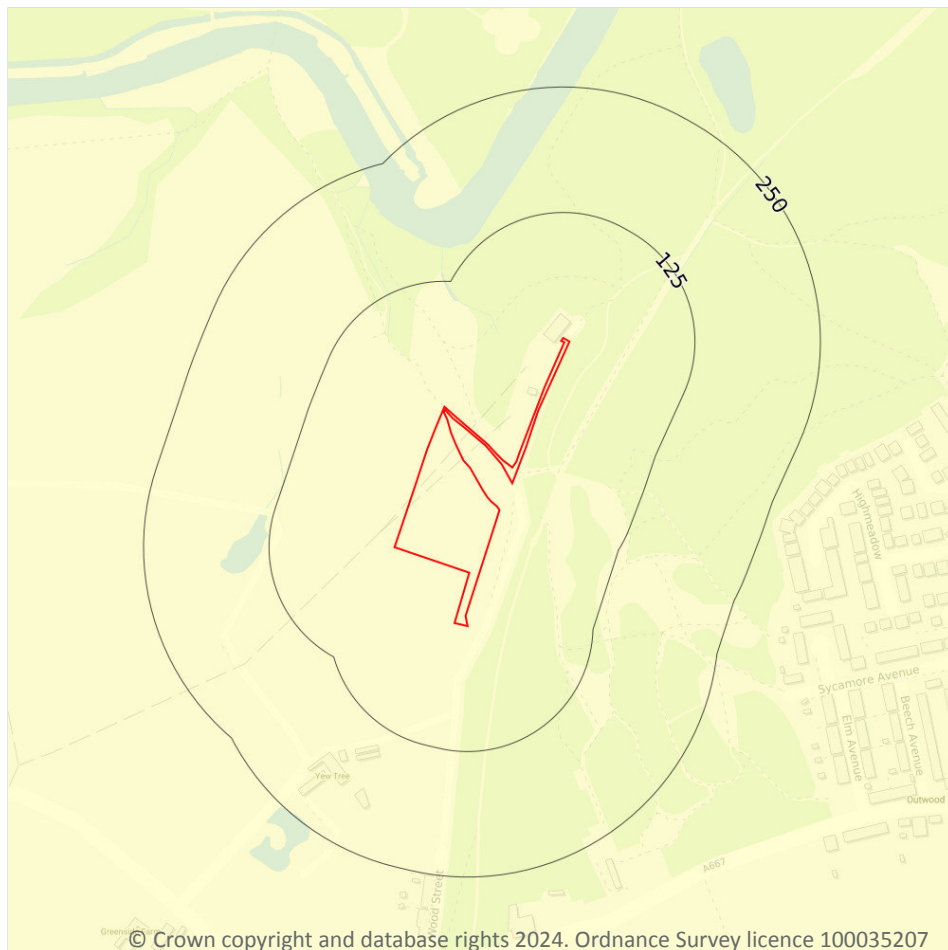
Features are displayed on the Natural ground subsidence - Landslides map on [page 117](#) >

Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.6 Ground dissolution of soluble rocks

Records within 50m

1

The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 118 >](#)

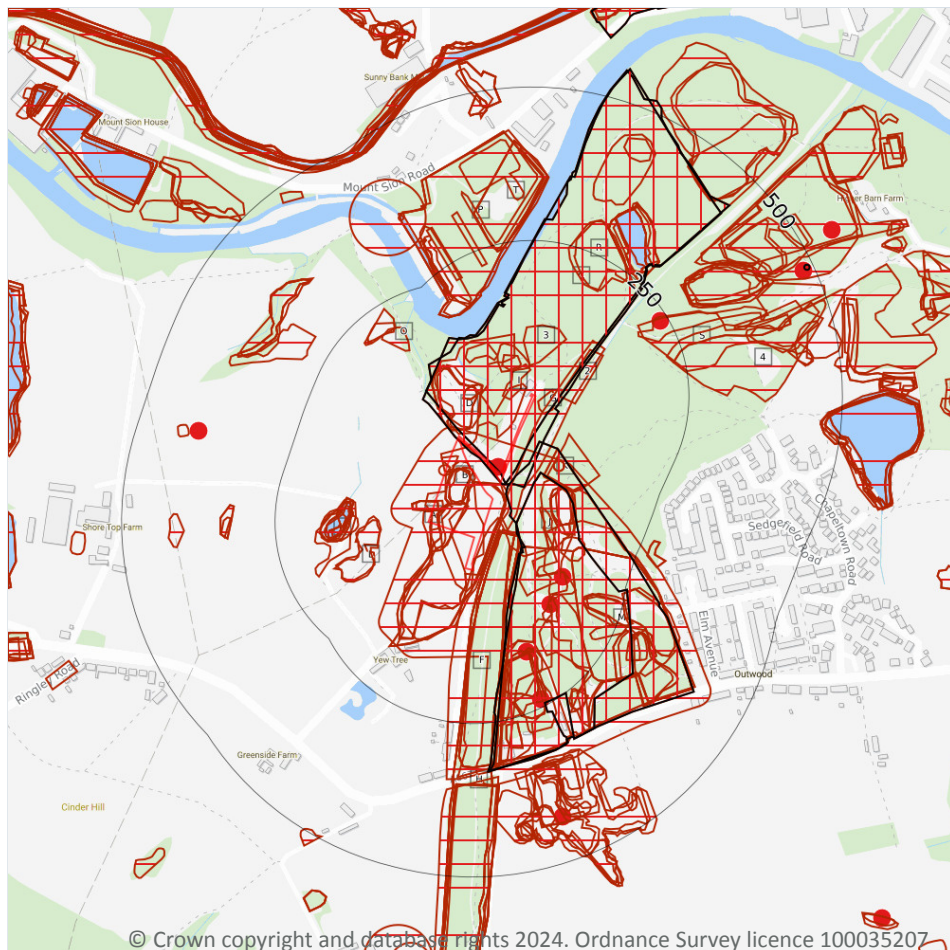
Location	Hazard rating	Details
On site	Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.



This data is sourced from the British Geological Survey.



18 Mining and ground workings



- Site Outline
- Search buffers in metres (m)
- BritPits
- Surface ground workings
- Underground workings
- Underground mining extents
- Historical mineral planning areas
- TCA non-coal mining
- Non Coal Mining
- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 BritPits

Records within 500m

11

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

Features are displayed on the Mining and ground workings map on [page 120](#) >

ID	Location	Details	Description
1	5m NE	Name: Bottom O'th'Field Sand Pit Address: Outwood, RADCLIFFE, Lancashire Commodity: Sand Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
E	138m SE	Name: Outwood Colliery, Nos 2, 4 & 5 Pits Address: Outwood, RADCLIFFE, Lancashire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
E	145m SE	Name: Outwood Colliery, Nos 2, 4 & 5 Pits Address: Outwood, RADCLIFFE, Lancashire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
E	159m S	Name: Outwood Colliery, Nos 2, 4 & 5 Pits Address: Outwood, RADCLIFFE, Lancashire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
E	237m S	Name: Outwood Brick & Tile Works Address: Outwood, RADCLIFFE, Lancashire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority



ID	Location	Details	Description
Q	237m NE	Name: Whitefield Colliery Address: Outwood, RADCLIFFE, Lancashire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
Q	255m NE	Name: Grundy's Pit Address: Outwood, RADCLIFFE, Lancashire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
Q	256m NE	Name: Whitefield Colliery Address: Outwood, RADCLIFFE, Lancashire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
AH	402m W	Name: Bottom O'th'Field Sand Pit Address: Outwood, RADCLIFFE, Lancashire Commodity: Sand Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
AB	427m S	Name: Outwood Brick Works Address: Outwood, RADCLIFFE, Lancashire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority



ID	Location	Details	Description
AM	481m NE	Name: Whitefield Colliery Address: Outwood, RADCLIFFE, Lancashire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	124
----------------------------	------------

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining and ground workings map on [page 120 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
A	On site	Pond	1927	1:10560
A	On site	Unspecified Ground Workings	1977	1:10000
A	On site	Unspecified Ground Workings	1965	1:10560
A	On site	Unspecified Heap	1955	1:10560
A	On site	Refuse Heap	1955	1:10560
A	On site	Refuse Heap	1938	1:10560
A	On site	Unspecified Heap	1938	1:10560
A	On site	Unspecified Heap	1927	1:10560
A	On site	Refuse Heap	1927	1:10560
A	On site	Unspecified Ground Workings	1927	1:10560
A	On site	Unspecified Heap	1908	1:10560
A	On site	Refuse Heap	1908	1:10560
A	On site	Unspecified Heaps	1891	1:10560
B	On site	Unspecified Heap	1977	1:10000
B	On site	Unspecified Heap	1955	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
B	On site	Refuse Heap	1938	1:10560
B	On site	Refuse Heap	1927	1:10560
B	On site	Unspecified Heap	1908	1:10560
B	On site	Unspecified Pit	1908	1:10560
B	On site	Sand Pit	1851	1:10560
C	On site	Colliery	1965	1:10560
C	On site	Colliery	1955	1:10560
D	On site	Refuse Heap	1891	1:10560
E	On site	Colliery	1908	1:10560
F	On site	Cuttings	1851	1:10560
D	4m N	Refuse Heap	1955	1:10560
G	8m NE	Unspecified Heap	1891	1:10560
D	10m N	Refuse Heap	1938	1:10560
D	10m N	Refuse Heap	1927	1:10560
D	10m N	Refuse Heap	1908	1:10560
E	13m E	Colliery	1927	1:10560
D	16m N	Unspecified Ground Workings	1965	1:10560
G	18m E	Cuttings	1851	1:10560
H	18m S	Cuttings	1938	1:10560
H	18m S	Cuttings	1927	1:10560
H	18m S	Cuttings	1908	1:10560
H	18m S	Cuttings	1891	1:10560
I	19m NE	Unspecified Ground Workings	1965	1:10560
F	22m S	Cuttings	1955	1:10560
F	23m S	Cuttings	1991	1:10000
F	23m S	Cuttings	1977	1:10000
F	23m S	Cuttings	1965	1:10560
F	23m S	Cuttings	1988	1:10000



ID	Location	Land Use	Year of mapping	Mapping scale
2	39m NE	Cuttings	1891	1:10560
I	43m NE	Refuse Heap	1955	1:10560
3	47m NE	Unspecified Heap	1965	1:10560
E	49m SE	Colliery	1891	1:10560
J	49m SE	Refuse Heap	1891	1:10560
I	50m N	Refuse Heap	1908	1:10560
E	50m SE	Colliery	1851	1:10560
K	62m E	Sewage Works	1938	1:10560
K	62m E	Sewage Works	1927	1:10560
D	62m N	Unspecified Heap	1991	1:10000
D	62m N	Unspecified Heap	1977	1:10000
D	62m N	Unspecified Heap	1988	1:10000
E	63m SE	Unspecified Disused Workings	1991	1:10000
E	63m SE	Unspecified Disused Workings	1988	1:10000
J	66m E	Unspecified Heap	1908	1:10560
K	67m E	Sewage Works	1955	1:10560
K	71m E	Sewage Tank	1938	1:10560
K	71m E	Sewage Tank	1927	1:10560
J	76m E	Unspecified Ground Workings	1938	1:10560
L	78m W	Ponds	1965	1:10560
L	80m W	Ponds	1977	1:10000
D	82m N	Unspecified Ground Workings	1955	1:10560
J	84m E	Unspecified Heap	1938	1:10560
J	84m E	Unspecified Heap	1927	1:10560
J	85m E	Unspecified Heap	1977	1:10000
J	85m E	Unspecified Heap	1965	1:10560
J	85m E	Unspecified Heap	1988	1:10000
J	91m E	Unspecified Heap	1955	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
M	93m SE	Refuse Heap	1977	1:10000
M	99m SE	Refuse Heap	1965	1:10560
N	115m W	Ponds	1891	1:10560
N	119m W	Pond	1955	1:10560
N	124m W	Pond	1991	1:10000
N	124m W	Pond	1988	1:10000
N	124m W	Pond	1977	1:10000
N	126m W	Pond	1938	1:10560
N	126m W	Pond	1927	1:10560
N	128m W	Pond	1965	1:10560
N	129m W	Pond	1908	1:10560
E	129m SE	Unspecified Pits	1955	1:10560
E	133m SE	Brick Works	1938	1:10560
E	137m S	Brick Works	1927	1:10560
M	151m SE	Refuse Heap	1991	1:10000
M	151m SE	Refuse Heap	1988	1:10000
E	153m S	Unspecified Heap	1977	1:10000
E	153m S	Unspecified Heap	1965	1:10560
E	155m SE	Refuse Heap	1908	1:10560
E	157m S	Refuse Heap	1938	1:10560
E	157m S	Refuse Heap	1927	1:10560
E	159m S	Refuse Heap	1955	1:10560
E	161m S	Refuse Heap	1891	1:10560
O	161m N	Unspecified Heap	1965	1:10560
E	166m S	Unspecified Heap	1891	1:10560
P	173m N	Sewage Works	1955	1:10560
P	173m N	Unspecified Ground Workings	1955	1:10560
P	175m N	Sewage Works	1938	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
P	175m N	Sewage Works	1927	1:10560
P	175m N	Sewage Works	1908	1:10560
P	179m N	Unspecified Heap	1977	1:10000
M	185m SE	Refuse Heap	1938	1:10560
M	186m SE	Refuse Heap	1927	1:10560
M	190m SE	Refuse Heap	1955	1:10560
E	194m S	Brick and Tile Works	1851	1:10560
Q	194m NE	Unspecified Ground Workings	1891	1:10560
R	198m NE	Refuse Heap	1965	1:10560
R	199m NE	Refuse Heap	1955	1:10560
S	200m NE	Refuse Heap	1965	1:10560
O	200m NW	Water Bodies	1891	1:10560
O	204m NW	Ponds	1927	1:10560
P	215m N	Unspecified Ground Workings	1938	1:10560
P	215m N	Unspecified Ground Workings	1927	1:10560
M	217m SE	Unspecified Heap	1891	1:10560
P	221m N	Sewage Tanks	1927	1:10560
P	223m N	Sewage Tanks	1927	1:10560
S	223m NE	Unspecified Pit	1977	1:10000
4	231m NE	Refuse Heap	1977	1:10000
T	239m N	Unspecified Heap	1991	1:10000
T	239m N	Unspecified Heap	1977	1:10000
T	239m N	Unspecified Heap	1988	1:10000
T	242m N	Unspecified Ground Workings	1927	1:10560
M	246m SE	Refuse Heap	1927	1:10560

This is data is sourced from Ordnance Survey/Groundsure.



18.3 Underground workings

Records within 1000m

39

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

Features are displayed on the Mining and ground workings map on [page 120](#) >

ID	Location	Land Use	Year of mapping	Mapping scale
C	On site	Colliery	1965	1:10560
C	On site	Colliery	1950	1:10560
E	13m E	Colliery	1927	1:10560
E	49m SE	Colliery	1891	1:10560
AM	485m NE	Unspecified Old Shaft	1908	1:10560
15	595m N	Collieries	1891	1:10560
-	756m N	Unspecified Old Shaft	1908	1:10560
-	826m N	Unspecified Old Shafts	1891	1:10560
-	831m NE	Ventilating Shaft	1908	1:10560
-	836m N	Unspecified Old Shaft	1938	1:10560
-	836m N	Unspecified Old Shaft	1927	1:10560
-	842m N	Unspecified Old Shaft	1950	1:10560
-	869m N	Air Shaft	1908	1:10560
-	873m N	Air Shaft	1991	1:10000
-	873m N	Air Shaft	1977	1:10000
-	873m N	Air Shaft	1965	1:10560
-	873m N	Air Shaft	1988	1:10000
-	890m N	Unspecified Old Shaft	1938	1:10560
-	890m N	Unspecified Old Shaft	1927	1:10560
-	890m N	Unspecified Old Shaft	1908	1:10560
-	890m N	Unspecified Old Shafts	1891	1:10560
-	895m N	Unspecified Old Shaft	1950	1:10560
-	942m SW	Ventilating Shaft	1965	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
-	949m SW	Ventilating Shaft	1950	1:10560
-	955m SW	Ventilating Shaft	1938	1:10560
-	955m SW	Ventilating Shaft	1927	1:10560
-	955m SW	Ventilating Shaft	1908	1:10560
-	975m SW	Ventilating Shaft	1965	1:10560
-	978m NW	Unspecified Old Shaft	1950	1:10560
-	981m SW	Ventilating Shaft	1950	1:10560
-	981m NW	Unspecified Old Shaft	1938	1:10560
-	981m NW	Unspecified Old Shaft	1927	1:10560
-	981m NW	Unspecified Old Shaft	1908	1:10560
-	982m SW	Unspecified Shaft	1991	1:10000
-	982m SW	Unspecified Shaft	1988	1:10000
-	986m SW	Ventilating Shaft	1938	1:10560
-	986m SW	Ventilating Shaft	1927	1:10560
-	986m SW	Ventilating Shaft	1908	1:10560
-	988m SW	Colliery	1891	1:10560

This data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m

0

This data identifies underground mine workings that could present a potential risk, including adits and seam workings. These features have been identified from BGS Geological mapping and mine plans sourced from the BGS and various collections and sources.

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

0

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.



This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

0

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site

1

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

Location	Details
On site	In addition to being located inside an area where The Coal Authority have information on coal mining activities, Johnson Poole & Bloomer (JPB) have information such as mining plans and maps held within their archive of mining activities that have occurred within 1km of this property which may supplement this information. Please note, the plans held by JPB may also relate to non-mining records. Further details and a quote for services (if appropriate) can be obtained by emailing this report to enquiries.gs@jpb.co.uk ↗.

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m

0

This data provides an indication of the potential zone of influence of recorded underground non-coal mining workings. Any and all analysis and interpretation of Coal Authority Data in this report is made by Groundsure, and is in no way supported, endorsed or authorised by the Coal Authority. The use of the data is restricted to the terms and provisions contained in this report. Data reproduced in this report may be the copyright of the Coal Authority and permission should be sought from Groundsure prior to any re-use.

This data is sourced from The Coal Authority.



18.9 Researched mining

Records within 500m

0

This data indicates areas of potential mining identified from alternative or archival sources, including; BGS Geological paper maps, Lidar data, aerial photographs (from World War II onwards), archaeological data services, websites, Tithe maps, and various text/plans from collected books and reports. Some of this data is approximate and Groundsure have interpreted the resultant risk area and, where possible, specific areas of risk have been captured.

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m

0

This dataset is representative of Mining Record Office and/or plan extents held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m

0

This dataset is representative of BGS mine plans held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.12 Coal mining

Records on site

1

Areas which could be affected by past, current or future coal mining.

Location	Details
On site	The site is located within a coal mining area as defined by the Coal Authority. A Consultants Coal Mining Report is recommended to further assess coal mining issues at the site. This can be ordered directly through Groundsure or your preferred search provider.

This data is sourced from the Coal Authority.



18.13 Brine areas

Records on site	0
-----------------	---

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

18.14 Gypsum areas

Records on site	0
-----------------	---

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site	0
-----------------	---

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

Records on site	0
-----------------	---

Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).

19 Ground cavities and sinkholes



- Site Outline
- Search buffers in metres (m)
- Natural cavities (Area)
- Natural cavities (Point)
- Mining cavities
- Reported recent incidents
- Historical incidents
- BGS karst database (Point)
- BGS karst database (Line)
- BGS karst database (Area)

19.1 Natural cavities

Records within 500m

0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m**0**

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m**0**

This data identifies sinkhole information gathered from media reports and Groundsure's own records. This data goes back to 2014 and includes relative accuracy ratings for each event and links to the original data sources. The data is updated on a regular basis and should not be considered a comprehensive catalogue of all sinkhole events. The absence of data in this database does not mean a sinkhole definitely has not occurred during this time.

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m**2**

This dataset comprises an extract of 1:10,560, 1:10,000, 1:2,500 and 1:1,250 scale historical Ordnance Survey maps held by Groundsure, dating back to the 1840s. It shows shakeholes, deneholes and other 'holes' as noted on these maps. Dene holes are medieval chalk extraction pits, usually comprising a narrow shaft with a number of chambers at the base of the shaft. Shakeholes are an alternative name for suffusion sinkholes, most commonly found in the limestone landscapes of North Yorkshire but also extensively noted around the Brecon Beacons National Park.

Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.

Features are displayed on the Ground cavities and sinkholes map on [page 133 >](#)

ID	Location	Type	Date of mapping
A	309m N	Unspecified Hole	1938
A	353m N	Unspecified Hole	1927

This data is sourced from Groundsure.



19.5 National karst database

Records within 500m

0

This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

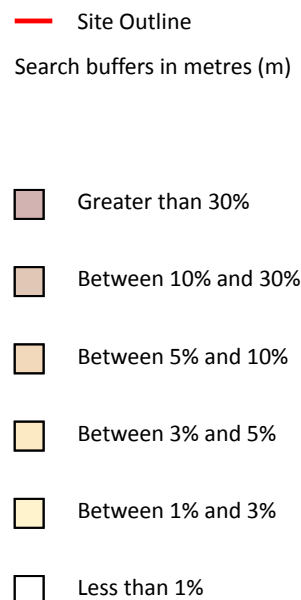
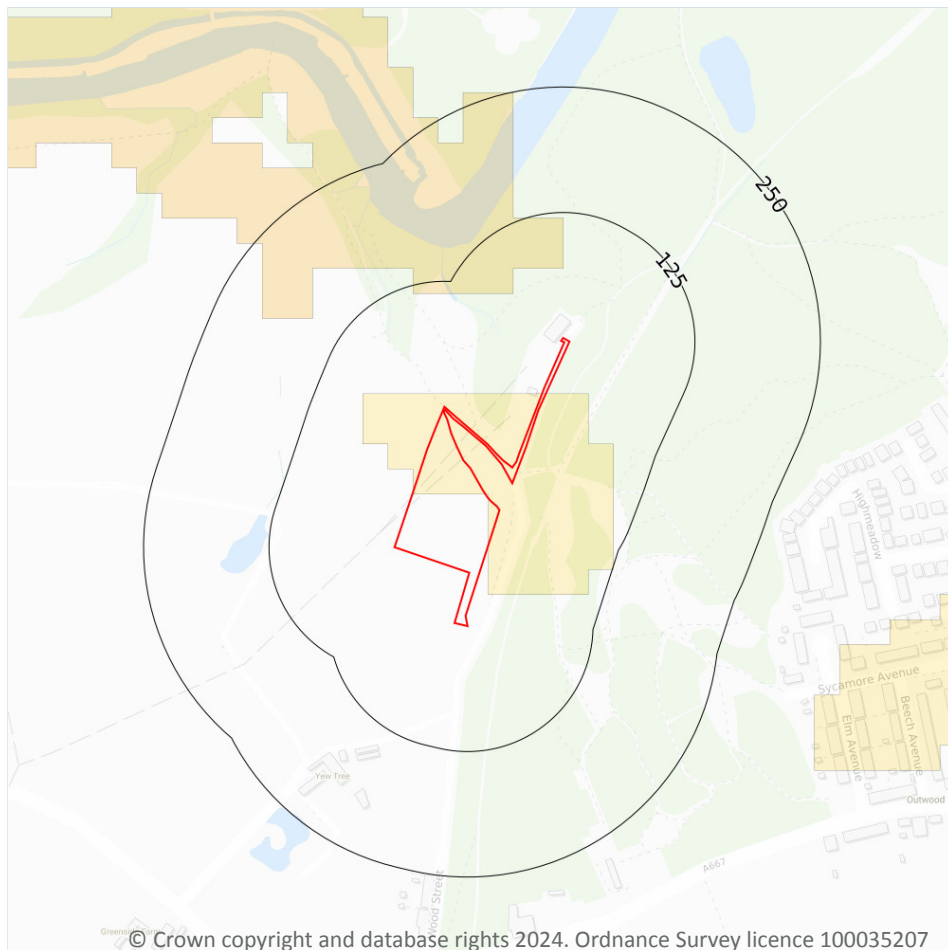
Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over 800 caves, 1300 stream sinks, 5600 springs, 10,000 sinkholes.

The database is not yet complete, and not all records have been verified. The absence of data does not mean that karst features are not present at a site. A reliability rating is included with each record.

This data is sourced from the British Geological Survey.



20 Radon



20.1 Radon

Records on site

2

The Radon Potential data classifies areas based on their likelihood of a property having a radon level at or above the Action Level in Great Britain. The dataset is intended for use at 1:50,000 scale and was derived from both geological assessments and indoor radon measurements (more than 560,000 records). A minimum 50m buffer should be considered when searching the maps, as the smallest detectable feature at this scale is 50m. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain (1:100,000 scale).

Features are displayed on the Radon map on [page 136](#) >

Location	Estimated properties affected	Radon Protection Measures required
On site	Between 1% and 3%	None



Location	Estimated properties affected	Radon Protection Measures required
On site	Less than 1%	None

This data is sourced from the British Geological Survey and UK Health Security Agency.



21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m

14

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km². In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km²; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
17m S	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
22m S	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg



Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
22m NW	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
37m S	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km²).

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m

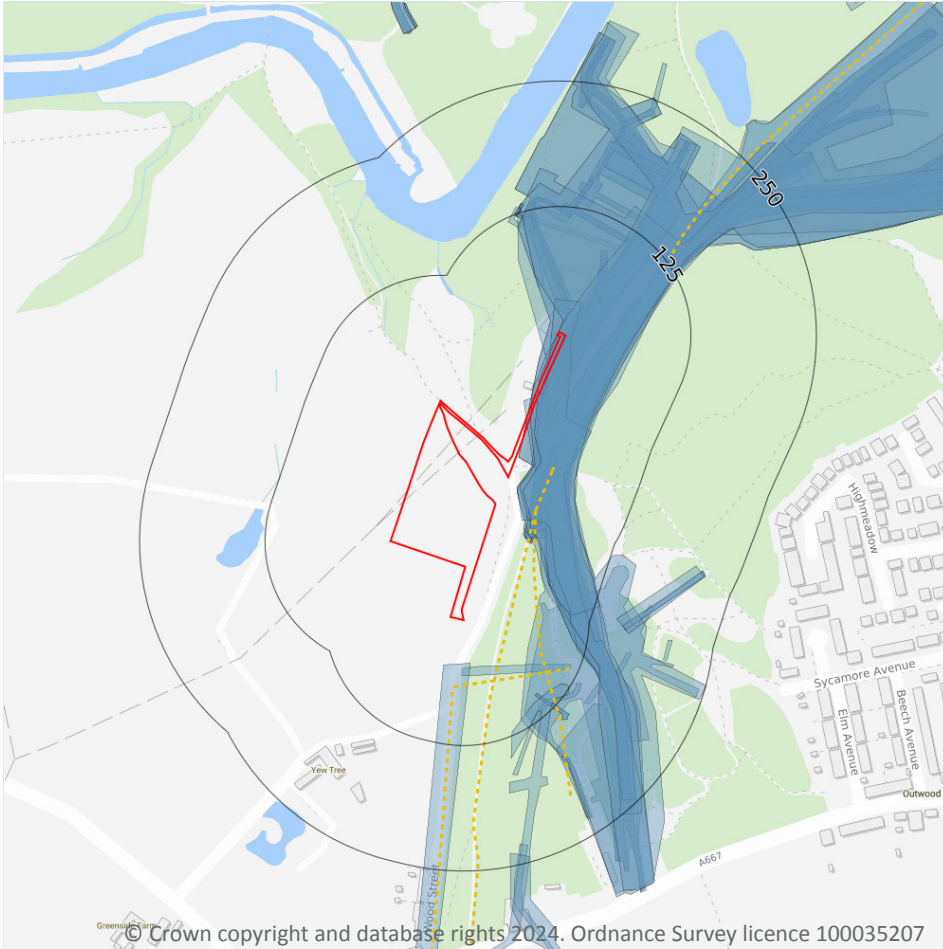
0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km².

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects



- Site Outline
- Search buffers in metres (m)
- C1 Crossrail 1 Stations
- Crossrail 1 Route
- C2 Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

22.1 Underground railways (London)

Records within 250m

0

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m

0

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.



This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m

35

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

Features are displayed on the Railway infrastructure and projects map on [page 140 >](#)

Location	Land Use	Year of mapping	Mapping scale
On site	Railway Sidings	1955	2500
On site	Railway Sidings	1893	2500
On site	Railway Sidings	1929	2500
On site	Railway Sidings	1937	2500
On site	Railway Sidings	1938	10560
On site	Railway Sidings	1927	10560
On site	Railway Sidings	1908	10560
On site	Railway Sidings	1891	10560
On site	Railway Sidings	1965	10560
On site	Railway Sidings	1955	10560
3m NE	Railway Sidings	1909	2500
17m NE	Railway Sidings	1955	1250
19m NE	Tramway Sidings	1929	2500
19m NE	Tramway Sidings	1937	2500
34m E	Railway Sidings	1955	1250
43m S	Railway Sidings	1891	10560
48m S	Tramway Sidings	1893	2500



Location	Land Use	Year of mapping	Mapping scale
48m NE	Railway Sidings	1955	1250
49m NE	Railway Sidings	1909	2500
62m E	Railway Sidings	1955	1250
73m SE	Tramway Sidings	1929	2500
103m SE	Railway Sidings	1955	2500
104m SE	Railway Sidings	1955	1250
108m S	Tramway Sidings	1851	10560
115m SE	Railway Sidings	1893	2500
150m SE	Tramway Sidings	1908	10560
158m SE	Tramway Sidings	1893	2500
158m SE	Tramway Sidings	1909	2500
163m NE	Railway Sidings	1955	1250
168m SE	Railway Sidings	1937	2500
196m NE	Tramway Sidings	1929	2500
200m NE	Railway Sidings	1937	2500
203m SE	Railway Sidings	1893	2500
230m S	Tramway Sidings	1929	2500
237m S	Railway Sidings	1927	10560

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m

0

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.

This data is sourced from Groundsure/the Postal Museum.



22.6 Historical railways

Records within 250m**8**

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

Features are displayed on the Railway infrastructure and projects map on [page 140 >](#)

Location	Description
38m E	Abandoned
39m E	Abandoned
41m E	Abandoned
41m E	Disused
64m S	Abandoned
66m S	Abandoned
72m S	Abandoned
135m NE	Abandoned

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m**0**

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m**0**

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

This data is sourced from publicly available information by Groundsure.



22.9 Crossrail 2

Records within 500m

0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.

22.10 HS2

Records within 500m

0

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

This data is sourced from HS2 Ltd.



Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see <https://www.groundsure.com/sources-reference> ↗.

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: www.groundsure.com/terms-and-conditions-april-2023/ ↗.



APPENDIX D

BGS Exploratory Hole Records



SD70 NE

217

HOLST & CO. LTD.

SITE INVESTIGATION DEPT.

5-7 NEW YORK ROAD

LEEDS 2

7758 0610

Contract No. B.382.

Borehole No. 19

Location Radcliffe - Bolton.

Ground Level

Client Bolton Sewerage Board.Engineer.

Date 20th August, 1965.

BOREHOLE LOG

STRATA	Legend	Depth below Ground Level	Thickness of Strata	Type of Sample	c. lb./sq. ft.	Ø deg.	m.c. %	y lb./cu. ft	N
Made Ground - Clay, Ashes & Stones.		2'0"	2'0"						
Soft Brown Laminated Sandy Clay.		6'0"	4'0"						
Soft Brown Wet Sand with Slight Clay.		8'0"	2'0"						
Soft Brown Stoney Clay.		20'0"	12'0"						

Water struck at 6'0" Maximum Observed Water Level 10'0"

Undisturbed Sample ☐
Disturbed Sample ☐
Water Sample
Penetration Test

c = Cohesion
Ø = Angle of Internal Friction
m.c = Moisture Content
y = Dry Density
N = Standard Penetration Value

Water levels may be subject to seasonal or tidal variation and should not be taken as constant.

APPENDIX E

UXO Screening Map

UNEXPLODED BOMB RISK MAP



SITE LOCATION

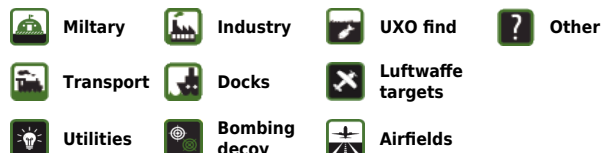
Map Centre: 377532,406110



This map principally indicates a hazard from Unexploded Bombs (UXB) due to WWII bombardment. Other sources of Unexploded Ordnance (UXO) may be present. It should be noted that this map does not represent UXO risk and should not be reported as such when reproduced.

LEGEND

- High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- Low:** Areas indicated as having 15 bombs per 1000acre or less.



How to use your Unexploded Bomb (UXB) risk map?

This map indicates the potential for UXBs to be present because of World War Two (WWII) bombing. It can be incorporated into a technical report, such as a Phase 1 Desk Study, or similar document as an indication of the potential for UXO encounter on a Site. Other sources of UXO may also be indicated, although note that these are not comprehensive and more detailed research is required to confirm their presence.

What if my Site is in a moderate or high density area?

We typically recommend that a detailed UXO desk study and risk assessment is undertaken for sites in an area with a moderate or high bombing density. Additionally, if your site is in close proximity to a strategic target, military establishment, airfield or bombing decoy, then [additional detailed research](#) is recommended.

If my site is in a low risk area, do I need to do anything?

If both the map and other research confirm that there is a low potential for UXO to be present on your site, then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

If you are unsure whether other sources of UXO may be present, you can request one of our [pre-desk study assessments \(PDSA\)](#) by emailing a site boundary and location to uxo@zetica.com.

You should never plan site work or undertake a risk assessment using these maps alone. More detail is required, to include an assessment of the likelihood of a source of UXO hazard from other military activity not reflected on these maps.

If I have any questions, who do I contact?

tel: +44 (0) 1993 886682 email: uxo@zetica.com web: www.zeticauxo.com

The information in this UXB risk map is derived from a range of sources and should be used with the [accompanying notes on our website](#).

Zetica cannot guarantee the accuracy or completeness of the information or data used and cannot accept any liability for any use of the maps. These maps can be used as part of a technical report or similar publication, subject to acknowledgement. The copyright remains with Zetica Ltd.